

# **Texas Natural Resource Conservation Commission**

INTEROFFICE MEMORANDUM

**TO:** NSRPD Staff **DATE:** August 3, 1998  
**FROM:** Dom Ruggeri, Team Leader  
Air Dispersion Modeling Team (ADMT)  
**SUBJECT:** Modeling Guidance for Exemption 106.512 (Formerly SE 6)

If an applicant meets the general requirements to claim an exemption under this rule, the applicant must demonstrate that emissions from an exempted source will not cause or contribute to a violation of the NO<sub>2</sub> NAAQS [106.512(6)]. One of the methods to show compliance with the NO<sub>2</sub> NAAQS involves dispersion modeling [106.512(6)(A)]. The applicant can use the following procedure to conduct the modeling demonstration:

*Step 1. Determine the long-term hourly emission rate for each source.*

Use the applicable NO<sub>2</sub>/NO<sub>x</sub> ratio in Figure 1: 30 TAC §106.512(6)(A) to adjust the hourly rate for each source.

*Step 2. Determine if the NO<sub>2</sub> de minimis is exceeded.*

Use EPA's SCREEN3 or ISCST3 model to determine if the new or modified sources' emissions will exceed the NO<sub>2</sub> de minimis of 1 μg/m<sup>3</sup>. If the predicted concentration is ≤ 1 μg/m<sup>3</sup>, the demonstration is complete. If not, go to Step 3.

*Step 3. Determine the background concentration from the Screening Background Concentrations table (attached).* If the predicted concentration plus background is ≤ 100 μg/m<sup>3</sup>, the demonstration is complete. If not, a full state NAAQS analysis may be required if the screening background concentration cannot be refined to a more representative value. Go to Step 4.

*Step 4. Determine if there is a NO<sub>2</sub> monitor in the county.* If not, go to Step 5.

Obtain a background concentration from a representative monitor in the county. Use the most recent annual concentration from the Aerometric Information Retrieval System (AIRS) [[www.epa.gov/airsweb/monreps.htm](http://www.epa.gov/airsweb/monreps.htm)] that is based on at least 6570 hours of observations.

Convert the concentration from ppm to μg/m<sup>3</sup> by multiplying the AIRS concentration by 1887. If the predicted concentration plus the monitored background concentration is ≤ 100 μg/m<sup>3</sup>, the demonstration is complete. If not, a full state NAAQS analysis may be required. Contact the ADMT staff for modeling guidance.

*Step 5. Contact the ADMT staff for assistance in developing a representative background concentration.* If the predicted concentration plus a representative background concentration is ≤ 100 μg/m<sup>3</sup>, the demonstration is complete. If not, a full state NAAQS analysis may be required. Contact the ADMT staff for modeling guidance.

Attachment

## SCREENING BACKGROUND CONCENTRATIONS

NO<sub>2</sub>  
August, 1998

Note: Use regional values unless concentrations for a specific county are provided.

Regional Background / Specific County Background - Annual Concentration ( $\mu\text{g}/\text{m}^3$ )							
Region 1 20	Region 2 20	Region 3 20	Region 4 20	Region 5 20	Region 6 20	Region 7 20	Region 8 20
Potter 25	Lubbock 25	Wichita 25	Collin 25	Rusk 30	El Paso 70	Ector 35	
			Dallas 55	Smith 25			
			Denton 25	Titus 30			
			Ellis 25				
			Tarrant 40				

Regional Background / Specific County Background - Annual Concentration ( $\mu\text{g}/\text{m}^3$ )							
Region 9 20	Region 10 20	Region 11 20	Region 12 20	Region 13 20	Region 14 20	Region 15 20	Region 16 20
Bell 40	Jefferson 35	Fayette 30	Brazoria 35	Bexar 50	Nueces 35	Cameron 30	Webb 25
Limestone 25	Orange 35	Travis 45	Chambers 25		Victoria 25	Hidalgo 30	
McLennan 30		Williamson 25	Ft. Bend 35				
Robertson 35			Galveston 30				
			Harris 60				
			Montgomery 25				