EAST TEXAS COUNCIL OF GOVERNMENTS
NETAC TECHNICAL ADVISORY COMMITTEE

Tuesday April 22, 2014 10:30A.M.
Maude Cobb Convention Center
100 Grand Blvd.
Longview, TX

MINUTES OF MEETING

1. Call to Order: Jim Mathews, NETAC General Counsel

Jim Mathews called the meeting to order at approximately 10:31 A.M.

2. Roll Call: Julie Burnfield, ETCOG Economic Development Lead

Technical Advisory Committee Present
Jim Mathews, NETAC General Counsel
Karen Owen, Longview MPO
Brett Huntsman, Longview MPO
Greg Morgan, City of Tyler
Carrie Paige, EPA
Jack Holsomback, TCEQ
Doug Boyer, TCEQ
Michelle Baetz, TCEQ
Leroy Biggers, TCEQ
Dale Booth, TxDOT
Kelly Spencer, AEP/SWEPCO
Brian Foster, EPA
Sharon Wellman, Eastman Chemical Company
David Duncan, Luminant
Chris Kotrlik, Enable Midstream

Others Present
Greg Yarwood, ENVIRON
Sue Kemball-Cook, ENVIRON
Julie Burnfield, ETCOG
Shellie Dalby, Eastman Chemical Company
Russ Nettles, TCEQ
Samantha Matulis, ETCOG
Jeremy Halland, Luminant
Amanda Nobles, Kilgore EDC

3. Discussion and Approval of Minutes of June 28, 2012, April 12, 2013, June 13, 2013 and November 18, 2013 meetings: Jim Mathews

All four sets of minutes were approved unanimously.

4. Update on EPA's Review of the Ozone Standard: EPA Representative; Jim Mathews

The current 75 ppb standard was established in March, 2008 under the Bush administration. Early in the Obama administration, EPA suspended enforcement of the 75 ppb standard and commenced a review to determine if it should be revised downward. Following two years of review, the White House determined not to proceed with a revision. Instead the administration decided to begin enforcing the 75 ppb standard and to proceed with the normal 5 year review of the standard. EPA announced a schedule for the five year review that was later extended. When EPA missed the statutory deadline for completing its 5-year review, an environmental group sued EPA to establish a firm timetable. A court decision is anticipated shortly. The environmental group has asked the court to require the EPA proposed the standard revision by December 1, 2014, and finalize the revision by October 1, 2015.

5. Update on the Ozone Advance Program: Jim Mathews

In October, 2013 NETAC submitted a letter to EPA asking for the NETAC area to be included in the Ozone Advance program. In November, 2013 EPA responded stating that NETAC met the criteria and accepted the NETAC area into the program. Within one year after commencing the program, we will need to submit to EPA a "path forward letter" identifying the actions we are taking to reduce emissions and improve ozone air quality.

No discussion was held following this presentation item.

6. Review on 2013 Ozone Season: ENVIRON

The NETAC area has 3 ozone monitors, Tyler, Longview, and Harrison County. In recent years there has been a general trend downward. Under the 2008-2010 ozone monitor data, all three monitors meet the 75ppb ozone standard and the NETAC area was designated "attainment". However, using the data from 2011, 2012 and 2013, the Longview monitor has a design value that is higher than 75ppb due primarily to the data from 2011. Going forward into the future that high year of 2011 is not going to play into the attaining the new standard.

In 2014 the design value is 75ppb that is needed to attain the standard. So if you have a 4th high that is 75ppb or lower from each monitor than you get a design value that meets the standard. All of the Longview 4th highs since 2007 have been below that line except that one year in 2011. 2011 was the hottest year on record in Texas. Going ahead, that high reading in 2011 is not going to factor into future attainment.

In 2013 there were four days that exceeded the level, June 15th and three days in September. There were three high ozone days in Longview, one in Tyler, and no high ozone days at Karnack this year. ENVIRON went through each of the high ozone days and analyzed them.

The June 15th day indicated that it was a day of low background ozone and the presence of sulfur dioxide at the Longview monitor indicated that this was likely a coal fired power impact. On September 3rd the background ozone coming into the region was 70ppb so that means all that was needed from the area was 5ppb to exceed the limit. The September 4th day at Tyler had a small influence from coal fired power plant and the regional background was about 55 ppb. It looked like a Tyler urban plume. Finally on September 6th the regional background was again high and there was potential HRVOC impact. There was no evidence of any fire influence the ozone levels of the four high days. An in depth discussion of each of the four high ozone days was then held by ENVIRON to deduce where the high ozone came from and what outside sources may have influenced the high ozone levels.

A discussion was held between committee members as to whether local sources had contribution to the high ozone and it was stated that no local sources had events on those days. Another question was asked as to whether Tyler traffic emissions could have contributed to the ozone levels and it was answered that the high levels come from an integrated value of all sources at once. The group was asked to keep in mind that given the schedule for the adoption of the new standard, it is probable that the 3 year rolling average starts with 2013, so NETAC is starting with a good number.

