

NTRD UPDATE

March 16, 2006

Incorporated NTRD Program Topics into EPA SBIR Program



EPA's Small Business Innovation Research (SBIR) Program

Informational Workshop – March 23, 2006

University of Houston Hilton

4800 Calhoun Street, Houston, Texas 77204-3028

The Environmental Protection Agency (EPA) is one of 11 federal agencies that participate in the SBIR Program. **EPA's next Phase I Solicitation will open on March 23, 2006 and close on May 24, 2006.** The solicitation will include topics related to retrofitting off-road diesel construction equipment for NOx reduction, fuel additives to reduce emissions from gasoline engines and new non-ethanol and non-biodiesel liquid biofuels.

The research topics were developed in cooperation with the Texas Environmental Research Consortium (TERC), Texas New Technology Research and Development (NTRD) Program and the Houston Advanced Research Center (HARC). Collaboration between these Texas programs and SBIR awardees, including assistance with prototype development, demonstration and verification testing programs, is possible in Phase II and beyond. The Texas NTRD program also provides non-SBIR grants for technologies that show potential for commercialization and significant reduction of NOx emissions.

Key Subjects and Questions Addressed at the Workshop will include:

- What is the Texas NTRD Program and what topics related to NOx reduction are of interest?
- How does one apply for EPA SBIR Phase I funding?
- What topics are of interest to the EPA for SBIR funding and how does the program function?

Participants will also tour the University of Houston Diesel Testing Facility.

Schedule

- 8:30 Registration/Continental Breakfast
- 9:00 Overview of TERC/NTRD Program
- 10:00 Overview of the EPA SBIR Program
- 11:00 Applying for an SBIR Grant
- 12:00 Q&A (Lunch provided during session)
- 1:30 Tour of UH Diesel Test Facility

Registration

Space is limited to the first 50 registrants!

Register online at:

www.tercairquality.org

Cost

The nominal \$48 registration fee is non-refundable and covers the cost of the meeting facilities, food and refreshments.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

January 31, 2006

Dr. Richard C. Haut
Director, Sustainable Technologies Group
Houston Advanced Research Center
4800 Research Forest Drive
The Woodlands, TX 77381

OFFICE OF
RESEARCH AND DEVELOPMENT

Dear Dr. Haut:

The purpose of this letter is to thank you for identifying specific areas of collaboration between EPA's Small Business Innovation Research (SBIR) Program and the Texas Environmental Research Consortium (TERC), Texas New Technology Research and Development (NTRD) Program and the Houston Advanced Research Center (HARC). We have made a good start and I think there will be significant opportunities for important collaborations in the future.

The three research areas provided in your email of January 13, 2006 provided much needed detail to the initial discussions we had in Washington, DC on December 6. We will be requesting proposals for new technologies that reduce diesel engine emissions, especially nitrogen oxides (NOx) emissions from construction equipment. We will also offer SBIR funding for development of new biofuels for internal combustion engines and innovative fuel additives to reduce emissions from gasoline engines. The SBIR Phase I Solicitation will open on March 23 and close on May 24, 2006. We expect to award up to 10 Phase I awards at about \$70,000 each and up to five follow-on Phase II awards of between \$225,000 and \$345,000. Collaboration with your programs will significantly improve the potential of these new technologies for successful commercialization.

We plan to conduct an extensive outreach program to generate interest in these technology development needs and the potential of future TERC and NTRD assistance with prototype development, demonstration and verification testing will create additional interest in these research needs. We have scheduled conferences at EPA Region 3 (Philadelphia), Region 5 (Chicago), Region 7 (Kansas City) and Region 8 (Denver). We will also participate in the National SBIR Conference in Louisville, KY. We do not currently have any workshops in Texas, but we would be willing to work with HARC if such a conference would help Texas businesses better understand SBIR requirements and opportunities.

The EPA SBIR Program looks forward to successful collaborations with TERC, NTRD and HARC. The development of new technologies will help EPA and also help reduce air pollution in Texas. If you have any questions or if you need any additional information about the EPA SBIR Solicitations, please let me know.

