

New Technology Research and Development Report

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TCEQ-TERC Contract Update

- The Status of the Contract
- The Key Provisions of the Contract
- The Budget
- The Outstanding Issues
- The Timeline to Complete the Contract

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NTRD STRATEGIC PLAN

- Plan completed. Being proposed for Board adoption on 12/15/05
- Major focal areas recommended in Strategic Plan:
 - Early retirement of vehicles or engines (re-powering)
 - Modification of existing engines
 - Retrofit with "after-treatment" devices, and
 - The use of a "cleaner" alternative diesel fuel
- The key sectors recommended for priority attention:
 - Onroad heavy duty diesel vehicles
 - New road construction
 - Locomotives
 - Marine vessels
- Additional Recommendations
 - Broad array of financial incentives needed to maximize use of new technologies, along with public education and outreach
 - Strategies to expedite the verification of technologies by the EPA need to be forged and pursued

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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 tire loaders, 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 tire loaders, rollers, tractors/loaders/backhoes, surfacing equipment, graders, bore/driller rigs)

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**Houston – Galveston Diesel
Emissions for 2007**

<u>SOURCES</u>	<u>NOx (TPD)</u>
Onroad Heavy Duty Diesel	102.91 (56.7%)
Construction	32.85 (18.1%)
Commercial Marine*	14.88 (8.2%)
Locomotives*	12.16 (6.7%)
Commercial/Industrial	14.7 (8.1%)
Other	4.0 (2.2%)
Total	181.5 (100%)

*More recent inventories put emissions from the marine sector at 40 tons per day and locomotives at 20 tons per day

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**DFW Diesel Emissions for
2007**

<u>SOURCES</u>	<u>NOx (TPD)</u>
Onroad Heavy Duty Diesel Vehicles	108.97 (67.1%)
Construction	36.54 (22.5%)
Commercial/Industrial	11.04 (6.8%)
Other	5.84 (3.6%)
Total	162.4 (100%)

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**TERP Implementation Realities of
Importance to NTRD Program**

- The cost of replacing heavy duty diesel vehicles/equipment is extremely high in comparison to a potential TERP incentive for this purpose
- Only a handful of retrofit technologies have been verified. Engine manufacturers and equipment owners/operators have major concerns about current retrofit technologies
- Repower options have promise. Support from engine manufacturers needed to facilitate this option
- Fuel formulations and additives provide relatively small NOx reduction benefits
- Local governments, construction sector and trucking companies' participation in the TERP have been limited due to technology limitations. Additionally, more cost effective technology options are needed to maximize NOx reductions in these sectors

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**TERC'S NTRD FOCUS
FOR THE NEXT
SIX MONTHS**

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Formation of the Environmental Technology Advisory Council

- An impressive pool of national experts has been assembled
- Pool includes experts who have or are working with engine manufacturers and technology vendors
- The current pool includes technology practitioners from EPA, California and New York
- The Committee membership will be finalized over the next 90 days and will be presented to the Board for approval at the next meeting in March

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Restructuring TERC's Advisory Council to Have an NTRD Focus

- The Advisory Council currently includes appointments by Board Members, HARC's managers, TERC's Executive Director, industry and environmental representatives
- Is chaired by George Beatty
- The committee's focus to date has been air quality research
- Its mission needs to be revised to include the NTRD Program, perhaps a subcommittee for this purpose
- Potential members include representative from local governments, ports, trucking entities, the locomotive industry, the construction sector, the EPA, the TCEQ, HARC's NTRD Manager
- Recommended appointments to the Committee and additional appointments will be provided to the Board for approval at the next meeting

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TERC's Partnering Efforts

- Purpose: Partner with EPA, other states, equipment manufacturers and technology vendors to highlight clean air technology needs, and the necessity of prompt action
- Productive relations being developed with EPA, California and New York. Effort will be extended to Illinois, Massachusetts, and New England states with diesel focus over the next quarter
- Technology summit in Austin with EPA, other states, engine manufacturers, diesel users and technology vendors being explored for late spring/early summer in 2006
- One-on-one meetings with the six major engine manufacturers and the 10 - 12 technology vendors being scheduled for January - February
- Series of initial meetings with the major owners and operators of diesel vehicles/equipment underway. Will be completed in January
- Will be followed by a series of key diesel sector round tables which will be completed during the first quarter of 2006

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Phase I Technology Projects Planned

- Development of Diesel Data Base
- Planning with the EPA, TCEQ and University of Houston regarding development of Texas Diesel Test Center
- The issuance of two RFPs during the 1st quarter of 2006:
 - Smartway Program Verification and Demonstration Projects
 - Verification Initiative to extend EPA Verified technologies to a broader class of engines

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Phase II RFP Development

- Phase II RFPs: Late spring/early summer of 2006, on the basis of follow-up actions with EPA, New York and the forthcoming meetings with engine manufacturers, technology vendors, and large diesel equipment owners/operators
- The needed sector focus of Phase II RFPs :
 - The construction and port sectors
 - The feasibility of bundling technologies
 - Texas Diesel Test Center
 - A strategy relating to hybrid vehicles
 - A technology development initiative with EPA's SBIR Program

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