



2011 Emissions Inventory Workshop

Presented to 2011 Emissions Inventory Workshop
Austin, Texas
February 17, 2011
(rescheduled from February 9, 2011)

Emissions Inventory Workshop

AGENDA

1:30 p.m. – 1:35 p.m. – **Welcome**

1:35 p.m. – 1:50 p.m. – **Clean Texas Presentation** - Lauren Young, Small Business & Environmental Assistance Division

1:50 p.m. – 2:05 p.m. – **EI Update: Reporting Requirements and Changes** - Michael Ege

2:05 p.m. – 2:25 p.m. – **Useful Emissions Inventory (EI) References** - Steve O'Neal

2:25 p.m. – 2:45 p.m. – **Integrated Web Reporting – Data Available to You**
- Matt Southard

2:45 p.m. – 3:00 p.m. – **Overview of EI Update Reporting through STEERS**
- Kathy Pendleton

3:00 p.m. – 3:15 p.m. – Break

3:15 p.m. – 4:15 p.m. – **Demo – Interactive Update of the EI through the Web**
- Adam Bullock

4:15 p.m. – 5:00 p.m. – **Demo – Upload a Single Text File through the Web**
- Adam Bullock

5:00 p.m. – 5:30 p.m. – **Question & Answer Session**



SMALL BUSINESS AND ENVIRONMENTAL ASSISTANCE DIVISION

Clean Texas

Clean Texas

Environmental Leadership Program

- ✓ Recognizes organizations committed to improving environmental performance
- ✓ Members = industries, government, schools...YOU?





CLEAN
TEXAS



★ Promotes environmental leadership

★ Four member categories

- ☑ Bronze Level ★
- ☑ Silver Level ★ ★
- ☑ Gold Level ★ ★ ★
- ☑ Platinum Level ★ ★ ★ ★

Environmental Performance Requirements

- ☑ Environmental Management System
- ☑ Environmental improvements
- ☑ Compliance assurance goal
- ☑ Community projects
- ☑ Annual report



EMS Assessment and Verification

- ✓ Site must use an independent party to assess EMS implementation
- ✓ TCEQ will verify EMS implementation



Compliance Requirements

- ☑ Compliance history rating
- ☑ Court orders
- ☑ Criminal convictions



Clean Texas Member Incentives

- ✓ Public recognition
- ✓ Technical assistance
- ✓ Reduced fees for select TCEQ events
- ✓ Networking



Public Recognition

- ✓ Press releases
- ✓ Newsletter
- ✓ Web site



WaterSense Offers New Ways to Save Water

WaterSense is a voluntary program that helps consumers identify water-efficient products and programs that meet water efficiency and performance criteria. Products that carry the WaterSense label are at least 20 percent more water efficient and perform as well or better than standard models. WaterSense-labeled products include water-efficient toilets, bathroom faucets and faucet accessories, urinals, and new homes that are designed to reduce indoor and outdoor residential water use compared to typical new homes. WaterSense also certifies programs for irrigation professionals.

Recently, WaterSense added residential showheads to the list. Showers claim the largest single use of hot water in the home, accounting for 37 percent of total hot-water use. By installing a water-efficient showhead, you can reduce water consumption by 25 percent to 60 percent. Find more water conservation tips at www.takecareoftexas.org/www-conservation-tips.

WaterSense has also kicked off its national "We're for Water" campaign to encourage all Americans to make simple choices to save water. The campaign will travel cross-country, stopping at national landmarks and educating consumers about WaterSense-labeled products and other ways to save water. For more information on the WaterSense program, visit www.epa.gov/watersense.

Don't Forget to Apply for a Texas Environmental Excellence Award!

There's still time to submit an application for the Texas Environmental Excellence Awards! You can nominate an environmental project that exemplifies that timeless Texas spirit.

Deadline for entry is Oct. 8. For more information, visit www.teea.org.

TCEQ Names New Ombudsman for Rural Areas

The Texas Commission on Environmental Quality recognizes that the needs of rural communities differ from those of other areas of the state. As a result, the agency created a rural

ombudsman position. Jason Robinson has been selected as the agency's first rural ombudsman. He will use his 12 years of experience working for a small community to link small, local governments with TCEQ assistance programs, regulators, and other associations and state agencies. He also will bring specific concerns to the attention of agency leaders and rule makers to facilitate better communication and compliance.

Pollution Prevention Workshops Scheduled

The TCEQ, in partnership with The University of Texas at Arlington, will offer two workshops that teach companies how to comply with the Waste Reduction Policy Act by preparing and implementing an effective, cost-saving pollution

prevention plan. These yearly workshops benefit both large companies and are geared toward environmental and safety managers, plant managers, production engineers, and related professionals.

The workshop schedule includes the following dates and locations:
Arlington, Oct. 21-22
Houston, Nov. 10-11

For more information and how to register, visit www.tceq.texas.gov/assistance/events/P2Workshops.

NRG Wharton Reduces Emissions by 80 Percent

NRG Energy's TH Wharton Electric Generating Station in Houston—a Clean Texas Bronze-level member—has installed low-emission combustion systems that work with natural gas turbines to achieve significantly better performance. The low-emission combustion systems improve air fuel mixing during combustion and substantially reduce nitrogen oxide (NO_x) emissions.

As a result, NO_x emissions from these units are up to 80 percent, falling from 20-25 parts per million to less than 5 ppm. As an added benefit of the new systems, carbon monoxide (CO) emissions also have substantially reduced, to less than 5 ppm.

