# Texas Commission on Environmental Quality

# Form OP-UA50

# Fluid Catalytic Cracking Unit Catalyst Regenerator/

# Fuel Gas Combustion Device/Claus Sulfur Recovery Plant/Coking Unit Attributes

# General:

This form is used to provide a description and data pertaining to the following units with potentially applicable requirements associated with a particular regulated entity number and application:

* **Fluid catalytic cracking unit (FCCU) catalyst regenerators located at a petroleum refinery;**
* Catalytic Reforming Unit (CRU) located at a petroleum refinery;
* Fuel gas combustion devices located at a petroleum refinery;
* Claus sulfur recovery plants located at a petroleum refinery;
* Claus sulfur recovery plants located outside a petroleum refinery boundaries but processing gases produced within a petroleum refinery, or; Coking units.

Each table number, along with the possibility of a corresponding letter (i.e., Table 1a, Table 1b), corresponds to a certain state or federal rule. If the rule on the table is not potentially applicable to a unit, then it should be left blank and need not be submitted with the application. If the codes entered by the applicant show negative applicability to the rule or sections of the rule represented on the table, then the applicant need not complete the remainder of the table(s) that corresponds to the rule. Further instruction as to which questions should be answered and which questions should not be answered are located in the “Specific” section of the instruction text. The following is included in this form:

[**Tables 1a**](#Table_1a) **-** [**1b**](#Table_1b)**:** **Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60) Subpart J: Standards of Performance for Petroleum Refineries**

[**Tables 2a**](#Table_2a) **–** [**2e**](#Table2e)**:** **Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60) Subpart Ja: Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007**

[**Tables 3a**](#Table_3a) **-** [**3e**](#Table_3e)**: Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63) Subpart UUU: National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries**

[**Tables 4a**](#Table_4a) **-** [**4b**](#Table_4b)**: Title 30 Texas Administrative Code Chapter 117 (30 TAC Chapter 117) Subchapter B: Combustion Control at Major Industrial, Commercial, and Institutional Sources in Ozone Nonattainment Area**

[**Table\_5**](#Table5)**: Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63) Subpart CC: National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries**

The application area name from Form OP-1 entitled “Site Information Summary” must appear in the header of each page for the purpose of identification for the initial submittal. The date of the initial form submittal must also be included and should be consistent throughout the application (MM-DD-YYYY). **Leave the permit number blank for the initial form submittal.** If this form is included as part of the permit revision process, enter the permit number assigned by the TCEQ, the area name (from Form OP-1), the date of the revision submittal.

Unit attribute questions that do not require a response from all applicants are preceded by qualification criteria in the instructions. If the unit does not meet the qualification criteria, a response to the question is not required. **Anytime a response is** not **required based on the qualification criteria, leave the space on the form** blank**.**

**Notwithstanding any qualification criteria in the form instructions or information provided in other TCEQ guidance, the applicant may leave an attribute question blank (or indicate “N/A” for “Not Applicable”) if the attribute is not needed for the applicable requirement determinations of regulation for a unit.**

In some situations, the applicant has the option of selecting alternate requirements, limitations, and/or practices for a unit. Note that these alternate requirements, limitations, and/or practices must have the required approval from the TCEQ Executive Director and/or the U.S. Environmental Protection Agency Administrator beforethe federal operating permit application is submitted.

The Texas Commission on Environmental Quality (TCEQ) **requires** that a Core Data Form be submitted on **all** incoming registrations unless all of the following are met: the Regulated Entity and Customer Reference Numbers have been issued by the TCEQ and no core data information has changed. The Central Registry is a common record area of the TCEQ which maintains information about TCEQ customers and regulated activities, such as company names, addresses, and telephone numbers. This information is commonly referred to as “core data.” The Central Registry provides the regulated community with a central access point within the agency to check core data and make changes when necessary. When core data about a facility is moved to the Central Registry, two new identification numbers are assigned: the Customer Reference (CN) number and the Regulated Entity (RN) number. The Core Data Form is required if facility records are not yet part of the Central Registry or if core data for a facility has changed. If this is the initial registration, permit, or license for a facility site, then the Core Data Form must be completed and submitted with the application or registration forms. If amending, modifying, or otherwise updating an existing record for a facility site, the Core Data Form is not required, unless any core data information has changed. To review additional information regarding the Central Registry, go to the TCEQ website at [www.tceq.texas.gov/nav/permitting](http://www.tceq.texas.gov/nav/permitting).

**Specific:**

**[Table 1a](#Table1a): Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60), Subpart J: Standards of Performance for Petroleum Refineries**

Complete this table only for FCCU catalyst regenerators located at a petroleum refinery, fuel gas combustion devices located at a petroleum refinery, and Claus sulfur recovery plants processing gases produced within a petroleum refinery. The sulfur recovery plant need not be physically located within the boundaries of a petroleum refinery to be an affected facility, provided it processes gases produced within a petroleum refinery.

Do not complete Tables 1a-1b if you are choosing to comply with the applicable provisions of Subpart Ja to satisfy the requirements of this subpart as stated in §60.100(e). Skip to Tables 2a-2b and complete.

Do not complete Tables 1a-1b if flares only burn process upset gases and fuel gases due to relief valve leakage or other emergency malfunctions.

Unit ID No.:

Enter the identification number (ID No.) for the FCCU catalyst regenerator, fuel gas combustion device, or Claus sulfur recovery plant (maximum 10 characters) as listed on Form OP-SUM (Individual Unit Summary).

SOP Index No.:

Site operating permit (SOP) applicants should indicate the SOP index number for the unit or group of units (maximum 15 characters consisting of numeric, alphanumeric characters, and/or dashes prefixed by a code for the applicable regulation [i.e., 60KB-XXXX]). For additional information relating to SOP index numbers, please go to the TCEQ website at [www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title\_V/additional\_fop\_guidance.pdf](https://www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title_V/additional_fop_guidance.pdf).

Facility Type:

Select **one** of the following options for each facility type. Enter the **code** on the form.

**Code Description**

FCCU FCCU catalyst regenerator

FLARELOW Fuel gas combustion device, that is also a flare, that meets the requirements in § 60.105(a)(4)(iv) and §60.105(b) [inherently low in sulfur content]

FLAREHI Fuel gas combustion device, that is also a flare, that does NOT meet requirements in § 60.105(a)(4)(iv) and 60.105(b)

FUELOW Fuel gas combustion device, other than a flare, that meets the requirements in § 60.105(a)(4)(iv) and 60.105(b) [inherently low in sulfur content]

FUELHI Fuel gas combustion device, other than a flare, that does NOT meet the requirements in § 60.105(a)(4)(iv) and 60.105(b)

SR20- Claus sulfur recovery plant with a design capacity for sulfur feed less than or equal to 20 long tons per day (LTPD)

SR20+OCS Claus sulfur recovery plant with a design capacity for sulfur feed greater than 20 LTPD with oxidation control systems

SR20RCS+I Claus sulfur recovery plant with a design capacity for sulfur feed greater than 20 LTPD with reduction control systems followed by incineration

SRRCS+CON Claus sulfur recovery plant with a design capacity for sulfur feed greater than 20 LTPD with reduction control systems **not** followed by incineration and using an instrument to continuously monitor and record the concentration of reduced sulfur and O2 emissions

SRRCS-CON Claus sulfur recovery plant with a design capacity for sulfur feed greater than 20 LTPD with reduction control systems **not** followed by incineration and is **not** using an instrument to continuously monitor and record the concentration of reduced sulfur and ORR2RR emissions

Do not continue if “Facility Type” is “SR20-.”

Construction/Modification Date:

Select **one** of the following options that describes the date of commencement of the most recent construction, reconstruction, or modification of the facility. Enter the **code** on the form.

For “Facility Type” designation of “FCCU”:

**Code Description**

73-B On or before June 11, 1973

73-84 After June 11, 1973, and on or before January 17, 1984

84-07 After January 17, 1984, and on or before May 14, 2007

07+ After May 14, 2007

For “Facility Type” designation of “FLAREHI” or “FLARELOW”:

**Code Description**

73-B On or before June 11, 1973

73-08 After June 11, 1973, and on or before June 24, 2008

08+ After June 24, 2008

For “Facility Type” designation of “FUELHI” or “FUELOW”:

**Code Description**

73-B On or before June 11, 1973

73-07 After June 11, 1973, and on or before May 14, 2007

07+ After May 14, 2007

For “Facility Type” designation of “SR20+OCS”, “SR20RCS+I,” “SRRCS+CON”, or “SRRCS-CON”:

**Code Description**

76- On or before October 4, 1976

76-07 After October 4, 1976, and on or before May 14, 2007

07+ After May 14, 2007

**Do not continue if “Construction/Modification Date” is “**73-B,” “76-,” “07+,” or “08+.”

**Go to Table 1b if “Facility Type” is “FLARELOW,” “FLAREHI”, “FUELLOW,” or “FUELHI.”**

**Do not continue if “Facility Type” is “**SR20+OCS”, “SR20RCS+I,” “SRRCS+CON”, or “SRRCS-CON.”

**Contact Material:**

Enter “YES” if the FCCU catalyst regenerator has a contact material that reacts with petroleum derivatives to improve feedstock quality in which the contact material is regenerated by burning off coke and/or other deposits. Otherwise, enter “NO.”

Do not continue if “Contact Material” is “YES” and “Construction/Modification Date” is “73-84.”

