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December 2004  
SFR-079/04

# **Texas Emissions Reduction Plan**

**Biennial Report to the  
Texas Legislature, December 2004**



# Texas Emissions Reduction Plan Biennial Report to the Texas Legislature, December 2004

Prepared by  
Environmental Planning and Implementation Division

SFR-079/04  
December 2004



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# EXECUTIVE SUMMARY

## Texas Emissions Reduction Plan

The Texas Commission on Environmental Quality (TCEQ) is pleased to provide the second biennial report in fulfillment of the requirements of Sections 386.057, 386.116(d), and 387.010 of the Texas Health and Safety Code. The first report was submitted in December 2002.

The Texas Emissions Reduction Plan (TERP) was established by the 77<sup>th</sup> Texas Legislature in 2001, through enactment of Senate Bill (SB) 5 to help improve and maintain good air quality in areas throughout the State. In 2003, House Bill (HB) 1365 was enacted and:

- established a new revenue source of vehicle title fee increases under Sections 501.138(a) and (b) of the Transportation Code to replace the \$225 out-of-state vehicle registration fee determined to be unconstitutional. In addition, under Section 151.0515 of the Tax Code the existing surcharge on the sale, lease, or rental of new or used off-road equipment increased from 1 to 2 percent and a 1 percent surcharge was added for the sale, lease, or use of model year 1997 and later heavy-duty diesel on-road vehicles under 152.0215(a) of the Tax Code;
- added a small business grants program; and,
- increased the number of eligible counties and the types of eligible projects for the Emissions Reduction Incentive and Small Business Grants Programs.

Also in 2003, House Bill (HB)37 (78<sup>th</sup> 3<sup>rd</sup> called session) revised the appropriation levels for the various TERP programs. In addition, HB 37 and HB 43 (78<sup>th</sup> regular session), defined roles for TCEQ and the Texas Council on Environmental Technology (TCET). Specifically, HB 37 authorized TCEQ, in consultation with TCET, to establish and administer the New Technology Research and Development Program.

## Program Descriptions

There are several government agencies responsible for developing and implementing the current TERP programs. In addition to TCEQ, these include the Comptroller's Office, State Energy Conservation Office, Public Utility Commission of Texas, and local governments. The Energy Systems Laboratory at Texas A & M University assists in energy efficiency and renewable energy research and emission reduction calculations. Descriptions of each program are below.

**Emissions Reduction Incentive Grants Program.** Authorized in Subchapter C, Chapter 386, of the Health and Safety Code, this program is managed by TCEQ and provides for grants to fund the incremental cost of projects in the State's 41 air quality nonattainment and near-nonattainment counties. Eligible projects include new purchases, replacements, repowers, retrofit technologies, infrastructures, and qualifying fuels.

**Small Business Grants Program.** Per Section 386.116, this is a new program for businesses that own and operate not more than two vehicles or equipment, one of which must be diesel-powered and a pre-1994 model year vehicle or non-road equipment with “uncontrolled emissions.” The program is managed by TCEQ.

**Heavy-Duty Motor Vehicle Purchase or Lease Incentive Program.** This is a TCEQ rebate program (see Sections 386.112 - 386.115) for the purchase or lease of cleaner heavy-duty ( $\geq 10,000$  lbs) vehicles.

**Light-Duty Motor Vehicle Purchase or Lease Incentive Program.** This is a rebate program on the purchase or lease of cleaner light-duty vehicles ( $\geq 8,500$  lbs and  $< 10,000$  lbs). The program is to be administered jointly by the Comptroller’s Office and TCEQ, per Subchapter D, Chapter 386.

**Energy Efficiency Grant Program.** The Public Utility Commission (PUC) has jurisdiction for the program, per Subchapter E of Chapter 386, TERP. PUC provides grants to electric companies in the 41 counties to reduce electricity consumption, resulting in less air pollution.

**Texas Building Energy Performance Standards.** Local governments have the responsibility to administer and enforce the standards found in the International Energy Conservation Code and the energy efficiency chapter of the International Residential Code. The Energy Systems Laboratory is available to assist the governments in evaluating their programs. The program is authorized per Chapter 388 of the Health and Safety Code.

**Energy Efficiency Programs in Certain Political Subdivisions.** Found in Section 388.005 and 388.006, this program requires counties and political subdivisions in the affected areas to establish energy consumption reduction goals of five percent per year in publicly-owned facilities through 2007. The organizations report their progress each year to the State Energy Conservation Office (SECO).

## **New Technology Research and Development Program (NTRD)**

In addition to the above TERP programs, TCEQ is responsible for this program, which is codified in Chapter 387 of the Health and Safety Code. Its purpose is to assist in developing solutions to air, water, and waste problems by identifying, supporting, and evaluating new environmental technologies. Highlights of the NTRD program are included in this report in compliance with Chapter 387.010.

# Funding

TERP revenues for Fiscal Year (FY) 2002 were allocated as:

- Texas Commission on Environmental Quality..... \$14.0 million
- Public Utility Commission..... \$1.5 million
- Comptroller of Public Accounts.....\$3.2 million
- Energy Systems Laboratory..... \$182,000
- Texas Council on Environmental Technology.....\$1.5 million

FY2003 revenues were allocated as:

- Texas Commission on Environmental Quality.....\$24.4 million
- Public Utility Commission . . . . . \$1.6 million
- Comptroller of Public Accounts . . . . . \$5.4 million
- Energy Systems Laboratory . . . . . \$285,000
- Texas Council on Environmental Technology . . . \$2.6 million

FY2004 revenues were allocated as:

- Texas Commission on Environmental Quality for Emissions Reduction Incentive and Small Business Grants Programs .....\$127.5 million
- Texas Commission on Environmental Quality for New Technology and Research Development Program .....\$12.9 million
- TCEQ administration costs . . . . . \$856,845
- TCEQ - near nonattainment air quality planning \$500,000
- Public Utility Commission . . . . . \$0
- Comptroller of Public Accounts . . . . . \$0
- Energy Systems Laboratory administration costs . . . \$950,421

# Results to Date

**Emissions Reduction Incentive Grants Program.** From the onset of the Program, there have been over 100 projects funded, for a total of \$42,457,507 (FY02 through FY04 1<sup>st</sup> Round). The projected NOx emission reductions is 7,541 tons, or 4.1007 tons per day (tpd) in 2007. The projected average cost per ton is \$5,630. Under a 2nd application period, held in FY '04, TCEQ is completing contracts with 195 applicants (as of November 2, 2004). Subject to final negotiation and acceptance, these projects would total an additional \$71.9 million, with projected NOx reductions of 11,825 tons and 7.82 tpd in 2007. The average cost of these projects is \$6,081 per ton of NOx reduced. Prior to the start of the FY04 2<sup>nd</sup> funding round in January 2004, TCEQ revised the Guidelines and applications, and technical support documents to reflect the legislative changes in HB 1365.

In addition, TCEQ and the Railroad Commission of Texas (RRC) developed an inter-governmental cooperative agreement to allow the RRC to implement a forklift initiative program using TERP funds.

**Small Business Grants Program.** The first Request for Applications (RFA) was completed in March 2004. Five applications were received, requesting \$818,070. As of November 2, 2004, three contracts, totaling \$234,655 were awarded.

**Heavy-Duty Motor Vehicle Purchase or Lease Incentive Program.** Due to reduced revenue from SB 5 sources, no funds were used for this Program. However, legislative changes in 2003 (HB 1365) allowed for eligible on-road heavy-duty vehicles ( $\geq 10,000$  lbs) operated in the 41 counties to be funded under the Emissions Reduction Incentive Grants Program.

**Light-Duty Motor Vehicle Purchase or Lease Incentive Program.** The Program was suspended in 2002, due to an inadequate fund balance from SB 5 revenue sources. However, because the Emissions Reduction Incentive Grant Program applies to on-road vehicles greater than 8,500 lbs, some vehicles ( $> 8,500$  lbs and  $< 10,000$  lbs) may be eligible for funding under the Emissions Reduction Incentive Grants Program.

**Energy Efficiency Grant Programs.** With the allocations given, the PUC funded projects for six utilities, five in nonattainment areas and six in near-nonattainment areas. The total projected energy savings over ten years is 183,910 megawatt-hours (MWh), a value of \$5 million saved in electric billing. The 78<sup>th</sup> Legislature retained the grant program in HB1365, but appropriated no additional funds for FY04 or FY05.

Per Section 386.205 of the Health and Safety Code, PUC must also report to TCEQ on the results achieved by investor-owned utilities that are required under SB 7 (76<sup>th</sup> regular session, 1999) to deregulate and implement energy efficiency programs funded via the transmission and distribution rates (see Section 39.905, Utilities Code). In 2003, nine companies reported to PUC, estimating a ten year projection of energy savings of 3,699,980 Mwh, a value of \$107 million saved in electric billing.

**Texas Building Energy Performance Standards.** In its December 2003 report, the Energy Systems Laboratory (Texas A & M University System) reported annual energy savings of 252,238 MWh of electricity in 2003 from energy-code compliant new residential construction in the original 38 affected counties. For the same period and areas, there were natural gas savings of 887,564 million BTUs. Additionally, the Laboratory identified municipalities whose code amendments were more or less stringent than the un-amended code.

**Energy Efficiency Programs in Certain Political Subdivisions.** The number of Texas jurisdictions adopting the 5 percent goal for public facilities increased from 176 in 2002 to 219 in 2003. The overall results of the Program, using 2001 as the base year, is a 5% average energy consumption reduction by the reporting jurisdictions. Seventy requests for preliminary energy assessments were received by SECO through 2003; 54 were completed by year's end.

**New Technology Research and Development Program.** TCEQ's 1<sup>st</sup> Request for Grant Applications period (RFGA) ended March 31, 2004. Seventy-four applications were received, requesting \$69 million. Sixteen were selected for funding with the available \$8,301,448. The 2<sup>nd</sup> RFGA period ended July 7, 2004, for FY 05 funds. Fifty-six applications were received, requesting approximately \$37 million.

## Fiscal Year 2005 Considerations for the TCEQ Programs

Based on direction from the TCEQ Commissioners and following consultation with the Advisory Board, the following issues will be addressed for FY05. The Commissioners plan to review these and other issues prior to each fiscal year's request for applications period.

**Emissions Reduction Incentive Grants Program.** The accelerated growth and competitive nature of the Program in the second half of FY04 highlighted several policy issues for the upcoming fiscal year.

- On August 16, 2004, the Commissioners approved specific allocations for the areas eligible for TERP grant funding. The allocations can be found in Appendix 8, and will apply for Fiscal Year 2005. The Commission will review the Program each year thereafter. Through this action, the Commission intends to implement the intent of the Legislature that Texas obtain the maximum State Implementation Plan (SIP) credit it can through this program, that projects be funded at an average of \$5,000 per ton, and that all affected counties receive adequate funding based on their needs. The TERP program is crucial for meeting the emission reduction obligations of the affected areas, and allocations will ensure that those obligations will be met.
- The project cost per ton eligibility criteria will be capped at \$7,000/ton
- Grants awarded for fixed infrastructure projects, such as fueling stations, will be capped at 50% of the eligible incremental costs
- TCEQ will continue to work with public entities who are interested in pursuing third party grants. No private organization third party grant projects will be considered.

**Small Business Grants Program.** The project cost per ton eligibility criteria will be capped at \$8,500/ton.

**New Technology Research and Development.** The continued focus for funding projects will be those that lead to eligible Emissions Reduction Incentive Grants Program projects. In addition, applications from competing applicants will continue to be reviewed and scored, each on their own merits. The criteria includes the potential for NOx reductions, amount of applicant's capital dedicated to the project, and potential EPA or CARB verification/certification status.