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Clean Texas Regulatory Benefits

- ✓ Compliance history score
- ✓ Reduced investigation frequency
- ✓ Expedited permitting
- ✓ Exemption from some reporting requirements



2009 Members

SAVED
\$11,000,000

REDUCED
92,000 tons!



2009 Results

Category	Reductions
Recycling/Reuse	29,982 tons
Water Quality	23,804 tons
Non-Hazardous Waste	20,121 tons
Air Quality	5,992 tons
Hazardous Waste	2,159 tons
Material Use	445 tons
Energy Use	131 tons
Water Use	1,189,720,123 gallons
Transportation Energy	55,770 gallons

Historical Savings Since 2003

SAVED

\$119,313,542

REDUCED

975,539 tons!



Questions

- ✓ Lauren Young
(512) 239-3182
- ✓ www.cleantexas.org
- ✓ cleantx@tceq.texas.gov





Emissions Inventory (EI) Update: Reporting Requirements and Changes

Michael Ege
Emissions Inventory Specialist
Air Quality Division

Presented to 2011 Emissions Inventory Workshop
February 9, 2011



EI Update: Overview

- 30 Texas Administrative Code (TAC) Section (§) 101.10
- Applicability: Do you need to submit an EI?
- Emissions inventory types
- Reporting requirements
- EI publications
- New for 2010



30 TAC § 101.10

Emissions Inventory Rule Organization

- (a) Applicability
- (b) Types of inventories
- (c) Calculations
- (d) Certifying statements
- (e) Reporting requirements
- (f) Enforcement



Applicability Requirements: Do You Need to Submit an EI?

- Major stationary source under §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, Hardin, Jefferson, Orange MODERATE/OZONE	10	100	25	100	100	100	10	10	25	25
All Other Counties Now includes: Hardin, Jefferson, Orange	100	100	100	100	100	100	10	10	25	25



Applicability Summary: What Does This Mean to You?

- What is the attainment status of the county where the site is located?
- What are the site's actual 2010 emissions for regulated pollutants and HAPs (single and aggregate)?
- What are the site's PTE limits for regulated pollutants and HAPs (single and aggregate)?



Emissions Inventory Types

- Initial
- Annual Update
- Special



Initial Emissions Inventory

- Applies to a site that has never submitted an inventory
- Data collected using standardized forms
- *2010 Emissions Inventory Guidelines* (RG-360A/10)
 - Chapter 2: Creating an Initial Emissions Inventory
 - Chapter 5: Example Initial Emissions Inventory
- Due to the Texas Commission on Environmental Quality (TCEQ) by March 31st



Annual EI Update

- Annual update is required every year reporting criteria are met.
- Due March 31st or 90 days from date of request letter
- Guidance for annual update
 - Updating an Emissions Inventory Questionnaire: *2010 EI Guidelines*, Chapter 6
 - Emissions Inventory Checklist: *2010 EI Guidelines*, Appendix F



Annual EI Update (con't.): Inapplicability Notification Letter

- A certifying letter is acceptable instead of a full EI update if the site does not meet any of the reporting thresholds in 30 TAC § 101.10 or special inventory requirements.
- Letter contains checkbox choices for mailing list status (keep on mailing list or remove)
- Due March 31st or 90 days from date of request letter
- Sample letter: *2010 EI Guidelines, Appendix B*



Annual EI Update (con't.): Insignificant Change Notification Letter

- Changes in emissions (either increases or decreases) for each pollutant do not exceed 5% or 5 tons per year (tpy), whichever is greater.
 - 2010 emissions compared to last reported emissions in the State of Texas Air Reporting System database
 - If an insignificant change letter is submitted several years in a row, the EI may need to be updated if the OVERALL change exceeds 5% or 5 tpy.



Annual EI Update (con't.): Insignificant Change Notification Letter

- Emissions from previous reporting year rolled over into current year
- Updates to emission events and/or scheduled maintenance, startup, and shutdown activities (EE/SMSS) emissions are still required.
- Due March 31st or 90 days from date of request letter
- Sample letter: *EI Guidelines*, Appendix B



2010 Special Emissions Inventory

Regulated entities that receive a written request from TCEQ

- Any regulated entity that emits ≥ 0.5 tpy of lead emissions during normal operations
or
- Any regulated entity that has the potential to emit 5 tpy or more of lead emissions
or



2010 Special Emissions Inventory (con't.)

- Regulated entities that emit 10 tpy of volatile organic compounds (VOC) or 25 tpy of nitrogen oxides (NO_x) during normal operations and that are located in one of the counties specified below:

Bastrop	Gregg	Henderson	Rusk	Victoria
Bexar	Guadalupe	Hood	San Patricio	Williamson
Caldwell	Hardin	Jefferson	Smith	Wilson
Comal	Harrison	Nueces	Travis	
El Paso	Hays	Orange	Upshur	



Reporting Requirements: What Sources to Include in the EI

Represent sources individually if the source:

- Is listed in any TCEQ enforceable document such as a permit or Commission Order
 - Includes registered permit by rule (PBRs)
- Emitted 1 tpy or more of any regulated pollutant
- Emitted 0.1 tpy or more of toxic air pollutants or HAPs
- Emitted 0.001 tpy (2 lbs) or more of mercury or lead



Reporting Requirements (con't.): What Sources to Include in the EI

May represent several small sources together as a collective source if each individual source:

- Is not listed in any TCEQ enforceable document such as a permit or Commission Order
- Emitted < 1 tpy of any regulated pollutant
- Emitted < 0.1 tpy of toxic air pollutants or HAPs
- Emitted < 0.001 tpy of lead or mercury



Emissions to Report: Any Regulated Air Contaminant

- Criteria pollutants: NO_x , carbon monoxide, sulfur dioxide, VOC, lead, PM_{10} , $\text{PM}_{2.5}$
 - PM_{10} : particulate matter 10 microns in diameter and less
 - $\text{PM}_{2.5}$: particulate matter 2.5 microns in diameter and less
- HAPs identified in Federal Clean Air Act Section 112(b)
- Other regulated air contaminants subject to rules, regulations, permits, Commission Orders, or court orders
 - example: total suspended particulates
- Once a site meets applicability for any contaminant, all regulated contaminants must be reported.