**Complete “Sulfur Content” only if “Construction/Modification Date” is “84- 07.”**

Sulfur Content:

Select **one** of the following options to demonstrate which sulfur oxide compliance option the FCCU is utilizing. Enter the **code** on the form.

**Code Description**

FEED Measuring the total sulfur content in the FCCU fresh feed

CD The FCCU uses an add-on control device to control SO2 emissions

NOCD The FCCU does not use an add-on control device to control SO2 emissions

Discharged Gases:

Enter “YES” if gases discharged by the FCCU pass through an incinerator or waste heat boiler in which auxiliary or supplemental liquid or solid fossil fuel is burned. Otherwise, enter “NO.”

CO Monitoring:

Enter “YES” if you have demonstrated to the Administrator that the average CO emissions are less than 50 ppm (dry basis). Otherwise, enter “NO.”

**Complete “CO Exemption ID” only if “CO Monitoring” is “YES.”**

CO Exemption ID:

Enter the CO Monitoring Exemption ID or date of the approval letter from the Administrator. Otherwise, leave this column blank. *(Submit the approval letter with your application).*

**Do not continue if “Facility Type” is “FCCU.”**

[Table 1b](#Table1b): Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60), Subpart J: Standards of Performance for Petroleum Refineries

Unit ID. No.:

Enter the identification number (ID. No.) for the FCCU catalyst regenerator, fuel gas combustion device, or Claus sulfur recovery plant (maximum 10 characters) as listed on Form OP-SUM (Individual Unit Summary).

SOP Index No.:

Site operating permit (SOP) applicants should indicate the SOP index number for the unit or group of units (maximum 15 characters consisting of numeric, alphanumeric characters, and/or dashes prefixed by a code for the applicable regulation [i.e., 60KB-XXXX]). For additional information relating to SOP index numbers, please go to the TCEQ website at [www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title\_V/additional\_fop\_guidance.pdf](https://www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title_V/additional_fop_guidance.pdf).

Complete “Low Sulfur” only if “Facility Type” is “FUELOW” or “FLARELOW.”

**Low Sulfur:**

Select **one** of the following options that describes which fuel gas stream is inherently low in sulfur. Enter the **code** on the form.

**Code Description**

PILOT Fuel gas stream that is pilot gas for heaters and flares

30PPMV Fuel gas stream that meets a commercial-grade product specification for the sulfur content of 30 ppmv or less

INTOL Fuel gas stream that is intolerant to sulfur contamination

OTHER Fuel gas stream that has been demonstrated to the Administrator according to § 60.105(a)(4)(iv)(D) and §60.105(b)

Complete “SO2 Exemption ID” only if “Low Sulfur” is “OTHER”.

**SO2 Exemption ID:**

Enter the SO2 Monitoring Exemption ID or date of the approval letter from the Administrator. Otherwise, leave this column blank. *(Submit the approval letter with your application).*

Complete “Monitoring Device” only if “Facility Type” is “FUELHI” or “FLAREHI.”

**Monitoring Device:**

Enter “YES” if an instrument is in place for continuously monitoring and recording the concentration by volume of SORR2RR emissions into the atmosphere. Otherwise, enter “NO.”

**[Table 2a](#Table2a): Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60), Subpart Ja: Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007**

Complete this table only for fluid catalytic cracking units (FCCU), fluid coking units (FCU), delayed coking units, fuel gas combustion devices (including flares and process heaters), and sulfur recovery plants located at petroleum refineries. The sulfur recovery plant need not be physically located within the boundaries of a petroleum refinery to be an affected facility, provided it processes gases produced within a petroleum refinery

Unit ID. No.:

Enter the identification number (ID. No.) for the affected unit (maximum 10 characters) as listed on Form OP-SUM (Individual Unit Summary).

SOP Index No.:

Site operating permit (SOP) applicants should indicate the SOP index number for the unit or group of units (maximum 15 characters consisting of numeric, alphanumeric characters, and/or dashes prefixed by a code for the applicable regulation [i.e., 60KB-XXXX]). For additional information relating to SOP index numbers, please go to the TCEQ website at [www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title\_V/additional\_fop\_guidance.pdf](https://www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title_V/additional_fop_guidance.pdf).

Facility Type**:**

Select one of the following options for each facility type. Enter the code on the form.

**Code Description**

FCCU fluid catalytic cracking unit

FCU fluid coking unit

DCUFLR delayed coking unit that vents exhaust vapor to a flare

DCUFUEL delayed coking unit that vents exhaust vapor to a fuel gas combustion device, other than a flare or a process heater

DCUFUELCO delayed coking unit that vents exhaust vapor to a CO boiler or furnace that is part of a FCCU/FCU affected facility

DCUFUELEX delayed coking unit that vents exhaust vapor to a portable generator of fuel gas used for tank degreasing and/or cleaning

DCUPH delayed coking unit that vents exhaust vapor to a process heater used as a fuel gas combustion device

FLARE flare that is used for fuel gas combustion

PROHTR process heater that is used for fuel gas combustion

FUEL fuel gas combustion device, other than a flare or process heater

FUELCO CO boiler or furnace that is part of a FCCU/FCU affected facility

FUELEX portable generator of fuel gas used for tank degreasing and/or cleaning

SR20+ sulfur recovery plant greater than 20 long tons per day (LTPD

SR20- sulfur recovery plant less than or equal to 20 LTPD

Complete “Construction/Modification Date” only if “Facility Type” is “FCCU,” “FCU,” “FLARE,” “PROHTR,” “FUEL,” “FUELCO,” “FUELEX,” “SRP20+”, or “SRP20-.”

Construction/Modification Date:

Select one of the following options that describes the date of commencement of the most recent construction, reconstruction, or modification of the facility. Enter the code on the form.

**Code Description**

07- On or before May 14, 2007

07-08 After May 14, 2007, and on or before June 24, 2008

08+ After June 24, 2008

Complete “DCU Construction/Modification Date” only if “Facility Type” is “DCUFLR,” “DCUFUEL,” “DCUFUELCO,” “DCUFUELEX,” or “DCUPH.”

DCU Construction/Modification Date:

Select one of the following options that describes the date of commencement of the most recent construction, reconstruction, or modification of the delayed coking unit. Enter the code on the form.

**Code Description**

07- Before May 14, 2007 for such activities defined in §60.100a(b)(1)

07+ On or after May 14, 2007 for such activities defined in §60.100a(b)(1)

08- Before December 22, 2008 for such activities defined in §60.100a(b)(2)

08+ On or after December 22, 2008 for such activities defined in §60.100a(b)(2)

12- Before September 12, 2012 for such activities defined in §60.100a(b)(3)

12+ On or after September 12, 2012 for such activities defined in §60.100a(b)(3)

Do not continue if “Construction/Modification Date” is “07-.”

Do not continue if “Construction/Modification Date” is “07-08” and “Facility Type” is “FLARE.”

Do not continue if “DCU Construction/Modification Date” is “07-”, “08-“, or “12-.”

Do not continue if “Facility Type” is “DCUFUELEX” or “FUELEX.”

Continue with Table 2a only if “Facility Type” is “FCCU” or “FCU.”

Go to Table 2b if “Facility Type” is “SRP20+” or “SRP20-.”

Go to Table 2c if “Facility Type” is “DCUFUEL”, “DCUFUELCO”, “DCUPH”, “FUEL”, “FUELCO”, or “PROHTR”.

* Go to Table 2e if “Facility Type” is “DCUFLR” or “FLARE.”

Complete “Newly Constructed” only if “Facility Type” is “FCCU.”

Newly Constructed**:**

Enter “YES” if the FCCU is newly constructed. Otherwise, enter “NO” if the FCCU is modified or reconstructed.

PM Emission Limit:

Select one of the following options that describes the PM emission limit. Enter the code on the form.

**Code Description**

GRDSCF Owner or operator is choosing PM limit in gr/dscf corrected to 0 percent excess air (a PM CEMS is used)

PMCOKE Owner or operator is choosing PM limit in weight PM per weight coke burn-off

Complete “PM Control” only if “PM Emission Limit” is “PMCOKE.”

PM Control:

Select one of the following options that describes the PM control device. Enter the code on the form.

**Code Description**

ELPREC electrostatic precipitator.

WTSCRB wet scrubber

FABRIC baghouse or similar fabric filter

CYC cyclone

OTHER a control device other than the four listed above

Complete “CEMS Exempt” only if “Facility Type” is “FCCU” or “FCU.”

CEMS Exempt:

Enter “YES” if the CO emissions from the FCCU or FCU are demonstrated to remain less than 50 ppmv and an exemption from a CO CEMS is claimed. Otherwise, enter “NO.”

Complete “Post Combustion” only if “CEMS Exempt” is “YES.”

Post Combustion:

Enter “YES” if the unit has a post-combustion control device for CO. Otherwise, enter “NO.”

[Table 2b](#Table2b): Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60), Subpart Ja: Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007

Complete this table only for fluid catalytic cracking units (FCCU), fluid coking units (FCU), delayed coking units, fuel gas combustion devices (including flares and process heaters), and sulfur recovery plants located at petroleum refineries. The sulfur recovery plant need not be physically located within the boundaries of a petroleum refinery to be an affected facility, provided it processes gases produced within a petroleum refinery.

Unit ID. No.:

Enter the identification number (ID. No.) for the affected unit (maximum 10 characters) as listed on Form OP-SUM (Individual Unit Summary).

