



Emissions Inventory (EI): Reporting Requirements and What's New for 2011

Jill Dickey
Emissions Inventory Specialist
Air Quality Division

Presented to the 2012 Emissions Inventory Workshops



Overview

- Brief introduction to EI applicability reporting requirements
- EI assistance
- What's new for the 2011 reporting year
 - Reporting options
 - General
 - United States Environmental Protection Agency (EPA) TANKS software
 - Tank flash emissions calculations
 - Tank degassing and cleaning
- Emphases for the 2011 reporting year



Applicability Requirements: Do You Need to Submit an EI?

- Major stationary source under Section 116.12, Nonattainment and Prevention of Significant Deterioration Definitions
 - Rule defines potential to emit (PTE) thresholds
 - Applicability is generally based on attainment status of county
- PTE and actual emissions thresholds for regulated pollutants
- PTE and actual emissions thresholds for hazardous air pollutants (HAPs)



1997 Eight-Hour Ozone Nonattainment Areas

Summary of Reporting Requirements in Tons per Year (TPY) for 30 TAC §101.10

County	Volatile Organic Compounds (VOC)		Nitrogen Oxides (NO _x)		Other		Individual HAPs		Aggregate HAPs	
	Actual	PTE	Actual	PTE	Actual	PTE	Actual	PTE	Actual	PTE
Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, Waller SEVERE/OZONE	10	25	25	25	100	100	10	10	25	25
Collin, Dallas, Denton, Ellis, Johnson, Kaufman, Parker, Rockwall, Tarrant SERIOUS/OZONE **serious as of January 19, 2011	10	50	25	50	100	100	10	10	25	25
All Other Counties	100	100	100	100	100	100	10	10	25	25



Applicability Summary: What Does This Mean to You?

- What is the 2011 attainment status of the county where the site is located?
- What were the site's actual 2011 emissions for regulated pollutants and HAPs (single and aggregate)?
- What were the site's PTE limits for regulated pollutants and HAPs (single and aggregate)?



EI Assistance

- 2011 Emissions Inventory Guidelines (RG-360A):
 - Step-by-step instructions for completing an EI
 - Updated annually with current reporting requirements
 - Technical supplements for common emissions sources
- 2011 Emissions Inventory Forms and Instructions (RG-360B):
 - Instructions on completing the forms
 - Blank forms
 - List of abatement codes and contaminant codes
- Point Source Web page
www.tceq.texas.gov/goto/ieas
- Help Line
 - (512) 239-1773, available M-F from 8AM-5PM



New for 2011: Reporting Options

- There are still 3 options for submitting an EI:
 - paper, electronic data file/single text file, or online EIQ entry.
- Paper EIQs will no longer be mailed to regulated entities.
 - The TCEQ **will still accept** paper submittals.
 - A printable EIQ report can be generated by accessing the “EIQ Report” option through the Central Registry’s Integrated Web Reporting Page.
 - “Instructions for Obtaining a Printable Copy of the EIQ”: www.tceq.texas.gov/goto/eiqprint



New for 2011: Reporting Options (cont.)

- Electronic data file **MUST** be submitted online through the State of Texas Electronic Emissions Reporting System (STEERS).

Electronic data files will no longer be accepted on disk or other media.

- Online data entry through the STEERS Web interface
 - Great option for smaller sites or those currently using paper that would like to submit electronically
 - “On-line Annual Emissions Inventory Report User's Guide”

<http://www.tceq.texas.gov/assets/public/implementation/air/ie/pseiforms/aierusersguide.pdf>



New for 2011: General

- Stack test data and emissions banking and trading
 - The TCEQ stack testing data that was used to generate credits or allowances for the TCEQ banking and trading programs should be used to calculate emissions in the EI.
- Determination methodology for E&P TANK
 - “Other” and not “AP-42”
- **Ozone season update**
 - May 1 through September 30 for EI purposes
 - Previously June 1-August 31
 - Preference to adjust ozone season calculations based on May 1- Sept 30 for 2011 submissions.





New for 2011: General (cont.)

- Glycol dehydration operations
 - More guidance on structure in Chapter 3 of the 2011 Emissions Inventory Guidelines
 - How to obtain an extended gas analysis in Appendix A
 - Provides specific guidance on sampling
- Amine units in carbon dioxide service
 - Additional guidance to ensure that all speciated volatile organic compounds from these units are reported
- 2010 Flare Study Results
 - www.tceq.texas.gov/goto/2010-flare-study



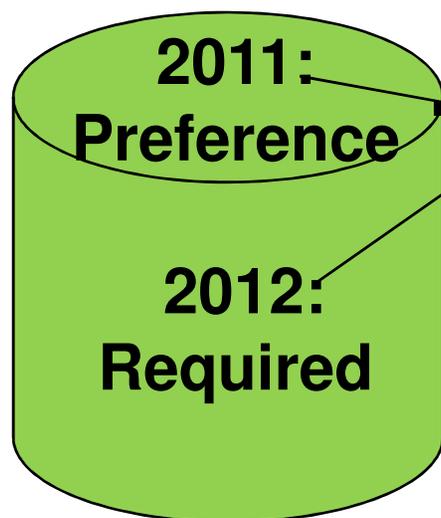
New for 2011: Storage Tanks

EPA's TANKS Software

Fixed and floating roof tanks that store products at ambient temperatures:

Acceptable to use EPA's TANKS software with the following caveats:

- Choose "Monthly" time basis and select all 12 months of the year.
- The "Annual" time basis should never be chosen.