EI Publications

- EI Guidelines book (RG-360A/10) provides:
 - Step-by-step instructions for completing an EI
 - Yearly updates with current reporting requirements
 - Technical supplements for common emissions sources
- Forms and Instructions book (RG-360B/10) provides:
 - Instructions on completing the forms
 - Blank forms
 - List of abatement codes and contaminant codes
- Where can you get a copy?
 - www.tceq.state.tx.us/goto/ieas
 - Both books are available at the “2010 Emissions Inventory Guidelines” link
 - Call TCEQ publications for your one free hard copy:
(512) 239-0028



New for 2010

This is the last year that electronic EIs can be submitted by mail on a CD or diskette

- We prefer to receive the electronic data file online through the State of Texas Electronic Emissions Reporting System (STEERS)
- Online validation routine provides faster feedback about problems with the file.
- If you have never submitted through STEERS, you should check out the system this year to be prepared for next year.



New for 2010 (con't.)

- Hardin, Jefferson, and Orange counties are now classified as attainment.
 - Added to the list of special inventory counties
- Submitting confidential versus non-confidential information electronically
 - If submitted as a pdf file, the confidential information must be in a separate file.
- Clarification of the EI due date
 - Paper EIs must be postmarked by the due date
 - Electronic EIs must pass the validation routine by the due date

Chapter 1 – General Information



New for 2010 (con't.)

- Clarification on what sources have to be included in an EI
 - Any source with 0.001 tpy or more of mercury or lead emissions
 - Sources listed in a registered PBR
- Additional information on reporting EE emissions
 - ALL EE emissions must be reported in the EI regardless of amount
 - Even if a source is not already listed individually in the EI

**Chapter 3 – Emissions Inventory Structure &
Chapter 4 – Determining and Reporting Emissions**



New for 2010 (con't.)

- Obtaining EI data from the Central Registry Integrated Web Reporting Web-page
 - Site-specific data and reports
 - Path-level and site-level emissions
 - Emissions Inventory Questionnaire
 - Available at: www12.tceq.state.tx.us/crpub

Chapter 7 – EI Revisions, Data Requests, Site Coordinate Data



New for 2010 (con't.)

- Information on obtaining accurate emissions determinations from the E&P TANK program
- Updated information about determining emissions from produced water tanks
- Discussion about emissions from winter gas blending or butanizing operations in storage tanks

Appendix A, Technical Supplement 6 –
Aboveground Liquid Storage Tanks



New for 2010 (con't.)

- Revised Inapplicability Notification letter
 - Updated to address Title V permits for certain sources
 - Sites with a Title V permit that have actual and PTE levels that are below the reporting requirements of 30 TAC § 101.10
 - Examples include: some landfills and trench burners

Appendix B – Sample Letters



Contact Information

Michael Ege

- (512) 239-5706
- mege@tceq.state.tx.us



Common Emissions Inventory (EI) Reporting Challenges and Useful Resources

Steve O'Neal
Natural Resources Specialist
Air Quality Division

Presented to 2011 Emissions Inventory Workshop
February 9, 2011



Overview

- Administrative challenges and useful resources
 - Emissions inventory (EI) checklist
 - Common EI submission issues
 - Supporting documentation
 - Useful resources
- Technical challenges and useful resources
 - Inventory structure
 - Emissions point number (EPN) coordinates
 - Emissions reporting
 - Specific emissions sources
 - Useful resources



Administrative Challenges



Emissions Inventory Checklist

- Addresses administrative challenges
- *2010 Emissions Inventory Guidelines* (RG-360A/10), Appendix F, is useful for
 - Preparing the EI
 - Ensuring the EI is complete
- Example checklist items
 - Are all required signatures provided?
 - Are you submitting all data requested in Technical Supplement 4: Flares?



Common EI Submission Issues

- Cover letter
 - Explain large increases or decreases in emissions
 - Clarify methodologies or processes
- Required signatures
 - Signature of legally responsible party
 - Emissions events (EE) certification (If no EE are reported)
- Update site-wide emission rates on page 3 of the EI printout



Common EI Submission Issues (con't.)

- Complete add forms and information for:

Facility Identification Number (FIN)

- Group and profile correct
- Seasonal operating percentages reported in whole numbers and seasonal percentages for each FIN total 100%
- Correct source classification code (SCC) provided for each FIN
- FIN characteristics correct and complete

Emission Point Number (EPN)

- All EPNs have the correct profile (stack, fugitive, flare)
- Emissions point coordinates provided

Abatement Devices

- Control efficiencies provided and accurate
- All relevant data provided

Path Emissions

- Contaminant codes provided for all emissions
- Emissions rates entered for each contaminant code
- All emission rates have up to four decimal places



Supporting Documentation

- Sample calculations required by 30 Texas Administrative Code (TAC), Section (§) 101.10, Emissions Inventory Requirements
 - Provide calculations representative of processes at the site
 - A large increase or decrease in annual emissions needs to be documented
 - Staff will request sample calculations if not submitted with the EI



Supporting Documentation (con't.)

