



**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:

**Table 1a - 1b: Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60) Subpart J: Standards of Performance for Petroleum Refineries**

**Table 2a - 2b: Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63) Subpart Ja: Standards of Performance for Petroleum Refineries for which Construction, Reconstruction, or Modification Commenced after May 14, 2007**

**Table 3a-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 – 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**

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 a 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 *before* the 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 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 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 Web site at [www.tceq.texas.gov/nav/permitting](http://www.tceq.texas.gov/nav/permitting).

### Specific:

#### **Table 1a: 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.**

**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/GOP 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 Web site at [www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title\\_V/additional\\_fop\\_guidance.pdf](http://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 <b>not</b> followed by incineration and using an instrument to continuously monitor and record the concentration of reduced sulfur and O <sub>2</sub> emissions
SRRCS-CON	Claus sulfur recovery plant with a design capacity for sulfur feed greater than 20 LTPD with reduction control systems <b>not</b> followed by incineration and is <b>not</b> using an instrument to continuously monitor and record the concentration of reduced sulfur and O <sub>2</sub> emissions

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

**Construction/Modification Date:** Select **one** of the following options that describe 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,” “FUELOW,” 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 SO <sub>2</sub> emissions
NOCD	The FCCU does not use an add-on control device to control SO <sub>2</sub> 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: 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 Web site at [www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title\\_V/additional\\_fop\\_guidance.pdf](http://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 describe 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 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 SO2 emissions into the atmosphere. Otherwise, enter “NO.”

**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**

★ **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 Web site at [www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title\\_V/additional\\_fop\\_guidance.pdf](http://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
DELAYCU	delayed coking unit
FLARELOW	flare that is used for fuel gas combustion that meets requirements in § 60.107a(a)(3) [exempt under § 60.102a(h) or inherently low in sulfur content]
FLAREHI	flare that is used for fuel gas combustion that does NOT meet requirements in § 60.107a(a)(3)
PROHTRLOW	process heater that is used for fuel gas combustion that meets requirements in § 60.107a(a)(3) [inherently low in sulfur content]
PROHTRHI	process heater that is used for fuel gas that does NOT meet requirements in § 60.107a(a)(3)
FUELOW	fuel gas combustion device, other than a flare or process heater, that meets requirements in § 60.107a(a)(3) [inherently low in sulfur content]
FUELHI	fuel gas combustion device, other than a flare or process heater, that does NOT meet requirements in § 60.107a(a)(3)
SR20+	sulfur recovery plant greater than 20 long tons per day (LTPD)
SR20-	sulfur recovery plant less than or equal to 20 LTPD

★ **Complete “Heater Capacity” only if “Facility Type” is “PROHTR.”**

**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

★ **Complete “Low-NO<sub>x</sub>” only if “Heater Capacity” is “40-100.”**

**Low-NO<sub>x</sub>:** Enter “YES” if process heater has low-NO<sub>x</sub> or ultra-low-NO<sub>x</sub> burners. Otherwise, enter “NO.”

**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

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

▼ **Do not continue if “Facility Type” is “FLARELOW,” “FLAREHI,” “PROHTRLOW,” “PROHTRHI,” “FUELOW,” or “FUELHI.”**

▼ **Do not continue if “Facility Type” is “DELAYCU.”**

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

**Newly Constructed:** Enter “YES” if the FCCU is newly constructed as opposed to modified or reconstructed. Otherwise, enter “NO.”

★ **Complete “PM Emission Limit” only if “Facility Type” is “FCCU” or “FCU.”**

**PM Emission Limit:** Select one of the following options that describes 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 wt PM per wt coke burn-off

**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**

★ **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 Web site at [www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title\\_V/additional\\_fop\\_guidance.pdf](http://www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title_V/additional_fop_guidance.pdf).

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

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

Code	Description
ELPREC	electrostatic precipitator.
WTSCRIB	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.”

★ **Complete “SO2 Emission Limit” only if “Facility Type” is “FLAREHI,” “PROHTRHI,” or “FUELHI.”**

**Sulfur Emission Limit:** Select one of the following options that describes 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

★ **Complete “SRP SO2 Control” only if “Facility Type” is “SR20+” or “SR20-.”**

**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

**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: 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 and GOP index numbers please go to the TCEQ Web site at [www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title\\_V/additional\\_fop\\_guidance.pdf](http://www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title_V/additional_fop_guidance.pdf)

**CCU PM/Opacity Emission Limitation:** Select one of the following options that describes the HAP PM emission limit for the catalytic cracking unit. Enter the code on the form.

