

## Daniel Menendez

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**From:** Steve Torpey <storpey@disorboconsult.com>  
**Sent:** Thursday, July 03, 2014 7:55 AM  
**To:** modguide  
**Subject:** App M - Receptor Design

Please provide a clearer explanation of Tight Receptors.

For many years, 25 meter spacing followed the fence line and then had three rows from the property line. The result was receptors that occurred between 75m and 100m from the property line. If GLCmax occurred on the outer row of receptors then additional receptors could be added as necessary but only extending to 200-300 meters. Further, if all modeled sources are greater than 500 meters from the property line, then 25 meter spacing was only required to follow the property line. There were no additional rows required.

Now there is new interpretation of the same statement and projects are now required to have 25 meter spacing out to 300 meters because "that is what the guidance says."

Please remove the wording that follows "Tight receptors" and replace with a reasonable explanation of what TCEQ is requiring because the written guidance and verbal guidance is conflicting.

Thank you,  
Steve

**Steve Torpey, P.E.**  
Senior Engineer

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## Daniel Menendez

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**From:** Steve Torpey <storpey@disorboconsult.com>  
**Sent:** Thursday, July 03, 2014 8:04 AM  
**To:** modguide  
**Subject:** App E - Minor and Federal NAAQS

Having the term in PSD in the title for NAAQS adds confusion, but I understand the need. However, the text does not point out the distinct differences between the two.

My suggestion is one of the following:

1. Break this appendix in to two: (1) Preliminary Impact Determination and (2) NAAQS.
2. For the appendix on NAAQS, either have subsections that explain the difference between minor and federal NAAQS or take the distinction from the title.
3. Suggest the PSD be removed from the title of the appendix and use something like “federal” or “major” instead.

Thank you,  
Steve

**Steve Torpey, P.E.**  
Senior Engineer

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## Daniel Menendez

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**From:** James Red <jamesred@providenceeng.com>  
**Sent:** Monday, July 07, 2014 2:15 PM  
**To:** modguide  
**Subject:** A comment on the draft modeling guideline

For organizational and citation purposes, it might be useful to organize and label the sections and subsections in outline style/format, E.g.:

### Section IV – Conducting the Air Quality Analysis

- A. Screening Modeling
- B. Refined Modeling
- C. Modeling Emissions Inventory D.  
Preliminary Impact Determination E.
- Minor NSR
  - 1. Minor NAAQS Analysis
  - 2. State Property Lin Standard Analysis
  - 3. Health Effects Analysis

Etc, etc.

James Red

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## Daniel Menendez

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**From:** Jihee Song <JSong@edge-es.com>  
**Sent:** Wednesday, July 23, 2014 4:54 PM  
**To:** modguide  
**Subject:** Comments to the Draft Air Quality Modeling Guidelines

Dear Air Quality Modeling Team,

Regarding the draft air quality modeling guidelines, I think everything is clear except for Appendix A – Justifying the Use of the Significant Impact Levels. Because the PM2.5 SILs and PM2.5 significant monitoring concentrations (SMCs) were vacated, the use of the SILs had to be justified (according to the beginning of the section). However, as I read further, the description is not specific to PM2.5, but rather it is not clear. Also, Step 2 of the Appendix A and Appendix D have same information.

Otherwise, I think the document is very clear and easy to follow. I look forward to reading a final document soon.

Best regards,  
Jihee Song

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## Daniel Menendez

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**From:** Peter Guo <PGuo@apexcos.com>  
**Sent:** Monday, August 25, 2014 4:28 PM  
**To:** modguide  
**Subject:** TCEQ Draft Modeling Guidance Comments

Dear Madam/Sir,

Thanks for the opportunity to comment on the draft Air Quality Modeling Guidelines published on June 30, 2014. The detailed technical comments follow.

### Page 32: Downwash Applicability

For a screening modeling analysis (one source with multiple nearby buildings/structures), how detailed should the documentation for building downwash applicability determination be? Is that sufficient to provide the building dimension causing the highest GEP height and plot plan showing the building information in the final report?

### Page 35: Appendix A- Justifying the Use of the Significant Impact Levels (SIL)

Because the SILs for the PM2.5 are vacant for now, the additional justification of using the PM2.5 SILs is required. For other criteria air pollutants with the valid SILs, is it necessary to prepare the documents for the justification using the SILs? For example, the 1-hour NO2 SIL is 7.54µg/m3 and does a modeler need to conduct the analysis of the ambient air quality to justify the use of this SIL?

### Page 40: Appendix B- Federal and State Air Quality Standards

Table B-1 lists the NAAQS for 24-hour and annual SO2 but the EPA has revoked these two standards. Should these two standards be required in an air quality analysis? Or will these two standards be applicable to a state modeling analysis?

### Page 42: Appendix C- Requesting the Information from APAD

Is that possible to use fax or email for the retrieval data request submittal in order to expedite the data request process?

### Page 51: Appendix E- Minor and PSD NAAQS

In the past, one year or 5-year metrological data can be used to a minor NSR modeling. Is this approach still valid in this Guideline?

### Page 57: Appendix F- State Property Line Standard Analysis

Please clarify the requirements for the justification documents even if the project impact is below the 2% of the state standards? How detailed the justification documents should be in the final report?

### Page 69: Appendix J- Preferred Air Dispersion Models

Please clarify that the AERMOD or ISC-PRIME can be used for a new project regardless of minor or major source. For consistency purpose, same modeling system should be used for permit applications if an air dispersion model has been done previously.

### Page 79: Appendix M- Receptor Design

Can TCEQ add a special guidance on how to design on-site receptors? Can a definition for the on-site receptor be added into the Guideline?

### Page 87: Appendix O- Meteorological Data

Appendix O requires "Provide an ASCII version of the data with the air quality analysis submittal". Are these meteorological data files downloaded from TCEQ webs?

The secondary formation of PM2.5 statement of Case 1 is a standard language, which must be used in a minor or major NSR modeling? Please correct the PM2.5 emissions threshold for Cases 2 and 3 and it should be  $\geq$ .

Table for 4 cases:

	PM2.5 (tpy)	SO2 and NOx (tpy)	Requirement
Case 1	< 10	<40	PM2.5 minor NSR modeling + qualitative statement for the secondary formation of PM2.5
Case 2	$\geq$ 10	<40	PM2.5 PSD modeling + qualitative statement for the secondary formation of PM2.5
Case 3	$\geq$ 10	$\geq$ 40	PM2.5 PSD modeling + qualitative or quantitative analysis for the secondary formation of PM2.5
Case 4	<10	$\geq$ 40	PM2.5 minor NSR modeling + qualitative or quantitative analysis for the secondary formation of PM2.5

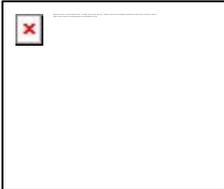
The Guideline imposes additional modeling burden for a facility with emissions in Cases 1 and 4. For example, when a natural gas processing plant with emissions in Case 4 is doing a minor NSR permit, they will have to model PM2.5 and prepare a qualitative analysis for the secondary formation of PM2.5. Is this necessary to do secondary formation of PM2.5 analysis for this type of facility?

Please clarify the justification for determining an intermittent source. How detailed should this justification be an air quality analysis report?

Additional comments:

The **Oil and Gas Standard Permit and Permit By Rule Refined-Screening Modeling Guidelines** have been using for PBR and SP application for oil and gas facilities. Will this guideline still be valid after the Air Quality Modeling Guidelines is finalized?

If you have any questions about these comments, please feel free to contact me at 469-365-1116.

	<p><b>Peter Guo, P.E.</b> Senior Engineer <b>Apex TITAN, Inc.</b> 2801 Network Blvd, Suite 200 Frisco, TX 75034 O) 469-365-1116 M) 469-233-7014</p>
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# TEXAS CHEMICAL COUNCIL

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August 29, 2014

TCEQ Air Permits Division  
MC-163  
Texas Commission on Environmental Quality  
P.O. Box 13087  
Austin, Texas 78711-3087

*\*Submitted via e-mail to [modguide@tceq.texas.gov](mailto:modguide@tceq.texas.gov)*

**RE: TCEQ Draft Air Quality Modeling Guidelines**

To Whom It May Concern:

The Texas Chemical Council (TCC) appreciates the opportunity to provide comments on the draft Air Quality Modeling Guidelines (Draft Guidelines) issued by the Texas Commission on Environmental Quality (TCEQ) on June 30, 2014.

TCC is a statewide trade association representing over 70 chemical manufacturers operating approximately 200 Texas facilities. The Texas chemical industry has more than \$75 billion in physical assets in the state, and pays over \$1 billion annually in state and local taxes and over \$20 billion in federal income taxes. TCC's members provide approximately 70,000 direct jobs and over 400,000 indirect jobs to Texans across the state.

TCC would like to thank the TCEQ staff for their effort to update the modeling guidelines to incorporate the current National Ambient Air Quality Standards (NAAQS) and EPA guidance. TCC commends the TCEQ for seeking public input on the Draft Guidelines, as it will also be a useful tool for the regulated community to understand the air quality impacts analysis process besides providing the guidance to TCEQ staff conducting the permit application technical review. Accordingly, TCC offers the following comments on the Draft Guidelines for improvement and clarity.

### **Significant Impact Level (SIL) Justification**

The Draft Guidelines require an air quality analysis (AQA) to justify the use of Significant Impact Levels (SILs) by referencing the January 22, 2012 decision from the U.S. Court of Appeals to vacate and remand 40 CFR 51.166(k)(2) and 52.21(k)(2), relating to the U.S. Environmental Protection Agency (EPA)'s lack of authority to exempt sources from the requirements of the Federal Clean Air Act (FCAA) when it established the SILs for PM<sub>2.5</sub>. However, the additional guidance on conducting an AQA in Appendix A appears to apply to all SILs including non-PM<sub>2.5</sub> air contaminants. The U.S. Court of Appeals vacated and remanded the aforementioned provisions related to the SILs specifically applicable to PM<sub>2.5</sub>. Furthermore, EPA's subsequent guidance on the use of SILs have also been limited to PM<sub>2.5</sub>. Requiring an AQA to justify the use of SILs for all air contaminants based on the court's decision affecting only PM<sub>2.5</sub> could create an unnecessary burden to monitor sources that would otherwise be exempt from monitoring if the emissions are below the Significant Monitoring Concentration (SER). TCC requests that TCEQ clarify in the Draft Guidelines that the use of AQA when relying on the SILs is limited only to PM<sub>2.5</sub> at this time consistent with the decision from the U.S. Court of Appeals and EPA guidance.

### **Minor NAAQS Analysis**

A full NAAQS analysis is not required in the current modeling guidelines if the sum of the modeled concentration and the background concentration is less than 90 percent of the NAAQS. Background monitoring data is readily available on the TCEQ internet site as referenced in the existing modeling guidelines and is representative of the nearby sources. The project's modeled concentration is determined based on the worst-case scenario as proposed in the permit application. Therefore, TCC believes the approach in the existing modeling guidelines is conservatively adequate to demonstrate that the proposed project does not cause or contribute to exceedances of the NAAQS. TCC suggests that TCEQ add the following statement to the Minor NAAQS Step 1 Section on Page 20 of the Draft Guidelines to allow the source to opt out of conducting a full NAAQS analysis.

“Obtain a screening background concentration from the ADMT Internet page. Add the background concentration to the modeled concentration. If the total concentration is less than 90 percent of the NAAQS, the demonstration is complete. If the concentration is 90 percent or more, go to Step 2.”

### **Air Permit Allowable Database**

The Modeling Request Form referenced in Appendix C contains different averaging periods for the different air pollutants. The Air Permits Allowable Database (APAD) contains

emission rates that are expressed in pounds per hour (lb/hr) and tons per year (tpy), but not in different averaging periods as the Modeling Request Form implies. TCC suggests revising the form to accurately reflect the data as stored in APAD. Also, to ensure applicants are using the most up-to-date data for the required modeling analysis, TCC suggests TCEQ establish a frequency (i.e. monthly) to review and update the APAD as new data becomes available.