# I. OVERVIEW

The 2004 Texas Emissions Reduction Plan (TERP) Legislative Report is submitted by the Texas Commission on Environmental Quality (TCEQ) in fulfillment of the requirements of Sections 386.057 and 386.116(d). The Report is also submitted for the New Technology Research and Development Program to comply with 387.010 of the Texas Health and Safety Code. Prior to submittal, TCEQ consulted with the TERP Advisory Board on August 4, 2004, and made the draft report available for public comment on September 28th. A public meeting to take oral comments was held on October 12, 2004, with the comment period ending October 15, 2004. A summary of the comments received and TCEQ's response is contained in Appendix 9

## Purpose

TERP was established by the 77<sup>th</sup> Texas Legislature in 2001, through enactment of Senate Bill (SB) 5. The goals of the TERP, as set forth in SB 5, are to:

- ensure that the air in this state is safe to breathe and meets minimum federal standards established under the federal Clean Air Act (Section 7407, Title 42, United States Code);
- develop multi-pollutant approaches to solving the state's environmental problems; and
- adequately fund research and development that will make the state a leader in new technologies that can solve the state's environmental problems while creating new business and industry in the state.

The past and present focus of the TERP is to reduce emissions of nitrogen oxides (NO<sub>x</sub>) through voluntary economic incentive programs. The programs are intended to replace reductions that would have been achieved through two mandatory measures (time restrictions on use of construction and industrial equipment and the requirement to replace older off-road equipment with new equipment) that SB 5 directed the TCEQ to remove from the State Implementation Plan (SIP) for the Dallas-Fort Worth (DFW) and Houston-Galveston (HGA) 1-hour ozone nonattainment areas. The SIP commitments total 55.2 tons per day (tpd) to be achieved in 2007. The Austin and San Antonio areas each are also committed to achieve 2 tpd NO<sub>x</sub> reductions in 2007 from TERP in their 2004 Early Action Compacts for the 8-hour ozone standard, while the Longview-Tyler area is committed to 1.5 tpd. Other areas of the state (Beaumont-Port Arthur, Corpus-Christi, El Paso, and Victoria) that are in nonattainment or near-nonattainment status for ozone are encouraging participation in the TERP program to help reduce NO<sub>x</sub> emissions. *Appendix 1* lists the counties affected by the TERP programs.

In April 2004, EPA announced the 8 hour ozone nonattainment area designations. The Beaumont-Port Arthur nonattainment area includes Hardin, Jefferson, and Orange Counties. The Dallas-Fort Worth nonattainment area consists of Collin, Dallas, Denton, Tarrant, Ellis, Johnson, Kaufman, Parker, and Rockwall Counties. The Houston-Galveston nonattainment area is Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties.

The San Antonio area, consisting of the counties of Bexar, Comal, and Guadalupe, was also designated nonattainment, but has a deferred effective date because it is implementing an Early Action Compact. Projects in all of these counties are eligible for TERP funding.

As efforts move from addressing the 1-hour ozone standard to the new 8-hour standard, existing air quality plan commitments, such as TERP, will be accounted for in new plans.

## **Texas Emissions Reduction Plan Advisory Board**

The TERP Advisory Board is a 15-member body created under SB 5. Five members each are appointed by the Governor, Lieutenant Governor, and Speaker of the House of Representatives. The Board also includes seven ex-officio members. A list of members is included in *Appendix 2*.

Several of the recommendations contained in the TERP December 2002 Legislative Report were successfully enacted with the Board's efforts. These included restoring program funding, adding a small business grants program, increasing the number of eligible counties, and increasing the type of eligible projects under the Emissions Reduction Incentive Program.

## II. FUNDING

### Fiscal Years 2002/2003

The FY02 revenue sources were those established in SB 5. FY03 revenue sources were the same, up until July 2003, when HB 1365 changes became effective.

**Table 1. FY02/03 TERP Revenue Sources**

REVENUE SOURCE	CITATION	EXPIRES	FY02 \$\$	FY03 \$\$
1% surcharge on sale price or lease/rental amount of off road diesel equipment sold, rented or lease (effective July 2003, the surcharge was increased to 2% and a storage, use, and consumption surcharge added)	Tax Code § 151.0515(b)	9/30/08	\$7.6 million	\$9.7 million
2.5% surcharge of the total consideration on sale or lease of model year pre-1997 vehicles over 14,000 lbs (effective July 2003, HB 1365 added the surcharge for the <u>use</u> of such vehicles and a surcharge for 1997 or later model year vehicles of 1 %)	Tax Code § 151.0215(a)	9/30/08	\$3.3 million	\$6.6 million
10% surcharge of total fees due for registration of truck tractors and commercial motor vehicle	Transportation Code § 502.1675	8/31/08	\$6.7 million	\$8.6 million

REVENUE SOURCE	CITATION	EXPIRES	FY02 \$\$	FY03 \$\$
\$225 fees for inspection of out of state vehicles brought into Texas	Transportation Code § 548.256 ©)	8/31/08 - this provision was subsequently ruled unconstitutional ( <i>H.M. Dodd Motor Co. Inc. v. Tex. Dept of Public Safety, No. GN102585, 200<sup>th</sup> Dist. Ct., Travis County, Tex., Apr. 12, 2002</i> ).	\$0	\$0
As of July, 2003, portion of certificate of the vehicle title fee - \$20 out of \$33 fee for applicants in nonattainment counties and \$15 out of \$28 fee for applicants in other counties	Transportation Code § 501.138(a)	after 9/1/08 is deposited into Texas Mobility Fund	\$0	\$6.0 million
\$10 fee on commercial motor vehicles required to be inspected	Transportation Code § 548.5055	8/31/08	\$2.8 million	\$4.1 million
Interest on fund balance			\$183,000	\$532,000

Funding allocations were the same in FY03 as in FY02:

- 72 % to TCEQ to administer the Emissions Reduction Incentive Grant and Heavy-Duty Motor Vehicle Programs. Not more than 15% is to be used for the Heavy-Duty Vehicle Program. In addition, not more than 3% may be used for funding infrastructure projects under the Incentive Grants Program.
- 10 % to the Comptroller to administer the Light-Duty Motor Vehicle Purchase or Lease Incentive Program.
- 7.5% to the PUC to administer the Energy Efficiency Grant Program.

- 7.5% to Texas Council on Environmental Technology, of which \$250,000 was allocated for administration expenses, up to \$200,000 was allocated for a health effects study, and \$500,000 to be deposited in the state clean air account to supplement funding for air quality planning activities in affected counties.
- 3% for administrative costs incurred by TCEQ, the Comptroller, PUC, and the Energy Systems Laboratory.

**FY02 Revenue Allocation**

Texas Commission on Environmental Quality	\$14.0 million
Public Utility Commission	\$1.5 million
Comptroller of Public Accounts	\$3.2 million
Energy Systems Laboratory	\$182,000
Texas Council on Environmental Technology	\$1.5 million

**FY03 Revenue Allocation**

Texas Commission Environmental Quality	\$24.4 million
Public Utility Commission	\$1.6 million
Comptroller of Public Accounts	\$5.4 million
Energy Systems Laboratory	\$285,000
Texas Council on Environmental Technology	\$2.6 million

## Fiscal Year 2004

Table 2 shows the revenue sources, some of which were changed in HB 1365 (78<sup>th</sup> legislature, regular session).

**Table 2. FY04 TERP Revenue Sources**

REVENUE SOURCE	CITATION	EXPIRES	FY04 \$\$
the surcharge on the retail sale, lease, or rental of new or used off-road heavy-duty diesel equipment was increased from 1 percent to 2 percent. A surcharge of 2 percent for the storage, use, and consumption in Texas of new and used equipment was authorized.	Tax Code § 151.0515(b) and 151.0515(b)(1)	9/30/08	\$21.5 million
the 2.5 percent surcharge on sale or lease on pre-1997 model year vehicles over 14,000 lbs was expanded to include the use of such vehicles. A surcharge for 1997 or later model year vehicles of 1 % was added.	Tax Code § 151.0215(a)	9/30/08	\$8.2 million

REVENUE SOURCE	CITATION	EXPIRES	FY04 \$\$
Portion of certificate of vehicle title fee - \$20 out of \$33 fee for applicants in nonattainment counties and \$15 out of \$28 fee for applicants in other counties	Transportation Code § 501.138(a)	after 9/1/08 is deposited into Texas Mobility Fund	\$96.7 million
\$10 fee on commercial motor vehicles required to be inspected	Transportation Code § 548.5055	8/31/08	\$4.2 million
Interest on fund balance			\$1.4 million
Transfer from Texas Council on Environmental Technology			\$1.8 million
<b>Total</b>			<b>\$141.7 million</b>

In the 78<sup>th</sup> Legislative 3<sup>rd</sup> special session, HB 37 was enacted, effective October 20, 2003. This bill allocated the TERP account as follows:

- 87.5 % to be used for the Diesel Emissions Reduction Incentive Program.
- 9.5 % to be used for the New Technology Research and Development Program, of which \$500,000 is to be deposited to the Clean Air Account to supplement funding for air quality activities in the 41 counties, a maximum of \$250,000 to be used for administrative costs, and a minimum 20 % to support air quality research in the Houston-Galveston-Brazoria and Dallas-Fort Worth nonattainment areas.
- 1.5 % to cover administrative costs associated with the Diesel Emissions Reduction Incentive Program, with a maximum of \$606,845 to be spent in FY04.
- 1.5 % to the Texas Engineering Experiment Station to be used for administrative costs associated with the Texas Building Energy Performance Standards Program, with a maximum of \$950,421 in FY04.

**FY04 Revenue Allocation**

Texas Commission on Environmental Quality for Emissions Reduction Incentive and Small Business Grants Programs	\$127.5 million
Texas Commission on Environmental Quality for New Technology and Research Development Program	\$12.9 million
TCEQ administration costs	\$856,845
TCEQ - near nonattainment air quality planning	\$500,000
Public Utility Commission	\$0
Comptroller of Public Accounts	\$0
Energy Systems Laboratory administration costs	\$950,421

# III. PROGRAM ACCOMPLISHMENTS

## Emissions Reduction Incentive Grants Program

This program is managed by TCEQ and provides for grants to fund the incremental cost of projects in the State's 41 ozone nonattainment and near-nonattainment counties. Eligible projects include new purchases, replacements, repowers, retrofit technologies, infrastructures, and qualifying fuels. Since the beginning of the program, there have been two requests for application periods in each fiscal year. In FY02, the first round ended on November 21, 2001; the second deadline was March 29, 2002. The two requests for applications in FY2003 were from September 1, 2002, to October 18, 2002, and February 23, 2003, to April 9, 2003. Likewise, in FY 04, there were two rounds - the first from August 4, 2003, to September 17, 2003; the second from January 5, 2004, to March 12, 2004.

Table 3 summarizes projects funded since the beginning of the Program through August 24, 2004, by geographical area. Tables 4, 5 and 6 are subsets of Table 3.