SOP Index No.**:**

Site operating permit (SOP) applicants should indicate the SOP index number for the unit or group of units (maximum 15 characters consisting of numeric, alphanumeric characters, and/or dashes prefixed by a code for the applicable regulation [i.e., 60KB-XXXX]). For additional information relating to SOP index numbers, please go to the TCEQ website at [www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title\_V/additional\_fop\_guidance.pdf](https://www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title_V/additional_fop_guidance.pdf).

Complete this table only if “Facility Type” is “SRP20+” or “SRP20-.”

SRP SO2 Control:

Select one of the following options that describes SO2 emission control for the sulfur recovery plant. Enter the code on the form.

**Code Description**

OXY plant utilizes an oxygen enrichment system.

INC+ plant utilizes an oxidation control or a reduction control system followed by incineration

INC- plant utilizes a reduction control system not followed by incineration

SRP Claus Unit:

Select one of the following options that describes the oxygen enrichment system at the sulfur recovery plant. Enter the code on the form.

**Code Description**

CLAUS a regular Claus sulfur recovery plant

OTHER Claus sulfur recovery plant that only uses ambient air in the Claus burner, elect not to monitor O2 concentration of the air/oxygen mixture used in the Claus burner, or is a non‑Claus sulfur recovery plant

Complete “Reduced Sulfur Compounds Monitor Alt” only if “SRP SO2 Control” is “INC-.”

Reduced Sulfur Compounds Monitor Alt:

Enter “YES” if the owner or operator of the sulfur recovery plant uses an air or O2 dilution and oxidation system to convert any reduced sulfur to SO2 in place of the requirements in §60.106a(a)(2). Otherwise, enter “NO.”

Flow Rate Weighted Average:

Enter “YES” if the owner or operator of the sulfur recovery plant is complying with the emission limits as a flow rate weighted average for a group of release points. Otherwise, enter “NO.”

Complete “O2 Monitoring Alt” only if “SRP Claus Unit” is “CLAUS.”

O2 Monitoring Alt:

Enter “YES” if the owner or operator of the sulfur recovery plant is using a CPMS to measure and record the volumetric gas flow rate of ambient air supplied to the Claus burner in place of the requirements in §60.106a(a)(5). Otherwise, enter “NO.”

[Table 2c](#Table_2c): Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60), Subpart Ja: Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007

Complete this table only if “Facility Type” is “DCUFUEL,” “DCUFUELCO,” “DCUPH,” “FUEL,” “FUELCO,” or “PROHTR.”

Unit ID. No.:

Enter the identification number (ID. No.) for the affected unit (maximum 10 characters) as listed on Form OP-SUM (Individual Unit Summary).

SOP Index No.**:**

Site operating permit (SOP) applicants should indicate the SOP index number for the unit or group of units (maximum 15 characters consisting of numeric, alphanumeric characters, and/or dashes prefixed by a code for the applicable regulation [i.e., 60KB-XXXX]). For additional information relating to SOP index numbers, please go to the TCEQ website at [www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title\_V/additional\_fop\_guidance.pdf](https://www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title_V/additional_fop_guidance.pdf).

Complete “AMEL” only if “Facility Type” is “DCUFUEL,” “DCUFUELCO,” or “DCUPH.”

**AMEL:**

Enter “YES” if using an alternate means of emission limitation (AMEL) as it pertains to 40 CFR Part 60, Subpart Ja. Otherwise, enter “NO.”

Complete “AMEL ID No.” only if “Alternate Means of Emission Limitation” is “YES.”

**AMEL ID No.:**

If an AMEL has been approved, enter the corresponding AMEL unique identifier for each unit (maximum 10 characters). If the unique identifier is unavailable, then enter the date of the AMEL approval letter in the table column. The unique identifier and/or the date of the approval letter are contained in the Compliance File under the appropriate regulated entity number. Otherwise, leave this column blank.

Continue only if “Alternative Means of Emission Limitation” is “NO.”

Complete “Sulfur Emission Limit” only if “Facility Type” is “DCUFUEL,” “DCUPH,” “FUEL,” or “PROHTR.”

Sulfur Emission Limit:

Select one of the following options that describes the Sulfur emission limit. Enter the code on the form.

**Code Description**

SO2 Owner or operator is choosing Sulfur Emission Limit in terms of ppmv SO2 emitted

H2S Owner or operator is choosing Sulfur Emission Limit in terms of ppmv H2S in fuel gas

§60.107a(b) Exemption:

Enter “YES” if the fuel gas combustion device is eligible for the exemption on §60.107a(b) (i.e., the fuel gas stream can be demonstrated to be inherently low-sulfur). Otherwise, enter “NO.”

Complete “Common Source of Fuel Gas” only if “Facility Type” is “DCUFUELCO” or “FUELCO;” or if “Facility Type” is “DCUFUEL,” “DCUPH,” “FUEL,” or “PROHTR” and “Sulfur Emission Limit” is “H2S.”

Common Source of Fuel Gas:

Enter “YES” if the fuel gas combustion device uses a common source of gas as described in §60.107a(a)(2)(iv). Otherwise, enter “NO.”

Do not continue if “Facility Type” is “DCUFUEL,” “DCUFUELCO,” “FUEL” or “FUELCO.”

[Table 2d](#Table_2d): Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60), Subpart Ja: Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007

Complete this table only if “Facility Type” is “DCUPH” or “PROHTR.”

Unit ID. No.:

Enter the identification number (ID. No.) for the affected unit (maximum 10 characters) as listed on Form OP-SUM (Individual Unit Summary).

SOP Index No.**:**

Site operating permit (SOP) applicants should indicate the SOP index number for the unit or group of units (maximum 15 characters consisting of numeric, alphanumeric characters, and/or dashes prefixed by a code for the applicable regulation [i.e., 60KB-XXXX]). For additional information relating to SOP index numbers, please go to the TCEQ website at [www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title\_V/additional\_fop\_guidance.pdf](https://www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title_V/additional_fop_guidance.pdf).

**Alternative Standard:**

Enter “YES” if the process heater meets the criteria and has requested approval from the Administrator for a NOX emissions limit as described in §60.102a(i). Otherwise, enter “NO.”

Continue only if “Alternative Standard” is “NO.”

Heater Capacity**:**

Select one of the following options that describes process heater capacity. Enter the code on the form.

**Code Description**

40- the process heater is rated equal to or less than 40 MMBtu/hr

40-100 the process heater is rated greater than 40 MMBtu/hr but less than 100MMBtu/hr

100+ the process heater is rated equal to or greater than 100 MMBtu/hr

Do not continue if “Heater Capacity” is “40-.”

Heater Type**:**

Select one of the following options that describes process heater type. Enter the code on the form.

**Code Description**

NDPH the unit is a natural draft process heater

FDPH the unit is a forced draft process heater

CONDPH the unit is a co-fired natural draft process heater

COFDPH the unit is a co-fired forced draft process heater

NOx Emission Limit**:**

Select one of the following options that describes the NOx emissions limit. Enter the code on the form.

For “Heater Type” designation of “NDPH” and “FDPH”:

**Code Description**

PPMV the owner or operator is choosing the NOx concentration emission limit

HVB the owner or operator is choosing the NOx per heating value basis emission limit

For “Heater Type” designation of “CONDPH”:

**Code Description**

PPMV the owner or operator is choosing the NOx concentration emission limit

EQ3 the owner or operator is choosing the NOx emission limit based on Equation 3 in §60.102a(g)(2)(iii)(B)

For “Heater Type” designation of “COFDPH”:

**Code Description**

PPMV the owner or operator is choosing the NOx concentration emission limit

EQ4 the owner or operator is choosing the NOx emission limit based on Equation 4 in §60.102a(g)(2)(iv)(B)

Complete “Low-NOx” only if “Heater Capacity” is “40-100.”

Low-NOx:

Select one of the following options that describes if the process heater has low-NOx or ultra-low-NOx burners. Enter the code on the form.

For “NOX Emission Limit” designation of “PPMV”:

**Code Description**

LOWC the process heater is equipped with combustion modification-based technology to reduce NOx emissions and the owner or operator elects to comply with the monitoring requirements in paragraphs §60.107a(c)(1) through (5)

ALTLOWC the process heater is equipped with combustion modification-based technology to reduce NOx emissions and the owner or operator elects to comply with the alternative to the monitoring requirements in paragraphs §60.107a(c)(1) through (5)

For “NOx Emission Limit” designation of “HVB,” “EQ3”, and “EQ4:

**Code Description**

LOWD the process heater is equipped with combustion modification-based technology to reduce NOx emissions and the owner or operator elects to comply with the monitoring requirements in paragraphs §60.107a(d)(1) through (7)

ALTLOWD the process heater is equipped with combustion modification-based technology to reduce NOx emissions and the owner or operator elects to comply with the alternative to the monitoring requirements in paragraphs §60.107a(d)(1) through (7)

Complete “**O2 Operating Curve**” only if “Low-NOx” is “ALTLOWC” or “ALTLOWD.”

O2 Operating Curve:

Enter “YES” if an O2 operating curve is used rather than a single O2 operating limit. Otherwise, enter “NO.”

Complete “**Gas Composition Analyzer**” only if “Heater Capacity” is “100+” and “NOx Emission Limit” is “HVB”; or if “Heater Capacity” is “40-100” and “NOx Emission Limit” is “HVB” and “Low-NOx” is “ALTLOWD.”

Gas Composition Analyzer:

Enter “YES” if an O2 operating curve is used rather than a single O2 operating limit. Otherwise, enter “NO.”