### **Class I Area Visibility and AORV Analysis**

For Class I area visibility impacts, the Federal Land Manager (FLM) uses a ratio of source pollutant emission rate to source distance from Class I area (Q/d) as a screening step to exclude those sources which have emissions that are insignificant and/or are too far away from a Class I area to have any impact. TCC suggests that TCEQ consider adding the Q/d screening step to minimize the unnecessary burden of conducting a more complex visibility analysis.

### **Secondary PM Emissions – Precursor Emissions below SERs**

Appendix R presents four assessment cases for addressing direct and secondary formation of PM<sub>2.5</sub> based on the significant emission rates (SERs) and references the EPA's Draft Guidance for PM<sub>2.5</sub> Permit Modeling. In Case 1 and Case 2, the Draft Guidelines recommends an AQA be provided discussing as to why the proposed SO<sub>2</sub> and NO<sub>x</sub> emissions, which are less than the SER, would not result in a significant contribution to the secondary formation of PM<sub>2.5</sub>. This recommendation is not consistent with the four cases listed in the EPA's Guidance for PM<sub>2.5</sub> Permit Modeling (EPA Guidance) dated May 2014. The EPA Guidance does not recommend conducting an AQA for its Case 1 and Case 2 in which the proposed SO<sub>2</sub> and NO<sub>x</sub> emissions are less than the SER but rather denotes "N/A" for these two respective cases. For consistency with the referenced EPA Guidance, TCC requests that TCEQ revise the Draft Guidance to remove the recommendation to provide an AQA when the precursor emissions are below the SER.

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Thank you for your consideration of these comments. If you have any questions, please do not hesitate to contact me at (512) 646-6403 or landwehr@texaschemistry.org.

Yours respectfully,



Martha K. Landwehr  
General Counsel



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consulting + training + data systems

August 29, 2014

Mr. Daniel C. Menendez  
Air Dispersion Modeling Team  
Texas Commission on Environmental Quality  
12100 Park 35 Circle, MC-163  
Austin, Texas 78753

via Email

RE: Comments Regarding the Draft Air Quality Modeling Guidelines

Dear Mr. Menendez:

Zephyr Environmental Corporation (Zephyr) has prepared the enclosed comments concerning the Texas Commission on Environmental Quality (TCEQ) Air Permits Division's draft *Air Quality Modeling Guidelines, APDG 6232v2, Draft 06/2014 (Draft AQMG)*.

If you have any further questions on this issue, please contact me at (512) 579-3820 or at [dcastro@zephyrenv.com](mailto:dcastro@zephyrenv.com).

Sincerely,  
**Zephyr Environmental Corporation**

David L. Castro  
Senior Technical Specialist

Enclosure

**ZEPHYR'S COMMENTS REGARDING THE DRAFT AQMG**

**RE: Preliminary Impact Determination, Minor NAAQS Response (pages 20 and 21)**

The TCEQ's current Air Quality Modeling Guidelines (AQMG) includes a screening step for minor sources of emissions with preliminary modeling results that are greater than de minimis. This screening step allows the use of existing ambient air concentrations from representative monitoring stations to represent the ambient air contributions from all existing non-project sources. The sum of the preliminary modeling results and background concentrations are compared with the NAAQS.

In contrast, the Draft AQMG eliminates the option to use representative/conservative monitoring data to account for ambient air contributions from non-project sources and recommends that off-property emission sources be modeled in addition to adding a background concentration. Due to the extensive efforts associated with locating and reviewing data base and paper file documentation in order to resolve APAD data gaps for off-property sources (that are discussed within the draft AQMG), we believe that this new guidance would be a hardship for some minor sources of emissions without providing a substantively different modeling result. It will be time-consuming and may be cost-prohibitive for a significant number of minor sources to develop the inventory of off-property emission sources that is required to conduct full NAAQS modeling. Additionally, requiring a full NAAQS analysis for a minor permitting action will significantly add to the permit application preparation and processing time.

Therefore, we recommend that the revised AQMG include some form of screening step for all or for select minor sources of emissions. Perhaps the screening step could be retained for minor sources located within a specified distance of ("near") ambient air monitoring stations. Alternatively, new conservative screening background concentrations could be developed for select counties and/or portions of counties.

**RE: Analysis of the Ambient Air Quality; Step 2 (beginning page 36)**

The criteria for determining completeness of ambient monitoring data referenced in this section is based on completeness criteria contained in 40 CFR 50, National Primary and Secondary National Ambient Air Quality Standards (NAAQS). There are negative economic consequences for an area to be designated as nonattainment, thus requiring the need for stringent ambient monitoring completeness criteria. The appendices in 40 CFR 50 provides data handling conventions and computations necessary for determining when the NAAQS are met for purposes of making attainment or nonattainment designations. There is nothing in Part 50 (or any other federal rule) that suggests that the monitor completeness criteria are required for determining a background level for dispersion modeling purposes.

When an ambient monitor located near a project site is disallowed by the AQMG because of incomplete data, it will be replaced by a "representative" monitor that is not necessarily located in the same general area as the project. This will not likely provide a more accurate dispersion

modeling assessment. We suggest that the AQMD use the completeness criteria in 40 CFR Part 50 as only a “screening” tool but reserve the option to make case-by-case completeness determinations for situations where “incomplete” monitor data may be a better representation of ambient levels at the project site than a remote monitor that meets the “completeness criteria”.

**RE: Appendix C, Requesting Information from the Air Permits Allowable Database (page 41)**

When submitting an “APAD Modeling Retrieval Request Form” online, one must select “Other (OAS)” for the “Agency Programs” on Page 3 of 3 to ensure that IRD receives the request. We suggest this be mentioned in the final AQMG instructions.

**RE: Appendix C, Requesting Information from the Air Permits Allowable Database, Notes about APAD Data, What to do about data gaps in APAD (page 44)**

While “validated data corrections will be loaded in APAD as appropriate”, the process may take some time. We request that each off-property modeling inventory that was approved for use in any AQA be saved into a central registry (TCEQ website) for public review and use and be grouped by county. We understand that this information might currently be available within the GroupWise Remote Document Server for select AQAs, however, providing this specific information within a central registry would greatly aid applicants in correcting any data included in subsequent APAD retrievals.

**RE: Appendix D, Representative Background Monitoring Concentrations, No Existing Ambient Monitoring Data for the County (pages 47 and 48)**

The Draft AQMG provides a summary of the form of the NAAQS (e.g., H2H for the 1-hour and 8-hour CO NAAQS) and the EPA’s completeness criteria for data recorded at ambient air monitoring stations that are used to determine compliance with the NAAQS. The monitoring data found in the EPA and TCEQ references specified in the Draft AQMG are not in the required form of the NAAQS for every pollutant and averaging period. Therefore, it is necessary to calculate the required background concentrations in the form of the NAAQS using the available hourly and daily monitoring data.

However, the Draft AQMG does not provide guidance regarding the calculation methodology to obtain concentrations in the form of the NAAQS. We recommend the AQMG include clarification on whether the calculation methods provided in 40 CFR Part 50 are to be followed regarding the exclusion of data from periods that do not meet EPA definition of completeness and the rounding/truncation requirements, or provide specific guidance on the methodology to follow when calculating background concentrations.

**RE: Appendix S, Additional Guidance for evaluation 1-hour Nitrogen Dioxide and 1-hour Sulfur Dioxide, Treatment of Intermittent Emissions for 1-hour NO<sub>2</sub> and 1-hour SO<sub>2</sub> NAAQS (pages 101 and 102)**

The Air Modeling Group appears to have applied an increasingly narrow interpretation of the March 2, 2011 EPA memorandum requiring more applicants to assume that intermittent startup emissions occur every hour of the year for modeling purposes. This is an extremely conservative assumption since that level of emissions is not being authorized in the air permit. It makes the startup scenarios the controlling emission scenario for determining compliance with the 1-hour NO<sub>2</sub> and 1-hour SO<sub>2</sub>. This is a critical modeling issue and we recommend the formation of a stakeholders group so that this issue can be discussed between the regulated community and members of the Air Permits Division to assure consistent application of the intermittent emissions guidance memo.

## **Daniel Menendez**

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**From:** David J Long <djlong@aep.com>  
**Sent:** Friday, August 29, 2014 2:45 PM  
**To:** modguide  
**Cc:** John C Hendricks; Bruce W Moore; Ashley N Ullstrom  
**Subject:** Comments of American Electric Power Service Corporation on Draft Revisions to Texas Air Quality Modeling Guidelines – APDG 6362

Dear Sir or Madam:

American Electric Power Service Corporation, on behalf of the two American Electric Power System Operating Companies active in Texas, AEP Southwestern Electric Power Company and AEP Texas, appreciates this opportunity to comment on the Draft Revisions to Texas Air Quality Modeling Guidelines – APDG 6362. Overall, this is a good sound reference document covering the items that need to be considered in regulatory modeling studies, a means of accomplishing these studies, and pitfalls to watch out for. Our comments on this draft are organized by page and topic in the draft document.

### **Comment 1: Page 17 – Screening Modeling**

In reviewing this section, we find that offers a good description of how a screening model such as AERSCREEN functions. We are concerned that TCEQ is apparently requiring the use of single source runs for all applications. It is our experience where a group of closely located identical sources (i.e. combustion turbine facilities, multiple diesel generators) are being proposed, a single pseudo stack located in the center of the sources being modeled carrying the common stack parameters and total emissions being proposed generates an equally accurate result compared to modeling each individual source and then trying to overlay the receptors, as appears to be proposed. We believe that this provision should be revised to explicitly allow the use of this technique with the approval of TCEQ. We note that this technique is widely used in screening modeling and is accepted to numerous states in which we operate (e.g. Oklahoma and Ohio).

### **Comment 2: Page 19 – Preliminary Impact Determination – Step 4**

In last full paragraph on this page, prior to the introduction of the methods for carrying out the determination modeling, TCEQ indicates that it is acceptable to use annual emission rates normalized to a short term average using the hours of operation in the inventory year. While we agree with this technique and have used it numerous times in various modeling studies we have performed for AEP System facilities in the various states in which we operate, we are concerned by the last sentence in this paragraph which states, “Using the derived short-term emission rates results in larger emission rates to model, which is a reasonable approach.” is unsupported based on our experience.

Based on reviews of emissions from various AEP operated sources that have both measured hourly and annual emission data, when we normalize the annual emissions based on operating hours, we find a deviation of 1% to 10% on the “typical peak hour” when comparing the normalized data to actual data. The deviation varies based on the number of reduced load hours and start-ups in the dataset. We suspect this behavior would be applicable to most industrial source categories.

It is our recommendation that this sentence be deleted from the final document.

### **Comment 3: Page 22 – State Property Line Step 1**

In reviewing the three bullet points under this section, with the exception of the threshold value being used, we generally agree with the first and third bullets, but are confused by the second. In the past when most of the NAAQS were based on higher values and longer averaging times, a 2% significance threshold for a state required analysis was a reasonable position to take. However, since the advent of numerous 1-hour standards with low

NAAQS levels and statistical forms, a 2% significance threshold may not be a reasonable level to use due to the very low threshold value that would need to be met and the range of model error that could overwhelm a 2% threshold level. In order to resolve this concern, we recommend that a 4% value be used for 1-hour SO<sub>2</sub> and NO<sub>2</sub> evaluations. The 2% significance threshold value remains reasonable for the other pollutants and averaging times based on the current levels and forms of the NAAQS.

We also have a concern relating to the second bullet and how it should be implemented. In most states we operate in, if an analysis results in an answer that is below the significance threshold the inquiry should end unless there are extenuating circumstances, such as a significant change in the relevant ambient standard for which no objective monitoring or modeling data covering the entire facility exists. We recommend that the second bullet be modified to allow the inquiry to end cleanly if the significance threshold is not exceeded unless there are extenuating circumstances such as we have identified above.

#### **Comment 4: Pages 39 – 40 Appendix B – Federal and State Air Quality Standards**

In reviewing the tables in this Appendix, we note several relatively minor issues. In Table B – 1 we suggest a change in the units shown for one standard to better match the value in the table to the normal model output units, a misspelling in Table B – 2, and a potential technical issue with several of the limits found in Table B – 3.

In Table B – 1, we recommend that the Primary and Secondary NAAQS for Ozone be converted into their more common form for evaluation of Parts per Billion (ppb).

In Table B – 2, we note that Fluorides are misspelled by the addition of an “a” to the end of the word.