- Typical supporting documentation required for review:
 - Stack test summary
 - Include the Facility Identification Number (FIN) or EPN
 - Include results each year
 - Portable analyzer results summary
 - Continuous emissions monitoring system (CEMS) results summary
 - Storage tank calculation program annual and ozone season emissions rate results
 - Gas Research Institute GlyCalc results with wet gas analysis results
 - Representative sample calculations with variables from other sources



Supporting Documentation (con't.)

- Sample calculations required for review:

Example: two-cycle lean burn engine at 90 to 105 percent load

- Consumed 20,000 million British thermal units (MMBtu) annually
- Monitoring or test data unavailable
- The United States Environmental Protection Agency (EPA) AP-42, Table 3.2-2 factors used



Supporting Documentation (con't.)

- Sample calculation for nitrogen oxides (NO_x)

$$\text{ENG1: } \frac{3.17 \text{ pounds (lbs)}}{\text{MMBtu}} \times \frac{20,000 \text{ MMBtu}}{\text{year}} \times \frac{1 \text{ ton}}{2000 \text{ lbs}} = \frac{31.7 \text{ tons}}{\text{year}}$$

- Include data used for calculations in a table or other format
 - Emission factors and units (lbs/MMBtu, etc.) used for each contaminant
 - Reference source of emission factors
 - Material throughput
 - Emissions results



Administrative Challenges: Useful Resources

- Emissions Assessment Section (EAS) Web site: www.tceq.state.tx.us/goto/ieas
 - *2010 Emissions Inventory Guidelines (PDF)*, includes emission inventory forms and instructions
 - *On-Line Annual Emissions Inventory Report Users Guide*
 - Link to Environmental Protection Agency (EPA) code tables: SCC, site industrial codes, etc.
 - Contaminant and abatement code files
 - Electronic-formatted Emissions Inventory File Specifications



Administrative Challenges: Summary

- Key challenges
 - Use the cover letter to explain large increases or decreases in emissions
 - Provide all required signatures
 - Ensure all forms/updates are complete
 - Supporting documentation and sample calculations should be clear and enable anyone to duplicate the results.
 - Note:** Do not provide spreadsheets that only contain calculation results
- The emissions inventory checklist assists in properly preparing and completing the EI.



Technical Challenges



Inventory Structure

- The structure must reflect the process.
 - Example: flares or thermal oxidizers
 - There should be a minimum of two paths in the EI.
 1. Combustion path: for reporting pilot and secondary combustion emissions
FIN: (FLARE)/EPN: (FLARE)
 2. Abatement path(s): for reporting flared emissions from the controlled source
FIN: (PROCESS)/ EPN: (FLARE)/ control identification number (CIN): (FLARE)
- References
 - 2010 *Emissions Inventory Guidelines*, Chapter 3: Emissions Inventory Structure
 - Central Registry to obtain a path list report for a site



Abatement Devices

- List each abatement or control device with a unique CIN in the inventory
- Verify control efficiencies
- Verify proper air contaminants are being controlled

Example: NO_x control devices do not typically effect particulate emissions.



EPN Coordinates

- TCEQ datum standard is North American Datum 1983
- Correct EPN coordinates are important to air quality modeling activities.
- Coordinate location
 - Google Earth
 - TCEQ Spatial Queries and Mapping viewer



EI Data Comparison

- EI data are compared with other data sources.
 - Emission events, scheduled maintenance, startup, and shutdown emissions reported through the State of Texas Electronic Reporting System.
- Toxic Release Inventory
- EPA Acid Rain Program Database



Volatile Organic Compounds (VOC) Emissions

- Use the specific contaminant code(s) for VOC species
- If practical, speciate at least 90 percent of the total VOC emissions for each source that is:
 - East of the 100 degree longitude and the VOC emission rate is ≥ 5 tons per year (tpy).
 - West of the 100 degree longitude and the VOC emission rate is ≥ 25 tpy.



Hazardous Air Pollutants (HAP)

- Report HAP particularly if the emission path emitted ≥ 0.1 tpy of a HAP
- Report mercury and lead emissions if the emission path emitted ≥ 0.001 tpy



Benzene Emissions

- Present in upstream oil and gas operations
Benzene emissions are expected from all non-controlled glycol dehydration operations.
- Gasoline and mid-range distillates are expected to have speciated benzene emissions reported in the EI.



Nitrogen Oxides (NO_x)

- When using CEMS, estimate emissions with the correct NO_x molecular weight of 46.01
- Determine EI emissions with the most current stack test
 - Note:** Include the stack test summary with the supporting documentation
- Record the NO_x emission factor on the EPN page and the annual aggregate heat input (MMBtu/year)



Hydrogen Sulfide (H₂S) and Sulfur Dioxide (SO₂) Emissions

- Report H₂S and SO₂ at the correct path
- SO₂

Typically 98 percent of the flared H₂S from fuel and waste gas is reported at the flare combustion path as SO₂.
- H₂S

Typically 2% of the uncombusted H₂S is reported at the path that represents the facility to flare path.
- To determine the correct path, ask “What emissions path did the contaminant take?”