**Table 3. Projects Funded to Date**

Area <sup>1</sup>	No. of projects	\$ awarded	projected NOx reductions (tons) <sup>2</sup>	projected 2007 NOx reductions (tons/day)	average cost per ton/NOx <sup>3</sup>
AUS	4	\$514,423	41.1708	0.0107	\$12,495
BPA	1	\$400,000	120.2500	0.0962	\$3,326
CC	1	\$15,432	3.3029	0.0026	\$4,672
DFW	31	\$11,346,229	3,079.9089	1.8832	\$3,684.00
ELP	1	\$1,475,000	327.3413	0.1637	\$4,506
HGA	70	\$23,579,095	3,060.8642	1.4761	\$7,703.00
SAT	2	\$5,116,387	908.3228	0.4682	\$5,632
<b>Total</b>	<b>110</b>	<b>\$42,457,507.00</b>	<b>7541.1609</b>	<b>4.1007</b>	<b>\$5,630.00</b>

<sup>1</sup>Projects may operate in more than one area - they are listed by the primary area of operation

<sup>2</sup>Total NOx emission reductions are estimated to occur over the life of the projects.

<sup>3</sup>The average cost per ton is based on the dollars awarded divided by the projected tons of NOx to be reduced by the projects.

**Table 4. Projects Funded in FY02 (as of October 15, 2004)**

Area	No. of projects	\$ awarded	projected NOx reductions (tons)	projected 2007 NOx reductions (tons/day)	average cost per ton/NOx
DFW	11	\$8,837,442.92	2,023.9162	1.1681	\$4,367
HGA	24	\$3,033,155.51	303.1766	0.1580	\$10,005
<b>Total</b>	<b>35</b>	<b>\$11,870,598.43</b>	<b>2,327.0928</b>	<b>1.3261</b>	<b>\$5,101</b>

**Table 5. Projects Funded in FY03 (as of October 15, 2004)**

Area	No. of projects	\$ awarded	projected NOx reductions (tons)	projected 2007 NOx reductions (tons/day)	average cost per ton/NOx
DFW	11	\$1,727,449.14	548.9207	0.3265	\$3,147
HGA	21	\$12,937,408.97	1,581.9868	0.5662	\$8,178
<b>Total</b>	<b>32</b>	<b>\$14,664,858.11</b>	<b>2,130.9075</b>	<b>0.8927</b>	<b>\$6,882</b>

**Table 6. Projects Funded in FY04 - 1<sup>st</sup> Round (as of September 7, 2004)**

Area	No. of projects	\$ awarded	projected NOx reductions (tons)	projected 2007 NOx reductions (tons/day)	average cost per ton/NOx
AUS	4	\$514,423	41.1708	0.0107	\$12,495
BPA	1	\$400,000	120.2500	0.0962	\$3,326
CC	1	\$15,432	3.3029	0.0026	\$4,672
DFW	9	\$781,337	507.0720	0.3886	\$1,541
ELP	1	\$1,475,000	327.3413	0.1637	\$4,506
HGA	25	\$7,608,532	1175.7008	0.7519	\$6,471
SAT	2	\$5,116,387	908.3228	0.4682	\$5,632
<b>Total</b>	<b>43</b>	<b>\$15,911,111.00</b>	<b>3083.1606</b>	<b>1.8819</b>	<b>\$5,161</b>

Table 7 is a summary of the projects selected for funding in the FY04 2<sup>nd</sup> round and highlights the growth in the Program and progress towards achieving the committed NOx reductions.

**Table 7. Project Selection Summary FY04 - 2<sup>nd</sup> Round (as of November 2, 2004)**

Area	No. of Projects	Grant Amount	Projected NOx Reductions (tons)	Projected 2007 NOx (Tons/day)	Average Cost per ton/NOx
AUS	42	\$5,747,208	856.77	0.58	\$6,708
BPA	7	\$2,181,910	426.48	0.29	\$5,116
CC	4	\$1,919,996	279.04	0.22	\$6,881
DFW	88	\$22,433,679	3948.65	2.59	\$5,681
ELP	2	\$457,017	114.16	0.09	\$4,003
HGA	42	\$35,011,142	5572.20	3.62	\$6,283
SAT	5	\$2,547,923	388.59	0.26	\$6,557
TYL	2	\$799,450	122.74	0.10	\$6,513
VIC	3	\$808,390	116.83	0.08	\$6,919
<b>Total</b>	<b>195</b>	<b>\$71,906,715</b>	<b>11,825.47</b>	<b>7.82</b>	<b>\$6,081</b>

Information regarding individual projects, including project descriptions, grant amounts, projected reductions in NOx emissions, and cost effectiveness, may be found in *Appendices 3 - 6*. Specific information about infrastructure projects, as required by Section 386.057(b)(2), is included in the tables.

The Program Guidelines were revised following a public comment period from August 26, 2003, through October 10, 2003. A public meeting was held on September 17, 2003, to provide the public the opportunity to present oral comments on the draft. The revised document was then made available on TCEQ's website, along with the application forms and technical supplements, for the FY04 2<sup>nd</sup> round Request for Applications.

TCEQ also held public workshops throughout the State in January and February 2004 to explain the Emissions Reduction Incentive Grant Program to interested parties. The application process was explained and staff were available to answer questions related to completing the application forms and calculating the project cost-effectiveness. Ten workshops were held, with 300+ people attending. Another round of workshops was held in August 2004 in preparation for the FY05 request for applications. Approximately 275 attended the 10 workshops.

To further improve the ability of the Emissions Reduction Incentive Grants program to achieve its goals, HB 1365 provided that persons other than owners may apply for and receive grants (section 386.103(a)). In the 2004 revised Guidelines, general procedures were spelled out for “Third-Party Grants.” In August 2004, TCEQ and the Railroad Commission of Texas (RRC) entered into an inter-governmental cooperative agreement to allow the RRC to use TERP funds for a forklift initiative program. The Program will focus on encouraging the purchase of lower-emitting forklifts and replacing, repowering, or retrofitting higher polluting forklifts. Projects funded under the Commission’s Initiative Program must meet a \$5,000 cost per ton cap. In addition, the TCEQ is working with the North Central Texas Council of Governments (NCTCOG) to develop an agreement that would allow the NCTCOG to use TERP funds for specific projects.

To minimize the risk of fraud, a three-tiered Quality Assurance and Fraud Prevention and Detection Program was developed. The three levels consist of:

- 1) Application phase - maintain a uniform process when doing application reviews, review and verify technologies, confirm emission reduction and cost effectiveness calculations, maintain an electronic database, and perform duplicate reviews.
- 2) Contract phase - for consistency, use template documents and obtain approval from TCEQ legal and central contracting offices on each contract, follow written grant management procedures, reviews for reimbursement requests are done by fiscal and program staff and program management, maintain an electronic database for contract and fiscal information, and perform on-site monitoring visits. An external auditor is contracted to physically verify grantees’ expenditures by performing on-site reviews of records and confirm the location and use of equipment.
- 3) Tracking and Reporting phase - require grantees to track usage and report to TCEQ every six months, utilize internal and external auditors to perform desk and on-site reviews of activities, maintain contract provisions for return of funds if the usage does not meet contract commitments or is not tracked and reported. This phase, along with on-site audits by TCEQ, verifies the project’s actual NOx emission reductions and usage of the funded vehicle, equipment, etc., in the affected areas during the activity life.

During the last year, TCEQ hired additional staff to fill the nine full-time-equivalent approved positions to implement the Program. In addition to reviewing applications and processing contracts, staff is responsible for the necessary follow-up monitoring and auditing activities. As the number of applications received and grants awarded increases, staffing needs are expected to increase.

## Small Business Grants Program

In accordance with Section 386.116, Texas Health and Safety Code, in FY04, the TCEQ established a grant program targeted at small businesses and other entities that own and operate not more than two vehicles or equipment, one of which must be diesel-powered and a pre-1994 model year vehicle or non-road equipment with “uncontrolled emissions.” The program is a stream-lined way for small businesses in the 41 counties to apply for financial assistance to replace or repower vehicles or equipment, via a simplified application process. The program is funded through the Emissions Reduction Incentive Program and is administered under the same quality assurance and fraud prevention and detection program measures.

The first Small Business Request for Applications (RFA) had a deadline of March 12, 2004. Five applications were received and three projects were approved for funding. The type of activities funded included replacement vehicles for businesses transporting materials and a mobile heavy-duty equipment repair operation. Table 8 summarizes the three projects.

**Table 8. Small Business Funded Projects as of November 2 , 2004**

App #	Grant Amount	Area	Projected NOx reductions (tons)	Projected NOx reductions (tons/day)	Average Cost per ton/NOx
047	\$ 38,500.00	SAT	3.2792	0.0026	\$11,741.00
415	\$ 104,531.00	DFW	9.2464	0.0074	\$11,305.00
465	\$ 91,624.00	DFW	9.2559	0.0074	\$9,899.00
<b>Total</b>	<b>\$ 234,655.00</b>		<b>21.7815</b>	<b>0.0174</b>	<b>\$10,773.13</b>

The August 2004 workshops did contain a small business grants program component to introduce the program. In addition, TCEQ held eleven workshops in October targeted for small businesses in the affected counties, with approximately 800 people in attendance. The FY05 RFA opened October 8, 2004, with an application deadline of March 31, 2005.

## New Technology Research and Development Program

This program is managed by TCEQ. The current focus is on grants to be used to support development of emissions-reducing technologies that may be used for two types of projects: those eligible for incentive grants under the Emissions Reduction Incentive Grants Program and other new technologies that show promise for commercialization, focusing on NOx emissions. Eligible projects include:

1. technologies developed and demonstrated by a vendor but not yet verified or certified for emission reduction credits;
2. technologies that have been developed and warrant a demonstration of applicability;

3. technologies that still require further development or development for other applications;
4. research for emerging technologies; and,
5. Studies to improve air quality assessment and modeling.

During FY02/03, the Program was managed by the Texas Council on Environmental Technologies (TCET). House Bill 37, (78<sup>th</sup> 3<sup>rd</sup> called session) effective October 20, 2003, transferred the functions of the former TCET to the TCEQ as the New Technology Research and Development Program (NTRD).

Table 9 summarizes the FY02/03 projects accepted by TCET. Further details regarding specific details for individual projects, including descriptions of the technical objectives and accomplishments, progress towards commercialization, and the costs and realized benefits, may be found at <http://www.tnrcc.state.tx.us/oprd/sips/research.html#links>.

**Table 9. NTRD Projects for FY02/03  
(former TCET Awards)**

<b>CONTRACT NUMBER</b>	<b>GRANTEE NAME</b>	<b>AWARD AMOUNT</b>
02-R01-11G	General Vortex Energy	\$155,000.00
02-R01-18G	Cummins West (dba Cleaire Advanced)	\$150,000.00
02-R01-21G	Eastern Research	\$120,914.00
02-R01-23G	Houston Advanced Research	\$164,419.00
02-R01-31G	El Paso Electric	\$141,458.00
02-R01-01G	Bridges to Sustainability	\$50,000.00
02-R03-01G	Environ	\$50,000.00
02-R04-01G	Environ	\$499,421.00
02R01-06G	Universal Cams, LLC	\$120,396.00
02-R01-27G	Emissions Tech. Of TX	\$81,700.00
03-R05-01G	EcoTrans Tech.	\$120,000.00
03-R05-04G	Biofriendly Corp.	\$150,000.00
03-R05-07G	Gas Tech. Institute	\$284,718.00
03-R05-08G	Power Research Inc.	\$132,009.00
03-R05-12G	URS Corp.	\$189,713.00
<b>TOTAL AWARDS</b>		<b>\$2,409,748.00</b>

In early 2004, TCEQ issued a request for grant applications (RFGA), which closed March 31, 2004. The TCEQ received 74 applications for FY04 funding, with a total requested amount of approximately \$60.8 million.

