

CHAPTER 6—UPDATING AN EMISSIONS INVENTORY QUESTIONNAIRE

This chapter tells how to update an emissions inventory questionnaire. Review all of the information in this book before attempting to update these forms.

Be certain to review all data on your EIQ printout for accuracy. Update EIQ items as necessary, using the blank space provided (usually below or to the right of the item). If the EIQ has no blank space for a specific item on the EIQ, write the updated data next to the item, circling or highlighting it if possible. **Important:** Any items left unchanged, including emission rates, will be assumed to be correct for 2007 and will be entered into the STARS database as part of your 2007 inventory.

The Emission Inventory forms and instructions are available in a **separate document**, *2007 Emissions Inventory Forms and Instructions* (publication number RG-360B). This document appears online at <www.tceq.state.tx.us/goto/ieas>, or you may obtain a hard copy by contacting the EAS. Any EI forms referred to in this chapter appear in that companion document.

Updating EIQ Data

Special Notes

Sample Calculations

30 TAC 101.10(c) requires all regulated entities to submit sample calculations **representative** of the sources and pollutants from their site. Submit sample calculations showing actual annual emissions determination for each different process type present in the EI, including enough data so that the determination results may be reasonably reproduced. Generic sample calculations cannot be accepted, since they do not contain representative process data and do not demonstrate actual annual emissions determinations.

Use Permanent Ink

Please use permanent ink instead of pencil when updating the EIQ. Pencil tends to smudge and can be difficult to read, increasing the chance of data-entry errors or omissions. Permanent ink, especially ink in colors other than black, is clearer and more legible. There are no restrictions on ink color, but colors other than black make EIQ updates more noticeable.

Electronic EIQs

Electronically update and submit all of the information discussed in this chapter in the TCEQ-approved electronic format, as outlined in the *STARS Electronic Reporting User's Guide*. This document is available online at <www.tceq.state.tx.us/goto/starsguide>. The Account and Contact information, Criteria Emissions Totals, Site Quantifiable Event Totals, and Certifying Signatures pages enclosed with the electronic EIQ must be signed and remitted with an updated electronic EIQ.

Account Information

General regulated entity information is printed at the top of the EIQ's first page. For a detailed description of the items in this section, consult *2007 Emissions Inventory Forms and Instructions* (publication number RG-360B) on completing an Account Information form.

To make any significant changes to this information, notify Central Registry of the changes and send the EAS a copy of the notification.

Emissions Inventory Contact Information

For a detailed description of the requirements concerning emissions inventory contact information, please consult *2007 Emissions Inventory Forms and Instructions* (publication number RG-360B).

To update this information, please complete and submit the Contact Information form.

Criteria Emissions Totals

This section contains five columns for emissions reporting: *Annual*, *Ozone*, *EE* (Emissions Events), *SMSS* (scheduled maintenance, startup, and shutdown activities), and *EE/SMSS* (totals from EE and SMSS emissions). There are six rows, each representing a criteria pollutant. Each column contains two subcolumns: one with a printed number and one with a blank. The printed number is the site-wide emissions total reported on the most recent submitted emissions inventory. In the blank to the right of that number, enter the site-wide emissions total for the current emissions inventory.

The VOC totals only include emissions from volatile organic compounds. Emissions from non-reactive hydrocarbons such as acetone should not be included in the VOC totals. NO_x emissions are reported under contaminant code 70400 (nitrogen oxides). For emissions inventory purposes, the total NO_x emissions include emissions reported under contaminant codes 70400 (nitrogen oxides), 70401 (nitric oxide), and 70402 (nitrogen dioxide). Emissions reported under contaminant code 70403 (nitrous oxide) should not be included in the NO_x totals.

Note that these reported emissions totals are not entered into STARS. Instead, the reported totals are used for comparison to ensure that STARS correctly sums the emissions reported within the EIQ itself. Emissions totals reported in “Criteria Emissions Totals” section must also be reported at the appropriate paths within the EIQ.

Also note that the “EE/SMSS” column is now used by STARS to automatically calculate total emissions from emissions events and SMSS activities. Therefore, emissions from emissions events and SMSS activities must be reported in either the “EE” or “SMSS” column as appropriate.

For a thorough discussion of the elements of this section, please consult Chapter 4, “Determining and Reporting Emissions,” and *2007 Emissions Inventory Forms and Instructions* (publication number RG-360B) for instructions on completing an Account Emissions form.

