

## **SOUTHEAST TEXAS PHOTOCHEMICAL MODELING TECHNICAL COMMITTEE**

*Houston-Galveston Area Council Offices  
3555 Timmons Avenue  
Houston, Texas*

*October 19, 2015 10:00 a.m. – 3:30 p.m.*

### **ATTENDEES**

Nathan Chenux, Alex Cuclis, James Flynn, Jinsan Lee, Graciela Lubertino, Yunsoo Choi, Dan Baker, Jian Zhang, Sherman Hampton, Daniel Cohan, Liz Hendler, Greg Stella, Erik Snyder, Rebecca Rentz, Steve Smith, Chris Wolfe, Al Hendler, Lola Brown, Melanie Rousseau, Jim Smith, Chris Kite, Kasey Savanich, Doug Boyer

### **MINUTES**

Doug Boyer with the Texas Commission on Environmental Quality (TCEQ) welcomed the group and started the meeting. A Microsoft Lync webinar was conducted for this meeting as well. All presentations are available on the [SET PMTC Web site](http://www.tceq.state.tx.us/implementation/air/airmod/committee/pmtc_set.html), [http://www.tceq.state.tx.us/implementation/air/airmod/committee/pmtc\\_set.html](http://www.tceq.state.tx.us/implementation/air/airmod/committee/pmtc_set.html).

#### SIP Planning and Implementation Update – Lola Brown (TCEQ)

Lola gave an update on the SIP and Rule actions that occurred since our last meeting, including the redesignation substitute submission for the 1997 eight-hour ozone standard for the Houston-Galveston-Brazoria (HGB). Lola also discussed EPA's approval of the Redesignation Substitute report for the Revoked One-Hour Ozone Standard for the HGB nonattainment area.

#### EPA Update – Erik Snyder (EPA)

Erik discussed the 2015 eight-hour ozone standard and the timing for designations and State Implementation Plans (SIPs).

Erik also touched on the exceptional event rule updates.

#### H-GAC Update – Graciela Lubertino (H-GAC)

Graciela provided an update on Conformity to the 2040 Regional Transportation Plan, which was approved in September 2015. Graciela also informed the group of \$800K+ grants to local construction, marine, and port engines via the Clean Vehicle Program.

#### Modeling the uncertainty of several VOC and its impact on simulated VOC and ozone in Houston, Texas – Yunsoo Choi, Ph.D. (University of Houston)

Dr. Choi showed CMAQ modeling results with specific VOC emissions adjusted according to the ratio of base modeled concentrations to observed concentrations. Adjusting the VOC emissions improved the mean bias of their modeling.

#### 2015 Ozone Season Review – Kasey Savanich (TCEQ)

Kasey compared the recent 2015 ozone season to 2008, 2011, and 2014. She noted that the fourth highest eight-hour ozone observations in 2015 were higher than recent years and that many monitors recorded one-hour values above the revoked one-hour ozone standard (124 ppb). Back trajectories for many of the higher ozone days exhibited slow winds with flow reversals, conditions typically seen on high ozone days in the HGB area.

Kasey also noted that August temperatures were above normal with little rainfall, which coincided with many of the high ozone days in 2015.

Addressing model over-prediction of ozone influx from the Gulf of Mexico – Jim Smith, Ph.D. (TCEQ)

Jim updated the group two methods to address the over-prediction of ozone coming in from the Gulf of Mexico. The first was an update to the CAMx chemical mechanism to include halogen chemistry. The halogen aerosols have chemical pathways that destroy ozone and are created/emitted over the sea water. Jim showed CAMx results with improved ozone bias when using the halogen chemistry, though a substantial increase in model runtime.

The second method was to reduce the pollutants from the south and east boundary conditions. Two sensitivities were conducted; one with a 50% cut in all pollutants and another with a 10 ppb cut in ozone concentrations. Both simulations improved the high ozone bias but the cuts were arbitrarily chosen. He concluded that the global models needed halogen chemistry would be an important improvement that could impact regional photochemical modeling.

TCEQ Modeling Platform OSAT Modeling – June 2012 – Greg Stella (Alpine Geophysics)

Greg showed source apportionment modeling using the CAMx OSAT tool using TCEQ's June 2012 modeling platform. They setup source regions of the U.S., Canada, and Mexico and totaled their contribution to be the "Domain." They totaled the boundary conditions contribution together and labeled it "Transport." Greg showed that their "Transport" category averaged near 25% for the month of June but varied greatly by day and location. Their analysis was limited to modeled days above 60 ppb.

The Threat of Wildland and Agricultural Fires to Ozone NAAQS Attainment in Southeast Texas – Al Hendler (AECOM)

Al presented an analysis of possible fire emission impacts to Beaumont-Port Arthur (BPA) area monitors on 4/12/2011. Al showed back trajectories, satellite data, and surface ozone monitoring data to show that fire emissions from Kansas may have transported to BPA.

Next Meeting

No suggestions for future meeting dates were given.