In Table B – 3, we note a technical issue with the averaging time specified for the property line standards. Based on the current state of air quality model development, the shortest averaging time that can be reliably modeled is 1-hour. While 30 TAC 112 specifies a 30 minute averaging time, which is suitable for measurement via an ambient monitor, it is not an averaging time that can be readily modeled in an accurate fashion with current modeling technology. We recommend that TCEQ incorporate a statement to this effect in the final version of this document until such time as modeling technology can reliably model sub hourly values.

#### **Comment 5: Page 45 – Appendix D**

This section is noteworthy, not due to any issues, but by the thoroughness of its coverage and flexibility in allowing a multitude of techniques to develop an appropriate background value for modeling studies. Based on our experience since the advent of the 1-Hour SO<sub>2</sub> and NO<sub>2</sub> standards, extreme flexibility in the formulation of background values for analyzing these specific standards is critical. We are familiar with the relatively inflexible USEPA methodology espoused in several guidance documents relating to the 1-Hour SO<sub>2</sub> and NO<sub>2</sub> standards and the many papers that have been written about methods of developing reasonable and relevant 1-hour SO<sub>2</sub> and NO<sub>2</sub> background values (including a method developed by the AEP Service Corporation and TRC). This Appendix appears to embrace all of these methods and only requires appropriate justification for whatever method is ultimately selected. This is a very reasonable and justifiable approach.

#### **Comment 6: Page 52 – Preliminary Impact Determination – Particulate Matter (PM<sub>2.5</sub>)**

USEPA guidance regarding PM<sub>2.5</sub> Permit Modeling dated May 20, 2014 indicates that precursors of PM<sub>2.5</sub> need to be considered in assessing source impacts on ambient PM<sub>2.5</sub> concentrations. We recommend that TCEQ add a reference to these requirements into this section.

#### **Comment 7: Page 54 – Full NAAQS Analysis – Particulate Matter (PM<sub>2.5</sub>)**

USEPA guidance regarding PM<sub>2.5</sub> Permit Modeling dated May 20, 2014 indicates that precursors of PM<sub>2.5</sub> need to be considered in assessing source impacts on ambient PM<sub>2.5</sub> concentrations. We recommend that TCEQ add a reference to these requirements into this section.

**Comment 8: Page 79 – Special Cases to consider when developing a receptor grid**

We agree that in most cases the property line of facilities can be defined relatively easily from legal documentation (deeds, leases, etc.), but the portion of the property that is excluded from consideration as “ambient air” as defined by USEPA isn’t necessarily coincident with the property line. We recommend that this section be revised to describe how the situation where portions of the property of the facility are not restricted in a fashion that precludes public access should be handled. Our experience indicates that at least for power generating facilities, this situation is more the rule than the exception.

**Comment 9: Page 85 – Terrain**

We recommend that this section be revised to include a discussion of intermediate terrain (that being terrain located between the top of the stack and the final plume rise) as described in various USEPA guidance documents and ISC modeling documents.

We also want to indicate our appreciation to TCEQ for calling out this issue of mixed datum systems in modeling. Over the years we have seen this issue on multiple occasions involving a number of entities that perform modeling. Unfortunately, a number of these entities have come across as oblivious to this issue and its potential impact on the subsequent modeling results.

**Comment 10: Page 97 – Appendix R – Secondary Formation of Particulate Matter (PM<sub>2.5</sub>)**

We appreciate TCEQ’s inclusion of this information at this point and encourage the referencing of this section or inclusion of similar material in the sections we have identified in our previous comments on Impact Determination and NAAQS Analysis. We do recommend that TCEQ update this section prior to issuing this document to incorporate the final USEPA Guidance on PM<sub>2.5</sub> Permit Modeling dated May 20, 2014.

We appreciate TCEQ’s efforts to revise the Texas Air Quality Modeling Guidelines – APDG 6362 and look forward to working with TCEQ on various programs in the future. If you have any questions on these comments, please contact me at your convenience.

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## Daniel Menendez

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**From:** Albert Kennedy <Albert.Kennedy@rpsgroup.com>  
**Sent:** Friday, August 29, 2014 4:54 PM  
**To:** modguide  
**Cc:** Les Montgomery; Karen Jones; Chris Kossegi; AJ Ideris; Will Davis  
**Subject:** Comment on Draft Air Quality Modeling Guidelines

To Whom it May Concern:

After reviewing the draft air quality modeling guidelines, the main concern I have is regarding the proposed procedure for conducting Minor NSR NAAQS analyses. Pages 20 and 21 of the draft suggest that an Air Permits Allowable Database (APAD) retrieval will need to be obtained from the Information Resources Division (IRD) for pollutants with project impacts greater than the de minimis level and that the accuracy of this data needs to be ensured. TCEQ acknowledges in Appendix C of the draft guidelines that the APAD contains significant data gaps, and based on experience with recent PSD modeling projects, it often takes considerable time, effort, and expense to ensure that the inventory of off-property sources is truly complete due to these gaps.

Requiring this level of research for minor modeling projects runs the risk of needlessly slowing down the permitting process for projects that are not nearly as likely to contribute to significant air quality impacts as those that trigger PSD permitting requirements. Texas has an abundance of available air quality monitoring data, and most of these monitors are concentrated in urban areas where ambient pollutant concentrations would be expected to be higher than more rural areas. Therefore, it is often possible to account for the emissions from off-property sources within close proximity of a project site by using a monitor with a large amount of industrial emissions within close proximity for the background concentration. If the tons per year (tpy) of emissions within close proximity of the monitor being used for the background is greater than the tpy of emissions within close proximity of the project site, it can reasonably be assumed that the use of such a monitor accounts for the emissions from off-property inventory sources not being included explicitly in the model. Since most monitors are located in urban areas, a monitor is also likely to be a conservative representation of any mobile source emissions within close proximity of a project site.

In summary, the use of such a reasonable approach for Minor NAAQS modeling will allow applicants and the TCEQ to conduct and process minor projects much more efficiently and allow greater attention to be devoted to major (PSD) projects which are much more likely to have significant air quality impacts than minor projects. Please consider updating the Minor NAAQS Analysis section to include the possibility of using a conservative background monitor that would account for the impacts of any off-property sources not included in the model.

Respectfully Submitted,

Albert Kennedy

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**Albert Kennedy**

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August 29, 2014

VIA E-MAIL (MODGUIDE@TCEQ.TEXAS.GOV)

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Re: TCEQ Draft Air Quality Modeling Guidelines  
Comments of the Texas Industry Project

Dear Sir/Madam:

The Texas Commission on Environmental Quality (“TCEQ”) has issued in draft Air Quality Modeling Guidelines, APDG 6232 (Draft June 2014) (the “Draft Guidelines”). The Texas Industry Project (“TIP”)<sup>1</sup> appreciates the opportunity to comment on the Draft Guidelines. TIP respectfully submits the following comments on the Draft Guidelines.

## **I. Non-PM<sub>2.5</sub> Significant Impact Levels**

The Draft Guidelines reference the January 22, 2013 decision of the U.S. Court of Appeals for the District of Columbia Circuit (“D.C. Circuit”) to vacate and remand to the U.S. Environmental Protection Agency (“EPA”) the Significant Impact Levels (“SILs”) for particulate matter less than 2.5 micrometers (“PM<sub>2.5</sub>”).<sup>2</sup> The Draft Guidelines at Appendix A discuss a requirement that the use of SILs be justified in each case, but appear to apply this requirement to *all* SILs, not only the SILs for PM<sub>2.5</sub>. TCEQ’s application of SILs, or *de minimis* levels, for non-PM<sub>2.5</sub> air contaminants was not affected by the decision in *Sierra Club v. EPA*.<sup>3</sup>

TIP requests that TCEQ clarify the Draft Guidelines to explain that the justification for use of SILs discussed in Appendix A is applicable only to the PM<sub>2.5</sub> SILs. While the D.C. Circuit remanded the SILs for PM<sub>2.5</sub>, it did not address the SILs for other air contaminants and remanded only two SIL provisions, both specifically applicable to PM<sub>2.5</sub>. EPA’s guidance statements on the continued use of the SILs following the remand have also been limited to PM<sub>2.5</sub>. Therefore, as the SILs for other air contaminants have not been affected by either judicial action or regulatory action by EPA, TIP recommends against issuing guidance affecting the application of the SILs for air contaminants other than PM<sub>2.5</sub>.

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<sup>1</sup> TIP is composed of 70 companies in the chemical, refining, oil and gas, electronics, forest products, terminal, electric utility, transportation, and national defense industries with operations in Texas.

<sup>2</sup> *Sierra Club v. EPA*, 705 F.3d 458 (D.C. Cir. 2013).

<sup>3</sup> TCEQ’s incorporates *de minimis* levels - that were not vacated by the D.C. Circuit - through its definition of “*de minimis* impact” at 30 T.A.C. § 101.1(25).

The Draft Guidelines' approach to use of the SILs for non-PM<sub>2.5</sub> air contaminants could require time-consuming monitoring in situations in which the proposed source would otherwise be exempt from burdensome monitoring requirements due to having emissions under the Significant Monitoring Concentration ("SMC"). EPA revised its regulations to set the PM<sub>2.5</sub> SMC to a level of 0 µg/m<sup>3</sup> in response to the D.C. Circuit's opinion in *Sierra Club v. EPA*, but did not change the SMCs for other pollutants.<sup>4</sup> Under the process described in the Draft Guidelines, if existing monitoring data is not available or sufficiently representative or conservative, the source would be required to establish a site-specific monitoring network under "Step 3," even if its emissions were below the SMC for a particular air contaminant.

For the foregoing reasons, TIP recommends revising the discussion of additional justification for the SILs in Appendix A and elsewhere in the Draft Guidelines to apply only to PM<sub>2.5</sub>. This will preserve discretion on the application of the SILs for other air contaminants pending further action by TCEQ or EPA.

## II. Secondary PM<sub>2.5</sub> Issues

### A. Precursor Emissions Below the SER

In Appendix R, the Draft Guidelines discuss two cases for evaluating secondary PM<sub>2.5</sub> formation in which emissions of PM<sub>2.5</sub> precursors, sulfur dioxide ("SO<sub>2</sub>") and nitrogen oxides ("NO<sub>x</sub>"), are below the applicable Significant Emission Rates ("SERs") of 40 tons per year ("Case 1" and "Case 2"). In each case, the Draft Guidelines recommend that the applicant provide a discussion "as to why the proposed SO<sub>2</sub> and NO<sub>x</sub> emissions would not result in a significant contribution to the secondary formation of PM<sub>2.5</sub>." The Draft Guidelines provide an example discussion that addresses the insignificance of the emissions, but also addresses the likelihood that secondary PM<sub>2.5</sub> impacts would be well-correlated in space or time with direct PM<sub>2.5</sub> impacts.

Recent EPA PM<sub>2.5</sub> modeling guidance, released May 20, 2014, also discusses Case 1 and Case 2 scenarios in which SO<sub>2</sub> and NO<sub>x</sub> emissions are below the SER.<sup>5</sup> This guidance explains that, in each case, "the analysis should begin by evaluating the impacts of...PM<sub>2.5</sub> precursor emissions based upon the total amount of these emissions as compared to the respective SERs."<sup>6</sup> It does not describe any further discussion or analysis for Case 1 or Case 2, instead listing only "N/A" under "Secondary Impacts Approach" on the Table III-1 assessment comparison chart.

Consistent with EPA's guidance, TIP requests that TCEQ revise the Draft Guidelines to clarify that additional discussion is not required when emissions of SO<sub>2</sub> and NO<sub>x</sub>

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<sup>4</sup> 78 Fed. Reg. 73698 (Dec. 9, 2013); 40 C.F.R. §§ 51.166(i)(5)(i); 52.21(i)(5)(i).

<sup>5</sup> Guidance for PM<sub>2.5</sub> Permit Modeling, Office of Air Quality Planning and Standards, EPA, at 27 (May 2014).