[Table 2e](#Table_2e): Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60), Subpart Ja: Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or Modification Commenced After May 14, 2007

Complete this table only if “Facility Type” is “DCUFLR” or “FLARE.”

Unit ID. No.:

Enter the identification number (ID. No.) for the affected unit (maximum 10 characters) as listed on Form OP-SUM (Individual Unit Summary).

SOP Index No.**:**

Site operating permit (SOP) applicants should indicate the SOP index number for the unit or group of units (maximum 15 characters consisting of numeric, alphanumeric characters, and/or dashes prefixed by a code for the applicable regulation [i.e., 60KB-XXXX]). For additional information relating to SOP index numbers, please go to the TCEQ website at [www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title\_V/additional\_fop\_guidance.pdf](https://www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title_V/additional_fop_guidance.pdf).

**AMEL:**

Enter “YES” if using an alternate means of emission limitation (AMEL) as it pertains to 40 CFR Part 60, Subpart Ja. Otherwise, enter “NO.”

Complete “AMEL ID No.” only if “Alternate Means of Emission Limitation” is “YES.”

**AMEL ID No.:**

If an AMEL has been approved, enter the corresponding AMEL unique identifier for each unit (maximum 10 characters). If the unique identifier is unavailable, then enter the date of the AMEL approval letter in the table column. The unique identifier and/or the date of the approval letter are contained in the Compliance File under the appropriate regulated entity number. Otherwise, leave this column blank.

Continue only if “Alternative Means of Emission Limitation” is “NO.”

Alternative Monitoring:

Enter “YES” if the flare meets the requirements and complies with the alternative monitoring mentioned in §60.107a(g). Otherwise, enter “NO.”

Complete “§60.107a(e)(4) Exemption” only if “Alt Mon” is “NO.”

§60.107a(e)(4) Exemption:

Enter “YES” if the flare is eligible for the exemption in §60.107a(e)(4). Otherwise, enter “NO.”

§60.107a(a)(3) Exemption:

Enter “YES” if the flare is eligible for the exemption on §60.107a(a)(3) (i.e., the fuel gas stream can be demonstrated to be inherently low-sulfur). Otherwise, enter “NO.”

Do not complete “Common Source of Fuel Gas” if “60.107a(a)(3) Exemption” is “YES.”

Common Source of Fuel Gas:

Enter “YES” if the flare uses a common source of gas as described in §60.107a(a)(2)(iv). Otherwise, enter “NO.”

Modified Flare:

Enter “YES” if the flare is considered as a modified flare. A modification to a flare commences when a project that includes any of the activities in paragraphs §60.100a(c)(1) or (2) is commenced. Otherwise, enter “NO.”

Cascaded Flare System:

Enter “YES” if the flare is used as a part of a cascaded flare system. Otherwise, enter “NO.”

[Table 3a:](#Table3a) Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63) Subpart UUU: National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries: Catalytic Cracking Units

Complete this table for catalytic cracking units (CCUs) that:

* are located at a petroleum refinery that is a major source of HAP emissions
* meet the definition of an affected source as defined by § 63.1562(b)

Unit ID. No.:

Enter the identification number (ID. No.) for the catalytic cracking unit (maximum 10 characters) as listed on Form OP‑SUM (Individual Unit Summary).

SOP Index No.:

Site operating permit (SOP) applicants should indicate the SOP index number for the unit or group of units (maximum 15 characters consisting of numeric, alphanumeric characters, and/or dashes prefixed by a code for the applicable regulation [i.e., 60KB-XXXX]). For additional information relating to SOP index numbers please go to the TCEQ website at [www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title\_V/additional\_fop\_guidance.pdf](https://www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title_V/additional_fop_guidance.pdf)

CCU PM/Ni Emission Limitation:

Select one of the following options that describes the HAP PM or Ni emission limit for the catalytic cracking unit. Enter the code on the form.

**Code Description**

TABLE1.1 CCU subject to the NSPS for PM in 40 CFR § 60.102 and not electing § 60.100(e) complying with Table 1.1 to Subpart UUU

TABLE1.2A CCU subject to the NSPS for PM in 40 CFR § 60.102a(b)(1)(i) or 40 CFR §60.102 and electing § 60.100(e) and complying with the 1.0 g/kg (1.0 lb PM/1,000 lb) of coke burn‑off in Table 1.2 to Subpart UUU

TABLE1.2B CCU subject to the NSPS for PM in 40 CFR § 60.102a(b)(1)(i) or 40 CFR § 60.102 and electing § 60.100(e) using a PM CEMS and complying with the 0.040 grain per dry standard cubic feet (gr/dscf) corrected to 0 percent excess air standard in Table 1.2 to Subpart UUU

TABLE1.3A CCU subject to NSPS for PM in 40 CFR § 60.102a(b)(1)(ii) complying with the 0.5g/kg (0.5 lb/1000 lb) coke burn-off in Table 1.3 to Subpart UUU

TABLE1.3B CCU subject to NSPS for PM in 40 CFR § 60.102a(b)(1)(ii) using a PM CEMS complying with the 0.020 gr/dcscf corrected to 0 percent excess air standard in Table 1.3 to Subpart UUU

OPT1A Option 1a: Elect NSPS subpart J requirements for PM per coke burn limit and 30% opacity, not subject to the NSPS for PM in 40 CFR § 60.102 or § 60.102a(b)(1) complying with Table 1.4 to Subpart UUU

OPT1B Option 1b: Elect NSPS subpart Ja requirements for PM per coke burn-off limit, not subject to the NSPS for PM in 40 CFR § 60.102 or § 60.102a(b)(1) complying with Table 1.5 to Subpart UUU

OPT1C Option 1c: Elect NSPS subpart Ja requirements for PM concentration limit, not subject to the NSPS for PM in 40 CFR § 60.102 or § 60.102a(b)(1) complying with Table 1.6 to Subpart UUU

OPT2 Option 2: PM per coke burn-off limit, not subject to the NSPS for PM in 40 CFR § 60.102 or § 60.102a(b)(1) complying with Table 1.7 to Subpart UUU

OPT3 Option 3: Nickel (Ni) lb/hr limit, not subject to the NSPS for PM in 40 CFR § 60.102 or § 60.102a(b)(1) complying with Table 1.8 to Subpart UUU

OPT4 Option 4: Nickel (Ni) per coke burn-off limit, not subject to the NSPS for PM in 40 CFR§ 60.102 or§ 60.102a(b)(1) complying with Table 1.9 to Subpart UUU

CCU PM/Ni Control Device:

Select the control device used for PM or Ni emissions control. Enter the code on the form

**Code Description**

CYCLONE Cyclone

FABFLT Fabric Filter

WETSCR1 Wet scrubber

WETSCR2 Wet scrubber of the non-venturi jet-ejector design

ESP Electrostatic Precipitator

**CCU PM/Ni Control Device ID No.**:

If applicable, enter the identification number for the control device to which emissions are routed (maximum 10 characters). This number should be consistent with the control device identification number listed on Form OP-SUM. If there is no control device, then leave this column blank.

Complete “CCU PM Control Device Alt ID” only if “CCU PM Control Device” is “OTHER.”

**CCU PM/Ni Control Device Alt ID**:

If an alternate has been approved, then enter the corresponding alternate unique identifier for each unit or process (maximum 10 characters). If the unique identifier is unavailable, then enter the date of the alternate approval letter. The unique identifier and/or the date of the approval letter are contained in the Compliance File under the appropriate account number. Otherwise, leave this column blank.

**CCU PM/Ni Monitoring Method:**

Select the monitoring method used to demonstrate compliance with the PM or Ni emission limit. Enter the code on the form.

**Code Description**

ALT Monitoring approved alternative parameters under § 63.1573(e)

ALTCOM Alternative to COMS approved under § 63.1573(f)

COMS Continuous Opacity Monitoring System

CPMS Continuous Parameter Monitoring System

Complete “CCU PM/Ni Alt Monitoring ID” only if “CCU PM/Ni Monitoring Method” is “ALT,” or “ALTCOM.”

CCU PM/Ni Alt Monitoring ID:

If an alternate has been approved, then enter the corresponding alternate unique identifier for each unit or process (maximum 10 characters). If the unique identifier is unavailable, then enter the date of the alternate approval letter. The unique identifier and/or the date of the approval letter are contained in the Compliance File under the appropriate account number. Otherwise, leave this column blank.

Multiple CCUs Served by a Single Wet Scrubber:

Enter “Yes” if multiple CCUs are served by a single wet scrubber complying with § 63.1575(j). Otherwise, enter “NO.”

[Table 3b](#Table3b): Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63) Subpart UUU: National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries: Catalytic Cracking Units

Complete this table for catalytic cracking units (CCUs) that:

* are located at a petroleum refinery that is a major source of HAP emissions
* meets the definition of an affected source as defined by § 63.1562(b)

Unit ID. No.:

Enter the identification number (ID. No.) for the catalytic cracking unit (maximum 10 characters) as listed on Form OP‑SUM (Individual Unit Summary).

SOP Index No.:

Site operating permit (SOP) applicants should indicate the SOP index number for the unit or group of units (maximum 15 characters consisting of numeric, alphanumeric characters, and/or dashes prefixed by a code for the applicable regulation [i.e., 60KB-XXXX]). For additional information relating to SOP index numbers please go to the TCEQ website at [www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title\_V/additional\_fop\_guidance.pdf](https://www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title_V/additional_fop_guidance.pdf)

CCU CO Emission Limitation:

Select one of the following options that describes the CO emission limit for the CCU. Enter the code on the form.