Another discussion was held regarding canister sampling but currently the only data comes from CAMS stations because canisters are technically challenging and canisters have not been used in years due to funding. Longview CAMS 19 does have canister capability (24 hour gradual samples) but it is not something that gives a continuous running sample.

A SOF study will be coming up this year and input for that will be appreciated. There are NOx monitors at all CAM monitors but there is currently no SO2 monitor in Karnack.

7. Review and Approval of Reports on FY 12-13 Work plan Activities: ENVIRON

a. Conceptual Model Update

This is a summary of all the technical activities that has been done in the previous biennium and summarizes the understanding of what causes high ozone in the NETAC area. It contains a summary of the current trends in attainment status, there

is a discussion of transit local emissions, and recent trends in NOx emissions for EGUs. NOx emissions from a number of local power plants and how they have changed from 2000 through 2013. There has been quite a decline over time. The conceptual model has updated a number of ambient data analyses, they have looked at all the high ozone days and described how they did the analysis on each one of those, including the evaluation of the fire impacts. The ozone modeling was summed up and there is a description of ENVIRON's revised understand of the conceptual model. There is new data based on all the analyses but it confirms their prior understanding of how ozone is formed in north east Texas.

No discussion was held following this presentation item.

b. **Haynesville Shale Truck Traffic Study**

NETAC has done Haynesville EIs in the past, one in 2009 and one in 2012 where point area source categories were focused on. One thing that was missing from both of the EIs were emissions from heavy duty diesel trucks that transport materials to and from the wells and pick up reduced water from the wells and truck it out. There was a lot of truck traffic that wasn't accounted for in the initial EI. Because a lot of these trips occurred out of the gas fields they are likely not well accounted for. As a result another EI was put together and a survey was developed and distributed to the main Haynesville operators in the area. They were asked about the types of vehicles they use, what types of trips these vehicles take, how long their trips are, and where they are going etc. One survey was all that was received back. It is difficult to develop an inventory with only one survey response so the data was supplemented with data from other studies. With this data a mobile source EI was developed for the Haynesville for 2012. We developed activity per well drilled. The inventory is said to be uncertain, it is a first cut effort that is likely to be revised. It was found that half of the on-road mobile source emissions are from truck idling at wells. The on road mobile EI is a relatively small but significant portion of the overall Haynesville emission inventory. There is a lot of uncertainty due to lack of survey response.

A discussion was held regarding the 2012 source for the Mobile EI and it was confirmed that everything was completed in 2012.

c. **Emission Inventory Review**

The purpose of this review was to take a look at the most recent TCEQ inventory reviews for the 5 county area for off-road sources, area sources, and point sources. The inventories reviewed were the area source inventory for 2008, the off-road emission inventory for 2008, and the point source emission inventory for 2006. The point source inventory is the inventory that ENVIRON was using in the ozone modeling. A trend analysis was done looking at how point source emissions have changed since 2006 through 2010. The point of the review is to see if there is anything missing or anything that is not well characterized. They compared these emission inventories with other sources like EPA's NEI.

A number of recommendations came up based on findings:

1) There is a need to develop a gas compressor engine emission inventory for gas compressor engines using natural gas production and transmission in this area. In order to figure out what is going out in the field, and in the shales, there needs to be a survey done to figure out how many engine are out there at the wells and what types of engines those are and what their operating conditions are. This will enable a more accurate emission inventory. These engines constitute a significant source of NOx.
2) Continue the effort to characterize HRVOC emissions from the Sabine Industrial District
3) There was an error in the rail emission inventory for the five county area. In the most recent emission inventory for rail it looks low when compared to other emission inventories from agencies such as EPA. The magnitude of the rail EI is about 5 tons per day which is one of the greatest contributors to off road emissions of NOx in the area so this needs to be investigated further.
4) The relationship between high ozone at CAMS 19 and emissions from the NOx-Lee power plant needs to be evaluated. The NOx-Lee power plant operates as a peaking unit so we expected this facility is going to have its highest emissions on days where we might get high ozone at CAMS 19. This will be a new type of analysis that will be important.
5) Oil and gas activity in the area will continue to be monitored.