<sup>6</sup> *Id.*

are below the SER. The Draft Guidelines could apply the example discussion regarding correlation in space or time as a generally-applicable reason for relying on the SERs to demonstrate that secondary PM<sub>2.5</sub> formation will not cause or contribute to an exceedance of the NAAQS. However, TIP is concerned that providing this language as only an example of the recommended discussion of secondary PM<sub>2.5</sub> formation in a particular case opens the door to frivolous challenges to air quality analyses with PM<sub>2.5</sub> precursor emissions that are below the SERs. As neither the Draft Guidelines nor EPA guidance provide further explanation of the demonstration when precursor emissions are below the SER, TIP respectfully requests that TCEQ clarify that additional discussion is not required in Case 1 or Case 2.

### **B. Qualitative Assessments**

EPA's recent PM<sub>2.5</sub> modeling guidance emphasizes that qualitative assessments of secondary PM<sub>2.5</sub> formation will be sufficient "[i]n a number of NAAQS compliance demonstrations."<sup>7</sup> Additionally, EPA guidance explains that quantitative assessments of secondary PM<sub>2.5</sub> impacts are required in only "rare cases."<sup>8</sup> TIP recommends that TCEQ similarly clarify in the Draft Guidelines that qualitative assessments of secondary PM<sub>2.5</sub> formation will be sufficient in the majority of cases.

Quantitative assessments will typically require full photochemical grid modeling. Photochemical modeling is a complex technique that requires an inventory of significant sources in the area beyond the applicant's particular proposed source, which may not be available, current, or otherwise appropriate for individual source modeling. In addition to the difficulties for the applicant, evaluating such quantitative assessments may impose a heavy administrative burden on TCEQ permit modeling staff. Therefore, TIP recommends that the Draft Guidelines contain language clarifying that qualitative assessments of secondary PM<sub>2.5</sub> formation will be sufficient in the majority of cases and that quantitative assessments or hybrid qualitative/quantitative assessments are only required in those rare instances in which a qualitative assessment is insufficient.

### **III. Effects Screening Levels**

The TCEQ's toxicology division uses effects screening levels ("ESLs") in health effects analyses. ESLs are guideline concentrations used to evaluate ambient air concentrations of constituents used to evaluate ambient air concentrations of constituents. Other TCEQ guidance explains that "[i]f an air concentration of a constituent is above the [ESL], it is not indicative that an adverse effect will occur, but rather that further evaluation is warranted."<sup>9</sup> For

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<sup>7</sup> *Id.* at 31.

<sup>8</sup> *Id.* at 39.

<sup>9</sup> Modeling and Effects Review Applicability: How to Determine the Scope of Modeling and Effects Review for Air Permits, APDG 5874, TCEQ, at 19 (July 2009).

maximum clarity, TIP recommends that TCEQ include this language when discussing ESLs in the Draft Guidelines, particularly in the ESL overview discussion on page 23.

#### **IV. Modeling Steps**

##### **A. Preliminary Impact Determination**

TIP requests that, due to the number of differences between the possible types of review, a separate subsection be considered for the various preliminary impact determinations. In the past, the preliminary impact determination was substantially the same whether an application was conducting State NAAQS versus PSD NAAQS/Pre-application Analysis/PSD Increment analysis, and the differences were few enough to discuss within a single section. Specifically, Appendix E should be split into two appendices to address PSD and minor NSR separately.

TIP requests that there be a discussion in the Preliminary Impact Determination Sections to clarify the different requirements for the statistically-based NAAQS and the exceedance-based PSD Increment. For example, the PM<sub>2.5</sub> PSD NAAQS Preliminary Impact Determination uses the 5 year average of the high-first-high (H1H) concentrations, while the PSD Increment Preliminary Impact Determination uses the maximum H1H concentration over five years. The reasoning is that the former is statistically-based and the latter is exceedance-based. It is possible to have a significant impact when following the PSD Increment Preliminary Impact Determination for PM<sub>2.5</sub> but not have a significant impact when following the PSD NAAQS Preliminary Impact Determination for PM<sub>2.5</sub>.

TIP requests that the applicable Preliminary Impact Determination sections be updated to define *affected* sources in a PSD analysis. An affected source, in relation to PSD permitting, is a source that is not new or being modified but has an *actual* increase in emissions due to other sources being new or modified. Due to the lack of mentioning *affected* sources related to major permitting, it is not clear whether these sources should be included in the Preliminary Impacts Determination.

TIP requests that the wording on Page 18 under the Major NSR section of Step 2 be changed from “contemporaneous five-year period” to “contemporaneous period.” Not all contemporaneous periods are five-years long, but rather when a major project starts operation, the next contemporaneous period begins. Therefore, if another project is proposed for a time period of less than five years then there would not be a 5-year contemporaneous period.

##### **B. State-Only Requirements**

TIP requests that the PSD Air Quality Analysis section on Page 23 be updated to include State Property Line analysis and Health Effects Analysis or a reference to these analyses, since a pollutant can trigger PSD (ex., VOC, H<sub>2</sub>S, H<sub>2</sub>SO<sub>4</sub>, etc.) and require these types of modeling analyses.

The current version of the air quality modeling guidelines has State NAAQS Step 2 which reads:

Obtain a screening background concentration from the ADMT Internet page. Add the background concentration to the modeled concentration. If the total concentration is less than 90 percent of the NAAQS, the demonstration is complete. If the concentration is 90 percent or more, go to Step 3.

TIP requests that this step be added to the Draft Guidelines. As discussed elsewhere in this letter, there are multiple levels of monitoring data depending on what the monitoring data is attempting to represent. Conservatively representative monitoring data would include concentrations due to natural sources, nearby sources, and unidentified sources. Since the conservatively representative monitoring data is intended to address nearby sources; adding the conservatively representative monitoring concentration to the NAAQS Preliminary Impact Determination concentration, without regard to time and space, would provide a demonstration that the proposed project does not cause or contribute to a violation of the NAAQS.

#### **C. Air Permits Allowable Database**

TIP requests that the Air Permits Allowable Database (“APAD”) Modeling Retrieval Request Form be updated to reference only short-term and annual averaging periods. The current form requests all averaging periods, which implies that different emission rates, and possibly modeling parameters, are stored for the different averaging periods.

TIP requests that TCEQ update the APAD using data from approved Air Quality Analyses, and these updates be made in a reasonable amount of time (on the order of 2-4 weeks). This will ensure that data that has been submitted and approved by TCEQ is readily available in APAD to the next applicant in the area. TIP recognizes that providing this data is a service of TCEQ; however, the current APAD is comprised mostly of records with missing data and the requirement to update these records could be significantly reduced by the regular maintenance of the APAD by TCEQ. In addition, maintenance of the APAD will expedite TCEQ’s review of the database and ensure that the APAD does not become obsolete over time.

#### **D. Advanced Modeling Techniques**

TCEQ should revise the Draft Guidelines to allow use of the following advanced modeling techniques where necessary to refine modeling results to assure that a project’s emissions do not compromise air quality. TIP requests that TCEQ acknowledge that the following techniques may be used where refined modeling is warranted:

- Use of the Plume Volume Molar Ratio Method (“PVMRM”) and Ozone Limiting Method (“OLM”), paired with time-resolved or seasonal background ozone levels, to more precisely quantify the conversion of NO<sub>x</sub> to NO<sub>2</sub> for purposes of determining 1-hour NO<sub>2</sub> standard compliance.

- Use of beta options such as Adj\_U\* in AERMET and ARM2 in AERMOD. Adj\_U\* can improve the precision of dispersion predictions at low wind speeds by adjusting surface friction velocity. ARM2 is expected to provide more precise predictions of NO<sub>x</sub> to NO<sub>2</sub> conversion for 1-hour NO<sub>2</sub> modeling purposes.
- Pairing modeling results with monitored background levels in time and space to precisely estimate ambient air quality levels that would result from a project's emissions.

Tools such as these are important to provide greater precision in ambient air modeling as federal air quality standards become more stringent and involve more complex statistical forms over time.

## **V. Monitoring Data**

The Draft Guidelines provides guidance for determining a representative background monitoring concentration (Appendix D) and indicates that the procedure can be used in a NAAQS and a pre-application analysis without distinguishing between the two.

TIP requests that TCEQ distinguish between ambient monitor data required for a pre-application analysis and data required for a NAAQS analysis. The pre-application analysis is intended to assess the ambient air quality in the area prior to the project and should be either a representative or conservative representation of the ambient background concentration near the project site. This background concentration would include non-project industrial sources. These sources may be directly modeled in the NAAQS analysis and would not need to be included in the ambient background concentration. Therefore, there are steps in the guidelines which could not be used in the determination of a background concentration for use in the pre-application analysis, such as the step which says "find a monitor that is not affected by the background point sources included in the modeling demonstration." TIP requests that TCEQ clarify the language in the second paragraph of Appendix D, which says "existing monitors within 10 km of the proposed source may be used," as later the Appendix states that data from other counties may be used.

## **VI. PSD Additional Impacts Analysis**

TIP requests that TCEQ add a section to discuss the Class I analysis Preliminary Impacts Determination, and include more detailed information related to the requirements of this type of analysis. There are several scenarios which would trigger a Class I Area Increment Analysis:

- A major modification project within 10 km of a Class I area which has a 24-hour average impact greater than 1 µg/m<sup>3</sup>. While the guidance is not clear, it is assumed that the concentration evaluation is over the Class I area only.

- A major modification project between 10 km and 100 km of a Class I area. Verbal guidance has been that this would only apply when over the Class II SIL for the Class II area.
- A major modification project greater than 100 km from a Class I area if there is concern that the project emissions could cause an adverse impact on a Class I area. Unless a comment is received during the public notice period would not be able to determine if there is a concern.

**VII. PM<sub>2.5</sub> Secondary Formation Conversion Ratios**

The current Appendix R text indicates that an assumption that 100% of NO<sub>x</sub> and SO<sub>2</sub> convert to PM<sub>2.5</sub> form may be used. TIP requests that TCEQ provide lower NO<sub>x</sub> to PM<sub>2.5</sub> and SO<sub>2</sub> to PM<sub>2.5</sub> conversion factors that would still be considered conservative for the hybrid qualitative/quantitative analysis described in Appendix R of the Draft Guidelines.

**VIII. Drafting Comments**

In addition to the comments above, TIP respectfully submits comments on the drafting of the Draft Guidelines in the attached table. These comments are suggested to improve the document's clarity.

\* \* \*

TIP appreciates your consideration of these comments. Please do not hesitate to contact me if you have questions.

Regards,



Nicholas Graham

Attachment

## DRAFTING COMMENTS

<b>Number</b>	<b>Comment</b>
1	For the “Receptor” definition on page 11, TIP requests that TCEQ consider adding a third bullet item to discuss waterways associated with industrial sources, such as the Houston Ship Channel. In the MERA these types of receptors have different thresholds than industrial and non-industrial receptors.
2	TIP requests that the specific regulatory citations for the EPA Significant Monitoring Concentration (SMC) be added to the definition on page 11.
3	On page 16, the Draft Guidelines recommends that a modeling protocol be submitted for minor NSR AQAs. Since the documentation required for PSD pre-modeling protocol is different than the information required by the minor source modeling analysis, TIP requests that the of the term “protocol” only be used when discussing PSD analysis and a different term be used for minor NSR projects.
4	TIP requests that a statement be added to page 25 and Appendix H to clarify that the PSD Pre-Application Analysis only applies to PSD applications. On page 25 the PSD Pre-Application Analysis is described, and although it should be intuitive, the discussion never states that the analysis is not applicable to air quality analysis for minor source permitting.
5	It is unclear whether the new APAD source database has negative emission rates for the increment sources. If APAD does not have negative emission rates, TIP requests that Step 4 on page 28 be re-written to state that negative emission rates are appropriate if a source reduced emissions after the minor source baseline date.
6	In the downwash description on page 32, the Draft Guidelines suggests that flares are not subject to downwash. TCEQ appears to have intended to state that flares are not subject to Good Engineering Stack Height (“GEP”). The flares are not subject to GEP since they do not meet the definition of a “stack” in the GEP regulation.
7	For minor source modeling evaluations, current verbal guidance from TCEQ modeling staff suggests that if a five year meteorological data set is used for one averaging period, the five years need to be used for all averaging periods. This verbal guidance is not mentioned in the Draft Guidelines on page 34 and in Appendices E, F, and O. The Draft Guidelines would seem to suggest that the modeling for one averaging period could be done with one-year of meteorological data, contrary to the verbal guidance. TIP requests the guidelines include clarification for the specific meteorological data used in PSD and minor NSR modeling analyses.