Site Quantifiable Event Totals

The total number of reportable and non-reportable emission events; reportable and non-reportable scheduled maintenance, startup, or shutdown activities; and excess opacity events are required to be reported each year per 30 TAC 101.201 and 101.211. An explanation of each type of event is as follows.

Total Number of Reportable Emission Events is the total number of emission events that resulted in unauthorized emissions from any emissions point equal to or in excess of the reportable quantity (RQ) for any individual air contaminant. These events should have been reported previously to the TCEQ as required by 30 TAC 101.201.

Total Number of Non-Reportable Emission Events is the total number of emission events that did not result in unauthorized emissions from any emissions point equal to or in excess of the RQ for any individual air contaminant.

Total Number of Reportable Scheduled Maintenance, Startup or Shutdown Activities is the total number of SMSS activities that resulted in unauthorized emissions equal to or in excess of the RQ for any individual air contaminant. These activities should have been reported previously to the TCEQ as required by 30 TAC 101.201.

Total Number of Non-Reportable Scheduled Maintenance, Startup or Shutdown Activities is the total number of SMSS activities that did not

result in unauthorized emissions from any emissions point equal to or in excess of the RQ for any individual air contaminant.

Total Number of Excess Opacity Events is the total number of excess opacity events where the opacity readings equaled or exceeded 15 percentage points above an applicable opacity limit, averaged over a six-minute period.

For a detailed discussion on completing this section of the Account Emission form, consult the *2007 Emissions Inventory Forms and Instructions* (publication number RG-360B). For guidance on interpreting rules concerning EE and SMSS activities, contact the TCEQ regional office where the regulated entity is located.

Emissions Events Certifying Signature

This must be signed if and only if the regulated entity experienced and reported **no** emissions events.

If the owner or operator notified the TCEQ in accordance with 30 TAC 101.201 about an EE that also resulted in an excess opacity event, include the event in the total number of reportable EEs, include the emissions should in the “EE” column at the FIN / EPN path level, and leave the EE certification unsigned.

If the owner or operator notified the TCEQ in accordance with 30 TAC 101.201 about **only** an excess opacity event where there were emissions below the reportable quantity for each contaminant, include the event in the number of excess opacity events, include the emissions in the “EE” column at the FIN / EPN path level, and leave the EE certification unsigned.

If the owner or operator notified the TCEQ in accordance with 30 TAC 101.201 about **only** an excess opacity event where there were no emissions, include the opacity event in the number of excess opacity events and the EE certification must be signed.

Signature of Legally Responsible Party

A complete inventory requires the signature of the individual responsible for certifying that the inventory is, to the best of her or his knowledge, accurate and complete. Fill in all of the blanks on this portion of the EIQ.

If you have questions regarding the definition of the legally responsible party, please consult 30 TAC 122.165, Certification by a Responsible Official.

Note that the legally responsible party **must not** be a consultant.

Facility Information

Descriptions of most of the items in this section, along with information on accepted values, may be found in the instructions for completing the relevant Facility Information form. The following discussion focuses primarily on common issues about updating facility data.

If you need to make corrections to any of the information in this section, please do so in the blanks provided.

Source Classification Code (SCC)

A facility's SCC is an **eight-digit** EPA-developed code that associates emissions determinations with identifiable industrial processes. TCEQ staff use a facility's SCC for modeling, rulemaking, and SIP-related activities; therefore, a facility's SCC must be as accurate as possible.

The EPA maintains a current list of SCCs in Excel file format at www.epa.gov/ttn/chief/codes/index.html. When using this Excel file, only use the codes that have a value of "POINT" in the "Sector" column, as only those codes are appropriate for the point source EI. Please do not enter SIC (Standard Industrial Classification) codes or AMS (area and mobile source) codes for SCCs on the EIQ.

Status, Status Date

If you wish to change the facility's status, enter the appropriate letter and enter the date when the status changed. Status options are:

- A (active): If the facility operated the entire reporting year.
- I (idle): If the facility was idle or temporarily shut down for the entire reporting year.
- S (shut down): If the facility has been permanently shut down and will never operate again. **Note that a facility, once shut down, cannot be reactivated.**
- D (demolished): If the facility has been removed from the site.
- N (permitted but never built).
- O (ownership transferred to a new party): If the facility has been sold, or if responsibility for it has been transferred to another owner, during the reporting year. Supply the new owner's TCEQ air regulated entity reference number.