Code	Description
NSPS	CCU subject to the NSPS for PM in 40 CFR § 60.102 - PM emissions not to exceed 1.0 kg/1,000 kg (1.0 lbs/1,000 lbs) of coke burn-off in the catalyst regenerator and opacity of emissions not to exceed 30 percent, except for one 6-minute average opacity reading in any 1 hour period.
PMOPT1	CCU not subject to NSPS for PM in 40 CFR § 60.102 and electing to comply with the NSPS requirements (Option 1) - PM emissions not to exceed 1.0 kg/1,000 kg (1.0 lbs/1,000 lbs) of coke burn-off in the catalyst regenerator and opacity of emissions



not to exceed 30 percent, except for one 6-minute average opacity reading in any 1-hour period.

PMOPT2	CCU not subject to NSPS for PM in 40 CFR § 60.102 and electing to comply with the PM emission limit (Option 2) - PM emissions not to exceed 1.0 kg/1,000 kg (1.0 lbs/1,000 lbs) of coke burn-off in the catalyst regenerator
NIOPT3	CCU not subject to NSPS for PM in 40 CFR § 60.102 and electing to comply with the Ni lb/hr emission limit (Option 3) - Nickel emissions not to exceed 13,000 mg/hr (0.029 lb/hr)
NIOPT4	CCU not subject to NSPS for PM in 40 CFR § 60.102 and electing to comply with the Ni lb/1,000 lbs of coke burn-off emission limit (Option 4) - Nickel emissions not to exceed 1.0 mg/kg (0.001 lb/1,000 lbs)

**CCU PM Control Device:** Select the control device used for PM emissions control. Enter the code on the form.

Code	Description
WETSCR1	Wet scrubber
WETSCR2	Wet scrubber of the non-venturi jet-ejector design
ESP20	Electrostatic Precipitator serving CCU up to 20,000 barrels/day fresh feed capacity
ESP20+	Electrostatic Precipitator serving CCU over 20,000 barrels/day fresh feed capacity
OTHER	Other control device approved under § 63.1573(d)
NONE	No PM control device

**CCU PM 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 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 Monitoring Method:** Select the monitoring method used to demonstrate compliance with the PM emission limit. Enter the code on the form.

Code	Description
ADCS	Automated Data Compression System
ALT	Monitoring approved alternative parameters under § 63.1573(e)
ALTCOM	Alternative to COMS approved under § 63.1573(f)
COMS	Continuous Opacity Monitoring System
COM/CPMS	COMS and Continuous Parameter Monitoring System for measuring gas flow rate
CPMS	Continuous Parameter Monitoring System for measuring gas flow rate, voltage, and secondary current

★ **Complete “CCU PM Alt Monitoring” only if “CCU PM Monitoring Method” is “ADCS,” “ALT,” or “ALTCOM.”**

**CCU PM 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.

**Alternate Method For Gas Flow Rate:** Enter “Yes” if using an alternate method for measuring gas flow rate as listed in § 63.1573(a)(1). Otherwise enter “NO.”

★ **Complete “Multiple CCUs Served by a Single Wet Scrubber” only if “CCU PM Control Device” is “WETSCR1” or “WETSCR2.”**

**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: 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 and GOP index numbers please go to the TCEQ Web site at [www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title\\_V/additional\\_fop\\_guidance.pdf](http://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
CO1	CCU subject to the NSPS for CO in 40 CFR § 60.103 or electing to comply with the NSPS requirements (Option 1)
CO2	CCU not subject to the NSPS for CO electing to comply with the CO emission limit (Option 2)

★ **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 “CO2.”**

**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 § 63.11(b)
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
BOILER	Boiler with a design heat input capacity less than 44MW or in which all vent streams not introduced into the flame zone
OTHER	Other control device approved under § 63.1573(d)

**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 describe 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: 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 and GOP index numbers please go to the TCEQ Web site at [www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title\\_V/additional\\_fop\\_guidance.pdf](http://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
TOC1	Vent emissions of TOC to a flare (Option 1)
TOC2	Reduce uncontrolled emissions of TOC or nonmethane TOC by 98% by weight or to a concentration of 20 ppmv (Option 2)

- ★ **Do not complete “CRU TOC Compliance Method” if “CRU TOC Emission Limitation” is “TOC1”**

**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
BOILER	Boiler with a design heat input capacity less than 44MW or in which all vent streams not introduced into the flame zone
OTHER	Other control device approved under § 63.1573(d)
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:** Select one of the following options that describes the alternate monitoring used for the CRU. Enter the code on the form.