<b>Number</b>	<b>Comment</b>
8	TIP requests that the web link to access the emission inventory data using the Regulated Entity be revised with the correct link. The existing link shown does not appear to be functional.
9	To avoid duplication and the possibility of conflicting guidance, TIP requests that TCEQ consider including the steps to obtain representative monitoring background concentrations in Appendix D rather than in Appendix A. Reference to Appendix D could be made in Appendix A.
10	TIP suggests adding the definition for “shipyard facilities” from HB 3040 to the definition section of the modeling guidelines.
11	For completeness, TIP suggests adding the surface roughness ranges associated with each of the three sets of meteorological data sets developed by TCEQ. This will provide guidance for determining the correct data set to use give the surface roughness of the modeling site.
12	In Appendix N, TIP suggests adding specific guidance on what is expected to be used as the inputs to AERSURFACE for determining the surface roughness for the site.
13	For the ozone impacts analysis in Appendix Q, TIP requests clarification stating that the modeling analysis can use the 8-hour averaging period when modeling NOx under Step 4b. The 8-hour averaging period is appropriate since the ozone standard is based on an 8-hour average.

<u>Comment #</u>	<u>Comment</u>
1	<p><b>Minor NSR Modeling Methodology (p20-21)</b></p> <p>i. Traditionally the state-only permitting evaluation has been limited to combining the project impacts with background to demonstrate compliance with the NAAQS. The new analysis is more similar to the process for Federal NSR Modeling. Luminant has concerns that this could result in a longer modeling analysis process and potentially problematic results for several types of sources due to the conservative nature of the models.</p>
2	<p><b>PSD NAAQS Analysis Step 2 (p24)</b></p> <p>i. The guidance now states that you only need to evaluate the area of impact (AOI) for the associated criteria pollutant and averaging time combination. Previously, you were directed to evaluate all averaging periods for the largest radius of impact (ROI) of any of the averaging periods for the criteria air pollutant. Luminant agrees that this is an appropriate change and is more applicable to the new 1-hour standards.</p>
3	<p><b>PSD NAAQS Analysis Step 3 (p24)</b></p> <p>i. “Obtain a listing of all sources and associated parameters from the TCEQ to evaluate in the AQA.” Luminant recommends that the TCEQ reconsider the use of the word ‘all’ unless that is specifically what is intended.</p>
4	<p><b>Appendix C - Air Permits Allowable Database (APAD) (p41-44)</b></p> <p>i. (p41) Near the bottom of the page, the TCEQ states “For Particulate Matter (PM2.5) or less, also request a retrieval for Particulate Matter (PM10) or less.” This indicates that TCEQ does not have PM2.5 emissions accounted for in the database, and are using PM10 emissions as a surrogate for PM2.5. This could be both overly conservative (for filterable) and an underestimate (for secondary &amp; condensable) PM. We encourage the TCEQ to begin reflecting PM2.5 in the database.</p> <p>ii. (p43) “What data are in APAD:” This section states that the data in APAD is being supplemented with MAERT data. Does TCEQ have an estimate for when this data input will be completed?</p> <p>iii. (p43) Why are “missing or invalid” source parameters being filled with the stack parameters used for pseudo point-sources? While the TCEQ may believe this is the most conservative way to model these sources, it may make it difficult to pick out missing data from those which were actually identified in the permit application as being pseudo point-sources. Consider using a different qualifier, such as a -999.9.</p> <p>iv. (p44) Validated data corrections will be loaded in APAD as appropriate. As corrections are made, the data quality will improve. Can the TCEQ identify the actions being taken to improve the data? Is TCEQ reviewing all previously completed modeling analyses to add corrected data back into the system as well?</p>

5

**Appendix Q – Conducting an Ambient Ozone Impacts Analysis (p94-96)**

- i. Step 2: Luminant believes that the first bullet does not clarify what is meant by “total emissions of VOC and NOX” for the project county. They add, “Be sure to include all sectors when determining the total VOC and NOX emissions for the county”. Luminant suggests some additional clarification may be in order as to:
  1. What year(s) to look at for this number? Latest NEI release?
  2. Following “all sectors,” add “including natural sources” to make it clear that the reference is not just for anthropogenic sources.
- ii. Step 4b, 2<sup>nd</sup> paragraph: “This is a simplified and overly conservative approach, but provides sufficient analysis to conclude that the proposed source would not cause or contribute to a violation of the 2008 8-hour ozone standard of 75 ppb.” Luminant agrees that a combined impact less than the standard is acceptable, but requests additional clarification be incorporated into this section to specify:
  1. What is the maximum increase in ozone that you can have and still not “cause or contribute” to a violation?
  2. What does the maximum combined (modeled + background) concentration have to be, in order to be acceptable by the TCEQ? Is the total value truncated to 2 digits, or is it rounded? At what rounding point does the concentration exceed the standard?

6

**Appendix R – Secondary Formation of Particulate Matter (PM2.5)**

- i. A general comment is to revise all references to the “EPA’s *Draft Guidance for PM2.5 Permit Modeling*” to the “EPA’s *Guidance for PM2.5 Permit Modeling*”, since it was finalized May 20, 2014.

***Z-Environmental***  
**COMMENTS ON THE**  
**TCEQ'S DRAFT AIR QUALITY MODELING GUIDANCE**

***APDG 6232***  
**(Draft TCEQ Document, June 2014)**

On behalf of Z-Environmental, I am pleased to provide comments to the Texas Commission on Environmental Quality (TCEQ) on the draft Air Quality Modeling Guidance document APDG 6232 dated June 2014 (TCEQ-APDG 6232v2).

I have relied upon the TCEQ's February 1999 Draft Air Quality Modeling Guidance document RG-25 for the past fifteen years. I appreciate the efforts of the TCEQ Air Dispersion Modeling Team (ADMT) to update this modeling guidance. Many topics in the field of air dispersion modeling have changed since 1999. The EPA air dispersion model AERMOD was promulgated in December 2006. In addition, the EPA has developed software programs such as AERMET, AERSURFACE, and AERSCREEN to aid the regulatory modeling community. The TCEQ has also been working in recent years to develop the Air Permits Allowable Database (APAD) Modeling Retrieval system. The APAD system still needs work and I encourage the TCEQ to provide the necessary resources to complete its implementation. In summary, the guidance and data resources provided by the TCEQ on air dispersion modeling techniques and air quality emissions and monitoring data greatly improves the goal of protecting the air quality resources in Texas.

The following comments have been organized by topics rather than page numbers. The page numbers are included for each topic. The page numbers identify the locations within the June 2014 draft APDG 6232 document provided by the TCEQ for comments.

## **I. General Comments**

### **Page 15 Section III – Air Quality Analysis**

The TCEQ should mention in this introductory paragraph, the additional goal of demonstrating compliance with the Texas Property Line Standards for sulfur compounds (30 TAC 112).

## **Page 72 Source Types – Volume Sources**

The draft APDG 6232 states on page 72:

*Use the volume source characterization to simulate emissions that initially disperse in three dimensions with little or no plume rise, such as emissions from vents on a building roof; multiple vents from a building; and fugitive emissions from pipes, stockpiles, conveyor belts, and roads.*

This sentence references the modeling of emissions from roads. The TCEQ should clarify if roads are to be modeled in an Air Quality Analysis (AQA).

## **Page 73 Source Types – Open Pits**

The draft APDG 6232 states on page 73:

*Open Pit. Use the open pit source characterization to simulate emissions that originate from a below-grade open pit, such as a surface coal mine or rock quarry.*

This sentence references modeling a rock quarry. The TCEQ should clarify if rock quarries are to be modeled in an AQA.

## **Page 90 Modeling Emissions Inventory**

The draft APDG 6232 mentions particle size and particle density. This implies deposition modeling. However, there is no guidance given in the draft guidance for deposition modeling. The APDG 6232 should address the process for deposition modeling.

## **II. Air Quality Analysis Report**

It would be beneficial to the applicant and for the TCEQ's modeling review process if a basic example of an air dispersion modeling report document could be given in an appendix to APDG 6232. At a minimum, the TCEQ should provide an example format and content for the report to promote consistency and to assist the TCEQ in their review of modeling analyses in support of an air permit application.

### **III. Air Quality Analysis Protocol**

#### **Page 16 Air Quality Analysis Process**

It would be beneficial to the applicant and for the TCEQ's modeling review process if a basic example of an air dispersion modeling protocol document could be given in an appendix to APDG 6232. As stated on Page 16:

*For all minor NSR AQAs, management recommends that a modeling protocol be submitted or a guidance meeting be held detailing the proposed approach to demonstrate compliance with all applicable requirements. For all federal AQAs, a modeling protocol is required, and a copy of the modeling protocol must be sent to EPA Region 6.*

In recent reviews by the ADMT of applicant-submitted protocols, many ADMT comments refer to omissions by the applicant. By providing a general example of an air dispersion modeling protocol document, the modeling process may be expedited. In addition, the ADMT comments on submitted modeling protocol have been useful when it is clearly stated which comments may be addressed in the modeling report and which comments should be addressed in a revised modeling protocol.

### **IV. Receptor Grid Development**

#### **Page 32 Receptor Design**

The draft APDG 6232 discusses the design of receptor grids in this section. The design of a receptor grid applicable to a "Single Property Line Designation" should be discussed here along with guidance on when such a special grid should be used.

#### **Page 33 Receptor Design**

This section of the draft APDG 6232 provides guidance on receptor placement for the NAAQS and PSD analyses. However, no guidance is given regarding "flagpole" receptors. It would be beneficial to the applicant to have guidance on the possible placement of flagpole receptors (perhaps representing a balcony on the side of a high-rise apartment or an air intake on the side of a building) for an NAAQS analyses. Although this is a relatively rare situation, the guidance on receptor placement would be more complete if it included flagpole receptors.

## V. Background Sources

### Page 41 Appendix C -- Requesting Information from the Air Permits Allowable Database (APAD)

The draft APDG 6232, on page 41, provides a web link for requesting information regarding APAD. However, the web link given does not lead an applicant directly to the APAD information page. This link should be:

[https://www.tceq.texas.gov/permitting/air/guidance/newsourcereview/nsr\\_mod\\_guidance.html](https://www.tceq.texas.gov/permitting/air/guidance/newsourcereview/nsr_mod_guidance.html)

Additional information for requesting APAD information is located at:

<https://www.tceq.texas.gov/assets/public/permitting/air/Modeling/guidance/modeling-retrieval-request.pdf>

### Page 42 Notes about APAD data

Minor typographical error is in the sentence:

*Summary Report listing all sources included in the retrievals with their associated regulated entity number (RN), emission point number (EPN), permit umber, source location, source emission rate by pollutant, and source parameters.*

The phrase “permit umber” should be “permit number”.

### Page 44 Notes about APAD data

The web link given appears to be obsolete. This link should be updated.

*Site emission inventory data access by Regulated Entity reference number at [www12.tceq.state.tx.us/crpub/index.cfm?fuseaction=regent.RNSearch](http://www12.tceq.state.tx.us/crpub/index.cfm?fuseaction=regent.RNSearch)*

### Pages 5, 56, 101, and 102 Intermittent Sources

The draft APDG 6232 mentions the treatment of intermittent sources and provides some guidance in *Appendix S -- Additional Guidance for evaluating 1-hour Nitrogen Dioxide and 1-hour Sulfur Dioxide*. The draft APDG 6232 only addresses these sources in terms of the AQA for the 1-hour NAAQS for NO<sub>2</sub> and SO<sub>2</sub>. It would be beneficial to the applicant to have additional guidance on modeling intermittent sources such as emergency generators, fire water pumps, etc. for state property line modeling and for other pollutants and averaging times.

## **VI. Web Links**

### **Page 41 Appendix C – Requesting Information from the Air Permits Allowable Database (APAD)**

As stated in a previous comment in Section V. Background Sources, the draft APDG 6232, on page 41, provides a web link for requesting information regarding APAD. However, the web link given does not lead an applicant directly to the APAD information page. This link should be:

[https://www.tceq.texas.gov/permitting/air/guidance/newsourcereview/nsr\\_mod\\_guidance.html](https://www.tceq.texas.gov/permitting/air/guidance/newsourcereview/nsr_mod_guidance.html)

Additional information for requesting APAD information is located at:

<https://www.tceq.texas.gov/assets/public/permitting/air/Modeling/guidance/modeling-retrieval-request.pdf>

### **Page 44 Notes about APAD data**

As stated in a previous comment in Section V. Background Sources, the web link given appears to be obsolete. This link should be updated.