Operating Schedule and Annual Operating Hours

These fields should reflect a facility's **actual** annual operating schedule and operating hours, **not** maximum potential hours of operation. Update these fields every reporting year with actual annual data for the facility.

If a facility's operating schedule is inconsistent throughout the reporting year, enter the actual number of weeks that the facility operated in the "Weeks per Year" blank, and enter average data for the fields "Days/Week" and "Hours/Day."

Seasonal Operating Percentages

Seasonal operating percentages represent the percentage of actual annual facility operations that occurs during each season. These percentages are normally based upon process rate data. For EI purposes, "spring" includes March through May; "summer" includes June through August; "fall" includes September through November; and "winter" includes January, February, and December of the same calendar year. Note that the percentages must be reported as whole numbers (no decimals) and must sum to 100.

FIN Group Type, Profile, and Characteristics

In STARS, every facility has a group type associated with it; a list of current group types is available in Table 6-1. You will notice that these group types also appear on the Facility Information forms. Associating each facility with a group type allows the EAS to collect data on sources of interest, and also facilitates data retrieval.

If the facility's group type or profile appears incorrect, consult Table 6-1. Most of the group types are self-explanatory; for examples of facility types that belong to each group, refer to the associated profiles.

If you determine that the facility has an incorrect group type or profile (for example, a flare has a group type of "equipment leak fugitive"), correct the group type and profile on the EIQ itself. Next, complete the appropriate Facility Information form to update the facility information; in our example, you would need to complete a Facility Information for Combustion Unit—Flare Profile Facility Information form. Be sure to write the word "update" at the top of the form to avoid any confusion.

For more information about the characteristics associated with each profile, please identify the facility appropriate group type, and then consult the instructions for completing the relevant facility form in *2007 Emissions Inventory Forms and Instructions* (publication number RG-360B). For example, if you wanted more information about a cooling tower's characteristics, you would consult the instructions for completing a Facility Information for Cooling Towers form.

Table 6-1. STARS Facility Group Types, Profiles, and Characteristics

Group	Profile	Characteristics
Cleaning	Dip degreasing Vapor degreasing Barge cleaning Railcar cleaning Tank truck cleaning Other	Not applicable
Combustion	Flare	Design capacity in MMBtu per hour Assist type (steam, air, or none) Service type (process, emergency, or both) HRVOC Service? (yes or no)
	I.C. engine	Number of cycles (two or four) Burn type (rich or lean) Design capacity in MMBtu per hour or engine rating in horsepower
	Boiler, dryer, furnace, heater, incinerator, kiln, oven, turbine, thermal oxidizer, other	Design capacity in MMBtu per hour Firing type
	Fluid catalytic cracking unit (FCCU)	Not applicable
	Boiler—Electric Generation I.C. Engine—Electric Generation Turbine—Electric Generation	Design capacity in MMBtu per hour Firing Type Generation Capacity in MW
Coating or printing	Coating or printing	Not applicable
Cooling tower	Cooling tower	Design flow rate in MMgal per day Draft design type (natural or mechanical) Number of cells Sampling schedule Sample tested for VOCs? Sampling data used to calculate emissions? HRVOC Service? (yes or no)
Equipment leak fugitives (Leaking component fugitives)	Equipment leak fugitives	Emissions determination methodology* Leak detection and repair program* Component count* *refer to the Facility Information for Leaking Component Fugitives and the Fugitive Data forms
Loading	Railcar Tanker truck Railcar / tanker truck Marine Other	Not applicable
Other	Other	Not applicable

Table 6-1. STARS Facility Types, Profiles, and Characteristics, continued

Group	Profile	Characteristics
Tanks	Horizontal fixed roof Vertical fixed roof Internal floating roof Pressure tank Underground tank External floating roof: double deck, single seal External floating roof: double deck, double seal External floating roof: pontoon, single seal External floating roof: pontoon, double seal Domed external floating roof: double deck Domed external floating roof: pontoon Other	Refer to the Facility Information for Storage Tanks form.
VOC process	Analyzer Blowdown operations Glycol still Polyethylene unit Polypropylene unit Mixing vessel Reactor Other	Not applicable
Wastewater	Wastewater system	Flow model (flowthrough or disposal) Aeration (diffused air, mechanical or none) Biodegradation mechanism (biodegradation, activated sludge, or none) Design type (surface, subsurface, or other) Depth Surface area Flow rate in MMgal per day
Wastewater	Basin Clarifier Closed sump Lift station Open sump Reactor Stripper Separator Other wastewater component	Not applicable

Control Device Information

Descriptions of the items in this section, along with information on accepted values, appear in the instructions for completing the Abatement Device Information form. If you need to make corrections to any of the information in this section, please do so in the blanks provided.

