

September 17, 2009 Southeast Texas Photochemical Modeling Technical Committee Meeting Notes

- Jim Smith opened the meeting with introductions. Besides Jim, TCEQ staff in attendance included Mark Estes, Kasey Savanich, and Dave Westenbarger from Austin, and Ryan Perna and Nathan Cheneaux from Region 12. Other attendees were Erik Snyder from EPA Region VI, Graciella Lubertino of HGAC, Barry Lefer of the University of Houston, Dan Cohan and Xue Xiao of Rice University, Liz Hendler representing the 8-Hour Coalition, Jim Wilkinson of Alpine Geophysics, Susan Moore of BP, Jennifer Nuñez of DuPont, Ro Sharma of Lyondell Basell, Dan Baker of Shell Global Solutions, and Renée Keys of Entergy. Phone participants were Lola Brown from TCEQ – Austin, Tom Tesche of Alpine Geophysics, and Steve Smith of Lyondell Equistar.

- Erik Snyder of EPA Region VI talked about EPA's decision to re-consider the new 75 ppb ozone standard. Jim asked Erik at what level the "smart money" expected the new standard to be proposed, and he replied that he expected it to be lower than 75 ppb, but was not very specific otherwise. Erik noted that PSD permitting will still use the 2008 standard (75 ppb), but that elsewhere the 85 ppb standards would apply until further notice. Erik said he expects the final designations under the new standard to be completed in 2011, with SIP revisions due in December 2013. Jim indicated that if a Mid-Course Review is necessary for the current SIP revision, it would be very advantageous to do it in conjunction with the 75 ppb SIP, so as to avoid having to develop two major SIP revisions within a few months of each other. Jim said that he felt sure Region VI would work with TCEQ on this issue.

- Lola Brown of TCEQ provided updates on SIP revisions and associated rule revisions. Public hearings will be held October 20 – 22, 2009 on proposed SIP revision to the Texas SIP for the Clean Air Interstate Rule SIP and associated rule revisions and the proposed repeal of the Clean Air Mercury rule and withdrawal from consideration of the Texas State Plan for Mercury. The comment period will close on October 26, 2009. All associated documents can be found on the TCEQ's Web site on the SIP Hot Topics page at: <http://www.tceq.state.tx.us/implementation/air/sip/Hottop.html>. Lola also provided an update on upcoming TERP activities (see [www.terpgrants.org](http://www.terpgrants.org)) and the upcoming Flare Task Force Stakeholder Group meetings to discuss the content of the Draft Flare Task Force Report and seek stakeholder input on the report recommendations. Susan Moore of BP noted that the flare report is 1,000 pages, and that the time allowed to comment was rather short. She asked about the possibility of extending the comment period, and Lola told her to contact the project manager, Lindley Anderson. Lola then went through the list of Qualitative Corroborative Analysis items included in the

proposed HGB Attainment Demonstration SIP revision, which was made available on the SETPMTTC web page. She noted that there will be two public hearings on the SIP revision in Houston on October 28, one hearing in Austin on October 29<sup>th</sup>, and that the comment period will close on November 9, 2009. Lola stated that the documents for the September 23<sup>rd</sup> agenda are available on the TCEQ's SIP Hot Topics Web page. Lola noted that TCEQ staff are scheduled to present an overview of these revisions at the September 24<sup>th</sup> Regional Air Quality Planning Committee meeting.

- Kasey Savanich and Dave Westenbarger presented the Data Analysis portion of the Corroborative Analysis, including trends in ozone and precursor concentrations (NO<sub>x</sub>, VOCs, HRVOCs), ozone design values, number of high ozone days, number of "THOE"s, time of day of peak ozone, and background ozone. They also discussed the role of meteorology in the dramatic recent downward trends in ozone concentrations in the region using analyses conducted by Dave Sullivan of Texas University, and concluded that meteorology alone could not explain the drastic reductions seen in Houston ozone concentrations. The attendees were curious about why ozone concentrations were particularly high in 1995 and 1999; this would be a good question to investigate. We were also asked about whether the background ozone concentrations observed at West Orange, Mauriceville, and Hamshire had an effect upon ozone exceedances in Houston. The current analysis does not focus upon exceedance days, but considers all days during the ozone season of May-October. Barry Lefer asked why the Cesar Chavez auto-GC showed an increase in ethylene and propylene, when the other monitors generally showed a decrease.

- Mark Estes discussed two model-related sections of the Corroborative Analysis section of the proposed SIP revision, specifically the retrospective modeling and the weekday-weekend effect modeling. He pointed out that both analyses corroborate the model's response to emission changes, at least directionally, and that the actual observations show slightly more responsiveness to NO<sub>x</sub> reductions than the model. This observation in turn leads to the conclusion that the airshed in Houston will likely respond better to emission changes expected to occur between 2006 and 2018 than the model predicts. Barry Lefer of UH and Dan Cohan of Rice both agreed that ozone models tends to be "stiff" with regard to NO<sub>x</sub> emissions, and that we can probably expect Houston's air to be cleaner than the model predicts. They also asked whether the monitor-by-monitor NO<sub>x</sub> concentrations from 2000 to 2006 decreased in a manner consistent with the NO<sub>x</sub> emission decreases reported from 2000 to 2006. If so, then this analysis could provide greater confidence in the retrospective analysis results. It was also pointed out that if Houston makes it through 2009 with its design value at the current 84 ppb, this fact would make a very strong addition to the corroborative analysis.

- Mark next talked about flow regimes associated with high ozone. He assembled the results of several researchers' work into a concise presentation which was very well received. At the end of the presentation Barry Lefer noted that UH now uses a version of the HySplit trajectory model designed for meso-scale applications. The high resolution of this trajectory tool may allow for more quantitative analyses of the wind flow in Houston. Since the UH model assimilates the surface wind data, the trajectories created may be at least as reliable as the plume streamlines generated by the TCEQ meteorologists on the Significant Events website. This tool may also be very useful for TCEQ modelers if it can be used with our MM5 output.

- There was interest in having a meeting in early November, and Jim said that he would discuss the timing of the next meeting with Dick upon his return. Graciella sent an EMail subsequent to the meeting saying that a room at HGAC is open on either November 12 or 16.