**Code Description**

TABLE8.1 CCU subject to the NSPS requirements for CO in 40 CFR § 60.103 or § 60.102a(b)(4) complying with Table 8.1 to Subpart UUU

TABLE8.2 CCU not subject to the NSPS requirements for CO in 40 CFR § 60.103 or § 60.102a(b)(4) complying with Table 8.2 to Subpart UUU

Complete “CCU CO Control Device” and “CCU CO Control Device ID. No.” only if you are using a CO control device, and “CCU CO Emission Limitation” is “TABLE8.2.”

CCU CO Control Device:

Select the control device used for CO emissions control. Enter the code on the form.

**Code Description**

FLARE Flare meeting the requirements of § 63.670

THERMINC Thermal Incinerator

PRHTR Process Heater with a design heat input capacity less than 44 MW or in which all vent streams are not introduced into the flame zone

BOILER Boiler with a design heat input capacity less than 44MW or in which all vent streams are not introduced into the flame zone

OTHER Other control device approved under § 63.1573(e)

CCU CO Control Device ID No.:

If applicable, enter the identification number for the control device to which emissions are routed (maximum 10 characters). This number should be consistent with the control device identification number listed on Form OP-SUM. If there is no control device, then leave this column blank.

* **Complete “CCU CO Control Device Alt ID” only if “CCU CO Control Device” is “OTHER.”**

CCU CO Control Device Alt ID:

If an alternate has been approved, then enter the corresponding alternate unique identifier for each unit or process (maximum 10 characters). If the unique identifier is unavailable, then enter the date of the alternate approval letter. The unique identifier and/or the date of the approval letter are contained in the Compliance File under the appropriate account number. Otherwise, leave this column blank.

CCU CO Monitoring Method:

Select the monitoring method used to demonstrate compliance with the CO emission limit. Enter the code on the form.

**Code Description**

CEMS Continuous Emissions Monitoring System for measuring CO concentration

CEMS50- Using CEMS to demonstrate CO emission average under 50 ppm (dry basis)

CPMS Continuous Parameter Monitoring System for measuring combustion zone temperature

CCU Bypass Line:

Select one of the following options that describes if a bypass line is used to divert an affected vent stream away from a control device.

**Code Description**

NONE No bypass line serving the catalytic cracking unit

BYOPT1 Install and operate an automated system to detect flow in the bypass line (Option 1)

BYOPT2 Use a manual lock system by installing a car-seal or lock-and-key device (Option 2)

BYOPT3 Seal the bypass line by installing a solid blind between piping flanges (Option 3)

BYOPT4 Vent the bypass line to a control device (Option 4)

BYALT Complying with alternative work practice standard approved by EPA as stated in § 63.1569(a)(2)

Complete “CCU Bypass Line Alt Monitoring ID” only if “CCU Bypass Line” is “BYALT.”

CCU Bypass Line Alt Monitoring ID:

If an alternate has been approved, then enter the corresponding alternate unique identifier for each unit or process (maximum 10 characters). If the unique identifier is unavailable, then enter the date of the alternate approval letter. The unique identifier and/or the date of the approval letter are contained in the Compliance File under the appropriate account number. Otherwise, leave this column **blank**.

[Table 3c](#Table3c): Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63), Subpart UUU: National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries

Complete this table for catalytic reforming units (CRUs) that:

* are located at a petroleum refinery that is a major source of HAP emissions
* meets the definition of an affected source as defined by § 63.1562(b)

Unit ID. No.:

Enter the identification number (ID. No.) for the catalytic reforming unit (maximum 10 characters) as listed on Form OP‑SUM (Individual Unit Summary).

SOP Index No.:

Site operating permit (SOP) applicants should indicate the SOP index number for the unit or group of units (maximum 15 characters consisting of numeric, alphanumeric characters, and/or dashes prefixed by a code for the applicable regulation [i.e., 60KB-XXXX]). For additional information relating to SOP index numbers please go to the TCEQ website at [www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title\_V/additional\_fop\_guidance.pdf](https://www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title_V/additional_fop_guidance.pdf)

CRU TOC Emission Limitation:

Select one of the following options that describes the total organic compounds (TOC) emission limitation for the catalytic reforming unit. Enter the code on the form.

**Code Description**

TABLE15.1 Vent emissions of TOC to a flare that meets the requirements of §63.670 (Option 1) complying with Table 15.1 to Subpart UUU

TABLE15.2 Reduce uncontrolled emissions of TOC or nonmethane TOC by 98% by weight or to a concentration of 20 ppmv (Option 2) complying with Table 15.2 to Subpart UUU

Do not complete “CRU TOC Compliance Method” if “CRU TOC Emission Limitation” is “Table15.1”

CRU TOC Compliance Method:

Select the compliance option for reducing TOC emissions.

**Code Description**

PRCENT Complying with the TOC percent reduction limit

CONCEN Complying with the TOC concentration limit

CRU TOC Control Device:

Select one of the following options that describes the control device used to control TOC emissions.

**Code Description**

THERMINC Thermal Incinerator

PRHTR Process Heater with a design heat input capacity less than 44 MW or in which all vent streams not introduced into the flame zone

BOILER44- Boiler with a design heat input capacity less than 44MW or in which all vent streams not introduced into the flame zone

BOILER44+ Boiler with a design heat input capacity less equal to or greater than 44MW or which all vent streams are introduced into the flame zone

NONE No control device

CRU TOC Control Device ID No.:

If applicable, enter the identification number for the control device to which emissions are routed (maximum 10 characters). This number should be consistent with the control device identification number listed on Form OP-SUM. If there is no control device, then leave this column blank.

Complete “CCU TOC Control Device Alt ID” only if “CCU TOC Control Device” is “OTHER.”

CCU TOC Control Device Alt ID:

If an alternate has been approved, then enter the corresponding alternate unique identifier for each unit or process (maximum 10 characters). If the unique identifier is unavailable, then enter the date of the alternate approval letter. The unique identifier and/or the date of the approval letter are contained in the Compliance File under the appropriate account number. Otherwise, leave this column blank.

CRU Engineering Assessment:

Enter “YES” if choosing to perform an engineering assessment for CRUs according to the requirements of § 63.1571(c). Otherwise, enter “NO.”

CRU Alternate Monitoring:

Enter “YES” if choosing to monitor alternate parameters in accordance with § 63.1573(e). Otherwise, enter “NO.”

Complete “CRU Alt Monitoring ID” only if “CRU Alternate Monitoring” is “ADCS” or “ALT.”

CRU Alt Monitoring ID:

If an alternate has been approved, then enter the corresponding alternate unique identifier for each unit or process (maximum 10 characters). If the unique identifier is unavailable, then enter the date of the alternate approval letter. The unique identifier and/or the date of the approval letter are contained in the Compliance File under the appropriate account number. Otherwise, leave this column **blank**.

[Table 3d](#Table3d): Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63) Subpart UUU: National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries

Complete this table for catalytic reforming units (CRUs) that:

* are located at a petroleum refinery that is a major source of HAP emissions
* meets the definition of an affected source as defined by § 63.1562(b)

Unit ID. No.:

Enter the identification number (ID. No.) for the catalytic reforming unit (maximum 10 characters) as listed on Form OP‑SUM (Individual Unit Summary).

SOP Index No.:

Site operating permit (SOP) applicants should indicate the SOP index number for the unit or group of units (maximum 15 characters consisting of numeric, alphanumeric characters, and/or dashes prefixed by a code for the applicable regulation [i.e., 60KB-XXXX]). For additional information relating to SOP index numbers please go to the TCEQ website at [www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title\_V/additional\_fop\_guidance.pdf](https://www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title_V/additional_fop_guidance.pdf)

CRU HCL Emission Limitation:

Select one of the following options that Which the CRU HCl emission limitation.

**Code Description**

TABLE22.1 Existing semi-regenerative CRU reducing uncontrolled emissions of HCl 92% by weight or to a concentration of 30 ppmv complying with Table 22.1 to Subpart UUU

TABLE22.2 Existing cyclic or continuous CRU reducing uncontrolled emissions of HCl by 97% by weight or to a concentration of 10 ppmv complying with Table 22.2 to Subpart UUU

TABLE22.3 New semi-regenerative, cyclic, or continuous CRU reducing uncontrolled emissions of HCl by 97% by weight or to a concentration of 10 ppmv complying with Table 22.3 to Subpart UUU

CRU HCl Compliance Method:

Select the compliance option for reducing TOC emissions.

**Code Description**

PRCENT Complying with the HCl percent reduction limit

CONCEN Complying with the HCl concentration limit

CRU HCL Control Device:

Select one of the following options that describes the control device used to control HCl emissions.

**Code Description**

WETSCRUB Wet Scrubber

INTSCR1 Internal Scrubbing System meeting the HCl outlet concentration limit

INTSCR2 Internal Scrubbing System meeting the HCl reduction standard

FBGSAS Fixed-bed gas-solid adsorption system

MBGSAS Moving-bed gas-solid adsorption system

NONE No control device

CRU HCL Control Device ID No.:

If applicable, enter the identification number for the control device to which emissions are routed (maximum 10 characters). This number should be consistent with the control device identification number listed on Form OP-SUM. If there is no control device, then leave this column blank.”