*Site emission inventory data access by Regulated Entity reference number at [www12.tceq.state.tx.us/crpub/index.cfm?fuseaction=regent.RNSearch](http://www12.tceq.state.tx.us/crpub/index.cfm?fuseaction=regent.RNSearch)*

### **Page 76 Appendix L – Downwash Applicability**

As stated in a comment in Section X. Downwash Analysis, the draft APDG 6232 includes a web link on the Building Profile Input Program – Plume Rise Model Enhancements (BPIP-PRIME). The referenced web link is not functional.

### **Page 84 LULC Analysis for AERMOD and AERSCREEN**

The draft APDG 6232 includes a web link on the EPA AERSURFACE program. The referenced web link is not functional.

### **Page 86 Terrain**

The draft APDG 6232 includes a web link on the EPA AERMAP program. The referenced web link is not functional.

## **VII. ESL Analyses**

### **Page 22 Health Effects Analysis**

This section of the draft APDG 6232 provides introductory information on the modeling process for the TCEQ's health effects review. It would be beneficial to the applicant to have a web link to the Toxicology Division's website that provides the most recent version of the TCEQ's Effects Screening Levels. This could be given in Appendix G. The current web link is:

[http://www.tceq.state.tx.us/toxicology/esl/list\\_main.html](http://www.tceq.state.tx.us/toxicology/esl/list_main.html)

### **Page 23 Health Effects Analysis**

The draft APDG 6232 (on pages 23 and 59) refers to consulting with the Toxicology Division to either ensure that the most recent ESL values are being used or to obtain an ESL for a constituent that is not listed in the most recent ESL list. It would be beneficial to the applicant to have a contact phone number for the Toxicology Division or a web link leading directly to a contact in the Toxicology division. This could be given in Appendix G. The current web link is:

[http://www.tceq.state.tx.us/toxicology/esl/list\\_main.html/#find](http://www.tceq.state.tx.us/toxicology/esl/list_main.html/#find)

### **Page 59 Appendix G – Health Effects Analysis**

The draft APDG 6232 provides guidance for the TCEQ's health effects analysis in Appendix G. However, no modeling guidance is given for modeling constituents with listed ESLs that are based on odor thresholds rather than health effects. It would be beneficial to the applicant to have guidance on the evaluation of impacts for constituents that have odor ESLs and when it is appropriate to request and utilize the health-based ESLs.

## **VIII. SILs**

### **Page 35 Appendix A – Justifying the Use of the Significant Impact Levels**

The draft APDG 6232 Appendix A addresses the requirement by the TCEQ to justify the use of the significant impact levels (SILs). This section appears to direct applicants to address all SILs and the need to justify the use of any and all SILs during an AQA. However, it is unclear from the text of Appendix A why the TCEQ is requiring the justification of all SILs when the U.S. Court of Appeals for the District of Columbia Circuit Court's decision on January 22, 2013 addressed only PM2.5 SILs and the PM2.5 significant monitoring concentration. Additional clarification should

be provided in the APDG 6232 on the requirements for justifying the use of significant impact levels for all pollutants.

### **Page 35 Appendix A – Justifying the Use of the Significant Impact Levels**

The draft APDG 6232 addresses “*Justifying the Use of the Significant Impact Levels*” in Appendix A. It is expected that EPA will resolve this issue and the SILs will be reestablished to the satisfaction of all parties involved in the court case *Sierra Club v. Environmental Protection Agency, 2013 U.S. App. LEXIS 1408 (D.C. Cir. Jan. 22, 2013)*. Therefore, Appendix A will be moot. It is suggested that the current guidance addressing “Justifying the Use of the Significant Impact Levels” be moved to the end of the APDG 6232 where it could more easily be deleted.

## **IX. State Property Line Analyses**

### **Page 21 State Property Line Standard Analysis**

### **Page 56 Appendix F – State Property Line Standard Analysis**

The draft APDG 6232 gives only one example of sources when referring to “wastewater ponds” on these pages. Although this is certainly a type of source, it is only one type of source that is found at some industrial sites. It is suggested that the phrase “such as wastewater ponds” be deleted or additional source types given.

### **Page 22 Minor NAAQS Analysis – State Property Line Step 1**

The draft APDG 6232 only mentions “Single Property Line Designation” or SPLD on pages 69 and 89. It is suggested that guidance be provided on the appropriate process to assess sites with SPLDs. On page 69, it is unclear if one property within a SPLD utilizes AERMOD, then all properties within the SPLD must use AERMOD. Full guidance on SPLD modeling should be mentioned on page 22 and should be included in Appendix F.

## **X. Downwash Analyses**

### **Page 32 Downwash Applicability**

The APDG 6232 provides some guidance on the analyses of downwash effects on point sources. In addition, references are made to “Good Engineering Practice (GEP) stack height. References are made on Page 32 and in Appendix L to GEP stack height that are incomplete. It is suggested that additional information be provided in these sections concerning GEP stack height. GEP stack height refers to a Federal definition in 40 CFR 51.100.

*(ii) Good engineering practice (GEP) stack height means the greater of:*

*(1) 65 meters, measured from the ground-level elevation at the base of the stack:*

*(2)(i) For stacks in existence on January 12, 1979, and for which the owner or operator had obtained all applicable permits or approvals required under 40 CFR parts 51 and 52.*

*H<sub>g</sub> = 2.5H,*

*provided the owner or operator produces evidence that this equation was actually relied on in establishing an emission limitation:*

*(ii) For all other stacks,*

*H<sub>g</sub> = H + 1.5L*

*where:*

*H<sub>g</sub> = good engineering practice stack height, measured from the ground-level elevation at the base of the stack,*

*H = height of nearby structure(s) measured from the ground-level elevation at the base of the stack.*

*L = lesser dimension, height or projected width, of nearby structure(s)*

*provided that the EPA, State or local control agency may require the use of a field study or fluid model to verify GEP stack height for the source; or*

*(3) The height demonstrated by a fluid model or a field study approved by the EPA State or local control agency, which ensures that the emissions from a stack do not result in excessive concentrations of any air pollutant as a result of atmospheric downwash, wakes, or eddy effects created by the source itself, nearby structures or nearby terrain features.*

## **Page 76 Appendix L -- Downwash Applicability**

The draft APDG 6232 includes a web link on the Building Profile Input Program -- Plume Rise Model Enhancements (BPIP-PRIME). The referenced web link is not functional.

## **XI. PSD Analyses**

### **Page 30 Class I Area Analysis**

The ADMT should include a map of the Prevention of Significant Deterioration (PSD) Class I areas within Texas and in contiguous states. This would aid the applicant in determining if a proposed PSD project could affect a Class I area.

### **Page 31 Class I Area Analysis – Visibility and AQRV Analysis**

The APDG 6232 refers to coordinating with the appropriate Federal Land Manager (FLM) during the PSD AQA process. It would be beneficial to the applicant if the APDG 6232 provided contact information for the appropriate FLM or their staff. There are two mandatory PSD Class I areas in Texas, nine in New Mexico, one in Oklahoma, two in Arkansas, and one in Louisiana. No information is given in the draft APDG 6232 on the process used to contact the FLM for each of these Class I areas.



August 31, 2014

Texas Commission on Environmental Quality (TCEQ)  
Air Dispersion Modeling Team, MC-163  
P.O. Box 13087  
Austin, Texas 78711-3087

*Submitted electronically to: Modguide@tceq.texas.gov*

Re: Draft Air Quality Modeling Guidelines

Air Dispersion Modeling Team:

Sage Environmental Consulting, L.P. (Sage) commends the TCEQ Air Dispersion Modeling Team (ADMT) for updating the Air Quality Modeling Guidelines (AQMG). We have the following comments and suggestions which we believe will make modeling analyses more efficient and get permits issued faster, and at the same time will continue to maintain conservatism and ensure protection of public health and welfare.

1. Modeling of Off-Property Sources: The draft guidelines omit options utilized in the past which allowed the use of conservative screening level background concentrations or conservative background concentrations derived from recent monitoring data in lieu of direct modeling of off-property sources. This omission is problematic, considering the significant flaws in the Air Permits Allowable Database (APAD) database, as acknowledged by the TCEQ in Appendix C of the draft AQMG. We understand that for federal Prevention of Significant Deterioration (PSD) analyses, the Environmental Protection Agency (EPA) requires direct modeling of off-property sources. However, the TCEQ has the authority to modify the PSD procedures for state level modeling. Developing an accurate off-property source inventory for a full NAAQS analysis is a very time consuming and overly conservative process that results in double counting of modeled and monitored concentrations and causes significant delays in the processing of permits. We suggest a more tiered approach to evaluating the impact of off-property sources, similar to the tiered approach outlined in the September 1998 TCEQ memorandum titled "Background Concentration Determination for NAAQS Analyses".
2. Refining Background Concentrations: The draft AQMG does not discuss the options for temporally varying background concentrations, as suggested by the EPA in the March 2011 memo regarding additional clarifications for conducting modeling analyses to demonstrate compliance with the new 1-hour NO<sub>2</sub> NAAQS. Due to the diurnal variability of ambient NO<sub>2</sub> concentrations, this technique provides a method for varying the background NO<sub>2</sub> concentrations by hour of day and/or seasonally. This technique provides a more representative yet still conservative estimate of cumulative impacts for

comparison with the 1-hour NO<sub>2</sub> NAAQS. We believe this technique is also appropriate for use with other pollutants if it is determined that there is a temporal variation in background concentrations for them. We suggest that TCEQ include a discussion of this technique as an acceptable method to use in both state level and PSD NAAQS analyses.

3. Ratio Techniques and Collocation. Sections 3.3.1 and 3.3.2 in the existing guidance discuss Ratio Techniques and Collocation of Emission Points, respectively. Section 3.3.2 contains an equation which may be used to determine the worst-case stack for collocated sources. Appendix B discusses two ratio techniques. The new guidance suggests that modelers discuss and provide justification for ratioing of emissions and/or collocation of sources in their modeling reports but does not suggest any tools or methodologies acceptable for the TCEQ when ratioing and/or collocation of sources is used in the modeling. We believe that TCEQ should retain the previous guidelines regarding ratio techniques, and also retain the existing statements that other techniques may be approved on a case-by-case basis.

If you have any questions or comments, please call me at 512-327-0288 x1014.

Sincerely,  
Sage Environmental Consulting, L.P.



Jennifer Geran, P.E.  
Senior Regulatory Specialist

cc: Sage Modeling Team



August 29, 2014

VIA EMAIL: MODGUIDE@TCEQ.TEXAS.GOV

Texas Commission on Environmental Quality  
Attention: Air Permits Division

**SUBJECT: AIR QUALITY MODELING GUIDELINES – APDG 6232 (PUBLIC COMMENT DRAFT)**

To whom it may concern,

This letter is in reference to the public comment draft released by the TCEQ in June 2014, titled *Air Quality Modeling Guidelines – APDG 6232*. We have several concerns with the proposed guidance; therefore, we are providing the following comments on general content, definitions, grammar, and overall style of the draft.

