



Agenda/Contacts



- **Agenda**

- Introductions
- TERC/NTRD Overview
- EPA SBIR Program
- Break
- Applying for an SBIR Grant
- Discussion/Lunch
- Introduction to UH Test Facility
- Tour of UH Diesel Test Facility

- **Contacts**

- TERC: John Hall, jhallpa@aol.com, (512) 892-0044
- HARC: Rich Haut, rhaut@harc.edu, (281) 364-6093

- **Web Site**

- www.tercairquality.org



Texas Environmental Research Consortium (TERC)



- Established in 2002.
- 501(c)3 nonprofit organization.
- Governed by 11 member Board of Directors of the State's most prominent governmental, environmental, business and educational leaders.
- Primary focus has been air quality research to support development of ozone attainment SIPs.
- Expended \$11 million for air quality research since 2002. Budget is \$5 million (total) for next 2 years.
- Begin to administer Texas' New Technology Research and Development (NTRD) program on September 1, 2005.
- Has engaged the Houston Advanced Research Center (HARC) to serve as its research and technology manager.



The Texas Emission Reduction Plan

- Provides financial incentives to the owners/operators of diesel fueled vehicles and equipment to reduce NOx emissions (\$150 Million per Year!)
- Projects funded have to meet cost effectiveness limits:
 - \$13,000 per ton by statute
 - About \$5,000 per ton by TCEQ
- Projects must reduce NOx by at least 25%
- TERP also includes the New Technology Research and Development Program



The Legislative Goals of the NTRD Program

- Expedited verification/certification of new technologies to maximize NO_x reductions and SIP credits from diesel fueled vehicles and equipment
- Development of additional new technologies to reduce emissions from diesel sources
- Commercialization of verified/certified technologies to promote economic development in Texas
- **The NTRD Budget: \$8.0 million per year**



NTRD Requests for Grant Applications

RFGA-01 – Detailed Diesel Database Development

- Expected to be opened on or about March 20. Closes May 1, 2006.

RFGA-02 – SmartWay Technology Testing

- Expected to be opened on or about March 20. Closes May 1, 2006.

RFGA-03 – NO_x Reduction Technologies

- Expected to be opened on or about March 31, 2006 until on or about May 15, 2006.
- Will cover:
 1. Verification of Existing Verified Technologies
 2. Selective Catalytic Reduction Devices
 3. Other Exhaust Gas Treatment Devices
 4. Additional Engine Upgrade Kits
 5. Applications Testing of Devices



Key Onroad/Offroad Facts

The Houston – Galveston Region

- 33,000 heavy duty diesel trucks are in operation
- 19,000 units of construction equipment exist (evacuators, crawler tractors/dozers, rubber tireloaders, rollers, tractors/loaders/backhoes, surfacing equipment, graders, bore/driller rigs)

The DFW Region

- 30,000 heavy duty diesel trucks are in operation
- 25,000 units of construction equipment exist (evacuators, crawler tractors/dozers, rubber tireloaders, rollers, tractors/loaders/backhoes, surfacing equipment, graders, bore/driller rigs)



Impact of Engine Standards on Diesel Emissions in Houston-Galveston: An Illustration

Sources	2007 NOx Emissions (TPD)	Engine Standard Emission Reductions through 2009	Remaining 2009 Emissions
Onroad Heavy Duty Diesel	103	21	82
Construction	33	1	36.7
Marine	40	1	43.5
Locomotives	20	0	21.1
Commercial/Industrial	21.2	6	15.2
Aircraft and GSE	5.7	-	8.1
Totals	222.9	27	206.6

The TCEQ is projecting that NOx needs to be reduced by 50 – 80 % to attain the 8-hour ozone standard



Emerging 8 – Hour SIP Challenges Regarding Onroad/Offroad Diesel Vehicles



- Early air quality modeling indicates that 50% NO_x reductions may be required from onroad/offroad vehicles
- EPA's new engine standards will provide a large portion of the needed emission reductions in these areas by 2010
- The NO_x reductions resulting from EPA engine standards are not likely to be adequate relative to onroad/offroad vehicles
- Significant TIERP incentivized reductions will be needed



Today's Meeting

- Texas/TERC Goals
 - Development and deployment of NO_x-Reduction technologies in Texas.
 - Up to \$8M to companies to “make it happen”.
 - Accelerate EPA Verification.