Seventeen applications were selected by TCEQ for funding with the \$8,301,448 available, with 10 projects leading towards verification of new technologies. One selected project was subsequently declined for funding by the applicant. The remaining projects include:

- 7 projects for retrofit/add-on devices for existing engines/vehicles;
- 7 projects for advanced technologies for new engines/vehicles (3 hybrid electric projects, 1 fuel cell project, and 3 fuel additive projects, with one being for locomotives);
- 1 study to improve air quality assessment and modeling, and;
- 1 advanced technology project to reduce emissions from other sources (coal-fired power plants).

Of these 16 projects, 12 could be eligible for funding by users under the TERP grants program once verified or commercially available. *Appendix 7* summarizes the 16 projects.

A request for grant applications for Fiscal Year 2005 funds was held from May 26, 2004, to July 7, 2004. Table 10 is a summary of the application categories received. Review of the applications is underway, with staff recommendations expected in the winter of 2004.

**Table 10. NTRD FY05 Request for Grant Applications Summary**

<b>GRANT TYPE</b>	<b># APPLICATIONS RECEIVED</b>
Retrofit/Add-on Technology	17
Advanced Technology-Engines	11
Air Quality Studies/Modeling	15
Advanced Technology-Buildings	0
Advanced Technology-Other	7
Qualifying Fuel	5
Other	1
<b>Total</b>	<b>56</b>

TCEQ uses the same three-tiered Quality Assurance and Fraud Prevention and Detection Program as for the Emissions Reduction Incentive Grant Program.

During the last year, TCEQ hired additional staff to fill the three approved positions to help with implementation of the Program. An additional position is approved for hiring in fiscal year 2005. In addition to reviewing applications and processing contracts, staff is responsible for the necessary management of the grant activities. As the number of contracts increases, the monitoring activities are expected to also increase.

## Heavy-Duty Motor Vehicle Purchase or Lease Incentive Program

This is a statewide TCEQ rebate program to cover the incremental cost difference of purchasing or leasing cleaner heavy-duty vehicles (10,000 lb or greater). Rules and guidelines were adopted in 2001, but due to reduced revenues, no funds have been allocated to the Program. HB 1365 (Section 10) added heavy-duty vehicles (gross vehicle rating > 8,500 lbs) this category of vehicles to be eligible for funding in the 41 counties under the Emissions Reduction Incentive Grants Program.

## Light-Duty Motor Vehicle Purchase or Lease Incentive Program

This is a program similar to the Heavy-Duty Motor Vehicle Purchase or Lease Incentive Program and applies to vehicles less than 10,000 lbs. The program is to be administered jointly by the Comptroller's Office and TCEQ. Rules and guidelines were adopted in 2001, but the Program was suspended in 2002, due to an inadequate fund balance. However, with the passage of HB 1365, some vehicles in this category (> 8,500 lbs and < 10,000 lbs) are eligible for funding under the Emissions Reduction Incentive Grants Program as of FY04.

## Energy Efficiency Grant Program

The Public Utility Commission (PUC) has jurisdiction for the program, which provides grants to electric companies in the TERP-eligible counties to reduce electricity consumption (for FY 03, this was the original 38 counties). The PUC approved templates for a variety of energy efficiency technologies to be implemented that contribute to a reduction in electric consumption. Lower energy consumption results in a reduction in electric production and an avoidance of NOx producing emissions. The FY03 TERP funds appropriated to the PUC under SB 5 totaled \$2.7 million with 100% of the funds awarded in grants to an electric cooperative, two municipal utilities, a river authority and two investor owned utilities. Due to customer demand, several grantees applied for and received multiple grants, based on the success of the initial grants. The six grantees provide electric service to five nonattainment areas and six near-nonattainment areas. The electric companies and counties where TERP funded projects were implemented are contained in Table 11.

**Table 11. PUC SB 5 Grant Locations**

<b>Electric Company</b>	<b>TERP Funded Project Areas</b>
Austin Energy	Travis and Williamson
CoServ Electric Cooperative	Collin and Denton
City Public Service	Bexar
El Paso Electric	El Paso
Entergy	Jefferson
Lower Colorado Rive Authority	Bastrop, Bexar, Caldwell, Hays, and Waller

The total projected energy savings over ten years is 183,910 megawatt-hours (MWh), a value of \$5 million saved in electric billing. The 78th Legislature retained the grant program in 2003 (HB1365), but appropriated no additional funds. Thus, the PUC has issued no requests for proposals since August 2003, but continues to work with the six utilities to ensure success in implementing their grant funded projects.

Per Section 386.205, the PUC must also report to TCEQ on the results achieved by investor-owned utilities required under SB 7 to deregulate and implement energy efficiency programs funded via the transmission and distribution rates (see Section 39.905, Utilities Code). In 2003, nine companies reported their activities to the PUC. The total estimated ten year projection of energy savings is 3,699,980 MWh, a value of \$107 million saved in electric billing.

Additional information regarding the PUC programs may be found at <http://www.puc.state.tx.us/electric/projects/25309/25309.cfm>.

## **Texas Building Energy Performance Standards**

Chapter 388 of the Texas Health and Safety Code was created in SB5 to establish new state minimum construction standards for efficiency in buildings and encourage higher levels of efficiency relative to this new baseline by recognizing locally enhanced codes, above code building performance, and exemplary efforts in publicly owned facilities. TCEQ is developing guidance and documentation procedures which may permit the energy savings and emissions reduction results of these types of programs to be included among SIP control strategies.

Local governments have the responsibility, per Section 388.003, to administer and enforce the standards found in the International Energy Conservation Code and the energy efficiency chapter of the International Residential Code. The Energy Systems Laboratory (Laboratory or Lab) within the Texas A & M University System is tasked to assist local governments in evaluating their energy code programs and responsible for identifying any municipality or county whose codes vary from the state standards and reporting its findings to TCEQ for inclusion in the TERP Report. During the 2003/2004 time period, two local entities worked with the Lab on energy code changes. The Lab determined the North Central Texas Council of Governments' (NCTCOGs) proposed regional recommendations for the Dallas-Fort Worth region on window glazing shading were substantially equal to the International Energy Conservation Code and International Residential Code. Recently, the Laboratory supported the Building & Energy Code Advisory Board of NCTCOG in developing additional energy code proposals with potential to significantly increase stringency and emissions reduction impacts, if adopted locally. The Lab also successfully reviewed several iterations of proposed energy code changes by the City of Houston dealing with local construction practices and with moisture control.

In its December 2003 report to TCEQ, the Laboratory reported annual energy savings of 252,238 MWh of electricity in 2003 from energy-code compliant new residential construction in the original 38 affected counties. For the same period and areas, there were natural gas savings of 887,564 million BTUs.

TCEQ has estimated the 2007 and 2012 cumulative NOx emissions reduction by electric power plants and natural gas demand reductions in the ERCOT area as a result of the Texas State Residential Building Codes adopted in 2001. The estimates are 3.83 tons/ozone season day emission reductions in 2007 and 6.58 tons/ozone season day emission reductions in 2012.

For more information regarding the Laboratory's latest report to TCEQ and activities in development of energy efficiency programs, go to <http://eslsb5.tamu.edu>.

## Energy Efficiency Programs in Certain Political Subdivisions

Under Section 388.05, affected counties and political subdivisions, other than school districts, in nonattainment areas or affected counties were required to establish an energy consumption reduction goal of 5 percent per year, beginning January 2002. The State Energy Conservation Office's (SECO's) role is to evaluate the effectiveness of the local entities' efforts and report its findings to TCEQ. Following passage of SB5 in 2001, SECO worked with the U.S. Department of Energy and EPA to form the Texas Energy Partnership. The Partnership provides leadership for affected jurisdictions in setting goals and determining strategies. Examples of strategies include locally-mandated or voluntary "green" building energy codes that go beyond the state minimum, street lighting and traffic signal lighting improvements, and energy conservation retrofits for buildings, including lighting, windows, appliances, and cool roofs. SECO's 2004 highlights some specific programs being implemented by the cities of Austin, Dallas, Allen, and Longview, Harris County, Lower Colorado River Authority, New Braunfels Utilities, and others (see <http://www.seco.cpa.state.tx.us/sb5report2004.pdf>).

Although HB 1365 increased the number of local jurisdictions affected by the Program, some political subdivisions were exempted from the goal-setting and reporting requirements as of 2003 (HB 1541, 78<sup>th</sup> regular session). Still, the number of Texas jurisdictions adopting the 5 percent goal increased from 176 in 2002 to 219 in 2003. The overall results of the Program, using 2001 as the base year, is a 5% average energy consumption reduction by the reporting jurisdictions.

Continued interest by counties and political subdivisions in identifying energy saving processes and working with the Texas Energy Partnership is highlighted by the fact 70 requests for preliminary energy assessments were made through 2003; 54 were completed by the end of 2003. During 2003, the Texas Energy Partnership sponsored and presented in 17 energy efficiency workshops for local governments on building technologies, energy financing, building automation, distributed generation and energy management.

## Energy Efficient/Energy Conservation Programs and the Texas SIP

The three programs administered by the Public Utility Commission, State Energy Conversation Office, and Energy Systems Laboratory may potentially provide creditable emission reductions for the State Implementation Plan. TCEQ, EPA, and the Laboratory are currently working together to determine how energy efficient programs such as those summarized in this Report may be modeled with some level of certainty for creditable emission reductions for SIP purposes, for both mandatory and voluntary measures. The Laboratory, with TCEQ and EPA funding is completing a first release of an on-line emissions reduction calculator (eCalc). Initial functionality includes capability to model annual and peak day NOx reductions from several building types (new single family housing, new multi-family construction, and new commercial office buildings), renewable energy applications, and from energy conservation retrofits to buildings and public facilities.

The calculator is being used as a pilot project with the Alamo Area Council of Governments (AACOG's) voluntary energy efficiency projects. The project includes analyzing utility bills before and after implementation of several measures. The measures consist of heating, ventilating, and air conditioning improvements, building automated controls, and lighting improvements. The annual estimated electricity savings from the three AACOG energy retrofit projects is 12,565,710 (see page 20, ESL-TR-04/08/02 Report) kWh/year. The total gas savings in all projects in 2007 is projected to be 238,656 Therms/year (see page 20, ESL-TR-04/08-02 Report). The estimated annual NOx emission reductions in 2007 being verified with the eCalc are 4.47 tons/year, or 0.0123 tons/peak-day. The ESL report is available at <http://eslsb5.tamu.edu>.



## IV. Fiscal Year 2005 Considerations for the TCEQ Programs

Based on direction from the TCEQ Commissioners and following consultation with the Advisory Board, the following issues will be addressed for FY05. The Commissioners plan to review these and other issues prior to each fiscal year's request for applications period.

**Emissions Reduction Incentive Grants Program.** The accelerated growth and competitive nature of the Program in the second half of FY04 highlighted several policy issues for the upcoming fiscal year.

- On August 16, 2004, the Commissioners approved specific allocations for the areas eligible for TERP grant funding. The allocations can be found in Appendix 8, and will apply for Fiscal Year 2005. The Commission will review the Program each year thereafter. Through this action, the Commission intends to implement the intent of the Legislature that Texas obtain the maximum State Implementation Plan (SIP) credit it can through this program, that projects be funded at an average of \$5,000 per ton, and that all affected counties receive adequate funding based on their needs. The TERP program is crucial for meeting the emission reduction obligations of the affected areas, and allocations will ensure that those obligations will be met.
- The project cost per ton eligibility criteria will be capped at \$7,000/ton.
- Grants awarded for fixed infrastructure projects, such as fueling stations, will be capped at 50% of the eligible incremental costs.
- TCEQ will continue to work with public entities who are interested in pursuing third party grants. No private organization third party grant projects will be considered.