**1. Comments on General Content**

a. Section III – Air Quality Analysis (Page 16)

*“For all minor NSR AQAs, management recommends that a modeling protocol be submitted or a guidance meeting be held detailing the proposed approach to demonstrate compliance with all applicable requirements.”*

We would like assurance that if a modeling protocol is submitted and reviewed, it will not be reviewer-specific and that, barring external changes to the model (e.g. met data or roughness) or project, approval of a protocol would indicate approval of procedures incorporated into the final AQA. We have received feedback questioning something in an AQA that was reviewed by one TCEQ modeler, though the modeling protocol including that very item had already been reviewed and approved by a different TCEQ modeler.

b. Section IV – Screening Modeling (Page 17)

*“This technique is conservative since the predicted concentrations from each source are added without regard to time and distance.”*

We believe that the sentence should read “...time and space” instead of “...time and distance” since it could refer to a particular receptor as opposed to simply a distance between a source and a receptor.



c. Section IV, Refined Modeling (Page 17)

*“...or an agency staff-identified percentage of a standard or guideline.”*

Can examples of “agency staff-identified percentages of a standard or guideline” be provided? Is this statement referring to MERA flowchart examples or is it suggestive of something else? We believe that this ambiguous statement leaves the standards and guidelines open for arbitrary interpretation by agency staff.

d. Minor NAAQS Step 3 (Page 21)

*“In addition, if the person conducting the modeling is aware of source data not provided by the IRD, such as recently issued permitted facilities or applicable facilities in other states within the distance limits of the model, the data should be included as applicable.”*

What is the definition of “aware” and to what extent is one obligated to research or expected to be “aware” of other sources? PSD NAAQS Step 3 has similar content.

e. Minor NAAQS Step 4 (Page 21)

*“For PBRs without a certified limit, use an estimate of allowable emissions based on actual emissions.”*

Please define “an estimate of allowable emissions based on actual emissions”. Do we need to somehow adjust actuals to allowables via an Emissions Inventory capacity factor? State Property Line Step 2 has similar content.

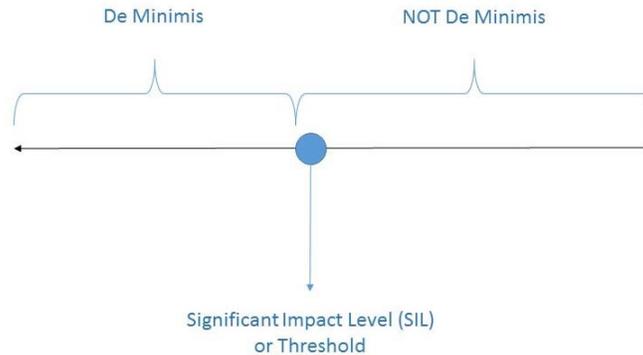
f. Minor NAAQS Step 4 and Minor NAAQS Step 5 (Page 21)

Minor NAAQS Step 4 requires the inclusion of off-property sources in the modeling, while Minor NAAQS Step 5 adds the background concentration. This procedure effectively double-counts the contribution from offsite sources and is over-conservative.

g. PSD NAAQS Step 1 (Pages 23 and 24)

*“(Note that the term de minimis and the phrase SIL are synonymous).”*

The term “de minimis” and the federal term “significant impact level” (SIL) are not technically synonymous. De minimis is widely accepted to be defined as a value below a threshold (e.g. a SIL). The SIL is a specific threshold value, as presented in the following figure. Please note that this synonymy is mentioned multiple times throughout the draft guidelines.



h. PSD NAAQS Step 3 (Page 24)

There is no guidance provided for the distance required to request off-property sources. Should we refer to the 1990 NSR Workshop Manual for guidance?

i. PSD NAAQS (Pages 24 and 25) and PSD Increment Step 5 (Pages 28 and 29)

Both steps mention “or demonstrate that the project’s impact will not be significant.” Please specify that it should be demonstrated that the project’s impact will not be significant at the time and location of a NAAQS/Increment exceedance. The project’s impact will have to be significant at some time and location or else the demonstration would have been completed at Step 1.

j. PSD Increment Analysis (Page 26)

Are the “Baseline and Trigger Dates” the dates “after which” or do they represent the beginning of the periods when sources are considered to affect the increment?

k. Additional Impacts Analysis (Pages 29 and 30)

In discussing the evaluation of potential emissions, are impacts from sources not under the jurisdiction of the agency (e.g. mobile sources/increased traffic) to be considered? Additionally, the use of “i.e.” signifies “in other words” and is used when an exact explanation is being provided, whereas “e.g.” signifies “for example” and is used when a suggestion is being offered and discretion is to be applied. Note the following sentence from the Growth Analysis: “An in-depth growth analysis is only required if the project would result in a significant shift in population and associated activity into the area (i.e. a population increase on the order of thousands of people).” In this case, as written, a significant shift in population is being specifically defined as an increase on the order of thousands of people. If that is the intent and this is a black-and-white definition with no discretion to be applied down the road, then “i.e.” is appropriate; otherwise, it would be better to use “e.g.” and retain discretionary authority.

l. Receptor Design (Page 32)

Does the TCEQ offer guidance regarding whether to build grids as a function of the fence line or to do so as nested squares?



m. Appendix A – Justifying the Use of Significant Impact Levels (Page 35)

“...(*Sierra Club v. U.S. EPA*, Docket No. 10-1413, D.C. Circuit, January 22, 2012).”

The year referenced in this sentence is incorrect and should be 2013. Please reference the date published on the following webpage:

<http://www.gpo.gov/fdsys/granule/USCOURTS-caDC-10-01413/USCOURTS-caDC-10-01413-0>

n. Appendix A – Analysis of the Ambient Air Quality (Pages 35 and 36)

Our current understanding of “conservative and representative”, based on recent interactions with TCEQ, is that a monitor is considered “conservative” if the reported emissions within a 10-km radius of the monitor are greater than the reported emissions within a 10-km radius of the site. This type of information is critical to these analyses and should be explicitly stated if it has already been established. A qualitative analysis is suggested, but we have submitted a project in an industrial area with a monitor only a few kilometers away in similar development (where the monitor is clearly “representative”) and were required to provide a quantitative assessment. Can TCEQ offer guidelines for when a qualitative analysis would be acceptable?

o. Appendix C – Requesting Information from the Air Permits Allowable Database (page 42)

In addition to Permit Number in APAD, the effective date of the permit might be useful to have so that subsequent permit actions can be evaluated and it can be easily determined whether the most current allowables were used.

## 2. Comments on Definitions

We have updated the definitions in the following section to clarify the language that is used in each explanation. Suggested deletions are stricken through while additions are underlined and in italics. Additional comments are also provided for some of the definitions.

- a. **Class I area.** An area defined by *U.S.* Congress that is afforded the greatest degree of air quality protection. Class I areas are deemed to have special natural, scenic, or historic value. The Prevention of Significant Deterioration (PSD) regulations provide special protection for Class I areas. Little deterioration of air quality is allowed.
- b. **Class II area.** An area defined by *U.S.* Congress where moderate deterioration of air quality associated with well-managed industrial growth is allowed.
- c. **De minimis impact.** A change in ground level concentration of an air contaminant as a result of the operation of any new major stationary source or of the operation of any existing source that has undergone a major modification that does not *meet or* exceed specified amounts (30 TAC 101.1). ~~This is equivalent to the federal term “significant impact level.”~~



- As stated in part (g) of the first section, “de minimis” describes the entire range below the significant impact level, so it should not be equated to the federal term “significant impact level”.
- d. **Ground-Level Concentration (GLC).** The concentration, commonly provided in micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ), as predicted by modeling. May also be observed by ambient air monitoring.
  - It is unnecessary to reference the unit in the definition as the  $\text{GLC}_{\text{max}}$  may be provided in a different unit, such as parts per billion (ppb).
- e. **Minor.** The term *minor* may refer to the total emissions at a stationary source or to a specific facility. To be minor for PSD review, the emissions must be less than 250 tpy. To be minor for Nonattainment review, the emissions must be less than the major source emission thresholds in 30 TAC 116. To be minor for HAPs review, the emissions must be less than 10 tpy for a single HAP ~~or~~ and 25 tpy for multiple HAPs.
- f. **Screening technique.** A relatively simple analysis technique to determine whether impacts from a given source ~~is likely to pose a threat to air quality~~ require further evaluation. Concentration estimates from screening techniques are conservative.
- g. There is not a definition for “Single Property Line Designation”. We suggest that it is included in the definition of “Property”, “Site-wide Modeling”, or as a stand-alone definition.

### 3. Comments on Grammar and Style

- a. It is common practice to use the § symbol when citing regulations. The § symbol does not appear throughout the document.
- b. “Receptor Design” is used throughout the document when “Receptor Grid Design” is a more appropriate term.
- c. In Appendix B, Tables B-1 and B-2 include footnotes, and the letters should be superscripted for clarity.
- d. In Appendix C under Notes About APAD Data (page 2), “permit umber”, is misspelled and should be spelled as “permit number”.
- e. In Appendix E in the first line (page 51), “Nation” is misspelled and should be “National”.



We appreciate your consideration of these comments, and we would welcome the opportunity to discuss them in greater detail. If you have any questions, please do not hesitate to contact us at (281) 664-2490.

Sincerely,

Roberto Gasparini, Ph.D.

Stuart Doss

Robert Osborn

Keith Hamilton

Hannah Kight

Erica Bayeh

cc: Spirit Environmental, LLC  
Attention: Mr. Jess McAngus – **VIA EMAIL: [jmcangus@spiritenv.com](mailto:jmcangus@spiritenv.com)**  
Attention: Mr. Brad Herrin – **VIA EMAIL: [bherrin@spiritenv.com](mailto:bherrin@spiritenv.com)**

**Texas Oil & Gas Association Comments**  
**Draft Air Quality Modeling Guidance**  
**TCEQ-APDG 6232v2 (Draft 06/2014)**

**General Comment** - Recommend adding sub-section, and possibly paragraph numbering in the text, TOC and appendices to allow easier referencing and searching of the subject guidance document. Verify that all abbreviations are properly defined in their first use in the document text.

**Page 9 Definition of Class II area**

Uses the word “deterioration” which has a negative implication; we suggest alternative language to read as follows:

*An area defined by Congress where moderate increases of certain air pollutants associated with well-managed industrial growth is allowed.*

**Page 12 Definition of Significant Monitoring Concentration (SMC)**

Suggest a slight clarification to read as follows:

*A de minimis level of impact below which the EPA has concluded does not justify identifying pre-construction monitoring data for purposes of an air quality analysis.*

**Page 14 Authority for Requesting Air Quality Impacts Analysis**

“will not cause or contribute to a condition of air pollution ...” The phrase “condition of air pollution” is used multiple times in the guidance and warrants a definition in the Definition section. For example,

*Air quality that may not be consistent with the state’s responsibility for protection of public health, general welfare, and physical property, including the esthetic enjoyment of air resources by the public and the maintenance of adequate visibility.*

**Page 15 Section III – Air Quality Analysis**

The TCEQ should mention in this introductory paragraph, the additional goal of demonstrating compliance with the Texas Property Line Standards for sulfur compounds (30 TAC 112).

**Page 15 Section III - Air Dispersion Modeling**

Sentence 5 – the terms “prediction and predicted” should be replaced with “estimate and estimated” in this sub-section and throughout the document. “Prediction” implies a higher degree of certainty to the outcomes of the model than is actually warranted by the uncertainties of the entire modeling process. The model approximates (“estimates”) the chemical and physical processes occurring during the dispersion of contaminants. The dispersion model itself only provides an estimate of the chemical and physical behavior of contaminants in the atmosphere. The model does not represent every single chemical and physical process potentially occurring. Additionally, the input parameters to the dispersion model are only estimates of the chemical and physical characteristics and behaviors of contaminants and the receiving atmosphere. Therefore, although the model performs calculations, the results are merely “estimates”. The results from the

**Texas Oil & Gas Association Comments  
Draft Air Quality Modeling Guidance  
TCEQ-APDG 6232v2 (Draft 06/2014)**

model should not be considered absolutes and should be qualified as to their uncertainty before they are used by regulatory agency staff and the public in making permitting decisions.

**Page 16 Air Quality Analysis Process**

It would be beneficial to the applicant and for the TCEQ's modeling review process if a basic example of an air dispersion modeling protocol document could be given in an appendix to APDG 6232. As stated on Page 16:

*For all minor NSR AQAs, management recommends that a modeling protocol be submitted or a guidance meeting be held detailing the proposed approach to demonstrate compliance with all applicable requirements. For all federal AQAs, a modeling protocol is required, and a copy of the modeling protocol must be sent to EPA Region 6.*

In recent reviews by the ADMT of applicant---submitted protocols, many ADMT comments refer to omissions by the applicant. By providing a general example of an air dispersion modeling protocol document, the modeling process may be expedited.

**Page 16 Section III. Ambient Air Monitoring**

Paragraph 3, Sentence 1 – delete “all” in this sub-section and throughout the document. “All” is an absolute term that cannot be satisfied by the permittee or the state, in most cases, and therefore should not be used in this document. When is “all” identified and completed? Someone challenging the permit and associated analyses can continue asking for one more source.