CCU HCL Control Device Alt ID:

If an alternate has been approved, then enter the corresponding alternate unique identifier for each unit or process (maximum 10 characters). If the unique identifier is unavailable, then enter the date of the alternate approval letter. The unique identifier and/or the date of the approval letter are contained in the Compliance File under the appropriate account number. Otherwise, leave this column blank.

* **Complete “Wet Scrubber Alt Monitoring” only if “CRU HCl Control Device” is “WETSCRUB” or “INTSCR2.”**

**CRU HCl Alt Monitoring:**

Select one of the following alternative monitoring methods.

**Code Description**

ALT Monitoring alternative parameters in accordance with § 63.1573(e)

PH Using the alternative pH procedure in § 63.1573(b)(1)

ALK Using the alternative alkalinity method in § 63.1573(b)(2)

NONE No alternate monitoring

CRU Bypass Line:

Select one of the following options that describes the work practice standard for the bypass line. Enter the code on the form.

**Code Description**

NONE No bypass line serving the SRU

BYOPT1 Install and operate an automated system to detect flow in the bypass line (Option 1)

BYOPT2 Use a manual lock system by installing a car-seal or lock-and-key device (Option 2)

BYOPT3 Seal the bypass line by installing a solid blind between piping flanges (Option 3)

BYOPT4 Vent the bypass line to a control device (Option 4)

BYALT Complying with alternative work practice standard approved by EPA as stated in § 63.1569(a)(2)

Complete “CRU Bypass Line Alt Monitoring ID” only if “CRU Bypass Line” is “BYALT.”

CRU Bypass Line Alt Monitoring ID:

If an alternate has been approved, then enter the corresponding alternate unique identifier for each unit or process (maximum 10 characters). If the unique identifier is unavailable, then enter the date of the alternate approval letter. The unique identifier and/or the date of the approval letter are contained in the Compliance File under the appropriate account number. Otherwise, leave this column **blank**.

[Table 3e](#Table3e): Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63), Subpart UUU: National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries

Complete this table for sulfur recovery units (SRUs) that:

* are located at a petroleum refinery that is a major source of HAP emissions meet the definition of an affected source as defined by § 63.1562(b)

Unit ID. No.:

Enter the identification number (ID. No.) for the sulfur recovery unit (maximum 10 characters) as listed on Form OP‑SUM (Individual Unit Summary).

SOP Index No.:

Site operating permit (SOP) applicants should indicate the SOP index number for the unit or group of units (maximum 15 characters consisting of numeric, alphanumeric characters, and/or dashes prefixed by a code for the applicable regulation [i.e., 60KB-XXXX]). For additional information relating to SOP index numbers please go to the TCEQ website at [www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title\_V/additional\_fop\_guidance.pdf](https://www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title_V/additional_fop_guidance.pdf)

SRU Emission Limitation:

Select one of the following options that describes the emission limitation for the SRU. Enter the code on the form.

**Code Description**

TABLE29.1.A1 New or existing Claus SRU subject to the NSPS for sulfur oxides in 40 CFR § 60.104(a)(2) or § 60.102a(f)(1) using an oxidation control system or reduction control system followed by incineration complying with 250 ppmv SO2 emission limit.

TABLE29.1A2 New or existing Claus SRU subject to the NSPS for sulfur oxides in 40 CFR § 60.104(a)(2) or § 60.102a(f)(1) using an oxidation control system or reduction control system followed by incineration complying with SO2 concentration determined using Equation 1 of 40 CFR § 60.102a(f)(1)(i).

TABLE29.1B1 New or existing Claus SRU subject to the NSPS for sulfur oxides in 40 CFR § 60.104(a)(2) or § 60.102a(f)(1) using a reduction control system without incineration complying with 300 ppmv of reduced sulfur compounds calculated as ppmv SO2 emission limit.

TABLE29.1B2 New or existing Claus SRU subject to the NSPS for sulfur oxides in 40 CFR § 60.104(a)(2) or § 60.102a(f)(1) using a reduction control system without incineration complying with SO2 concentration determined using Equation 1 of 40 CFR § 60.102a(f)(1)(i).

TABLE29.2A1 New or existing SRU not subject to the NSPS for sulfur oxides in 40 CFR § 60.104(a)(2) or § 60.102a(f)(1) using an oxidation control system or reduction control system followed by incineration electing to comply with 250 ppmv SO2 emission limit (Option 1).

TABLE29.2A2 New or existing SRU not subject to the NSPS for sulfur oxides in 40 CFR § 60.104(a)(2) or § 60.102a(f)(1) using an oxidation control system or reduction control system followed by incineration electing to comply with SO2 concentration determined using Equation 1 of 40 CFR § 60.102a(f)(1)(i) (Option 1).

TABLE29.2B1 New or existing SRU not subject to the NSPS for sulfur oxides in 40 CFR § 60.104(a)(2) or § 60.102a(f)(1) using a reduction control system without incineration electing to comply with 300 ppmv of reduced sulfur compounds calculated as ppmv SO2 emission limit (Option 1).

TABLE29.2B2 New or existing SRU not subject to the NSPS for sulfur oxides in 40 CFR § 60.104(a)(2) or § 60.102a(f)(1) using a reduction control system without incineration electing to comply with SO2 concentration determined using Equation 1 of 40 CFR § 60.102a(f)(1)(i) (Option 1).

TABLE29.3 New or existing SRU not subject to the NSPS for sulfur oxides in 40 CFR § 60.104(a)(2) or § 60.102a(f)(1) electing to comply with TRS emission limit of 300 ppmv (Option 2).

SRU Alternate Monitoring:

Enter “YES” if choosing to monitor alternate parameters in accordance with § 63.1573(e). Otherwise, enter “NO.”

Complete “SRU Monitoring Method” only if “SRU Emission Limitation” is “TABLE29.1B1,” “TABLE29.1B2,” “TABLE29.2B1,” “TABLE29.B2,” or “TABLE29.3” AND “SRU Alternate Monitoring” is “NO.”

SRU Monitoring Method:

Select the monitoring method used to demonstrate compliance with the SRU emission limitation. Enter the code on the form.

**Code Description**

SULOXY CEMS for monitoring reduced sulfur and O2 concentrations

DILOXY Instrument having an air or SO2 dilution and oxidation system to convert reduced sulfur to SO2 for continuously monitoring and recording the concentration at zero percent excess air of the resultant SO2

TRSCEMS CEMS for monitoring TRS concentrations (only use if SRU Emission Limitation is SRU5)

CPMS CPMS for measuring and recording the combustion zone temperature of each thermal incinerator (only use if SRU Emission Limitation is SRU5)

SRU Startup/Shutdown Emissions:

Select one of the following options that describes the control of startup and shutdown purge gases. Enter the code on the form.

**Code Description**

FLARE Startup/shutdown emissions sent to flare meeting §63.670

TOX Startup/shutdown emissions sent to thermal oxidizer

TINC Startup/shutdown emissions sent to thermal incinerator

NONE Startup/shutdown emissions not sent to control device

SRU Bypass Line:

Select one of the following options that describes the work practice standard for the bypass line. Enter the code on the form.

**Code Description**

NONE No bypass line serving the SRU

BYOPT1 Install and operate an automated system to detect flow in the bypass line (Option 1)

BYOPT2 Use a manual lock system by installing a car-seal or lock-and-key device (Option 2)

BYOPT3 Seal the bypass line by installing a solid blind between piping flanges (Option 3)

BYOPT4 Vent the bypass line to a control device (Option 4)

BYALT Complying with alternative work practice standard approved by EPA as stated in § 63.1569(a)(2)

Complete “SRU Alt Monitoring ID” only if “SRU Bypass Line” is “BYALT.”

SRU **Bypass Line** Alt Monitoring ID:

If an alternate has been approved, then enter the corresponding alternate unique identifier for each unit or process (maximum 10 characters). If the unique identifier is unavailable, then enter the date of the alternate approval letter. The unique identifier and/or the date of the approval letter are contained in the Compliance File under the appropriate account number. Otherwise, leave this column **blank**.

[Table 4a](#Table4a): Title 30 Texas Administrative Code Chapter 117 (30 TAC Chapter 117), Subchapter B: Combustion Control at Major Industrial, Commercial, and Institutional Sources in Ozone Nonattainment Areas

Complete this table for fluid catalytic cracking units (FCCU) (including CO boiler, CO furnace, and catalyst regenerator vent) located at a major source of NOx in the Houston/Galveston/Brazoria Eight-Hour ozone nonattainment areas. FCCUs located in the Beaumont/Port Arthur Eight-Hour ozone nonattainment area are exempt from Subchapter B per § 117.103(b)(4), except for CO boilers designated as opt-in units which are addressed in Form OP-UA6. There are no Subchapter B requirements relating to FCCUs in the Dallas/Fort Worth Eight-Hour ozone nonattainment area.

Unit ID. No.:

Enter the identification number (ID. No.) for the FCCU (maximum 10 characters) as listed on Form OP-SUM (Individual Unit Summary).

SOP Index No.:

Site operating permit (SOP) applicants should indicate the SOP index number for the unit or group of units (maximum 15 characters consisting of numeric, alphanumeric characters, and/or dashes prefixed by a code for the applicable regulation [i.e., 60KB-XXXX]). For additional information relating to SOP index numbers please go to the TCEQ website at [www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title\_V/additional\_fop\_guidance.pdf](https://www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title_V/additional_fop_guidance.pdf).

NOx Emission Limitation:

Title 30 TAC Chapter 117 provides several methods to be in compliance with the applicable emission specifications. Select one of the following options. Enter the code on the form.

