Recent TCEQ Permitting and Modeling Changes – Lessons Learned and Future Strategies

Presented by ALL4

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Agenda

- TCEQ – What's New in 2019
- Discussing Permitting and Modeling Updates
- Other Miscellaneous Updates
- Discussion and Questions

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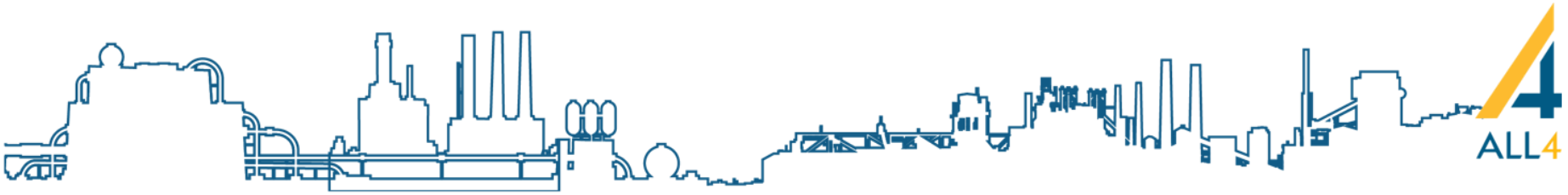
What's new with TCEQ – Permitting



NSR Workbook

- Introduced: Fall of 2018
- Excel Based Workbook
- TCEQ Strongly Recommends Using Starting: **Now**
- Mandatory Starting: **June 1, 2019**
- Streamlining

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NSR Workbook – Contents

- Replaces the following Forms:
  - PI-1
  - Table 1(a)
  - Table 30
- BACT Determinations
- Monitoring Summaries
- Impacts
- Glossary and Guidance

NSR Workbook – Nuances

- Maintain Workbook for Life of Permit
- Email the workbook electronic file APIRT
  - Specific Subject Line/File Naming Requirements
- Update of Headers Required
- Hard copies still are required
  - Attach email correspondence
  - Blank pages are not required to be printed
  - Original Signature

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NSR Workbook – Contents

I. Applicant Information	
A. Company Information	
Company or Legal Name:	
Permits are issued to either the facility owner or operator, commonly referred to as the applicant or permit holder. List the legal name of the company, corporation, partnership, or person who is applying for the permit. We will verify the legal name with the Texas Secretary of State at (512) 463-5555 or at:	
www.sos.state.tx.us	
Texas Secretary of State Charter/Registration Number (if given):	
B. Company Official Contact Information: must not be a consultant	
Prefix (Mr, Ms, Dr, etc.):	
First Name:	
Last Name:	
Title:	
Mailing Address:	
Address Line 2:	
City:	
State:	
ZIP Code:	
Telephone Number:	
Fax Number:	
Email Address:	
C. Technical Contact Information: This person must have the authority to make binding agreements and representations on behalf of the applicant and may be a consultant.	

NSR Workbook – Functionality

II. Facility Location and General Information	
A. Location	
County: Enter the county where the facility is physically located.	
Street Address:	
City: If the address is not located in a city, then enter the city or town closest to the facility, even if it is not in the same county as the facility.	
ZIP Code: Please include the ZIP Code of the physical facility site, not the ZIP Code of the applicant's mailing address.	
Site Location Description: If there is no street address, provide written driving directions to the site. Identify the location by distance and direction from well-known landmarks such as major highway intersections.	