**Page 21. Minor NSR**

The need to account for nearby sources in modeling (step 3) and to add background concentration (step 5) introduces the likelihood of double-counting. Appendix D should be more explicit about double-counting, and how to minimize it.

**Page 21 State Property Line Standard Analysis**

**Page 56 Appendix F --- State Property Line Standard Analysis**

The draft APDG 6232 gives only one example of sources when referring to “wastewater ponds” on these pages. Although this is certainly a type of source, it is only one type of source that is found at some industrial sites. It is suggested that the phrase “such as wastewater ponds” be deleted or additional source types given.

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**Texas Oil & Gas Association Comments  
Draft Air Quality Modeling Guidance  
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**Page 22 Health Effects Analysis**

This section of the draft APDG 6232 provides introductory information on the modeling process for the TCEQ's health effects review. It would be beneficial to the applicant to have a web link to the Toxicology Division's website that provides the most recent version of the TCEQ's Effects Screening Levels. This could be given in Appendix G. The current web link is:

[http://www.tceq.state.tx.us/toxicology/esl/list\\_main.html](http://www.tceq.state.tx.us/toxicology/esl/list_main.html)

**Page 23 Health Effects Analysis**

The draft APDG 6232 (on pages 23 and 59) refers to consulting with the Toxicology Division to either ensure that the most recent ESL values are being used or to obtain an ESL for a constituent that is not listed in the most recent ESL list. It would be beneficial to the applicant to have a contact phone number for the Toxicology Division or a web link leading directly to a contact in the Toxicology division. This could be given in Appendix G. The current web link is:

[http://www.tceq.state.tx.us/toxicology/esl/list\\_main.html/#find](http://www.tceq.state.tx.us/toxicology/esl/list_main.html/#find)

**Page 24 PSD Air Quality Analysis**

Same comment on page 24 regarding double-counting.

**Page 25 PSD Pre---ap p lic at ion Analysis**

The draft APDG 6232, on page 25, under the section "*PSD Pre---application Step 2*", uses the word "collect" in the sentence "*For criteria pollutants, collect representative monitoring background concentrations to establish the existing air quality for the area that the project emissions would affect.*" It would clearer if the word "collect" was replaced with the word "identify" since "collect" generally implies actually establishing and collecting monitoring data. On page 25, it also states "*If existing monitoring data are not available, or are judged not to be representative or conservative, go to Step 3.*" This sentence establishes that the applicant must consider "collecting" monitoring data if no monitoring data are available or are not representative or conservative.

**Page. 29 Additional Impact Analysis**

Growth Analysis. Growth analysis is speculative and outside of control of project; onus should be on future land developers and their Environmental Impact Analysis.

**Page 30 Class I Area Analysis**

The ADMT should include a map or a link to a map of the Prevention of Significant Deterioration (PSD) Class I areas within Texas and in contiguous states. This would aid the applicant in determining if a proposed PSD project could affect a Class I area.

**Page 31 Class I Area Analysis --- Visibility and AORV Analysis**

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The APDG 6232 refers to coordinating with the appropriate Federal Land Manager (FLM) during the PSD AQA process. It would be beneficial to the applicant if the APDG 6232 provided contact information for the appropriate FLM or their staff. There are two mandatory PSD Class I areas in Texas, nine in New Mexico, one in Oklahoma, two in Arkansas, and one in Louisiana. No information is given in the draft APDG 6232 on the process used to contact the FLM for each of these Class I areas.

**Page 32 Downwash Applicability**

The APDG 6232 provides some guidance on the analyses of downwash effects on point sources. In addition, references are made to “Good Engineering Practice (GEP) stack height. References are made on Page 32 and in Appendix L to GEP stack height that are incomplete. It is suggested that additional information be provided in these sections concerning GEP stack height. GEP stack height refers to a Federal definition in 40 CFR 51.100.

*(ii) Good engineering practice (GEP) stack height means the greater of:*

*(1) 65 meters, measured from the ground---level elevation at the base of the stack:*

*(2)(i) For stacks in existence on January 12, 1979, and for which the owner or operator had obtained all applicable permits or approvals required under 40 CFR parts 51 and 52.*

*H<sub>g</sub> = 2.5H,*

*provided the owner or operator produces evidence that this equation was actually relied on in establishing an emission limitation:*

*(ii) For all other stacks,*

*H<sub>g</sub> = H + 1.5L*

*where:*

*H<sub>g</sub> = good engineering practice stack height, measured from the ground---level elevation at the base of the stack,*

*H = height of nearby structure(s) measured from the ground---level elevation at the base of the stack.*

*L = lesser dimension, height or projected width, of nearby structure(s)*

*provided that the EPA, State or local control agency may require the use of a field study or fluid model to verify GEP stack height for the source; or*

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*(3) The height demonstrated by a fluid model or a field study approved by the EPA State or local control agency, which ensures that the emissions from a stack do not result in excessive concentrations of any air pollutant as a result of atmospheric downwash, wakes, or eddy effects created by the source itself, nearby structures or nearby terrain features.*

**Page 32 Receptor Design**

The draft APDG 6232 discusses the design of receptor grids in this section. The design of a receptor grid applicable to a “Single Property Line Designation” should be discussed here along with guidance on when such a special grid should be used.

**Page 33 Receptor Design**

This section of the draft APDG 6232 provides guidance on receptor placement for the NAAQS and PSD analyses. However, no guidance is given regarding “flagpole” receptors. It would be beneficial to the applicant to have guidance on the possible placement of flagpole receptors (perhaps representing a balcony on the side of a high-rise apartment or an air intake on the side of a building) for an NAAQS analyses. Although this is a relatively rare situation, the guidance on receptor placement would be more complete if it included flagpole receptors.

**Page 35 Appendix A - Justifying the Use of the Significant Impact Levels**

The draft APDG 6232 Appendix A addresses the requirement by the TCEQ to justify the use of the significant impact levels (SILs). This section appears to direct applicants to address all SILs and the need to justify the use of any and all SILs during an AQA. However, it is unclear from the text of Appendix A why the TCEQ is requiring the justification of all SILs when the U.S. Court of Appeals for the District of Columbia Circuit Court’s decision on January 22, 2013 addressed only PM2.5 SILs and the PM2.5 significant monitoring concentration. Additional clarification should be provided in the APDG 6232 on the requirements for justifying the use of significant impact levels for all pollutants. Also, to be consistent with TXOGA suggested revision on page 25 replace “collect” with “identify”.

**Page 35 Appendix A - Justifying the Use of the Significant Impact Levels**

The draft APDG 6232 addresses “*Justifying the Use of the Significant Impact Levels*” in Appendix A. It is expected that EPA will resolve this issue and the SILs will be reestablished to the satisfaction of all parties involved in the court case *Sierra Club v. Environmental Protection Agency, 2013 U.S. App. LEXIS 1408 (D.C. Cir. Jan. 22, 2013)*. Therefore, Appendix A will be moot. It is suggested that the current guidance addressing “Justifying the Use of the Significant Impact Levels” be moved to the end of the APDG 6232 where it could more easily be deleted.

**Page 39 Appendix B - Federal and State Air Quality Standards**

Table B1 24-hr and annual SO<sub>2</sub> should be deleted since these averaging times are no

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longer part of the SO<sub>2</sub> NAAQS.

**Page 41 Appendix C --- Requesting Information from the Air Permits Allowable Database (APAD)**

The draft APDG 6232, on page 41, provides a web link for requesting information regarding APAD. However, the web link given does not lead an applicant directly to the APAD information page. This link should be:

[https://www.tceq.texas.gov/permitting/air/guidance/newsourcereview/nsr\\_mod\\_guidance.html](https://www.tceq.texas.gov/permitting/air/guidance/newsourcereview/nsr_mod_guidance.html)

Additional information for requesting APAD information is located at:

<https://www.tceq.texas.gov/assets/public/permitting/air/Modeling/guidance/modeling---retrieval---request.pdf>

**Page 42 Notes about APAD data**

Minor typographical error is in the sentence:

*Summary Report listing all sources included in the retrievals with their associated regulated entity number (RN), emission point number (EPN), permit number, source location, source emission rate by pollutant, and source parameters.*

The phrase “permit umber” should be “permit number”.

**Page 45 Representative Background Monitoring Concentrations**

Frequently mentions case of too conservative but does not explicitly cite the likelihood of double-counting and how to minimize it.

**Page 44 Notes about APAD data**

The web link given appears to be obsolete. This link should be updated.

*Site emission inventory data access by Regulated Entity reference number at [www12.tceq.state.tx.us/crpub/index.cfm?fuseaction=regent.RNSearch](http://www12.tceq.state.tx.us/crpub/index.cfm?fuseaction=regent.RNSearch)*

**Page 49 Appendix D - Monitoring Background Refinement**

Only allows for exclusion of high data values for PM due to natural causes (wildfires, etc.). Exclusion for high data values due to natural causes should be broadly applicable.

**Page 53 Appendix E Full NAAQS Analysis**

Frequently mentions case of too conservative but does not explicitly cite the likelihood of double-counting and how to minimize it.

**Pages 5, 56, 101, and 102 Intermittent Sources**

The draft APDG 6232 mentions the treatment of intermittent sources and provides some guidance in *Appendix S--- Additional Guidance for evaluating 1---hour Nitrogen Dioxide and 1---hour Sulfur Dioxide*. The draft APDG 6232 only addresses these

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sources in terms of the AQA for the 1-hour NAAQS for NO<sub>2</sub> and SO<sub>2</sub>. It would be beneficial to the applicant to have additional guidance on modeling intermittent sources such as emergency generators, fire water pumps, etc. for state property line modeling and for other pollutants and averaging times.

**Page 59 Appendix G --- Health Effects Analysis**

The draft APDG 6232 provides guidance for the TCEQ's health effects analysis in Appendix G. However, no modeling guidance is given for modeling constituents with listed ESLs that are based on odor thresholds rather than health effects. It would be beneficial to the applicant to have guidance on the evaluation of impacts for constituents that have odor ESLs and when it is appropriate to request and utilize the health-based ESLs.

**Page 69 Appendix I - Preferred Air Dispersion Models**

It is advantageous to continue to allow the use of SCREEN3, ISC and ISC-PRIME until a major NSR is required.

**Page 72 Source Types - Volume Sources**

The draft APDG 6232 states on page 72:

*Use the volume source characterization to simulate emissions that initially disperse in three dimensions with little or no plume rise, such as emissions from vents on a building roof; multiple vents from a building; and fugitive emissions from pipes, stockpiles, conveyor belts, and roads.*

This sentence references the modeling of emissions from roads. The TCEQ should clarify if roads are to be modeled in an AQA.

**Page 73 Source Types - Open Pits**

The draft APDG 6232 states on page 73:

*Open Pit. Use the open pit source characterization to simulate emissions that originate from a below-grade open pit, such as a surface coal mine or rock quarry.*

This sentence references modeling a rock quarry. The TCEQ should clarify if rock quarries are to be modeled in an AQA.

**Page 76 Appendix L --- Downwash Applicability**

The draft APDG 6232 includes a web link on the Building Profile Input Program --- Plume Rise Model Enhancements (BPIP---PRIME). The referenced web link is not functional.

**Page 84 LULC Analysis for AERMOD and AERSCREEN**

The draft APDG 6232 includes a web link on the EPA AERSURFACE program. The referenced web link is not functional.

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**Page 86 Terrain**

The draft APDG 6232 includes a web link on the EPA AERMAP program. The referenced web link is not functional.

**Page 88 Appendix P Reporting Requirements**

The state should make maps available that contain basic information as requested in Appendix P that the permit seeker could then use and add to with project specific information.

**Page 90 Modeling Emissions Inventory**

The draft APDG 6232 mentions particle size and particle density. This implies deposition modeling. However, there is no guidance given in the draft guidance for deposition modeling. The APDG 6232 should address the process for deposition modeling.

**Page 100 Appendix S Additional Guidance for Evaluating 1-hour Nitrogen Dioxide and 1-hour Sulfur Dioxide**

The appendix should mention the option to use Ambient Ratio Method 2 (ARM-2) on a case-by-case basis (i.e., needs reviewer pre-approval). This is an improved Ambient Ratio Method developed by industry and presented to EPA.