**Small Business Grants Program.** The project cost per ton eligibility criteria will be capped \$8,500/ton.

**New Technology Research and Development.** The continued focus for funding projects will be those that lead to eligible Emissions Reduction Incentive Grants Program projects. In addition, applications from competing applicant will continue to be reviewed and scored, each on their own merits. The criteria includes the potential for NOx reductions, amount of applicant's capital dedicated to the project, and potential EPA or CARB verification/certification status.



# APPENDIX 1

## TERP ELIGIBLE COUNTIES

Bastrop	Bexar	Brazoria	Caldwell	Chambers
Collin	Comal	Dallas	Denton	Ellis
El Paso	Fort Bend	Galveston	Gregg	Guadalupe
Hardin	Harris	Harrison	Hays	Henderson
Hood	Hunt	Jefferson	Johnson	Kaufman
Liberty	Montgomery	Nueces	Orange	Parker
Rockwall	Rusk	San Patricio	Smith	Tarrant
Travis	Victoria	Waller	Williamson	Wilson
Upshur				



# APPENDIX 2

## TERP ADVISORY BOARD MEMBERS

### TERP Advisory Board Members As of July 2004

#### Appointed by the Governor

**Dr. Purnendu Kumar Dasgupta**

Paul Whitfield Horn Professor of Chemistry and Biochemistry at Texas Tech University  
Representing the Texas Council on Environmental Technology  
*term expires 2/1/05*

**John Goodman**

Chairman, Board of Directors, Goodman Global Holdings, Inc.  
Representing the Air Conditioning Manufacturing Industry  
*term expires 2/1/05*

**L. Elizabeth Gunter**

Senior Counsel, American Electric Power  
Representing the Electric Power Industry  
*term expired 2/1/04*  
*(appointment remains until new appointment is made)*

**Dr. Naomi Lede'**

Senior Research Scientist, Texas Transportation Institute  
Representing Regional Transportation  
*term expires 2/1/05*

**Mark Rhea**

Vice President, Lisa Motor Lines  
Representing the Trucking Industry  
*term expires 2/1/05*

#### Appointed by the Speaker, Texas House of Representatives

**Art Daniel**

Boring & Tunneling Company of America  
Representing the Construction Industry  
*term expires 2/1/06*

**Carmen P. Castillo**

Americans for Prosperity  
Representing Consumer Groups  
*term expires 2/1/06*

**Ralph Arrell**

WTG Fuels, Inc.  
Representing the Fuel Industry  
*term expires 2/1/06*

**Jerry Harris**

Representing the Agriculture Industry  
*term expires 2/1/06*

**Steve Late**  
President, BMW of Austin  
Representing the Automobile Industry  
*term expires 2/1/05*

**Appointed by the Lieutenant Governor**

**Michael Flores**  
Branch Manager, Johnson Controls, Inc.  
Representing the Energy-Efficient Construction Industry  
*term expires 2/1/04*  
*(appointment remains until new appointment is made)*

***Appointment pending***  
Representing the Fuel Cell Industry  
*term expires 2/1/03*

**Thomas “Smitty” Smith**  
Director, Public Citizen  
Representing the Environmental Community  
*term expires 2/1/04*  
*(appointment remains until new appointment is made)*

**Jim Crites**  
Executive Vice President - Operations, Dallas/Fort Worth International Airport Board  
Representing the Air Transportation Industry  
*term expires 2/1/03*  
*(appointment remains until new appointment is made)*

**John Mikolaitis**  
Vice President - Marketing and Customer Support, Cummins Southern Plains, Inc.  
Representing the Engine Manufacturing Industry  
*term expires 2/1/03*  
*(appointment remains until new appointment is made)*

**Ex officio Members**

**Hon. Kenneth Armbrister**  
Chair, Senate Natural Resources Committee

**Hon. Dennis Bonnen**  
Chair, House Environmental Regulation Committee

**Lynne Haase**  
Manager, Implementation Grants Section, Texas Commission on Environmental Quality

**Soll Sussman**  
Alternative Fuels Coordinator, Energy Resources, Texas General Land Office

**Dan Kelly**  
Director, Alternative Fuels Research and Education Division, Railroad Commission of Texas

**Dub Taylor**  
Director, State Energy Conservation Office, Texas Comptroller of Public Accounts

**Sandra Rennie**  
Mobile Source Team Leader, EPA Region 6

# **APPENDIX 3**

## **FY02 PROJECTS**



Texas Commission on Environmental Quality (TCEQ)

Texas Emissions Reduction Plan (TERP)

Emissions Reduction Incentive Grants Program

FY02 Projects Funded as of October 15, 2004

NOTE: Project activities may occur in more than one area. Project information is listed by primary area.

Dallas/Fort Worth Area FY02 Projects Funded as of October 15, 2004

Application	Applicant	Area	Category	Emission Source	Number of Activities	Equipment/Vehicle	Final Grant Amount	Project Life (years)	Total Projected NOx Reduction (tons)	Projected NOx Reduction in 2007 (tons/day)	Projected Project Cost Per Ton
20021002	Dallas Fort/Worth International Airport Board	DFW	purchase	nonroad	1	GradAll XL3100 Backhoe					
		DFW	purchase	nonroad	1	Tymco 210/NPR Sweeper					
					2		\$ 66,033.00	10	6.5223	0.0030	\$10,124
20021010	HOLT CAT	DFW	purchase	nonroad	4	CAT 325CL Excavator	\$ 58,400.00	5	4.9196	0.0040	\$11,871
20021016	Blue Fuels Group, LP	DFW	infrastructure	onroad	1	Truck-Mounted LNG System	\$ 118,489.50	10	32.2367	0.0129	\$3,676
20022005	Site Concrete, Inc.	DFW	purchase	nonroad	6	CAT 140H Motor Grader			16.255		
		DFW	purchase	nonroad	8	CAT 325CL Excavator			24.76		
		DFW	purchase	nonroad	2	CAT 330CL Excavator			7.296		
					16		\$ 435,896.00	5	48.2904	0.0386	\$9,027
20022007	Rodman Equipment Services	DFW	purchase	nonroad	3	CAT 140H Motor Grader	\$ 101,250.00	5	8.3874	0.00670	\$12,072
20022015	Zachry Construction Corporation	DFW	purchase	nonroad	3	CAT 140H Motor Grader			10.816		
		HGA	purchase	nonroad	1	CAT 140H Motor Grader			3.6052		
					4		\$ 163,812.00	7	14.4208	0.0082	\$11,359
20022027	Mike Albert, Inc.	DFW	purchase	nonroad	1	CAT 330CL Excavator	\$ 35,046.31	5	3.6379	0.0029	\$9,634

Application	Applicant	Area	Category	Emission Source	Number of Activities	Equipment/Vehicle	Final Grant Amount	Project Life (years)	Total Projected NOx Reduction (tons)	Projected NOx Reduction in 2007 (tons/day)	Projected Project Cost Per Ton
20022028	Dallas Fort/Worth International Airport Board	DFW	purchase	nonroad	1	Tymco 210/NPR Sweeper					
		DFW	purchase	nonroad	2	Tymco 600 Sweeper					
					3		\$ 108,500.00	10	14.6783	0.0059	\$7,392
20022038	Renaissance Contractors, Inc.	DFW	purchase	nonroad	2	CAT 330CL Excavator					
		DFW	purchase	nonroad	2	CAT 325CL Excavator					
					4		\$ 222,500.00	6	19.1476	0.0128	\$11,620
20022029	Dustrol, Inc.	DFW	repower	nonroad	2	Roadtec, 1992, grinder/repaver	\$ 124,025.00	5	15.1852	0.0122	\$8,167
20022017	Dallas Area Rapid Transit	DFW	retrofit	onroad	360	NOVA, T80206WFD, 1999 bus					
		DFW	qualifying fu	onroad	1	NOVA, T80206WFD, buses					
					361		\$ 7,403,491.11	7	1856.49	1.0609	\$3,988
<b>DFW TOTAL</b>						<b>\$ 8,837,442.92</b>		<b>2023.9162</b>	<b>1.1681</b>	<b>\$4,367</b>	

**Houston/Galveston Area FY02 Projects Funded as of October 15, 2004**

Application	Applicant	Area	Category	Emission Source	Number of Activities	Equipment/Vehicle	Final Grant Amount	Project Life (years)	Total Projected NOx Reduction (tons)	Projected NOx Reduction in 2007 (tons/day)	Projected Project Cost Per Ton
20021007	SYSCO Food Services of Houston, L.P.	HGA	retrofit	onroad	27	Sterling Truck, 8T9513, w/CAT C12 355 hp engine	\$ 577,800.00	8	50.7600	0.0253	\$11,383
	Triad Sand	HGA	purchase	nonroad	1	CAT 330CL Excavator	\$ 15,906.68				
		HGA	purchase	nonroad	1	CAT 330CL Excavator	\$ 51,287.52				

Application	Applicant	Area	Category	Emission Source	Number of Activities	Equipment/Vehicle	Final Grant Amount	Project Life (years)	Total Projected NOx Reduction (tons)	Projected NOx Reduction in 2007 (tons/day)	Projected Project Cost Per Ton
20021001	Corporation				2		\$ 67,194.20	5	7.3357	0.0059	\$9,160
20022004	Bean Construction Company	HGA	purchase	nonroad	1	CAT 330CL Excavator	\$ 16,616.93	5	3.0459	0.0024	\$5,455
20022006	Sprint Sand & Clay, LP	HGA	lease	nonroad	2	CAT 330CL Excavator	\$ 33,233.86	3	3.6552	0	\$9,092
20022008	Mustang CAT Rental Store	HGA	purchase	nonroad	3	CAT 325CL Excavator			2.8359		
		HGA	purchase	nonroad	4	CAT 330CL Excavator			5.3910		
					7		\$ 90,413.00	5	8.2271	0.0066	\$10,990
20022009	Vicon Services, Inc.	HGA	purchase	nonroad	1	CAT 330CL Excavator	\$ 33,039.96	6	3.6021	0.0024	\$9,172
20022012	JTI Contractors, Inc.	HGA	purchase	nonroad	1	CAT 330CL Excavator	\$ 33,911.00	5	4.2882	0.0034	\$7,908
20022013	G.O. Weiss, Inc.	HGA	purchase	nonroad	1	CAT 330CL Excavator	\$ 33,911.00	8	4.1167	0.0021	\$8,237
20022024	Dean Brothers Big Iron, LP	HGA	purchase	nonroad	1	CAT 140H Motor Grader	\$ 35,000.00	5	2.9710	0.0024	\$11,781
20022025	Garver Construction, Ltd.	HGA	purchase	nonroad	1	CAT 330CL Excavator	\$ 33,733.00	7	3.5270	0.0020	\$9,564
20022034	C.E. Barker, Inc. (Mustang)	HGA	purchase	nonroad	3	CAT 330CL Excavator	\$ 60,695.84	5	8.7330	0.0070	\$6,950
20022039	Brazoria County Conservation & Reclamation District # 3	HGA	purchase	nonroad	1	CAT 325CLF Excavator	\$ 34,800.00	10	3.1418	0.0013	\$11,076