Anderson
Andrews
Angelina
Aransas
Archer
Armstrong
Atascosa
Austin

C. Portable Facility	
Permanent or portable facility?	Permanent

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NSR Workbook – Emissions Units

Permit primary industry (must be selected for workbook to function)		Combustion

(Select One)
Chemical / Energy
Coatings
Combustion
Mechanical / Agricultural / Construction

Is this source New/Modified, Not New/Modified, to be	Include these		

Is this source New/Modified, Not New/Modified, to be removed, or Incorporated by Consolidation?	Include these emissions in annual (tpy) summary?	Facility ID Number (FIN)	Emission Point Number (EPN)	Source Name	Pollutant
New/Modified	Yes	BOILER 1	STACK 1	Boiler No. 1	NOx
Remove	Yes	BOILER 2	STACK 2	Boiler No. 2	VOC
Consolidate	Yes	BOILER 3	STACK 3	Boiler No. 3	PM

NSR Workbook – Fees

Select Application Type:		Minor Application
Estimated Capital Cost	**Minor Application Fee:**	
Less than $300,000	$900 (minimum fee)	
$300,000 - $7,500,000	N/A	
$300,000 - $25,000,000	0.30% of capital cost	
Greater than $7,500,000	N/A	
Greater than $25,000,000	$75,000 (maximum fee)	

Your estimated capital cost:	**$1,180,000.00** x 0.30% =	
Permit Application Fee:		**$3,540.00**

V. Professional Engineer Seal Requirement	
Is the estimated capital cost of the project greater than $2 million dollars?	No
Is the application required to be submitted under the seal of a Texas licensed P.E.?	No

NSR Workbook – BACT and Monitoring

Unit Type	Pollutant	Tier I BACT
Boiler: Liquid and Gas Fuel, > 40 MMBtu/hr	NOx	Specify fuel type(s) to be fired. When firing natural gas: 0.01 lb/MMBtu When firing plant fuel gas: 0.015 lb/MMBtu Note: plant fuel gas may contain up to 75% natural gas. Specifics: <50% H2; > 920 Btu/dscf. Emission limits typically achieved using dry-low NOx combustors, limiting fuel consumption, SCR, and/or water or steam injection. Specify technique(s). Fuel oil firing limited to 760 hours/yr.
	MSS	Minimizing the duration of these activities and operating the facility in accordance with best management practices and good air pollution control practices

Unit Type	Pollutant	Minimum Monitoring Requirements
Boiler: Liquid and Gas Fuel, > 40 MMBtu/hr	NOx	CEMS. Data collected four times per hour and averaged hourly.

NSR Workbook – Impacts

Pollutant	Does this pollutant require PSD review?	How will you demonstrate that this project meets all applicable requirements?	Notes	Website For Additional Guidance
VOC	No	An impacts analysis is not required for this pollutant in this project.	Attach a detailed description of why an impacts analysis is not required for this pollutant in this project.	https://www.tceq.texas.gov/permitting/air/nav/modeling_index.html
PM	No	Qualitative analysis, which may include MERA steps not requiring modeling.	Attach a detailed description of how the project meets all applicable impacts requirements, including which MERA step was met (if applicable). For applicants using the impacts analysis feature of the "Paint Emission Calculation and Impacts Analysis Spreadsheet" no additional impacts analysis needs to be submitted at this time.	https://www.tceq.texas.gov/assets/public/permitting/air/Guidance/NewSourceReview/mera.pdf
PM_{10}	Yes	Protocol (required for all PSD projects)	Attach a protocol meeting all requirements listed on the TCEQ website.	https://www.tceq.texas.gov/assets/public/permitting/air/Modeling/guidance/protocol-checklist.pdf

What's new with TCEQ – EMEW

Electronic Modeling Evaluation Workbook

- Updates to Modeling Guidance 6232 for Appendix W Amendments: September 2018
- Introduced: Fall of 2018
- Excel Based Workbook
- TCEQ Strongly Recommends Using Starting: **Now**
- Mandatory Starting: **June 1, 2019**
  - For minor New Source Review projects

What's in the EMEW?