Sincerely yours,

Dr. James D. Galusz, P.E.
SBIR Program Manager

Internet Address (URL): <http://www.epa.gov>

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Meetings Held with OEMs and ECT Providers

- 23 meetings have been held with engine manufacturers and ECT Providers
- Several OEMs are working on engine upgrade/rebuild technologies for existing engines.
- Selective Catalytic Reduction (SCR) technologies appears to be leading candidate for 2010 engine standards. This development has reduced engine manufacturers' concerns regarding SCR retrofit technologies. Some OEMs are teaming with ECT providers to develop SCR retrofit technologies.
- Other Exhaust Gas Treatment devices show promise for reducing NOx on existing engines.
- Funding for applications testing (installation, operations, maintenance) needed in addition to verification testing.

Texas Diesel Test Facility Strategic Plan Being Developed

- Task Force includes University of Houston, HARC, EPA (Larry Jones), TCEQ (Steve Stubbs).
- Topics
 - Current Capabilities
 - The enhancements to the UH Center that are necessary to meet EPA's protocols
 - Mission/Vision/Objectives/Goals of Enhanced Facility
 - Budget/Schedule for Enhancements
- Target – Present Plan at June Board Meeting.

Initiated Development of Heavy Duty Hybrid Strategy

- Attended WestStart-CALSTART conference.
 - Meetings held with GE, Caterpillar, others to review their heavy duty hybrid development strategies.
 - Appointed to EPA Task Force to develop federal testing protocol.
- Strategy to include systems applications testing as well as technology development issues associated with components.
- Goal – Present strategy at June Board meeting.

Development of Requests for Proposals

- Currently being Reviewed
 1. Detailed Diesel Database Development (\$350k)
 2. SmartWay Technology Testing (\$200k)
 3. Verification of Existing Verified Technologies and Development of Engine Upgrade Kits (\$1,500k)
- Authorized/Under Development
 1. SmartWay Demonstration Cost Share (\$250k)
- Based on Stakeholders Meetings with OEMs and ECT Providers – Expand #3 above (increasing funding to \$7,500k) to include:
 1. Selective Catalytic Reduction Devices
 2. Other Exhaust Gas Treatment Devices
 3. Additional Engine Upgrade Kits
 4. Applications Testing of Devices

Request for Proposals

Recommended Budget Summary

Topic	Amount
<u>Current</u>	
Detailed Diesel Database Development	\$ 350,000
SmartWay Technology Testing	\$ 200,000
SmartWay Demonstration Cost Share	\$ 250,000
Technology Development/Verification and Engine Upgrade Kits	\$ 7,500,000
Subtotal – Current	\$ 8,300,000
<u>Future (estimates – actual numbers to be developed)</u>	
Upgrade of Texas Diesel Test Facility	\$ 2,000,000
Hybrid Technologies/Fuel Formulations/School Buses/Other	\$ 5,700,000
Subtotal – Future	\$ 7,700,000
Total	\$ 16,000,000

Formation of Environmental Technology Advisory Council

- Overall objective is to assist in the management of the NTRD Program through the identification of potential development topics and reviews of RFPs, review criteria, and proposals.
- Request appointment of following initial members:
 1. Dr. Jerry Caton, Texas A&M University
 2. Dr. Dan Cohn, Massachusetts Institute of Technology
 3. Dennis Johnson, US Environmental Protection Agency
 4. Dr. Don Hillebrand, Argonne National Laboratory
 5. Dr. Thomas Lanni, New York State Depart. Of Environmental Conservation
 6. Barry Liebowitz, New York State Energy Research and Development Authority
 7. Dr. Ron Matthews, University of Texas
 8. Bill Van Amburg, WestStart-CALSTART
 9. Dick Wilson, National Environmental Strategies
 10. Dr. Joe Kubsh, Manufacturers of Emission Control Association
 11. Michael Walsh, International Consultant
- Upon appointment, welcome package will be sent and first meeting will be coordinated.

Additional Activities Being Pursued

- Enhance partnership with State of New York
- Proceed to implement partnership with the North Central Texas Council of Government
- Convene and initiate consultations with cross-section of the owners/operators of diesel vehicles and equipment through NTRD Workgroup
- Press EPA to streamline the verification process
- Seek to schedule technology summit with key state leaders
- Form partnership with additional states to highlight that NOx technology needs is national challenge