Ozone season emissions should be determined using the increased vapor pressure data in the appropriate AP-42, Chapter 7 equations.



New for 2011: Storage Tanks (cont.)

EPA's TANKS Software (cont.)

Heated storage tanks and tanks storing product at warmer-than-ambient temperatures:

- **EPA's TANKS software output is no longer accepted.**
- **Use AP-42, Chapter 7, or a software program that uses these equations accurately to determine these emissions.**





New for 2011: Storage Tanks (cont.) **EPA's TANKS Software (cont.)**

Tips from the EPA on how to accurately determine emissions from TANKS 4.09d:

- always use physical and chemical properties specific to the tank and its contents;
- never use defaults;
- always determine emissions using monthly parameters;
- never use the annual time basis option to determine emissions and
- never use the TANKS program to determine emissions from heated tanks, tanks storing hot product, or tanks with significant variations in monthly throughput.
- https://refineryicr.rti.org/Portals/0/Emission_Estimation_Protocol_for_Petroleum_Refineries.pdf



Emphases for 2011: Storage Tanks (cont.) EPA's TANKS Software

TANKS default settings can not be used.

- For site-specific or proprietary compounds or chemical mixtures, enter specific chemical or mixture data into the TANKS program's chemical database.
- Default chemicals can not be used unless the default vapor pressure and composition of the material are representative of the stored liquid's vapor pressure and composition.



Emphases for 2011: Storage Tanks (cont.) EPA's TANKS Software

TANKS default settings can not be used
(cont.):

- The number and physical characteristics of the tank fittings must be used in the "detailed" fittings selection in the "Physical Characteristics" portion.
- The "typical" fittings selection will no longer be accepted.



New for 2011: Storage Tanks (cont.) **E&P Tank**

Must input a site-specific extended analysis to achieve accurate emissions and emissions speciation.

When the “Low Pressure Oil” or “High Pressure Oil” option is chosen, be aware that a default analysis is already entered.



New for 2011: Storage Tanks (cont.) **E&P Tank (cont.)**

The “Low Pressure Gas” option can be used to determine emissions if the following site-specific measurements and related data are available:

- Laboratory analysis of gas sample from low pressure separator
- Laboratory analysis of gas/oil ratio (GOR)
- Laboratory analysis of hydrocarbon liquid produced (to obtain API gravity, RVP, and C₇ – C₁₀+ characteristics)
- Tank specifications and location



New for 2011: Storage Tanks (cont.) **E&P Tank (cont.)**

Documentation to support the GOR and other measurements should be included in the EI submittal.

- A vapor sample of the sales gas is not a valid way to determine either a GOR or the compositional analysis of either the separator liquid or separator gas stream.
- GOR and measurement data should be site specific.
- The “Geographical Database” calculation option does not contain site-specific compositions and will not be accepted for known separator stream information.



New for 2011: Storage Tanks (cont.) **E&P Tank (cont.)**

- When the AP-42 model option is selected for working and standing losses, detailed information about tank size, shape, liquid bulk temperature, and ambient temperatures can be entered.

The software is able to produce more precise emissions determinations.

- The RVP Distillation Column model option does not allow these specifications.



New for 2011: Storage Tanks (cont.)

Degassing and Cleaning

Emissions determination options:

- The liquid heel method is described in Section 11, *Startup and Shutdown*, of EPA's "Emission Estimation Protocol for Petroleum Refineries."
- Tank cleaning emissions can be determined in accordance with the guidance in API Technical Report 2568, "Evaporative Loss from the Cleaning of Storage Tanks."



Emphases for 2011: Storage Tanks Degassing and Cleaning

Emissions determination options:

- Site-specific knowledge and material balance equations
- For a drain-dry floating-roof tank, degassing emissions can be determined by guidance in API Technical Report 2567, "Evaporative Loss from Storage Tank Floating Roof Landings."
- For a drain-dry fixed-roof tank, degassing emissions can be determined by guidance API Technical Report 2568, "Evaporative Loss from the Cleaning of Storage Tanks."



Contact Information

- Jill Dickey
 - (512) 239-5912
 - jill.dickey@tceq.texas.gov

- Help line
 - (512) 239-1773
 - Monday-Friday from 8AM-5PM