Code	Description
ADCS	Automated Data Compression System
ALT	Alternate monitoring approved under § 63.1573(d)
NONE	No alternate monitoring

★ **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: 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 Web site at [www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title\\_V/additional\\_fop\\_guidance.pdf](http://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 describes the CRU HCl emission limitation.

Code	Description
HCL1	Existing semi-regenerative CRU reducing uncontrolled emissions of HCl 92% by weight or to a concentration of 30 ppmv

HCL2	Existing cyclic or continuous CRU reducing uncontrolled emissions of HCl by 97% by weight or to a concentration of 10 ppmv
HCL3	New semi-regenerative, cyclic, or continuous CRU reducing uncontrolled emissions of HCl by 97% by weight or to a concentration of 10 ppmv

**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
OTHER	Other control device approved under § 63.1573(d)
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.

★ **Complete “CCU HCl Control Device Alt ID” only if “CRU HCl Control Device” is “OTHER.”**

**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.”

**Wet/Internal Scrubber Alt Monitoring:** Select one of the following alternative monitoring methods used when using a wet scrubber or internal scrubbing system meeting the HCl reduction standard.

Code	Description
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

★ **Complete “Wet Scrubber Alt Gas Flow Rate” only if “CRU HCl Control Device” is “WETSCRUB.”**

**Wet Scrubber Alt Gas Flow Rate:** Enter “YES” if using the alternative procedure to determine the gas flow rate in § 63.1573(a)(1). Otherwise, enter “NO.”

**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: 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 and GOP index numbers please go to the TCEQ Web site at [www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title\\_V/additional\\_fop\\_guidance.pdf](http://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
SRU1	Claus SRU part of sulfur recovery plant greater than or equal to 20 long tons/day using oxidation or reduction system followed by incineration subject to 250 ppmv SO <sub>2</sub> emission limit in § 60.104(a)(2)
SRU2	Claus SRU part of sulfur recovery plant greater than or equal to 20 long tons/day using reduction system without incineration subject to 300 ppmv SO <sub>2</sub> emission limit in § 60.104(a)(2).
SRU3	SRU using oxidation or reduction control system followed by incineration not subject to NSPS SO <sub>2</sub> emission limit in § 60.104(a)(2) electing to comply with NSPS requirements (Option 1) of 250 ppmv
SRU4	SRU using reduction control system without incineration not subject to NSPS SO <sub>2</sub> emission limit in § 60.104(a)(2) electing to comply with NSPS requirements (Option 1) of 300 ppmv
SRU5	SRU not subject to NSPS SO <sub>2</sub> emission limit in § 60.104(a)(2) electing to comply with TRS emission limitation (Option 2) of 300 ppmv

★ **Complete “SRU Monitoring Method” only if “SRU Emission Limitation” is “SRU2, SRU4, or SRU5”**

**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 O <sub>2</sub> concentrations
DILOXY	Instrument having an air or SO <sub>2</sub> dilution and oxidation system to convert reduced sulfur to SO <sub>2</sub> for continuously monitoring and recording the concentration at zero percent excess air of the resultant SO <sub>2</sub>
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 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 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: 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 NO<sub>x</sub> 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]). GOP applicants should indicate the appropriate GOP index number in this column from the applicable GOP table (SSS-FF-XXX). Applicants should complete all applicable GOP attribute information before determining the GOP index number. For additional information relating to SOP index numbers please go to the TCEQ web site at [www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title\\_V/additional\\_fop\\_guidance.pdf](http://www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title_V/additional_fop_guidance.pdf).



**NO<sub>x</sub> 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 “NO<sub>x</sub> EMISSION LIMITATION” is “310D.”**

**310A2-Option:** Select one of the following § 117.310(a)(2) NO<sub>x</sub> emission options. Enter the code on the form.

Code	Description
310A2-A	40 ppmv NO <sub>x</sub> at 0.0% O <sub>2</sub> , dry basis per § 117.310(a)(2)(A).
310A2-B	90% NO <sub>x</sub> reduction of the exhaust concentration used to calculate the June – August 1997 daily NO <sub>x</sub> emissions per § 117.310(a)(2)(B).
310A2-C	install and certify a NO <sub>x</sub> CEMS or PEMS per § 117.310(a)(2)(C).