Particulate Matter (PM)

- Expected PM emissions from internal and external combustion sources:

Contaminant Code	CONTAMINANT
10000	PM-unclassified
20000	PM10, PM < 10 microns in diameter
39999	PM2.5, PM <2.5 microns in diameter

- Internal Combustion Engines - Sum the filterable and condensable emissions factors using EPA AP-42 emissions factors
- External Combustion Sources - EPA AP-42 already sums filterable and condensable factors.



Ozone Season Emissions

- Used in air quality modeling activities
- Provide if the site is located east of the 100 degree longitude or is in El Paso county.
- Include sample calculations
- High ozone season emissions in relation to routine annual emissions could be questioned by staff.
- Ozone season emissions examples are in the *2010 Emissions Inventory Guidelines*, Chapter 4



Flares

- Verify and update characteristic data
 - FIN
 - Assist type: air, steam, or unassisted
 - Design capacity: maximum heat input rating capacity in MMBtu/hour
 - EPN
 - Number of Pilots
 - Average Flow rate
 - Flow Determination
 - Height
 - Inside Tip Diameter
 - Low Heating Value
 - Molecular Weight
 - Temperature



Flares in Highly Reactive VOC Service (HRVOC)

- Record on the EI if a flare is in HRVOC service.
 - A flare is in HRVOC service (for EI purposes) if there is > 5% by weight of any contribution of ethylene, propylene, butene(s), or 1,3-butadiene in the gas stream routed to the flare
- Use speciation and flow instrumentation data if available to determine emissions



Flares in Highly Reactive VOC Service (con't.)

- Determination methodology for uncombusted flared gas emissions
 - Use “H” when the actual flow rate and composition of the gas routed to the flare are obtained through a continuous monitoring system required by 30 TAC, §115.725 and § 115.726.
 - Use “B” for material balance



Glycol and Amine Units

- Supporting documentation
 - GRI Glycalc and other process simulator software
 - Input the wet gas analysis testing for all compounds, especially HAPs such as benzene, ethylbenzene, toluene, and xylene (BTEX)
 - Provide the wet gas analysis
 - Include abatement devices such as flares or condensers in the software parameters
 - In unabated units, report BTEX and n-hexane
 - Report unabated or uncombusted H₂S in amine units removing sulfur



Cooling Towers

- Expected emissions from:
 - Evaporating drift droplets depositing dissolved or suspended PM₁₀
 - VOC
- Emissions estimation options available
 - Sampling data to determine mass emission rates
 - AP-42 uncontrolled factor of 6 lbs of VOC per million gallons of cooling water

- Reference

2010 Emissions Inventory Guidelines, Technical Supplement 2: Cooling Towers



Storage Tanks

- Expected emissions can include VOC, HAP, toxic air emissions, and inorganic emissions.
 - Include emissions from: flashing, landing, breathing, and working losses.
 - Include degassing and/or cleaning emissions
- Report butane slip emissions from gasoline winter blending operations
- Use the correct Reid Vapor Pressure and site-specific composition data to estimate emissions
- Speciate VOC including HAP



Storage Tank Flash Emissions

- Emissions Determinations
 - Black Oil Systems, American Petroleum Institute Gravity < 40 degrees
 - Direct measurement
 - Process simulators
 - E&P TANK Program (estimates working, breathing, and flash losses)
 - Vasquez-Beggs or Rollins, McCain, and Creeger correlations
 - Or software that uses these correlation equations, such as GRI-HAPCalc



Flash Emissions (con't.)

- Condensate, API Gravity ≥ 40
 - Direct measurement
 - Process simulators
 - E&P TANK Program (Estimates working, Breathing, and Flash)
- TCEQ permit guidance for different flash emissions determinations
- http://www.tceq.state.tx.us/assets/public/permitting/air/Guidance/NewSourceReview/guidance_flash_emission.pdf



Useful Resources

- EAS Web site:
www.tceq.state.tx.us/goto/ieas
 - *2010 Emissions Inventory Guidelines and technical supplements*
 - *2010 Emissions Inventory Forms and Instructions*
 - Links to the EPA's Factor Information Retrieval Data System, EPA TANKS, and WATER9 software



Emissions Inventory Help

Help Line: (512) 239-1773

- Mon-Fri
- 8am - 5pm

E-mail: psinvent@tceq.state.tx.us



Contact

Steve O'Neal

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- Steve.O'Neal@tceq.texas.gov



Integrated Web Reporting and Mapping Data Available To You

Matthew Southard
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Presented to 2011 Emissions Inventory Workshop
February 9, 2011



Overview

- Accessing Integrated Web Reporting (IWR)
- Data available through IWR
- Accessing Texas Commission on Environmental Quality (TCEQ) spatial queries and mapping viewer
- Data available through TCEQ spatial queries and mapping viewer
- Questions



Accessing Integrated Web Reporting (IWR)

- TCEQ's IWR is accessible through the External Central Registry Query.
- Use the following link to access the Central Registry query page:

<http://www12.tceq.state.tx.us/crpub/>

- To search by Air Account number, select "Program ID Search"
- Enter the Air Account number under "Program ID"
- Select "Air Emissions Inventory" under the "Program" drop-down menu



Accessing Integrated Web Reporting (IWR) (con't.)