**Code Description**

310D Title 30 TAC §§ 117.310(d)(3) and 117.310(a)(2) [relating to mass emissions cap and trade in Chapter 101, Subchapter H, Division 3 and Emission Specifications for Attainment Demonstration]

ACF Boiler is complying with an annual capacity factor specification under Title 30 TAC §§ 117.310(d)(3) and 117.310(a)(17)

Complete “310A2-OPTION” only if “NOx Emission Limitation” is “310D.”

310A2-Option:

Select one of the following § 117.310(a)(2) NOx emission options. Enter the code on the form.

**Code Description**

310A2-A 40 ppmv NOx at 0.0% O2, dry basis per § 117.310(a)(2)(A).

310A2-B 90% NOx reduction of the exhaust concentration used to calculate the June – August 1997 daily NOx emissions per § 117.310(a)(2)(B).

310A2-C install and certify a NOx CEMS or PEMS per § 117.310(a)(2)(C).

NOx Monitoring System:

Select one of the following monitoring system options. Enter the code on the form.

**Code Description**

75ARC Acid rain-affected unit subject to continuous emissions monitoring requirements of 40 CFR Part 75

75ARP Acid rain-affected unit subject to predictive emissions monitoring requirements of 40 CFR Part 75

CEMS Continuous emissions monitoring system

PEMS Predictive emissions monitoring system

NOx Emission Limit Average:

Select one of the following options for the NOx emission limit. Enter the code on the form.

**Code Description**

30DAY Emission limit in pounds/MMBtu on a rolling 30-day average

BLK1-LB Emission limit in pounds/hour on a block one-hour average

PPMV Emission limit in parts per million by volume (ppmv)

Supplemental Fuel:

Enter “YES” if the fluid catalytic cracking unit boiler is using supplemental fuel and thus requires a totalizing fuel flow meter. Otherwise, enter “NO.”

[Table 4b](#TBL4): Title 30 Texas Administrative Code Chapter 117 (30 TAC Chapter 117), Subchapter B: Combustion Control at Major Industrial, Commercial, and Institutional Sources in Ozone Nonattainment Areas

Complete this table for fluid catalytic cracking units (FCCU) (including CO boiler, CO furnace, and catalyst regenerator vent) located at a major source of NOx in the Houston/Galveston/Brazoria Eight-Hour ozone nonattainment areas. FCCUs located in the Beaumont/Port Arthur Eight-Hour ozone nonattainment area are exempt from Subchapter B per § 117.103(b)(4), except for CO boilers designated as opt-in units which are addressed in Form OP-UA6. There are no Subchapter B requirements relating to FCCUs in the Dallas/Fort Worth Eight-Hour ozone nonattainment area.

Unit ID. No.:

Enter the identification number (ID. No.) for the FCCU (maximum 10 characters) as listed on Form OP‑SUM (Individual Unit Summary).

SOP Index No.:

Site operating permit (SOP) applicants should indicate the SOP index number for the unit or group of units (maximum 15 characters consisting of numeric, alphanumeric characters, and/or dashes prefixed by a code for the applicable regulation [i.e., 60KB-XXXX]). For additional information relating to SOP index numbers, please go to the TCEQ website at [www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title\_V/additional\_fop\_guidance.pdf](https://www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title_V/additional_fop_guidance.pdf).

* **Do not complete “Fuel Flow Monitoring” if “Supplemental Fuel” is “No.”**

Fuel Flow Monitoring:

Select one of the following options to indicate how fuel flow is monitored. Enter the code on the form.

**Code Description**

X40A Fuel flow is with a totalizing fuel flow meter per 30 TAC § 117.340(a)

X40A2-A Unit operates with a NOx and diluent CEMS and monitors stack exhaust flow per 30 TAC § 117.340(a)(2)(A)

X40A2-B Unit vents to a common stack with a NOx and diluent CEMS and uses a single totalizing fuel flow meter per 30 TAC § 117.340(a)(2)(B)

CO Emission Limitation:

Title 30 TAC Chapter 117 provides several methods to be in compliance with the applicable CO emission specifications of 30 TAC Chapter 117, Subchapter B. Select one of the following options. Enter the code on the form.

**Code Description**

310C Title 30 TAC § 117.310(c)(1) 400 ppmv option

ACSS Unit is complying with an Alternative Case Specific Specification under Title 30 TAC § 117.325(a)

CO Monitoring System:

Select one of the following options to indicate how the unit is monitored for CO exhaust emissions. Enter the code on the form.

**Code Description**

CEMS Continuous emissions monitoring system complying with 30 TAC § 117.8100(a)(1)

PEMS Predictive emissions monitoring system complying with 30 TAC § 117.8100(b)

OTHER Other than CEMS or PEMS

Ammonia NOx Reduction:

Enter “YES” if urea or ammonia is injected into the exhaust stream for NOx control. Otherwise, enter “NO.”

Continue only if “Ammonia NOx Reduction” is “Yes.”

NH3 Emission Limitation:

Title 30 TAC Chapter 117 provides several methods to be in compliance with the applicable NH3 emission specifications of 30 TAC Chapter 117. Select one of the following options. Enter the code on the form.

**Code Description**

310C Title 30 TAC § 117.310(c)(2) [relating to Emission Specifications for Attainment Demonstration]

ACSS Unit is complying with an Alternative Case Specific Specification under Title 30 TAC § 117.325(a)

NH3 Monitoring:

Select one of the following options to indicate how the unit is monitored for NH3 emissions. Enter the code on the form.

**Code Description**

CEMS Continuous emissions monitoring system

PEMS Predictive emissions monitoring system

MBAL Mass balance

OXY Oxidation of ammonia to nitric oxide (NO)

STUBE Stain tube

[**Table 5:**](#Table_5) **Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63) Subpart CC: National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries**

Complete this table for delayed coking units that:

* are located at a petroleum refinery plant site that is a major source of HAP emissions,
* emit, contain or contact one or more of the HAPs listed in Table 1 of 40 CFR Part 63, Subpart CC, and
* meet the definition of an affected source as defined by § 63.641.

Unit ID. No.:

Enter the identification number (ID. No.) for the delayed coking unit (maximum 10 characters) as listed on Form OP‑SUM (Individual Unit Summary).

SOP Index No.:

Site operating permit (SOP) applicants should indicate the SOP index number for the unit or group of units (maximum 15 characters consisting of numeric, alphanumeric characters, and/or dashes prefixed by a code for the applicable regulation [i.e., 60KB-XXXX]). For additional information relating to SOP index numbers please go to the TCEQ website at [www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title\_V/additional\_fop\_guidance.pdf](https://www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title_V/additional_fop_guidance.pdf).

Coke Drum Standard:

Select one of the following options to indicate which operation standard the coke drum vessel meets. Enter the code on the form.

**Code Description**

PRESS Meeting pressure limit for coke drum vessel

TEMP Meeting temperature limit for coke drum vessel

Existing Source:

Select one of the following options to indicate if the heat exchange system is existing or new. Enter the code on the form.

**Code Description**

EXIST The heat exchange system is an existing source

NEW The heat exchange system is a new source

Continue only if “Coke Drum Standard” is “TEMP.”

Water Overflow Method:

Enter “YES” if the water overflow method of coke cooling is used prior to complying with the operation standard in § 63.357(a). Otherwise, enter “NO.”

Continue only if “Water Overflow Method” is “YES.”

Overflow Water Control:

Select one of the following options to indicate the method of control used for the overflow water. Enter the code on the form.

**Code Description**

SEP Overflow water is directed to a separator or similar device.

SSTK Overflow water is directed to a storage vessel meeting the requirements in 40 CFR Part 63, Subpart SS.

# Texas Commission on Environmental Quality

# Fluid Catalytic Cracking Unit Catalyst Regenerator/Fuel Gas

# Combustion Device/Claus Sulfur Recovery Plant Attributes

# Form OP-UA50 (Page 1)

# Federal Operating Permit Program

# Table 1a: Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60)

# Subpart J: Standards of Performance for Petroleum Refineries

| **Date** | **Permit No.:** | **Regulated Entity No.** |
| --- | --- | --- |
|  |  |  |

| **Unit ID. No.** | **SOP Index No.** | **Facility Type** | **Construction/****Modification Date** | **Contact Material** | **Sulfur Content** | **Discharged Gases** | **CO Monitoring** | **CO****Exemption ID** |
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# Texas Commission on Environmental Quality

# Fluid Catalytic Cracking Unit Catalyst Regenerator/Fuel Gas

# Combustion Device/Claus Sulfur Recovery Plant Attributes

# Form OP-UA50 (Page 2)

# Federal Operating Permit Program

# Table 1b: Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60)

# Subpart J: Standards of Performance for Petroleum Refineries

| **Date** | **Permit No.:** | **Regulated Entity No.** |
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| **Unit ID. No.** | **SOP Index No.** | **Low Sulfur** | **SO2 Exemption ID** | **Monitoring Device** |
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# Texas Commission on Environmental Quality

# Fluid Catalytic Cracking Unit Catalyst Regenerator/Fuel Gas

# Combustion Device/Claus Sulfur Recovery Plant Attributes

# Form OP-UA50 (Page 3)

# Federal Operating Permit Program

# Table 2a: Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60)

# Subpart Ja: Standards of Performance for Petroleum Refineries for Which Construction, Reconstruction, or

# Modification Commenced after May 14, 2007

| **Date** | **Permit No.:** | **Regulated Entity No.** |
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| **Unit ID. No.** | **SOP Index No.** | **Facility Type** | **Construction/****Modification Date** | **DCU Construction/****Modification Date** | **Newly Constructed** | **PM Emission Limit** | **PM Control** | **CEMs Exempt** | **Post Combustion** |
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# Texas Commission on Environmental Quality

