

TERC Projects and FY2006-2007 Funding

Jay Olaguer

Air Quality Program Manager

Houston Advanced Research Center

November 14, 2005

TERC Process Update

- Science Advisory Committee (SAC), June 1-2 deliberations
- TexAQS II Planning Meeting, June 13
- TCEQ-TERC Consultation
- Science-Policy Synthesis
- TERC Board Approval of New Projects
- Project H60 on Intra-State Transport
- Unified Planning for TexAQS II-2006

Science Advisory Committee

- TERC Research Teams and others presented concepts to SAC for review and ranking on June 1-2, 2005.
- Highly prioritized SCC and TexAQS II aircraft projects included in SAC review.
- SAC includes Jim Thomas, TCEQ, DOE, and NOAA representatives.
- Projects reviewed and ranked by SAC members independently of HARC.

TexAQS II Coordination

- TexAQS II Planning Meeting held at TCEQ in Austin on June 13, 2005.
- SAC prioritization of TERC projects openly shared at meeting along with update on funding constraints.
- Serious consideration given to aircraft needs of TexAQS II-2006 intensive.
- Advice from TCEQ and others sought on balancing of priorities.

TCEQ-TERC Consultation

- Representatives from TCEQ, TERC, and HARC met on two occasions after the June 1-2 SAC meeting to discuss additional projects not reviewed by the SAC to address gaps in the SIP.
- TERC pledged to seriously consider emissions inventory and control strategy projects identified by TCEQ staff.

Science-Policy Synthesis

- Need for synthesis report identified during open discussions at June 1-2 SAC meeting.
- HARC instructed by TERC Board to produce synthesis report that would outline: 1) relevance to 8-hour SIP of new research; 2) current gaps in knowledge; and 3) new projects to fill gaps.
- Discussion of draft at EPA Region 6 on August 16.
- Report formally reviewed by SAC, DFW Roadmap Committee, TERC Research Team Committee, TERC Advisory Council, TCEQ, and EPA Region 6.
- New recommended research to fill knowledge gaps included SAC-reviewed projects, TCEQ-requested projects and additional transport projects.

TERC Board Approval of New Projects

- Concern expressed by TERC Board members about impact of \$10M cut in federal funding of TexAQS II.
- New projects selected from recommendations of synthesis report such that they would not be adversely impacted by federal funding cut, and be immediately applicable to the SIP.
- On September 15, TERC Board approved \$1.1M of control strategy and SIP development projects and \$1.7M of transport projects.

Project H60

Intra-State Transport

- TERC Board requested as **top priority** a project that would assess potential effectiveness of an Intra-State equivalent of CAIR in Texas.
- Project H60 will combine a control strategy analysis with MM5 and CMAQ/CAMx modeling of historical episodes (\$390K).
- Control strategy scenarios (e.g., statewide NO_x cap) will be developed in consultation with the TCEQ and industry.
- TCEQ will host stakeholder meeting on Nov 18, 2005.
- Phase I analysis will use off-the-shelf episodes (DFW 1999, CENRAP 2002). Results by Jan 31, 2006.
- Phase II will use a 2005 ozone season model (May–September) using TexAQS II-2005 data. Detailed model inter-comparison, sensitivity and process analysis. Results by March 31, 2006.
- Final report will include an enhanced conceptual model of regional transport and background ozone that can be tested during TexAQS II-2006. Due April 30, 2006.

Other TERC Board-Approved Transport Projects

- **H44.D** Continued Satellite Data Assimilation and Modeling Support (UAH, \$80K)
- **H45.C** East Texas Air Quality Forecasting Project (UH, \$200K)
- **H45.D** Real-time Meteorological Modeling and Forecasting (TAMU, \$160K)
- **H59** 4DVar Data Assimilation (TBD, \$100K)
- **H61** Diagnostic Modeling and Data Analyses of the Summer 2005 Data of the NETPS and SETTS Field Studies (UAH, \$180K)
- **H62** Design of an Extended Tetroon and Aircraft Study (Battelle, \$75K)
- **H63** Aircraft Measurements in Support of E. Texas Transport Studies (TBD, \$500K)

(N.B. Most projects partially funded; \$854K of FY07 funds on hold.)

Chemical Measurement Projects Under Review

- **CHM-14** Use of Aircraft Measurements to Observe Ozone and Aerosol Plume Transport (NOAA, \$96K)
- **CHM-3** The TexAQS II Radical Measurement Project (UH, \$400K)
- **CHM-4** Continuation of Aircraft Measurements of Highly Reactive VOCs Using PTR-MS during TexAQS II – 2006 (TAMU, \$210K)

Meteorological Measurement Projects Under Review

- **MET-4** The Nocturnal Boundary Layer in the Houston Area and its Impact on the Vertical Ozone Distribution (UH, \$110K)
- **MET-8** Doppler Radar Observations of Boundary Layer Winds over Houston and Dallas-Ft. Worth in Support of TexAQS II (TAMU, \$41K)

Modeling Projects Under Review

- **MET-19** Using Satellite-Derived Sea Surface Temperatures in Texas Modeling Simulations (UNC, \$38K)
- **MET-7** Implementation, Evaluation and Application of Meteorological and Photochemical Ensemble Forecasts (TAMU, \$180K)
- **MET-18** Inline Photolysis Rate Calculations in Texas Modeling Simulations (UNC, \$20K)
- **MET-22** Continued Creation, Improvement, and Application of Model Evaluation Tools in Collaboration with UH and HARC Data Center (UNC, \$40K)

Funding Constraints and Unified Planning

- Roughly \$2.2M available (\$600K in FY2006 and \$1.6M in FY2007) from TERC for TexAQS II-2006 **excluding** Board-approved projects.
- This assumes \$2M available from NTRD (\$1.5M in FY2006 and \$500K in FY2007).
- TERC will collaborate with other funding entities to develop a unified, cost-effective plan for the 2006 field study.

Conclusion

- TERC has conducted a collaborative, open, and objective process to identify and implement new research relevant to the DFW and HGB 8-hour SIPs.
- TERC is committed to the development of a **unified, cost-effective** field study plan for TexAQS II-2006.