**NO<sub>x</sub> 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

**NO<sub>x</sub> Emission Limit Average:** Select one of the following options for the NO<sub>x</sub> 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: 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 NO<sub>x</sub> 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 Web site at [www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title\\_V/additional\\_fop\\_guidance.pdf](http://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 NO <sub>x</sub> 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 NO <sub>x</sub> 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 NO<sub>x</sub> Reduction:** Enter “YES” if urea or ammonia is injected into the exhaust stream for NO<sub>x</sub> control. Otherwise, enter “NO.”

▼ **Continue only if “Ammonia NO<sub>x</sub> Reduction” is “Yes.”**

**NH<sub>3</sub> Emission Limitation:** Title 30 TAC Chapter 117 provides several methods to be in compliance with the applicable NH<sub>3</sub> 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)

**NH<sub>3</sub> Monitoring:** Select one of the following options to indicate how the unit is monitored for NH<sub>3</sub> 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

**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**

<b>Date:</b>	<b>Permit No.:</b>	<b>Regulated Entity No.:</b>
<b>Area Name:</b>		<b>Customer Reference No.:</b>

<b>Unit ID. No.</b>	<b>SOP Index No.</b>	<b>Facility Type</b>	<b>Construction/ Modification Date</b>	<b>Contact Material</b>	<b>Sulfur Content</b>	<b>Discharged Gases</b>	<b>CO Monitoring</b>	<b>CO Exemption ID</b>

TCEQ - 10223 (Revised 03/14) OP-UA50  
This form is for use by facilities subject to air quality permit requirements  
and may be revised periodically. (APDG 5277v20)



**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**

<b>Date:</b>	<b>Permit No.:</b>	<b>Regulated Entity No.:</b>
<b>Area Name:</b>		<b>Customer Reference No.:</b>

Unit ID. No.	SOP Index No.	Facility Type	Heater Capacity	Low-NO <sub>x</sub>	Construction/ Modification Date	Newly Constructed	PM Emission Limit







**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 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**

<b>Date:</b>	<b>Permit No.:</b>	<b>Regulated Entity No.:</b>
<b>Area Name:</b>		<b>Customer Reference No.:</b>

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

**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 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**

<b>Date:</b>	<b>Permit No.:</b>	<b>Regulated Entity No.:</b>
<b>Area Name:</b>		<b>Customer Reference No.:</b>

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.

**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 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**

<b>Date:</b>	<b>Permit No.:</b>	<b>Regulated Entity No.:</b>
<b>Area Name:</b>		<b>Customer Reference No.:</b>

<b>Unit ID. No.</b>	<b>SOP Index No.</b>	<b>CRU HCl Emission Limitation</b>	<b>CRU HCl Control Device</b>	<b>CRU HCl Control Device ID.</b>	<b>CRU HCl Control Device Alt ID.</b>	<b>Wet/Internal Scrubber Alt Monitoring</b>	<b>Wet Scrubber Alt Gas Flow Rate</b>	<b>CRU Bypass Line</b>	<b>CRU Bypass Line Alt Monitoring ID.</b>

TCEQ - 10223 (Revised 03/14) OP-UA50  
This form is for use by facilities subject to air quality permit requirements  
and may be revised periodically. (APDG 5277v20)

**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 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**

<b>Date:</b>	<b>Permit No.:</b>	<b>Regulated Entity No.:</b>
<b>Area Name:</b>		<b>Customer Reference No.:</b>

Unit ID. No.	SOP Index No.	SRU Emission Limitation	SRU Monitoring Method	SRU Bypass Line	SRU Bypass Line Alt. Monitoring ID.

**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 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**

<b>Date:</b>	<b>Permit No.:</b>	<b>Regulated Entity No.:</b>
<b>Area Name:</b>		<b>Customer Reference No.:</b>

Unit ID. No.	SOP Index No.	NO <sub>x</sub> Emission Limitation	310A2-Option	NO <sub>x</sub> Monitoring System	NO <sub>x</sub> Emission Limit Average	Supplemental Fuel

**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 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**

<b>Date:</b>	<b>Permit No.:</b>	<b>Regulated Entity No.:</b>
<b>Area Name:</b>		<b>Customer Reference No.:</b>

Unit ID. No.	SOP Index No.	Fuel Flow Monitoring	CO Emission Limitation	CO Monitoring System	Ammonia NO <sub>x</sub> Reduction	NH <sub>3</sub> Emission Limitation	NH <sub>3</sub> Monitoring