For each abatement device, verify that:

- the stated abatement efficiencies are accurate;
- the abatement code, number of units, and inspection and maintenance (I/M) schedule are accurate; and that
- the percentage of time offline is reflected in annual emissions determinations.

For abatement devices that can also be considered facilities, such as combustive abatement devices, ensure that these devices are not abating their own emissions. Abatement devices cannot abate themselves.

Parameters for Emission Points

Descriptions of most of the items in this section, along with information on accepted values, may be found in the instructions for completing the relevant Emission Point Information form. The following discussion focuses primarily on common issues concerning updating emission data for each path.

In STARS, every emission point has a “type” associated with it; currently, these types are as follows: stack, flare, and fugitive. You will notice that these types now also appear on the Emission Point Information forms. Associating each emission point with a type allows the EAS to collect data on sources of interest and facilitates data retrieval.

If the emission point type is incorrect, please complete and submit the appropriate Emission Point Information form, marking “update” at the top of the form to avoid confusion. Note that you must choose from the available emission point types.

Emission Point Coordinates

Accurate coordinates for each emission point are essential to urban airshed modeling activities. All UTM coordinates should be expressed in the North American Datum of 1983 (NAD83) coordinate system and all latitudes and longitudes should be expressed as degrees, minutes, and seconds.

Verify that each emission point has accurate coordinates; for most nonfugitive emission points, these coordinates should be unique. Also, verify that the site centroid, printed on page 2 of the EIQ, is correct.

EPN Parameters

Accurate emission point parameters are essential to urban airshed modeling activities. Emission point parameters should represent **actual** stack, fugitive, or flare parameter values, not values for permit modeling purposes. Verify that all emission points have accurate, actual parameter values.

Changing FIN and EPN Designations

The EAS does not normally allow changes to FIN or EPN designations due to the historical nature of emissions data. Exceptions to this policy will be made to correct errors or to align EI nomenclature with permit nomenclature. If you feel revisions to FIN or EPN designations are necessary, please submit a Revision Request form; be sure to provide a reason for the requested revisions. Note that the EAS reserves the right to approve or disapprove all such revision requests.

Total Aggregate Annual Heat Input

For combustion units, enter the total heat value (in MMBtu) of all fuels that the facility combusted during the year. When the facility has multiple emission points, do not divide the heat input between paths. Instead, sum the individual heat inputs and report the total aggregate heat input for the facility.

To determine the total aggregate annual heat input, first determine the heat input for **each** fuel that the facility combusted during the year by multiplying the fuel's gross heating (calorific) value (in Btu/lb) by the fuel's annual feed rate (in lb/year). Next, sum these individual annual heat inputs for all fuels combusted during the year, and convert from Btu to MMBtu to obtain the total aggregate annual heat input (in MMBtu/year).

Emissions Factors

In the spaces provided, supply the emissions factors that were used to determine the emissions for each individual FIN/EPN path. In the far right column, enter the source of the emissions factor.

In particular, supplying NO_x emissions factor data within the EIQ will allow the EAS to capture these data that will be used to improve the TCEQ's airshed modeling and rulemaking activities. To promote consistency among similar emissions sources, the EAS requests that the

NO_x emissions factors be based upon the following process-rate data. Examples of the preferred process-rate-based NO_x factors include:

- lb/MMBtu (boilers, furnaces, heater, and turbines)
- g/hp-hr or lb/MMBtu (all engines)
- lb of NO_x/ton of clinker (cement kilns)
- lb of NO_x/ton of calcium oxide (lime kilns)
- lb of NO_x/ton of product (lightweight aggregate)
- lb/Mgal (liquid-fired boilers)
- ppmv @ 0% O₂ (FCCUs)

Ensure that an NO_x emissions factor has been entered for every NO_x source on the “Emissions Factor” portion of the EIQ.

In cases where multiple NO_x emissions factors exist (e.g., when the facility burns multiple types of fuel), either report a single weighted average NO_x factor, or report separate factors for each type of fuel.