- On the results screen, under “Permits, Registrations or Other Authorizations”, select the “ID Number” link associated to a program type of “Air Emissions Inventory”.
 - Activates the summary screen for this account number
- To get to the State of Texas Air Reporting System (STARS) data:
 - Under “Related Information”, select “Emissions Inventory Information”
- Other programs available include:
 - Title V Air Permits (Air Operating Permits)
 - Air New Source Review (NSR) Permits



STARS Data Reports Available through IWR

- **Path List Report:** Select either Active, Inactive, or All and click "Run Report"

Output includes:

- Facility Identification Number (FIN)
- FIN Name
- Status
- Emission Point Number (EPN)
- EPN Name
- Deactivation Date (If applicable)
- Control Identification Number
- Abatement Information



STARS Data Reports Available through IWR (con't.)

- **Contaminant Summary Report:** The user selects an inventory year and then clicks "Run Report"

Output Includes:

A summary of emissions for each contaminant at the site including hazardous air pollutants

- **Air Emissions Inventory:** Clicking this link generates a report

Output includes:

A data summary of criteria emissions data from 2004 to the most recently available inventory.



Accessing the TCEQ Spatial Queries and Mapping Viewer

- TCEQ Spatial Queries and Mapping Application Viewer web-page is available at:
<http://www.tceq.state.tx.us/gis/sqmaview.html>
- Detailed instructions on using the tools can be found on the link:
 - [How to use the TCEQ Spatial Queries and Mapping Application View](#)
 - Located at the webpage above in Microsoft Word format
- To enter the application, click on [Go to the Map Viewer](#)



Data Available through the TCEQ Spatial Queries and Mapping Viewer

- The application allows users to do the following:
 - View aerial imagery for any area in Texas
 - Obtain latitude - longitude coordinates for point locations or polygons
 - Locate points in Texas that correspond to known street addresses



Data Available through TCEQ Spatial Queries and Mapping Viewer (con't.)

- The viewer presents three different display options
 - Map: Vector layers that provide a visual reference
 - Satellite: Aerial imagery for the entire state
In selected urban areas, the imagery has a resolution of six (6) inches. In rural areas, the resolution is three (3) meters
 - Hybrid: Aerial imagery with selected vector layers for reference purposes



Data Available through TCEQ Spatial Queries and Mapping Viewer (con't.)

- Generating Latitude (Lat) and Longitude (Long) points
 - Click “Zoom to Address”
 - Enter the address you wish to see on the viewer
 - Click on “Satellite” or “Hybrid”
 - Click on “Report Lat/Longs”
 - Click on your point interest on the viewer and the Lat and Long points will be populated



Data Available through TCEQ Spatial Queries and Mapping Viewer (con't.)

The screenshot displays the TCEQ Spatial Queries & Mapping Application in a Windows Internet Explorer browser window. The address bar shows the URL: <http://gis3.tceq.state.tx.us/JGoogleMapsExt/Index.jsp>. The browser title is "TCEQ Spatial Queries & Mapping Application - Windows Internet Explorer".

The application interface includes a sidebar on the left with the TCEQ logo and the text "Spatial Queries Mapping Application". Below this is a control panel with the following options:

- Input fields for coordinates: (i.e. 29.7000) and (i.e. -100.1000).
- A list of actions: ZOOM to Lat/Long, REPORT Lat/Longs, STOP Reporting Coords, ZOOM to Address (launches dialog box), GEOCODE Address, FIND Directions, START Line, STOP Line, MAKE it a Polygon, CLEAR Acetate, View Layer.
- A dropdown menu for "SUPERFUND Sites".
- Zoom options: ZOOM to Texas, ZOOM to County (Select One), ZOOM to City (Select From List).
- Other options: EDIT Nodes, FOCUS Map, GENERATE Coordinates Table.

The main map area shows a satellite view of an industrial facility with numerous large white storage tanks. Two red location pins are placed on the map, with a red arrow pointing to them from the bottom right. The map interface includes navigation controls (directional arrows, zoom in/out, and a scale bar) and a legend in the top right corner with options for "Map", "Satellite", and "Hybrid". An inset map in the bottom right corner shows the current location within a larger regional context.

At the bottom of the application, there is a "POWERED BY Google" logo and a copyright notice: "Imagery ©2010, Map Data ©2010, Terms of Use". The browser status bar at the very bottom shows "Internet" and a zoom level of "100%".



Data Available through TCEQ Spatial Queries and Mapping Viewer (con't.)

- Generating a coordinates table
 - Use the viewer to zoom in on the site in question using satellite or hybrid view.
 - Click on “START Line” in the menu
 - Left click on your starting point on the map
 - Continue to left click to select points of interest
 - Click on “Make It A Polygon”
 - Click “GENERATE Coordinates Table”



Data Available through TCEQ Spatial Queries and Mapping Viewer (con't.)

Point	X	Y
Coord Pair Point 0	- 97.67570972442627	- 30.39472232958906
Coord Pair Point 1	- 97.67568826675415	- 30.394074528694212
Coord Pair Point 2	- 97.67462611198425	- 30.394093037350824
Coord Pair Point 3	- 97.67462611198425	- 30.39473158385643
Coord Pair Point 4	- 97.67570972442627	- 30.39472232958906





Help

- Air Emissions Inventory Questions:
Help Line at (512) 239-1773
- Spatial Queries and Mapping Application Questions:
E-mail the Geographical Information Systems (GIS) Team at gismail@tceq.state.tx.us



Contact

Matt Southard

- (512) 239-1046
- Matt.Southard@tceq.texas.gov



Web-based Emissions Inventory (EI) Reporting for the State of Texas Air Reporting System (STARS)

Kathy Pendleton, P.E.
Technical Specialist
Air Quality Division

Presented to 2011 Emissions Inventory Workshop
February 9, 2011



Agenda

- Methods to submit an EI update
- Annual Emissions Inventory Report (AEIR) overview
- Overview of EI Update process
- Frequently Asked Questions (FAQ)
- AEIR Demonstration of two options
 - Emissions Inventory Questionnaire“ (EIQ) Update” is an interactive update process.
 - “Upload File” allows a single batch text file to be uploaded.