# Fluid Catalytic Cracking Unit Catalyst Regenerator/Fuel Gas

# Combustion Device/Claus Sulfur Recovery Plant Attributes

# Form OP-UA50 (Page 4)

# Federal Operating Permit Program

# Table 2b: Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60)

# Subpart Ja: Standards of Performance for Petroleum Refineries for Which Construction,

# Reconstruction or Modification Commenced After May 14, 2007

| **Date** | **Permit No.:** | **Regulated Entity No.** |
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| **Unit ID. No.** | **SOP Index No.** | **SRP SO2 Control** | **SRP Claus Unit** | **Reduced Sulfur Compounds****Monitor Alt** | **Flow Rate****Weighted Average** | **O**RR**2**RR **Monitoring Alt** |
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# Texas Commission on Environmental Quality

# Fluid Catalytic Cracking Unit Catalyst Regenerator/Fuel Gas

# Combustion Device/Claus Sulfur Recovery Plant Attributes

# Form OP-UA50 (Page 5)

# Federal Operating Permit Program

# Table 2c: Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60)

# Subpart Ja: Standards of Performance for Petroleum Refineries for Which Construction,

# Reconstruction or Modification Commenced After May 14, 2007

| **Date** | **Permit No.:** | **Regulated Entity No.** |
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| **Unit ID. No.** | **SOP Index No.** | **AMEL** | **AMEL ID No.** | **Sulfur Emission Limit** | §60.107a(b) Exemption | **Common Source of Fuel Gas** |
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# Texas Commission on Environmental Quality

# Fluid Catalytic Cracking Unit Catalyst Regenerator/Fuel Gas

# Combustion Device/Claus Sulfur Recovery Plant Attributes

# Form OP-UA50 (Page 6)

# Federal Operating Permit Program

# Table 2d: Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60)

# Subpart Ja: Standards of Performance for Petroleum Refineries for Which Construction,

# Reconstruction or Modification Commenced After May 14, 2007

| **Date** | **Permit No.:** | **Regulated Entity No.** |
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| **Unit ID. No.** | **SOP Index No.** | **Alternative Standard** | Heater Capacity | Heater Type | **NOx Emission Limit** | **Low NOx** | **Operating Curve** | **Gas Composition Analyzer** |
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# Texas Commission on Environmental Quality

# Fluid Catalytic Cracking Unit Catalyst Regenerator/Fuel Gas

# Combustion Device/Claus Sulfur Recovery Plant Attributes

# Form OP-UA50 (Page 7)

# Federal Operating Permit Program

# Table 2e: Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60)

# Subpart Ja: Standards of Performance for Petroleum Refineries for Which Construction,

# Reconstruction or Modification Commenced After May 14, 2007

| **Date** | **Permit No.:** | **Regulated Entity No.** |
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| **Unit ID. No.** | **SOP Index No.** | **AMEL** | **AMEL ID No.** | **Alternative Monitoring** | **§60.107a(e)(4)Exemption** | **§60.107a(a)(3) Exemption** | **Common****Source of****Fuel Gas** | **Modified Flare** | **Cascaded Flare System** |
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# Texas Commission on Environmental Quality

# Fluid Catalytic Cracking Unit Catalyst Regenerator/Fuel Gas

# Combustion Device/Claus Sulfur Recovery Plant Attributes

# Form OP-UA50 (Page 8)

# Federal Operating Permit Program

# Table 3a: Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63)

# Subpart UUU: National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries

| **Date** | **Permit No.:** | **Regulated Entity No.** |
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| **Unit ID. No.** | **SOP Index No.** | **CCU PM/Ni Emission Limitation** | **CCU PM/Ni Control Device** | **CCU PM/Ni Control Device****ID No.** | **CCU PM/Ni Control Device****Alt ID** | **CCU PM/Ni Monitoring Method** | **CCU PM/Ni Alt Monitoring ID** | **Multiple CCUs Served by a Single Wet Scrubber** |
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# Texas Commission on Environmental Quality

# Fluid Catalytic Cracking Unit Catalyst Regenerator/Fuel Gas

# Combustion Device/Claus Sulfur Recovery Plant Attributes

# Form OP-UA50 (Page 9)

# Federal Operating Permit Program

# Table 3b: Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63)

# Subpart UUU: National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries

| **Date** | **Permit No.:** | **Regulated Entity No.** |
| --- | --- | --- |
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| **Unit ID. No.** | **SOP Index No.** | **CCU CO Emission Limitation** | **CCU CO Control Device** | **CCU CO Control Device ID No.** | **CCU CO Control Device Alt ID** | **CCU CO Monitoring Method** | **CCU Bypass Line** | **CCU Bypass Line Alt Monitoring ID** |
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# Texas Commission on Environmental Quality

# Fluid Catalytic Cracking Unit Catalyst Regenerator/Fuel Gas

# Combustion Device/Claus Sulfur Recovery Plant Attributes

# Form OP-UA50 (Page 10)

# Federal Operating Permit Program

# Table 3c: Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63)

# Subpart UUU: National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries - Catalytic Reforming Units

| **Date** | **Permit No.:** | **Regulated Entity No.** |
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| **Unit ID. No.** | **SOP Index No.** | **CRU TOC Emission Limitation** | **CRU TOC Compliance Method** | **CRU TOC Control Device** | **CRU TOC Control Device ID No.** | **CRU TOC Control Device Alt ID** | **CRU Engineering Assessment** | **CRU Alternate Monitoring** | **CRU Alt Monitoring ID** |
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# Texas Commission on Environmental Quality

# Fluid Catalytic Cracking Unit Catalyst Regenerator/Fuel Gas

# Combustion Device/Claus Sulfur Recovery Plant Attributes

# Form OP-UA50 (Page 11)

# Federal Operating Permit Program

# Table 3d: Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63)

# Subpart UUU: National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries

| **Date** | **Permit No.:** | **Regulated Entity No.** |
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| **Unit ID. No.** | **SOP Index No.** | **CRU HCl Emission Limitation** | **CRU HCl Compliance Method** | **CRU HCl Control Device** | **CRU HCl Control Device ID No.** | **CRU HCl Control Device****Alt ID.** | **CRU HCl****Alt Monitoring** | **CRU Bypass Line** | **CRU Bypass Line Alt Monitoring ID** |
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# Texas Commission on Environmental Quality

# Fluid Catalytic Cracking Unit Catalyst Regenerator/Fuel Gas

# Combustion Device/Claus Sulfur Recovery Plant Attributes

# Form OP-UA50 (Page 12)

# Federal Operating Permit Program

# Table 3e: Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63)

# Subpart UUU: National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries

| **Date** | **Permit No.:** | **Regulated Entity No.** |
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| **Unit ID. No.** | **SOP Index No.** | **SRU Emission Limitation** | **SRU Alternate Monitoring** | **SRU Monitoring Method** | **SRU Startup/ShutdownEmissions** | **SRU Bypass Line** | **SRU Bypass Line Alt Monitoring ID** |
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# Texas Commission on Environmental Quality

# Fluid Catalytic Cracking Unit Catalyst Regenerator/Fuel Gas

# Combustion Device/Claus Sulfur Recovery Plant Attributes

# Form OP-UA50 (Page 13)

# Federal Operating Permit Program

# Table 4a: Title 30 Texas Administrative Code Chapter 117 (30 TAC Chapter 117)

# Subchapter B: Combustion Control at Major Industrial, Commercial, and Institutional Sources in Ozone Nonattainment Areas

| **Date** | **Permit No.:** | **Regulated Entity No.** |
| --- | --- | --- |
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| **Unit ID. No.** | **SOP Index No.** | **NOx Emission Limitation** | **310A2-Option** | **NOx Monitoring System** | **NOx Emission Limit Average** | **Supplemental Fuel** |
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# Texas Commission on Environmental Quality

# Fluid Catalytic Cracking Unit Catalyst Regenerator/Fuel Gas

# Combustion Device/Claus Sulfur Recovery Plant Attributes

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# Federal Operating Permit Program

# Table 4b: Title 30 Texas Administrative Code Chapter 117 (30 TAC Chapter 117)

# Subchapter B: Combustion Control at Major Industrial, Commercial, and Institutional Sources in Ozone Nonattainment Areas

| **Date** | **Permit No.:** | **Regulated Entity No.** |
| --- | --- | --- |
|  |  |  |

| **Unit ID. No.** | **SOP Index No.** | **Fuel Flow Monitoring** | **CO Emission Limitation** | **CO Monitoring System** | **Ammonia NOx Reduction** | **NH3 Emission Limitation** | **NH3 Monitoring** |
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# Texas Commission on Environmental Quality

# Fluid Catalytic Cracking Unit Catalyst Regenerator/Fuel Gas

# Combustion Device/Claus Sulfur Recovery Plant Attributes

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# Federal Operating Permit Program

# Table 5: Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63)

# Subpart CC: National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries

| **Date** | **Permit No.:** | **Regulated Entity No.** |
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| **Unit ID. No.** | **SOP Index No.** | **Coke Drum Standard** | **Existing Source** | **Water Overflow Method** | **Overflow Water Control** |
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