



# TexAQS II Perspective

## Summary of Study Progress and Remaining Issues

Presented by  
Jim Thomas  
November 14, 2005

# Topics of Discussion

- The Project
- The Study Area
- Benefits of TexAQS II
- Issues to be Addressed by  
TexAQSII
- Highlights of Projects Funded  
To-Date
- Next Steps



# The Project

- TexAQSI will use experienced TexAQS 2000 participants and state of the art measurement equipment.
- Study will be conducted over 14 month period, August 2005-October 2006.
- Conduct intensive field work during a 45 day period in August-September 2006.

# The Study Area



# Benefits of TexAQS II



- History demonstrates the need for robust data sets to deal with air pollution in Texas.
- Up until 2000, one hour ozone SIPs relied on control strategies that involved only VOC reductions.
- In 2000, science was pointing to major NO<sub>x</sub> reductions and moving away from VOC reductions.
- TexAQS 2000 provided science indicating that less stringent NO<sub>x</sub> reductions coupled with highly reactive VOC reduction would be just as effective and less costly.
- TexAQS II will facilitate acquisition of this type of robust data for use in the eight hour SIP work

# Benefits of TexAQS II



- As regulators move from the one hour ozone standard to the eight hour ozone standard, understanding transport of pollutants and regional air pollution impacts is much more important. Current knowledge on this topic is not sufficient.

# Benefits of TexAQS II



- The capability of photochemical models to accurately simulate the longer pollution episodes necessary to deal with the eight hour ozone standard violations will require much more accurate data inputs for emissions, meteorology, and the enhancement of calculation mechanisms for deposition, advection, and chemical reactions.

# Important Issues to be Addressed by TexAQS II



- Ozone Formation
  - What factors are responsible for very high ozone levels in Houston?
  - How are particulate matter chemistry and ozone chemistry related?
  - What is the role of nighttime chemistry in ozone formation?

# Important Issues to be Addressed by TexAQS II



- Emissions
  - Are emissions still at levels found in 2000?
  - What are temporal and spatial distribution of emissions in Houston and East Texas?
  - Are levels of emissions used in current modeling and air quality planning accurate?

# Important Issues to be Addressed by TexAQS II



- Modeling
  - What changes in modeling inputs and model calculation mechanisms are necessary to insure accurate photochemical modeling resulting in appropriate control strategies?

# Important Issues to be Addressed by TexAQS II



- Transport
  - What role does transport play in eight hour ozone violations?
  - What sources are contributing to high ozone levels upwind of some non-attainment areas and near non-attainment areas
  - What sources outside of Texas contribute to high ozone levels in Texas and how much is this contribution?

# Projects Funded To-Date

- Pilot test monitoring site
- Surface level monitoring system – UT @ Austin implemented rural transport monitoring network
- Development of field study real time forecasting capability – TAMU/ UH
- Transport in East Texas - Environ
- Complete list of funded projects in TCEQ Suggested Research Spreadsheet and on HARC website

# Next Steps

- Continue planning and logistical support for FY 06 Intensive Phase – June-October, 2006.
- Expedite receipt of additional funds in FY 07.
- Develop and implement a rapid synthesis and reporting effort to provide timely study results for use in State Implementation Plans.
- Secure adequate aircraft support for Intensive Phase of Study.
- Work to maximize the development and use of satellite data as a more efficient source of information for air quality planning purposes.