Application	Applicant	Area	Category	Emission Source	Number of Activities	Equipment/Vehicle	Final Grant Amount	Project Life (years)	Total Projected NOx Reduction (tons)	Projected NOx Reduction in 2007 (tons/day)	Projected Project Cost Per Ton
20022040	Forman Equipment and Contracting Co., Inc.	HGA	purchase	nonroad	1	CAT 325CL Excavator	\$ 34,779.00	7	3.2500	0.0019	\$10,701
20022042	J.M. Resources, Inc.	HGA	purchase	nonroad	1	CAT 330CL Excavator	\$ 31,200.00	5	2.8910	0.0023	\$10,792
20022022	Holes Incorporated	HGA	qualifying fu	nonroad & c	1	vehicles and equipment	\$ 3,851.90	1	3.6503	0	\$10,894
20021006	HEB Grocery Company, LP	HGA	retrofit	onroad	12	Sterling 2002 Trucks w/CAT 2002 C-12 engines	\$ 438,978.60	6	45.4608	0.0303	\$9,656
20021001	EcoTrans Technologies, LLC	HGA	demonstrati	locomotive	1	2 switcher locomotives	\$ 283,969.14	1			
20022036	Port of Houston Authority	HGA	purchase	nonroad	5	Capacity Yard Truck, TJ5000					
		HGA	purchase	nonroad	2	Kalmer Empty Container Lift, DCE90-45E7	\$ 10,000.00	10	13.0820		
					7		\$ 10,000.00	10	13.0820	0.0052	\$764
20022019	Flexicore of Texas	HGA	qualifying fu	nonroad	1	Nonroad Construction Equipment	\$ 10,164.16	1	0.9325	0	\$10,900
20021005	Port of Houston Authority	HGA	marine	repower	2	Fireboat, 1972	\$ 337,000.00	10	54.5016	0.0218	\$6,183
20021008	City of Houston	HGA	add-on	nonroad	33	GradAll, GW-362-G3WD, 1996, Excavator	\$ 500,679.78	5	44.6909	0.0358	\$11,210
20022018	Rustin Transportation, LLP	HGA	qualifying fu	onroad	1	Mack Trucks	\$ 227,051.58	1	18.8006	0	\$12,077

Application	Applicant	Area	Category	Emission Source	Number of Activities	Equipment/Vehicle	Final Grant Amount	Project Life (years)	Total Projected NOx Reduction (tons)	Projected NOx Reduction in 2007 (tons/day)	Projected Project Cost Per Ton
20022020	J.A.M. Distributing Company	HGA	qualifying fu	onroad	1	Fuel Delivery Trucks	\$ 28,804.88	1	4.7039	0	\$6,124
20022030	Port of Houston Authority	HGA	qualifying fu	nonroad	1	Non-road Port Equipment	\$ 76,327.68	1	7.8093	0	\$9,774
<b>HGA TOTAL</b>							<b>\$ 3,033,155.51</b>		<b>303.1766</b>	<b>0.1580</b>	<b>\$10,005</b>
<b>2002 TOTAL</b>							<b>\$ 11,870,598.43</b>		<b>2327.0928</b>	<b>1.3261</b>	<b>\$5,101</b>

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# **APPENDIX 4**

## **FY03 PROJECTS**



**Texas Emissions Reduction Plan (TERP)**

**Emissions Reduction Incentive Grants Program**

**Total of FY03 Projects Funded as of October 15, 2004**

NOTE: Project activities may occur in more than one area. Project information is listed by primary area.

NOTE: In most cases, the Nox reductions and cost/ton are based on the final grant amount; .  
if the project is still open, however, those columns are based on the contract amount.

**DFW Area FY03 Projects Funded as of October 15, 2004**

Application Number**	Applicant	Area	Category	Emission Source	Number of Activities	Equipment/Vehicle	Contract Amount	Final Grant Amount	Project Life (years)	Total Projected NOx Reduction (tons)	Projected NOx Reduction in 2007 (tons/day)	Projected Project Cost Per Ton
20031001	Jackson Construction, Ltd.	DFW	purchase	nonroad	1		\$42,811.80	\$42,811.80	8	4.6565	0.0023	\$9,194
20031003	Ed Bell Construction Company	DFW	purchase	nonroad	1	CAT 330CL Excavator				2.4555		
		DFW	purchase	nonroad	1	CAT 966G Series II Wheel Loader				2.8333		
		DFW	purchase	nonroad	2	CAT 950G Series II Wheel Loader				4.705		
		DFW	purchase	nonroad	1	CAT 815F Series II Soil Compactor				1.1974		
		DFW	purchase	nonroad	2	CAT 140H Motor Grader				4.342		
							7		\$150,880.51	\$150,880.51	5	15.5332
20031005	Mike Albert, Inc.	DFW	purchase	nonroad	1	CAT 330CL Excavator	\$35,046.31	\$35,046.31	5	3.6379	0.0029	\$9,634
20031008	Charlie Guinn, Jr. dba Guinn Trucking	DFW	infrastructure - on-vehicle	nonroad	1	Frieghtliner Truck w/Cummins N14 1996 engine	\$14,000.00	\$6,990.00	5	1.3100	0.0010	\$5,336
20031020	Bright Excavation, Inc.	DFW	purchase	nonroad	1	CAT 140H Motor Grader	\$34,694.90	\$34,694.90	6	3.2090	0.0021	\$10,812
20032003	C. Glenn Thurman	DFW	purchase	nonroad	2	CAT 140H Motor Grader	\$73,526.00	\$73,526.00	7	6.3746	0.0036	\$11,534
		DFW	purchase	nonroad	1	330CL Excavator						

Application Number**	Applicant	Area	Category	Emission Source	Number of Activities	Equipment/Vehicle	Contract Amount	Final Grant Amount	Project Life (years)	Total Projected NOx Reduction (tons)	Projected NOx Reduction in 2007 (tons/day)	Projected Project Cost Per Ton
20032006	MRI Rentals, Inc	DFW	purchase	nonroad	3	CAT 140H Motor Grader						
					4		\$149,236.00	\$149,236.00	7	13.6054	0.0078	\$10,969
20031019	The Terrace Group, Inc.	DFW	purchase	nonroad	2	CAT 140H Motor Grader	\$82,536.00	\$80,536.00	10	11.8854	0.0048	\$6,776
20032002**	Dallas Area Rapid Transit	DFW	purchase	nonroad	1		\$324,000.00		1	25.4399	0.1018	\$12,736
20032007**	DFW International Airport Bd	DFW	infrastructure	nonroad	1	Charlotte M CBT350AC tow tractor	\$739,000.00		10	457.055	0.1828	\$1,617
		DFW	repower	nonroad	1	CAT D8N Dozer						
		DFW	repower	nonroad	1	CAT D8N Dozer						
20032020	Site Concrete, Inc.				2		\$81,717.62		5	6.2138	0.0050	\$13,151
<b>TOTAL</b>							<b>\$1,727,449.14</b>			<b>548.9207</b>	<b>0.3265</b>	<b>\$3,147</b>

\*\*Indicates project is still open

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#### HGA Area FY03 Projects Funded as of October 15, 2004

Application Number**	Applicant	Area	Category	Emission Source	Number of Activities	Equipment/Vehicle	Contract Amount	Final Grant Amount	Project Life (years)	Total Projected NOx Reduction (tons)	Projected NOx Reduction in 2007 (tons/day)	Projected Project Cost Per Ton
		HGA	purchase	nonroad	1	CAT 325C Excavator						
		HGA	purchase	nonroad	1	CAT 330CL Excavator						
20031011	SLC Construction, Inc.				2		\$47,206.45	\$47,206.45	5	4.3262	0.0035	\$10,912
		HGA	retrofit	onroad	13	Volvo, 2002, Garbage Trucks, w/Volvo VED7C, engine, 2000						

Application Number**	Applicant	Area	Category	Emission Source	Number of Activities	Equipment/Vehicle	Contract Amount	Final Grant Amount	Project Life (years)	Total Projected NOx Reduction (tons)	Projected NOx Reduction in 2007 (tons/day)	Projected Project Cost Per Ton	
20031012**	City of Houston	HGA	retrofit	onroad	3	Volvo, 2001, Garbage Trucks, w/Volvo VED7C, engine, 2001							
		HGA	qualifying fuel	nonroad	1	16 Volvo Garbage Trucks							
					17		\$306,500.00		7	26.2870	0.0150	\$11,660	
20031013	Wright Road Mulch, LLC	HGA	purchase	nonroad	1	John Deere 200C LC, Excavator	\$19,411.00	\$19,411.00	5	1.7530	0.0014	\$11,073	
20031016	Boring & Tunneling Company of America	HGA	purchase	nonroad	2	CAT 330CL Excavator	\$66,030.00	\$66,030.00	5	5.7170	0.0046	\$11,550	
20031017	Brazoria County	HGA	purchase	nonroad	1	CAT 140H Motor Grader							
		HGA	purchase	nonroad	1	CAT 140H Motor Grader							
		HGA	purchase	nonroad	1	CAT 140H Motor Grader							
					3		\$57,000.00	\$57,000.00	5	5.2104	0.0042	\$10,940	
20031021	Dean Brothers Big Iron, LP	HGA	purchase	nonroad	1	CAT 950G Series II Wheel Loader	\$20,480.44	\$20,480.44	5	3.2786	0.0026	\$6,247	
20031030	Rebel Contractors, Inc.	HGA	purchase	nonroad	1	CAT 330CL Excavator	\$33,700.00	\$33,700.00	5	2.8585	0.0023	\$11,789	
20031002	DMG Equipment Company	HGA	qualifying fuel	onroad, nonroad	1	Trucks and Construction Equipment	\$76,316.00	\$2,642.92	1	0.0114	0.0000	\$0	
20031010	Pace Services, Inc.	HGA	purchase	nonroad	1	CAT 325C Excavator	\$15,501.85	\$15,501.85	5	1.4152	0.0011	\$10,954	
	Metropolitan Transit Authority	HGA	retrofit	onroad	220	New Flyer 40' Bus, w/Cummins ISC 280 engine, 2001			11	1290.6740			
		HGA	qualifying fuel	onroad	1	1431 buses			1	144.7300			

Application Number**	Applicant	Area	Category	Emission Source	Number of Activities	Equipment/Vehicle	Contract Amount	Final Grant Amount	Project Life (years)	Total Projected NOx Reduction (tons)	Projected NOx Reduction in 2007 (tons/day)	Projected Project Cost Per Ton
20031025**	of Harris County				221		\$11,190,131.80		11	1435.404	0.4694	\$7,796
20031015	Randy Roan Construction, Inc.	HGA	purchase	nonroad	1	CAT 325C Excavator	\$24,206.39	\$24,206.39	5	2.2958	0.0018	\$10,544
20031027**	Wismer Distributing	HGA	qualifying fuel	onroad, nonroad	1	Trucks	\$4,725.84		1	0.3900	0.0000	\$12,118
20031008	Contractor Technology, Ltd.	HGA	purchase	nonroad	1	CAT 140H Motor Grader						
		HGA	purchase	nonroad	2	CAT 330CL Excavator						
		HGA	purchase	nonroad	6	CAT 325C Excavator						
					9		\$200,998.31	\$191,460.06	5	18.3210	0.0147	\$10,450
20032004**	Houston ISD	HGA	qualifying fuel	onroad	1		\$340,987.47		5	27.6147	0.0221	\$12,348
20032011**	Rustin Transportation Company, LP	HGA	qualifying fuel	onroad	1		\$261,540.42		5	21.5430	0.0172	\$12,140
20032014**	Port of Houston Authority	HGA	qualifying fuel	off-road	1	Detroit/Cummins equipment	\$140,116.53		1	14.4136	0.0000	\$9,721
20032016**	V & M Star, LP	HGA	qualifying fuel	nonroad	1		\$36,056.47		2	3.2977	0.0000	\$10,934
20032019	KGW, Inc.	HGA	purchase	nonroad	1	John Deere 550H LGP Dozer	\$10,000.00	\$10,000.00	5	0.9541	0.0008	\$10,481
20032023	Drymalla Construction Company	HGA	purchase	nonroad	2	John Deere 310G Turbo Backhoe						
		HGA	purchase	nonroad	2	John Deere 550 H LGP Dozer						
					4		\$35,600.00	\$17,800.00	5	3.4980	0.0028	\$5,089
20032024	Bluebonnet Corporation	HGA	purchase	nonroad	2	John Deere 310G Turbo Backhoe		\$0.00	0	0.0000	0.0000	\$0
		HGA	purchase	nonroad	2	John Deere 550H LGP Dozer		\$20,000.00	5	1.9082	0.0015	\$10,481
					4		\$35,600.00	\$20,000.00	5	1.9082	0.0015	\$10,481