Methods to Submit EI Data

Four methods are available in 2011

1. Paper submission

Update and submit the approved hard copy forms

2. Computer disk (CD) submission of single text file

- User copies single text file from personal computer (PC) onto a CD.
- User mails CD to the Texas Commission on Environmental Quality (TCEQ).





EI Submission Methods

3. AEIR allows a user to interactively enter through an internet browser.
 - Data are entered into a work area in one or more work sessions.
 - When complete, user uploads data to the TCEQ.

4. AEIR allows a user to upload a single text file through internet browser
 - A single text file is loaded from a user's PC into a work area.
 - User submits the successfully loaded file from the work area to the TCEQ.





IMPORTANT UPDATE STARTING 2012

- Mail submission of the EI Update on a CD will **not** be accepted starting in January 2012 for the 2011 EI.
- Companies can still submit a single text file through the Web-based AEIR system.
- All other methods will still be accepted:
 1. Paper
 2. Interactive update EI through AEIR
 3. Single text upload of EI in AEIR



What is the AEIR ?

Annual Emissions Inventory Report

Allows users to update an annual emissions inventory through a Web browser either by:

- Interactive update, or
- Single text file update





AEIR Adds Functionality

- A Web-based system allows submission directly to TCEQ through a Web browser.
- AEIR provides faster submission of data from user to the STARS.
 - Supports the United States Environmental Protection Agency's earlier submission deadline





AEIR is Part of STEERS

- Free and accessed through the internet at:

<https://www6.tceq.state.tx.us/steers/>

(Eventually to be replaced by:

<https://www6.tceq.texas.gov/steers/>)

- Available to users with State of Texas Electronic Emissions Reporting (STEERS) account

Accounts are given to individuals, not companies

- STEERS provides security and infrastructure to multiple program modules, including AEIR.



STEERS Requires Appropriate User Authority

- STEERS Participation Agreement (SPA)
- Two levels of data access authority

User with edit authority

- Enters data or uploads file to work area
- Makes changes to data in work area
 - For interactive entry only
- Can be an authorized consultant



Appropriate User Authority (con't.)

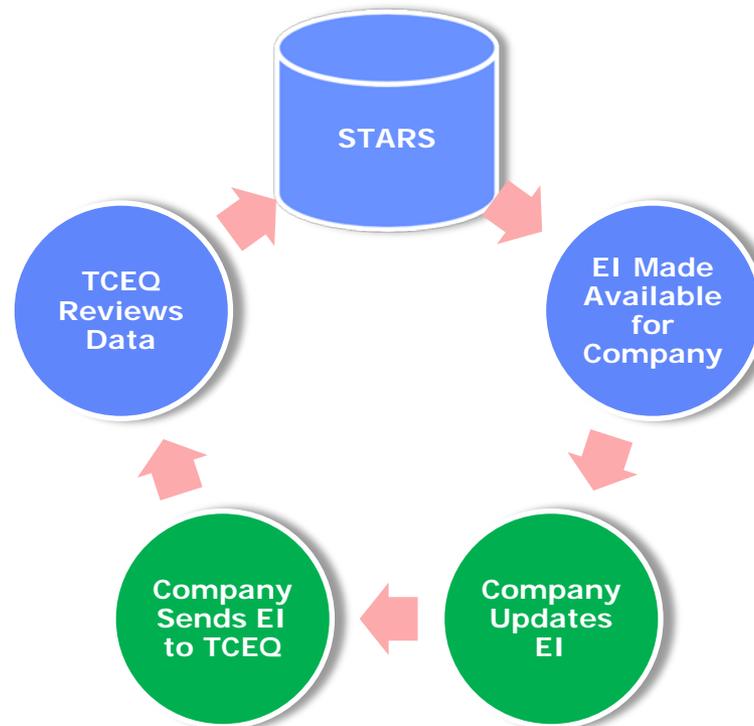
- User with submit authority
 - Enters, loads, or changes data
 - *Plus*, user submits data on behalf of Regulated Entity (RE)
 - MUST have signature authority for RE
 - MUST be a responsible official or delegate for sources with Title V permits





The EI Business Process

The core EI submission and review business process remains essentially unchanged between electronic and paper EIQ.

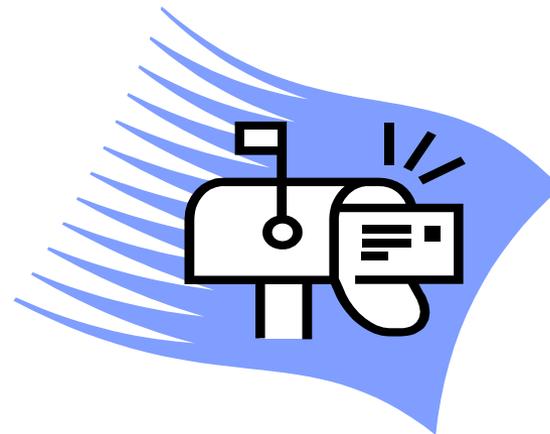




AEIR Process Steps

The TCEQ steps are:

1. Extract the previous inventory files and ready the web-based system for the next year's update
2. Notify companies that the EIQ is ready and provide a due date





AEIR Process Steps (con't.)