Updating Reported Emissions

Detailed discussion of the items in this section may be found in *2007 Emissions Inventory Forms and Instructions* (RG-360B) in the section on completing the Path Emissions form. The following discussion focuses primarily on common issues concerning updating emissions data for each path.

Updated emissions must be reported on the appropriate EIQ forms.

The EAS does not allow the submission of spreadsheets in lieu of completed EIQ forms.

Annual Emissions

For annual emissions, report total emissions rates for the year for all contaminants emitted, measured in tons. Actual annual emissions should not include emissions from emissions events or scheduled maintenance, startup or shutdown activities. Annual emissions include authorized emissions from maintenance, startup, and shutdown activities. Ensure that all criteria emissions totals (as updated on the front page of the EIQ) are included as path emissions within the body of the EIQ.

Update annual emissions under the “Path Emissions” portion of the EIQ. The printed numbers in this section reflect the emissions rates submitted on the most recent inventory. Enter the new rates in the space provided; only **one** rate may be entered per blank. If an emissions rate did not change, circle the printed rate.

Ozone Season Emissions

For ozone season emissions, report actual contaminant emissions rates during the ozone season, measured in pounds per day. Recall that the ozone season is defined as the 92 days from June 1 to August 31, inclusive; see Chapter 4, “Determining and Reporting Emissions,” for more details. Ozone season emissions are mandatory for all regulated entities in El Paso County and for all regulated entities in any county east of the Central Meridian. These counties are listed in Table 4-4. The EAS database can no longer automatically calculate ozone season rates.

The printed numbers in this section reflect the emissions rates submitted for the most recent inventory. Enter the new rates in the space provided; only **one** rate may be entered per blank. If an emissions rate did not change, you may simply circle the printed rate.

Emissions Events (EE)

Report emissions from emissions events in the EE column, using the blanks provided. For more information on emissions events, see Chapter 4, “Determining and Reporting Emissions.”

Scheduled Maintenance, Startup, and Shutdown Activities (SMSS)

Report emissions from scheduled maintenance, startup, and shutdown activities that are not authorized by a new source review permit or permit by rule in the “SMSS” column, using the blanks provided. Emissions from maintenance, startup, and shutdown activities that are authorized under a permit or permit by rule should not be included in the “SMSS” column. Instead, these emissions should be reported in the “Annual” column. For more information on SMSS emissions, see Chapter 4.

EE/SMSS Column: Reporting Guidelines

As outlined in the previous section, emissions from emissions events and/or SMSS activities must be reported in either the EE or SMSS column, as appropriate. **If a regulated entity reports emissions in the “EE/SMSS totals” column, emissions must also be reported in the “EE” or “SMSS” columns, or both, as appropriate.**

Determination Methodology

The determination methodology represents the method used to determine the reported emissions. Acceptable methods are described in Chapter 4.

Verify an emissions rate’s determination methodology every year, updating the methodology as needed with the correct code under the

“Method” heading (on the Path Emissions portion of the EIQ). To obtain the code for a particular EIQ determination methodology, consult the appropriate heading in Chapter 4.

Adding Emissions Rates

To add an emissions rate to the EIQ, you will first need a contaminant code. Contaminant codes are unique five-digit codes associated with individual contaminants. An updated list of contaminant codes is available in *2007 Emissions Inventory Forms and Instructions* (publication number RG-360B).

To report emissions of a contaminant not printed on the form, simply add the following below the last printed entry:

- the contaminant code;
- the associated annual, ozone, EE, and SMSS emissions rates (as applicable); and
- the determination methodology.

If you wish to add numerous contaminants that will not fit on the EIQ page itself, you may submit a Path Emissions form with the appropriate information. On the form, note, for the the FIN and EPN, that each “Already exists in STARS database.”

If a contaminant does not appear to have a contaminant code, try electronically searching for the contaminant’s Chemical Abstracts Service (CAS) number in *2007 Emissions Inventory Forms and Instructions* (publication number RG-360B). If a search by CAS number fails, contact the EAS for assistance; be sure to have the chemical’s name and CAS number when you call.

Emissions Rates: Numeric Format

STARS cannot accept emissions rates beyond four decimal places. Emissions rates that extend beyond four decimal places should be rounded as appropriate. Under no circumstances may scientific notation be used when reporting emissions rates, as data in this numeric format cannot be entered into STARS.

Only one emissions rate can be entered per blank. STARS does not support the routine reporting of emissions rates for periods of less than one year, such as quarterly emissions rates.