Application Number**	Applicant	Area	Category	Emission Source	Number of Activities	Equipment/Vehicle	Contract Amount	Final Grant Amount	Project Life (years)	Total Projected NOx Reduction (tons)	Projected NOx Reduction in 2007 (tons/day)	Projected Project Cost Per Ton
20032027	Pavecon, Inc.	HGA	purchase	nonroad	1	John Deere 310SG Backhoe						
		HGA	purchase	nonroad	1	John Deere 310G Turbo Backhoe						
					2		\$15,300.00	\$ 15,300.00	5	1.4894	0.0012	\$ 10,272.59
<b>TOTAL</b>							<b>\$12,937,408.97</b>			<b>1581.9868</b>	<b>0.5662</b>	<b>\$8,178</b>
<b>FY03 TOTAL</b>							<b>\$14,664,858.11</b>			<b>2130.9075</b>	<b>0.8927</b>	<b>\$6,881.98</b>

\*\*Indicates project is still open

**DATA IS SUBJECT TO REVISION**



# APPENDIX 5

## FY04 1<sup>ST</sup> ROUND PROJECTS



**Texas Emissions Reduction Plan (TERP)**

Emissions Reduction Incentive Grants Program

Total of FY04 First Round Projects Funded as of September 7, 2004

NOTE: Project activities may occur in more than one area. Project information is listed by primary area.

**AUSTIN Area FY04 First Round Projects Funded as of September 7, 2004**

Application Number	Applicant	Area	Category	Emission Source	Number of Activities	Equipment/Vehicle	Contract Amount	Project Life (years)	Total Projected NOx Reduction (tons)	Projected NOx Reduction in 2007 (tons/day)	Projected Project Cost Per Ton
20041001	Capital Excavation Company						\$130,911.00	6	11.2017	0.0075	\$11,686.71
		AUS		nonroad	1	CAT 140H Motor Grader					
		AUS		nonroad	4	330CL Excavator					
20041025	Del Webb Corporation	AUS		nonroad	1	950G Wheel Loader	\$14,450.00	3	1.1851	0.0000	\$12,193.06
20041066	J C Evans Construction Holdings dba J C Evans Construction	AUS, SAT		nonroad	2	CAT 140H Motor Grader	\$47,278.00	5	3.9940	0.0032	\$11,837.26
20041033	Capital Metropolitan Transportation Authority	AUS		on-road	1	Buses	\$321,784.00	1	24.7900	0.0000	\$12,980.40
<b>AUSTIN SUBTOTAL</b>							<b>\$514,423.00</b>		<b>41.1708</b>	<b>0.0107</b>	<b>\$12,494.85</b>

**BEAUMONT/PORT ARTHUR Area FY04 First Round Projects Funded as of September 7, 2004**

Application Number	Applicant	Area	Category	Emission Source	Number of Activities	Equipment/Vehicle	Contract Amount	Project Life (years)	Total Projected NOx Reduction (tons)	Projected NOx Reduction in 2007 (tons/day)	Projected Project Cost Per Ton
20041011	Moran Towing of Texas	BPA	Retrofit/Add-on		2	Tug Boat	\$400,000.00	5	120.2500	0.0962	\$3,326.40
<b>BEAUMONT SUBTOTAL</b>							<b>\$400,000.00</b>		<b>120.2500</b>	<b>0.0962</b>	<b>\$3,326.40</b>

**CORPUS CHRISTI FY04 First Round Projects Funded as of September 7, 2004**

Application Number	Applicant	Area	Category	Emission Source	Number of Activities	Equipment/Vehicle	Contract Amount	Project Life (years)	Total Projected NOx Reduction (tons)	Projected NOx Reduction in 2007 (tons/day)	Projected Project Cost Per Ton
20041038	HAC Equipment, LTD.	CC		nonroad	1	CAT 962G Series II Wheel Loader	\$15,432.00	5	3.3029	0.0026	\$4,672.26
<b>CORPUS CHRIST SUBTOTAL</b>							<b>\$15,432.00</b>		<b>3.3029</b>	<b>0.0026</b>	<b>\$4,672.26</b>

**DALLAS/FORT WORTH FY04 First Round Projects Funded as of September 7, 2004**

Application Number	Applicant	Area	Category	Emission Source	Number of Activities	Equipment/Vehicle	Contract Amount	Project Life (years)	Total Projected NOx Reduction (tons)	Projected NOx Reduction in 2007 (tons/day)	Projected Project Cost Per Ton										
20041007	Jimmy Evans Company, Ltd.	DFW,AUS,SAT, CC, VIC, HGA, BPA		nonroad	1	CAT 140H Motor Grader	\$42,361.00	5	3.5729	0.0029	\$11,856.20										
20041014	Glenn Thurman dba Thurman Equipment	DFW, AUS, SAT, CC, VIC		nonroad	2	John Deere 310G Backhoe	\$15,600.00	5	1.3250	0.0011	\$11,773.58										
20041015	Collin County Equipment, LTD	DFW, AUS, SAT, CC, VIC		nonroad	10	John Deere 310G Backhoe	\$78,500.00	5	6.6230	0.0053	\$11,852.63										
20041016	Patco Utilities, Inc.	DFW		nonroad	1	John Deere 310SG Backhoe	\$11,000.00	5	0.9541	0.0008	\$11,529.19										
20041020	John Burns Construction of Texas, Inc.	DFW		nonroad	1	CAT 330CL Excavator	\$25,530.00	5	2.2870	0.0018	\$11,163.10										
20041013	The Burlington, Northern and Santa Fe Railway Company	DFW, TLV, BPA	Add-on		43	Switcher Locomotives	\$333,025.00	5	471.0000	0.3768	\$707.06										
20041067	City of Dallas	DFW		nonroad / on-road	1	Vehicles & Equipment	\$137,994.25	1	10.7300	0.0000	\$12,860.60										
20041009	Dallas Area Rapid Transit	DFW		on-road	1	Buses	\$131,442.00	1	10.1200	0.0000	\$12,988.34										
20041065	City of Frisco TX	DFW		nonroad	1	Equipment	\$5,884.56	1	0.4600	0.0000	\$12,792.52										
<b>DFW SUBTOTAL</b>							<b>\$781,336.81</b>		<b>507.0720</b>	<b>0.3886</b>	<b>\$1,540.88</b>										

**EL PASO FY04 First Round Projects Funded as of September 7, 2004**

Application Number	Applicant	Area	Category	Emission Source	Number of Activities	Equipment/Vehicle	Contract Amount	Project Life (years)	Total Projected NOx Reduction (tons)	Projected NOx Reduction in 2007 (tons/day)	Projected Project Cost Per Ton
20041021	Sun Metro	ELP		on-road	25	Buses	\$1,475,000.00	8	327.3413	0.1637	\$4,506.00
<b>EL PASO SUBTOTAL</b>							<b>\$1,475,000.00</b>		<b>327.3413</b>	<b>0.1637</b>	<b>\$4,506.00</b>

**HOUSTON/GALVESTON FY04 First Round Projects Funded as of September 7, 2004**

Application Number	Applicant	Area	Category	Emission Source	Number of Activities	Equipment/Vehicle	Contract Amount	Project Life (years)	Total Projected NOx Reduction (tons)	Projected NOx Reduction in 2007 (tons/day)	Projected Project Cost Per Ton
20031010	City of Houston	HGA	qualifying fuel	onroad	1	vehicles	\$512,140.11	1	40.9136	0.0000	\$12,517.60
20041017	Texas Department of Transportation	HGA		onroad/nonroad	2	Equipment and vehicles	\$661,922.67	1	51.3600	0.0000	\$12,887.90
20041019	Zachry Construction	HGA		nonroad	1	Construction Equipment	\$167,627.46	1	12.9200	0.0000	\$12,974.26
20041030	Ramos Industries, Inc.						\$38,500.00	5	3.2629	0.0026	\$11,799.32
		HGA		nonroad	2	John Deere 310G Backhoe					
		HGA		nonroad	2	John Deere 450H Dozers					
20041031	Triple B Services, LLP						\$144,000.00	5	12.1781	0.0097	\$11,824.50
		HGA, BPA		nonroad	2	John Deere 310G Turbo Backhoes					
		HGA, BPA		nonroad	3	John Deere 550H LGP Dozers					
20041032	Liberty Leasing, Inc.	HGA, BPA		nonroad	4	John Deere 450H Dozers	\$32,000.00	5	2.8168	0.0023	\$11,360.41
20041035	D. L. Elliott Enterprises, Inc.	HGA		nonroad	2	John Deere 310SG Backhoes	\$22,000.00	5	1.8518	0.0015	\$11,880.33
20041037	Styers Construction Co. Inc.	HGA		nonroad	1	John Deere 550H Dozer	\$15,000.00	10	1.3630	0.0005	\$11,005.14
20041039	Liberty Leasing, Inc.						\$99,000.00	5	8.3804	0.0067	\$11,813.28
		HGA, BPA		nonroad	4	John Deere 450H Dozer					
		HGA, BPA		nonroad	6	John Deere 310G Backhoes					
20041043	Harris Construction Company, Ltd						\$38,200.00	5	3.2450	0.0026	\$11,771.96
		HGA, BPA		nonroad	2	John Deere 310SG Backhoes					
		HGA, BPA		nonroad	2	John Deere 450H Dozers					
20041048	RWL Construction, Inc.	HGA		nonroad	1	John Deere 450H LGP Dozer	\$5,950.00	5	0.5030	0.0004	\$11,829.03

20041050	GMJ Paving Company	HGA		nonroad	2	John Deere 310G Backhoes	\$30,000.00	5	2.9143	0.0023	\$10,294.07
20041053	Remedial Construction Services	HGA		nonroad	2	John Deere 310G Backhoes	\$23,500.00	5	1.9870	0.0016	\$11,826.87
20041055	J.M.G. Construction	HGA		nonroad	1	John Deere 310G Backhoes	\$12,500.00	5	1.0597	0.0008	\$11,795.79
20041056	Orvel Wheeler	HGA		nonroad	1	John Deere 550H-LGP Dozer	\$12,000.00	5	1.0222	0.0008	\$11,739.39
20041058	C. E. Barker, Inc.						\$42,000.00	5	3.5534	0.0028	\$11,819.67
		HGA		nonroad	2	John Deere 450H LGP Dozers					
		HGA		nonroad	2	John Deere 550H LGP Dokers					
20041059	Angel Brothers Ent. Ltd.	HGA, BPA		nonroad	2	John Deere 310SG Backhoes	\$13,700.00	5	1.1574	0.0009	\$11,836.88
20041060	DMG Equipment Company, Ltd.	HGA		nonroad	2	John Deere 310SG Backhoes	\$13,700.00	5	1.1574	0.0009	\$11,836.88
20041061	Joel A. Trimm Construction Co. Inc.	HGA		nonroad	1	John Deere 550H Dozer	\$11,000.00	7	0.9541	0.0005	\$11,529.19
20041062	CDS Enterprises, Inc.						\$62,000.00	7	5.3830	0.0031	\$11,517.74
		HGA		nonroad	2	John Deere 310G Backhoes					
		HGA		nonroad	2	John Deere 310SG Backhoe					
		HGA		nonroad	2	John Deere 550H Dozer					
20041064	Zachry Construction Company	HGA		nonroad	1	Construction Equipment	\$263,104.10	2	25.4300	0.0000	\$10,346.21
20041008	Railsolve, Inc.	HGA			7	Switcher Locomotives	\$3,310,000.00	5	644.2794	0.5154	\$5,137.52
20041005	CANAC Transportation Management Inc.	HGA			2	Switcher Locomotives	\$1,150,000.00	8	246.3543	0.1232	\$4,668.07
20041023	Peltier Brothers Construction	HGA		on-road / nonroad	13	Trucks	\$456,704.00	6	55.4040	0.0369	\$8,243.16
20041069	Waste Management Inc.	HGA		on-road	16	Garbage Trucks	\$471,984.00	6	46.2500	0.0361	\$10,205.06
<b>HGA SUBTOTAL</b>							<b>\$7,608,532.34</b>		<b>1,175.7008</b>	<b>0.7519</b>	<b>\$6,471.49</b>