Companies steps are:

1. Submit a SPA, if needed
2. Access AEIR through the STEERS
3. Update the work area with current EI data
 - Enter data through “EI Update”

This graphical user interface option is equivalent to filling out the EI forms
 - Or use “Upload File” to load a single text file into the work area

This option is equivalent to saving the text file on a CD



AEIR Process Steps (con't.)

Companies steps are:

4. Submit the data from the work area to TCEQ
This step is equivalent to placing the updated EI forms or CD in the mail.
5. Submit supporting documentation
 - E-mail
 - Send hard copy



AEIR Process Steps (con't.)

The TCEQ steps are:

1. Review data successfully loaded from the work area and submitted to the EAS
2. Upload data into STARS
3. Submit annual data to the United States Environmental Protection Agency by December 31



AEIR Has Two Submission Options

- EIQ Entry
 - Use the work area to update data tables
 - Similar to completing a paper submission
- Upload File
 - Submit a single batch text file to work area
 - Similar to submitting a diskette submission
- Both options are two step processes
 1. User places data in the work area and
 2. Data are submitted to TCEQ from work area.



“EI Q Entry” Option

User can:

- Use Work Area to:
 - Update site information
 - Update and add
 - FIN - facility identification numbers
 - EPN - emission point numbers
 - CIN - control devices
 - Emissions
 - Save work-in-progress in Work Area while logging in and out
 - System has data format and limited range checks
- Submit completed update to the TCEQ



“Upload File” Option

User can:

- Upload single update file from personal computer to STEERS work area
 - File uses same format as current disk submission
 - System has limited format validation
- Submit file from work area to the TCEQ
- Data in the Work Area cannot be edited directly.
Data changes require a new file to be uploaded by the user.



AEIR Has User Feedback

- Checks are made as the data are loaded into the Work Area.
 - “Upload File” process
 - After file the file is uploaded, limited file checks are performed.
 - “EIQ Entry” process
 - More vigorous checks are performed when “Save” is selected.
- After EI is submitted from work area by user
 - Some file format errors are caught in “Upload File” process
 - “EIQ Entry” process has sufficient checks to allow file to pass successfully.
- E-mail correspondence updating process
- Error and tracking logs are available.



Frequently Asked Questions (FAQ)

Does the company have to wait until the EI is due to submit through STEERS?

- The company will have to wait until the file is extracted and made ready for update by the TCEQ.
- Extraction occurs just prior to the notification letters being mailed.
- Companies will still have 90 days or until March 31 (whichever is later) to complete the submission.



Frequently Asked Questions, (con't.)

Can contractors submit EI data through STEERS?

- Contractors have never been authorized to submit EI data to the TCEQ.
- Contractors can load data into STEERS work area.
- Authorized company representative who has signed a SPA will submit the data from the work area to the TCEQ.



Frequently Asked Questions, (con't.)

How well has the Web-based submission system worked?

- All EIQs entered through the interactive windows (EIQ Process) have updated without error.
- File format errors are more common with single file upload because it does not have as robust edit checks.



Frequently Asked Questions, (con't.)

Why can't I see my EI Q?

- The file is not ready for updating yet.
- The most likely cause is that the file has not been extracted from STARS and saved to the Web yet by the TCEQ.

After extraction, the file will have a status of "Extracted" on the header.

- Call the EAS helpline if you are experiencing a problem.



Frequently Asked Questions, (con't.)

Can I choose or change how I submit data?

- A user can choose to submit paper forms, a CD submission (2010 EI only), or use the AEIR process.
- Choose at the start of the AEIR process to upload a single text file or interactively update.

If data are already entered into the work area, either through the web screens or a file upload, but has not yet been submitted, a start-over function is available.



Frequently Asked Questions, (con't.)

Are there help documents?

- The Point Source Emissions Inventory Web page:

www.tceq.state.tx.us/implementation/industei/psei/psei.html

- On-line Emissions Inventory Report User's Guide for Web-based EIQ entry
- Electronic Emissions Inventory File Specifications for formatting a single text file

- STEERS Help:

www6.tceq.state.tx.us/steers/help/main.html



Frequently Asked Questions, (con't.)

Any additional help?

- The AEIR system also has an online user help.
- Additional help at 512-239-1773, or
- E-mail at psinvent@tceq.state.tx.us



Comments on the System?

- Please feel free to contact us
- Write a suggestion at the bottom of your workshop evaluation paper.
- Issues are prioritized and addressed based on schedule, need, and budget.



Contact Information

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Web-based EI Demonstration

Adam Bullock
Technical Specialist,
Air Quality Division

Presented to 2011 Emissions Inventory Workshop
February 9, 2011



Agenda

- Annual Emissions Inventory Report Demonstration
- Future upgrades
- Questions and Answers



Demonstration

- Changes/upgrades based on user feedback
- Emissions Questionnaire Entry - Interactive update process
- Upload File - Single batch text file can be uploaded



Future Upgrades

- Improved file submission option
 - Provisional submission
 - Allow user to test submit process without responsible official (RO) submission requirement
 - No data saved to State of Texas Air Reporting System (STARS)
 - Will result in RO needing to submit file only once
- More built-in report function
 - Summary emissions report similar to current STARS contaminant summary report



Questions





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