

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

**Tables 2a – 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

**Tables 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

**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

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 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 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).

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**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.**
- ★ **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](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.

<b>Code</b>	<b>Description</b>
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 ORR <sub>2</sub> RR 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”:

<b>Code</b>	<b>Description</b>
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”:

<b>Code</b>	<b>Description</b>
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”:

<b>Code</b>	<b>Description</b>
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”:

<b>Code</b>	<b>Description</b>
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.

<b>Code</b>	<b>Description</b>
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.”**

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**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 website 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 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 “SO<sub>2</sub> Exemption ID” only if “Low Sulfur” is “OTHER”.

**SO<sub>2</sub> Exemption ID:**

Enter the SO<sub>2</sub> 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 SORR<sub>2</sub>RR emissions into the atmosphere. Otherwise, enter “NO.”

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**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 website 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.

<b>Code</b>	<b>Description</b>
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.

<b>Code</b>	<b>Description</b>
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.

<b>Code</b>	<b>Description</b>
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.
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.”

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

**SRP SO<sub>2</sub> Control:**

Select one of the following options that describes SO<sub>2</sub> 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 O <sub>2</sub> 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 SO<sub>2</sub> Control” is “INC-.”

**Reduced Sulfur Compounds Monitor Alt:**

Enter “YES” if the owner or operator of the sulfur recovery plant uses an air or O<sub>2</sub> dilution and oxidation system to convert any reduced sulfur to SO<sub>2</sub> 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 “O<sub>2</sub> Monitoring Alt” only if “SRP Claus Unit” is “CLAUS.”



**O<sub>2</sub> 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: 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](http://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
SO <sub>2</sub>	Owner or operator is choosing Sulfur Emission Limit in terms of ppmv SO <sub>2</sub> emitted
H <sub>2</sub> S	Owner or operator is choosing Sulfur Emission Limit in terms of ppmv H <sub>2</sub> S 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 "H<sub>2</sub>S."**

**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: 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](http://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 NO<sub>x</sub> 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

**NO<sub>x</sub> Emission Limit:**

Select one of the following options that describes the NO<sub>x</sub> 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 NO <sub>x</sub> concentration emission limit
HVB	the owner or operator is choosing the NO <sub>x</sub> per heating value basis emission limit

For “Heater Type” designation of “CONDPH”:

<b>Code</b>	<b>Description</b>
PPMV	the owner or operator is choosing the NO <sub>x</sub> concentration emission limit
EQ3	the owner or operator is choosing the NO <sub>x</sub> emission limit based on Equation 3 in §60.102a(g)(2)(iii)(B)

For “Heater Type” designation of “COFDPH”:

<b>Code</b>	<b>Description</b>
PPMV	the owner or operator is choosing the NO <sub>x</sub> concentration emission limit
EQ4	the owner or operator is choosing the NO <sub>x</sub> emission limit based on Equation 4 in §60.102a(g)(2)(iv)(B)

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

**Low-NO<sub>x</sub>:**

Select one of the following options that describes if the process heater has low-NO<sub>x</sub> or ultra-low-NO<sub>x</sub> burners. Enter the code on the form.

For “NO<sub>x</sub> Emission Limit” designation of “PPMV”:

<b>Code</b>	<b>Description</b>
LOWC	the process heater is equipped with combustion modification-based technology to reduce NO <sub>x</sub> 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 NO <sub>x</sub> 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 “NO<sub>x</sub> Emission Limit” designation of “HVB,” “EQ3”, and “EQ4:

<b>Code</b>	<b>Description</b>
LOWD	the process heater is equipped with combustion modification-based technology to reduce NO <sub>x</sub> 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 NO <sub>x</sub> 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 “O<sub>2</sub> Operating Curve” only if “Low-NO<sub>x</sub>” is “ALTLOWC” or “ALTLOWD.”**

**O<sub>2</sub> Operating Curve:**

Enter “YES” if an O<sub>2</sub> operating curve is used rather than a single O<sub>2</sub> operating limit. Otherwise, enter “NO.”

★ **Complete “Gas Composition Analyzer” only if “Heater Capacity” is “100+” and “NO<sub>x</sub> Emission Limit” is “HVB”; or if “Heater Capacity” is “40-100” and “NO<sub>x</sub> Emission Limit” is “HVB” and “Low-NO<sub>x</sub>” is “ALTLOWD.”**

**Gas Composition Analyzer:**

Enter “YES” if an O<sub>2</sub> operating curve is used rather than a single O<sub>2</sub> operating limit. Otherwise, enter “NO.”

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**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](http://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: 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](http://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.

<b>Code</b>	<b>Description</b>
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/dscf 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.”

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**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 index numbers please go to the TCEQ website 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
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: 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](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
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.

<b>Code</b>	<b>Description</b>
PERCENT	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.

<b>Code</b>	<b>Description</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
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: 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](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 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
PERCENT	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 HCI Control Device” is “WETSCRUB” or “INTSCR2.”**

**CRU HCI 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: 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](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.

<b>Code</b>	<b>Description</b>
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 SO <sub>2</sub> 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 SO <sub>2</sub> 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 SO <sub>2</sub> 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 SO <sub>2</sub> 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 SO <sub>2</sub> 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 SO <sub>2</sub> 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 SO <sub>2</sub> 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 SO <sub>2</sub> 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," "TABLE29.2B2," 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.

<b>Code</b>	<b>Description</b>
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 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.

<b>Code</b>	<b>Description</b>
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.

<b>Code</b>	<b>Description</b>
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**.

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**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]). 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](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.

<b>Code</b>	<b>Description</b>
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.

<b>Code</b>	<b>Description</b>
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.

<b>Code</b>	<b>Description</b>
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.

<b>Code</b>	<b>Description</b>
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 website 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

**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](http://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.

<b>Code</b>	<b>Description</b>
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

**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.

Unit ID. No.	SOP Index No.	Low Sulfur	SO <sub>2</sub> Exemption ID	Monitoring Device













**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.

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







**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.

Unit ID. No.	SOP Index No.	SRU Emission Limitation	SRU Alternate Monitoring	SRU Monitoring Method	SRU Startup/Shutdown Emissions	SRU Bypass Line	SRU Bypass Line Alt Monitoring ID



**Texas Commission on Environmental Quality  
 Fluid Catalytic Cracking Unit Catalyst Regenerator/Fuel Gas  
 Combustion Device/Claus Sulfur Recovery Plant Attributes  
 Form OP-UA50 (Page 14)**

**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