Table of Contents:		
Section:	**Sheet Title** *(Click to jump to specific sheet):*	**Included:**
1	Summary Table	X
2	Model Options	X
3	Building Downwash	X
4	Flare Source Parameters	
5	Point Source Parameters	X
6	Area Source Parameters	
7	Volume Source Calculations	X
8	Volume Source Parameters	X
9	Point and Flare Source Emissions	X
10	Area Source Emissions	
11	Volume Source Emissions	X
12	Speciated Emissions	X
13	Intermittent Sources	X
14	Modeling Scenarios	X
15	Monitor Calculations	X
16	Background Justification	X
17	NAAQS/State Property Line (SPL) Modeling Results	X
18	Unit Impact Multipliers	
19	Health Effects Modeling Results	X
20	Modeling File Names	X
21	Speciated Chemicals	
22	Key	

What's in the EMEW?

A. Type of Model Used: *Select "X" in all that apply*			
AERSCREEN		AERMOD	X
Enter in all applicable Model Version(s):			18081
B. Building Downwash			
Is downwash applicable? *(Select "Yes" or "No")*			Yes
Enter BPIP version (AERMOD and ISCPrime only):		04274	
C. Type of Analyses: (Select "X" in all that apply) *PSD projects should submit a protocol and not utilize this form.			
Minor NSR NAAQS	X	State Property Line	X
Health Effects	X		
D. Constituents Evaluating: (Select "X" in all that apply)			
NAAQS: List all pollutants that require an impacts review. *(Select "X" in all that apply)*			
SO_2	X	PM_{10}	X
CO	X	$PM_{2.5}$	X
Pb	X	NO_2	X
Identify which averaging periods are being evaluated for NO_2.		Both	
Identify the 1-hr NO_2 tier used for the AERMOD or AERSCREEN analyses:		Tier 2: ARM 2	
Identify the annual NO_2 tier used for the AERMOD or AERSCREEN analyses:		Tier 2: ARM 2	

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What's in the EMEW?

E. Dispersion Options: *If "Urban" has been selected and this project is using AERMOD or AERSCREEN, include the population used. Select "X" in the box to select an option.*	
Urban	
Rural	X
Provide any additional justification on the dispersion option selected above:	
The rural option was used because 91.7% of the area equivalent to a three kilometer radius surrounding the facility is considered rural based on the 2011 National Land Cover Data. Please refer to the land use analysis in Figure F-3.	

F. Determination of Surface Roughness: *If AERSCREEN or AERMOD is used, fill out the section below.*	
Select basis for surface roughness:	AERSURFACE
The surface roughness from the AERSURFACE output equals 0.121 meters, which qualifies as the medium category.	

G. Meteorological Data:			
If AERMOD and/or ISC/ISCPrime are selected, please complete the following section:			
Surface Station:	WACO RGNL AP		
Upper Air Station:	Fort Worth		
Profile Base Elevation (AERMOD only):	230.734 Meters (m)		
AERMET Version Number:	16216		
Was TCEQ pre-processed data used?	Yes	Years used:	1 Year
Please enter the year(s) selected for this meteorological data:			
1 Year:	2012		

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What's in the EMEW?

- Stack Parameters

EPN	Model ID	Modeling scenario	Source Description	Point Source Type	Point Source Justification	Easting: X [m]	Northing: Y [m]	Base Elevation [m]	Height [m]	Exit Temperature [K]	Exit Velocity [m/s]	Diameter [m]
EU001	FACSV001	Normal	Hood Exhaust	POINTCAP	Capped vertical stack	495,489.98	5,251,009.25	450.31	48.77	327.60	15.31	5.77
EU002	FACSV002	MSS	Emergency power generator	POINT	vertical stack	495,494.98	5,251,011.25	451.25	47.57	327.35	15.31	5.47
EU003	FACSV003	MSS	Emergency power generator	POINT	vertical stack	495,499.98	5,251,013.25	449.67	46.37	327.10	15.31	5.17