A discussion was then held between Committee members regarding a nationwide database of oil and gas activity as well as commercially available databases. If aggregated totals are needed, that is something that will likely have to be paid for. The Railroad Commission does not have information regarding wells etc. The question was asked if there will be more surveys undertaken, and there will not be due to lack of response.

d. **Control Strategy Assessment**

A control Strategy evaluation has recently been completed. This is something that is going to be very relevant to NETAC's Path Forward letter. We know that in ozone in north east Texas, there is a very large regional background component and arrives in north Texas transported on the wind. There is also a smaller local contribution related to emissions in the NETAC area. NETAC is interested in understanding how to control this phenomenon. The purpose of the control strategy evaluation is to provide a logical data driven analysis of what strategies are available and could be effective in reducing local emissions to reduce local contributions of ozone. In order to obtain SIP credit, a control strategy evaluation has to meet certain criteria: 1) it has to be quantifiable, 2) it has to be enforceable, 3) it has to be surplus, and 4) it has to be permanent. TCEQ has asked us to focus on measures that would be under local control. The primary focus is going to be on NOx emissions reduction. HRVOC reductions are also being considered as a focus. To identify potential control strategy measures, other air quality plans that have been made by other regions in Texas are reviewed. Letters have been sent to the operators of power plants (as well as those in the Sabine Industrial District) asking them what plans they have for their facilities in the future. The companies responses were included in ENVIRON's control strategy evaluation. What we are looking at

is the potential to reduce NOx reduction, and whether there are enough NOx sources out there that can be controlled and could be used to produce a significant NOx reduction. The measure for the strategy is cost effectiveness. To answer these two questions an emissions inventory is needed and the 2011 NEI will primarily be used for the five county area. The reduction range of NOx emissions is estimated at 8 to 15 tons a day depending on how much reach you can get into those types of off-road engine equipment.

A discussion was held regarding control measures as well as the data sources for the 2011 NEI and whether EPA will know what it is when it is turned in by NETAC. The TERP program was also discussed, which is a grant program to accelerate the retrofit of engines and funding emission reductions.

e. **Ozone Modeling**

There are two ozone modeling reports, one for the 2005 episode, and one for the 2006 Rider 8 episode. Both models tend to over predict ozone. This round a new chemical mechanism called CB6R2 is being used on the models. The chemical tells you how much ozone you get from NOx and VOC. Using this mechanism improves this model substantially. Better performance is now being seen. There was a SOF study done in 2012 that estimated the HRVOC emissions from the Sabine Industrial District and from that study, there were emissions of ethene and propene that were higher than TCEQ existing EIs. So the model was run with the emissions that were in the SOF study and compared that to what they were when they ran the model with just the default TCEQ EI. They also looked at ozone emission impacts from the Haynesville Shale and the changes in anthropogenic impact between 2006 and 2012. As a collaboration with ENVIRON and TCEQ, TCEQ developed a 2012 EI that was used to look at how ozone changes in the north east Texas area between the 2012 EI and the 2006 EI. Model performance has improved quite a bit but it still has a high bias. The maximum impacts of the additional source (CB6R2) over the entire episodes are larger, the peak value is 2.4ppb. The test suggests that the 8 hour ozone impact of the Sabine Industrial District are currently underestimated in NETAC's ozone model by as much as 2.4 ppb. This is not a model for the year 2012, June 2006 meteorology is still being used, they are just putting in 2012 emissions to see how that affects the ozone model. The model shows a very large NOx reduction and each of the source categories has a significant reduction in terms of emissions. The same thing is true for VOC emissions. Emissions are coming down not only in the north east Texas area but also areas outside of here. High bias still exists in the 2005 and 2006 model despite the new chemical mechanism that improves the ozone performance. Work still needs to happen to improve this.

No discussion was held following this presentation item

8. Briefing on FY 14-15 Projects: ENVIRON

i. Conceptual Model Update

This update will be done following the 2014 ozone season so data from studies will look at the relationship between weather conditions and ozone in north east Texas

over the recent years. August/September 2006 is a new modeling episode that TCEQ has made available to ENVIRON and this will be looked at to see if it will be useful to add as part of NETAC's model.

No discussion was held following this presentation item.

ii. Emission Inventory Improvement

Update of Haynesville Shale productions will take place through 2020 using new drilling production data and they will develop an inventory using 2012 as a base year. Conventional oil and gas activity as well as shale gas activity will be looked at. Will also do an EI review.

No discussion was held following this presentation item.

iii. Control Strategy Evaluation Update

This will be updated in early 2015. The reason for doing this is in case there are changes to the control strategies that will be recommend based on changes in the area's attainment status.

iv. Ozone Modeling

The main focus will be on improving model performance and on a meteorological model that underlies the ozone model. They are going to analyze the 2006 model to find out where they are getting the overestimates from.

No discussion was held following this presentation item.

v. SOF Study in Sabine Industrial District.

A SOF study was done in 2012 which provided estimates of emissions and HRVOC which are higher than EIs. Another study will be done in September 2014 to gain more insight about where in the SID the emissions are coming from. ENVIRON will team up with Eastman to determine how they can improve the study.

The next step is doing a QAPP for each task in the work plan. Those will be submitted to TCEQ and once those are approved then the technical work can begin. No discussion was held following this presentation item.

9. Other Business

No other business was discussed

10. Adjournment

The meeting adjourned at 12:16pm