- Emissions Rates

EPN	Model ID	Modeling Scenario	Pollutant	Modeled Averaging Time	Standard Type	Review Context	Intermittent Source?	Modeled Emission Rate [lb/hr]	Basis of Emission Rate	Scalars or Factors Used?	Scalar/Factor in Use
EU001	FACSV001	Normal	Health Effects Pollutant	1-hr	Health Effects	Project-Wide	No		Maximum Allowable	No	
EU002	FACSV002	MSS	NOx	1-hr	NAAQS	Minor Full NAAQS	No	1.21	24-hr average rate based on 2 hours of operation per day	No	

- Results

Table 3. Modeling Results for Minor NSR De Minimis

Pollutant	Averaging Time	GLCmax ($\mu g/m^3$)	De Minimis ($\mu g/m^3$)
SO_2	1-hr		7.8*
SO_2	3-hr		25
SO_2	24-hr		5
SO_2	Annual		1
PM_{10}	24-hr		5
$PM_{2.5}$	24-hr		1.2**
$PM_{2.5}$	Annual		0.2**
NO_2	1-hr	80.65	7.5***
NO_2	Annual	2.50	1
CO	1-hr		2000
CO	8-hr		500

Additional information for the De Minimis values listed above can be found at:

* www.tceq.texas.gov/assets/public/permitting/air/memos/appwso2.pdf

** www.tceq.texas.gov/permitting/air/modeling/epa-mod-guidance.html

*** www.tceq.texas.gov/assets/public/permitting/air/memos/guidance_1hr_no2naaqs.pdf

What's NOT in the EMEW?

1. *Processed Met Data Information*
2. *Source Group Descriptions*
3. ***Secondary $PM_{2.5}$ evaluations***
4. *Modeling Techniques and Scenarios*
5. *Single Property Line Designations*
6. *Documents on Effects Screening Levels (ESLs)*
7. *Post Processing using Unit Impact Multipliers (UIMs)*
8. *Tier 3 NO_2 Analysis*
9. **Background monitoring data**
   - **Data completeness justification**
   - **Refined background data (as applicable)**

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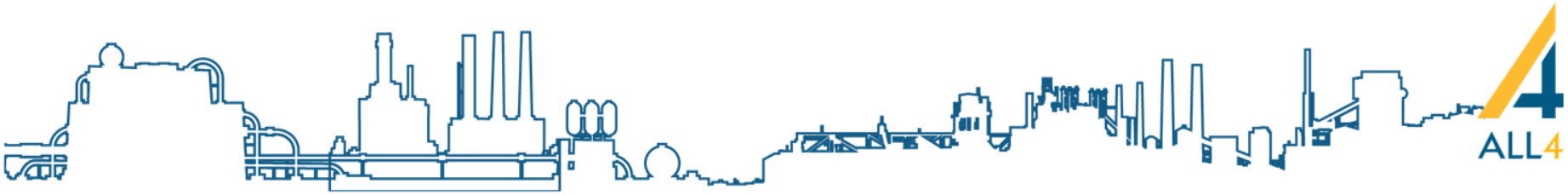
Dealing with EMEW

- No more protocols or written reports
- Submittal of preliminary results
- Required by June 2019, BUT we can use this now
- Changes to the cost
  - More front end cost

What's new with TCEQ – Calculation Workbooks



Calculation Workbook

- Introduced: Fall of 2018
- Mandatory Starting: January 1, 2019
- Consistent Format to Determining Emissions
- Spreadsheet Completely Editable
- Accommodates 3 Line Configurations
  - Single spray booth (100% capture)
  - Multiple booths (RTO)
  - Hybrid-Type

What's on the 2019 Horizon

2019 Look Ahead

- STEERS/Online Permitting
  - Voiding Permits
  - Case-by-Case Initial and Amendments
  - Portable Emissions Units
- Readily Available Permitting
  - Power Generation Engine(s)
  - Printing Facility
  - Throughput Increase for Tanks/Loading
- Calculation Workbooks
  - Tank emissions
  - Engines
  - Miscellaneous Fugitive Emissions

Questions

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