**SAN ANTONIO FY04 First Round Projects Funded as of September 7, 2004**

Application Number	Applicant	Area	Category	Emission Source	Number of Activities	Equipment/Vehicle	Contract Amount	Project Life (years)	Total Projected NOx Reduction (tons)	Projected NOx Reduction in 2007 (tons/day)	Projected Project Cost Per Ton
20041063	City Public Service of San Antonio	SAT		nonroad		Michigan Bulldozer	\$70,358.00	5	16.2328	0.0130	\$4,334.31
20041006	VIA Metropolitan Transit						\$5,046,029.42	8	892.0900	0.4552	\$5,656.41
		SAT		on-road	1	NABI buses		1			
		SAT		on-road	80	NABI buses, 1999		7			
		SAT		on-road	137	NABI buses, 2000		8			
<b>SAN ANTONIO SUBTOTAL</b>							<b>\$5,116,387.42</b>		<b>908.3228</b>	<b>0.4682</b>	<b>\$5,632.79</b>
<b>FY04 1ST ROUND TOTAL</b>							<b>\$15,911,111.57</b>		<b>3,083.1606</b>	<b>1.8818</b>	<b>\$5,160.65</b>

DATA IS SUBJECT TO REVISION



# APPENDIX 6

## FY04 2<sup>ND</sup> ROUND PROJECTS



Texas Commission on Environment Quality  
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	App. Number	Applicant	Approved Amount	Total Projected NOx Reduction	Tons Per Day of NOx Reduced	Projected Cost per Ton	Area(s)	Category	Equipment/Vehicles	Equipment
1	20042396	Austin White Lime Company	\$117,000	16.84	0.0135	\$6,948	AUS	Repower	Trucks	Haul trucks
2	20042147	Centex Materials, LLC	\$221,580	32.35	0.0259	\$6,849	AUS	Repower	Equipment	Loaders and dozer
3	20042395	Austin White Lime Company	\$595,926	85.13	0.0486	\$7,000	AUS	Replacement	Equipment	Loaders
4	20042315	Texas Aggregates, LLC	\$463,000	66.21	0.0530	\$6,993	AUS	Replacement	Equipment	Excavators and truck
5	20042086	Texas Lehigh Cement Company LP	\$455,254	95.63	0.0546	\$4,761	AUS	Replacement	Trucks and Equipment	Loaders and trucks
6	20042091	BFI Waste Systems of North America, Inc.	\$204,000	29.19	0.0234	\$6,989	AUS	Repower	Equipment	Dozers and Scrapers
7	20042095	Dean Word Company, Ltd.	\$331,000	47.42	0.0271	\$6,980	AUS	Replacement	Equipment	Dozers and graders
8	20042270	Texas Lehigh Cement Company LP	\$96,670	13.81	0.0110	\$7,000	AUS	Replacement	Rail Car Mover	Shuttlewagon Rail Car Mover
9	20042418	Shumaker Enterprises, Inc.	\$208,950	29.85	0.0171	\$7,000	AUS	Replacement	Equipment	Loaders
10	20042065	Texas Lehigh Cement Company LP	\$60,649	8.66	0.0069	\$7,000	AUS	Repower	Equipment	Dozers, Graders, Loaders
11	20042063	Texas Landfill Management, LLC	\$264,600	37.80	0.0302	\$7,000	AUS	Replacement	Equipment	Scraper and Compactor
12	20042327	J & J Stone Company, Inc.	\$98,441	14.06	0.0113	\$7,000	AUS	Replacement	Equipment	Case 721D
13	20042456	Weisman Equipment Company, Ltd	\$436,030	62.70	0.0358	\$6,954	AUS	Replacement	Equipment	Paver, loaders, dozers
14	20042455	Weisman Equipment Company, Ltd	\$92,540	13.22	0.0076	\$7,000	AUS	Replacement	Equipment	Grader
15	20042278	Schroeder Construction Company, Ltd	\$88,270	12.61	0.0101	\$7,000	AUS	Replacement	Equipment	Excavators
16	20042417	Shumaker Enterprises, Inc.	\$45,913	6.56	0.0052	\$7,000	AUS	Replacement	Equipment	Komatsu PC 400-7
17	20042295	Ella Contracting, Inc.	\$112,381	16.05	0.0128	\$7,000	AUS	Replacement	Equipment	Dozers
18	20042210	Centex Materials, LLC	\$22,533	3.22	0.0026	\$7,000	AUS	Replacement	Equipment	Volvo L90E
19	20042350	TXI Owen Plant	\$105,280	15.04	0.0086	\$7,000	AUS	Repower	Equipment	Volvo A30
20	20042439	S & M Businesses, Inc. dba Austin Wood Rec.	\$71,924	10.27	0.0051	\$7,003	AUS	Replacement	Equipment	Loader
21	20042183	KBJ Partnership	\$48,826	6.98	0.0047	\$7,000	AUS	Replacement	Equipment	Excavator
22	20042356	Haegelin Construction Company, Ltd.	\$81,970	11.71	0.0094	\$7,000	AUS	Replacement	Equipment	Excavator and Loaders
23	20042400	Cemex Construction Materials, LP	\$149,730	21.39	0.0122	\$7,000	AUS	Replacement	Cement Mixer	International 5600i cement mixer
24	20042454	Weisman Equipment Company, Ltd	\$10,272	1.47	0.0012	\$7,000	AUS	Repower	Equipment	Loader
25	20042132	Elgin Butler Brick Co.	\$65,380	9.34	0.0075	\$7,000	AUS	Replacement	Equipment	Volvo L150E and L60E
26	20042155	Yarrington Road Materials, LP	\$98,000	14.00	0.0080	\$7,000	AUS	Replacement	Equipment	Loader
27	20042321	Aguado Stone, Inc.	\$49,377	7.05	0.0056	\$7,000	AUS	Replacement	Equipment	Case 721D
28	20042185	K&K Enterprises	\$21,394	3.06	0.0020	\$7,000	AUS	Replacement	Equipment	CAT 953C
29	20042026	K&K Enterprises	\$17,480	2.50	0.0014	\$7,000	AUS	Replacement	Equipment	John Deere 655C Track Loader
30	20042209	K&K Enterprises	\$24,001	3.43	0.0027	\$7,000	AUS	Replacement	Equipment	Komatsu PC200LC-7
31	20042426	Capital Excavation Company	\$20,233	2.89	0.0023	\$7,000	AUS	Repower	Equipment	Trencher Trencher, CAT 3406, 2004
32	20042028	B & B Tractor & Parts	\$13,045	1.86	0.0015	\$7,000	AUS	Replacement	Truck	Kenworth T300
33	20042181	Austin Engineering Company, Inc	\$9,310	1.33	0.0011	\$7,000	AUS	Replacement	Equipment	Komatsu WA180-3MC
34	20042208	Cunningham Constructors & Assoc.	\$22,878	3.27	0.0019	\$7,000	AUS	Replacement	Equipment	Komatsu PC200LC-7
35	20042317	ID/Guerra, LP	\$30,407	4.34	0.0025	\$7,000	AUS	Replacement	Equipment	Kobelco Excavator
36	20042437	Denver's Towing	\$7,366	1.05	0.0008	\$7,000	AUS	Replacement	Truck	Freightliner M 2105

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37	20042357	Eanes ISD	\$5,460	0.78	0.0006	\$7,000	AUS	Retrofit/Add-on	Buses - Englehard PM filter w/engine recalibration	International Buses
38	20042110	Texas Landfill Management, LLC	\$36,398	7.35	0.0059	\$4,955	AUS and SAT	Repower	Equipment	Dozer
39	20042272	Dean Word Company, Ltd.	\$396,000	56.63	0.0324	\$6,993	AUS and SAT	Repower	Equipment	Excavators
40	20042296	Odeen Hibbs Trucking Company	\$292,740	41.82	0.0335	\$7,000	AUS, DFW, HGA, SAT, TYL, CC, VIC, ELP	Replacement	Trucks	Replace 8 trucks. Retrofit 18 trucks with SCR
41	20042266	Transit Mix Concrete and Materials Company	\$249,000	35.65	0.0285	\$6,985	AUS, HGA, TYL	Replacement	Trucks	Trucks
42	20042184	KBJ Partnership	\$6,000	2.25	0.0015	\$2,667	AUS, SAT, CC	Replacement	Equipment	Backhoe loader
		<b>AUSTIN AREA</b>	<b>\$5,747,208</b>	<b>856.77</b>	<b>0.58</b>	<b>\$6,708</b>				
1	20042122	Moran Towing of Texas	\$116,500	79.58	0.0637	\$1,464	BPA	Repower and infrastructure: on-site electrification and idle reduction	Tug boats and shore power infrastructure	Repower tug boats and provide electric shore power
2	20042107	Great Lakes Carbon, LLC	\$130,400	29.18	0.0233	\$4,469	BPA	Repower	Equipment	Wheel loaders
3	20042130	Kansas City Southern Railway	\$1,500,000	244.62	0.1398	\$6,132	BPA	Repower	Switcher Locomotives - Railpower Technologies "Green Goat" Hybrid System	Switcher locomotives
4	20042366	Golden Triangle Landfill, TX, LP	\$29,010	5.67	0.0045	\$5,116	BPA	Repower	Equipment	Dozer
5	20042292	Rose City Sand Corp.	\$80,000	11.52	0.0092	\$6,944	BPA	Replacement	Equipment	Loaders, tankers, pumps, generators
6	20042334	North Star Steel Texas, Inc.	\$258,000	36.99	0.0296	\$6,975	BPA	Replacement	Equipment	CAT 345 B II WMH
7	20042054	Trans Global Solutions	\$68,000	18.92	0.0151	\$3,594	BPA and other areas	Infrastructure: on-vehicle electrification/idle reduction	Switcher Locomotives - EcoTrans Auxiliary Power Unit Idle Reduction System	Switcher locomotives
		<b>BEAUMONT-PORT ARTHUR AREA</b>	<b>\$2,181,910</b>	<b>426.48</b>	<b>0.29</b>	<b>\$5,116</b>				
1	20042044	Gulf Marine Fabricators	\$973,000	138.09	0.1105	\$7,046	CC	Repower	Equipment	Nonroad equipment, including crawler cranes and graders
2	20042159	Terminal Transportation, Inc.	\$45,000	9.44	0.0076	\$4,767	CC	Repower	Equipment	Loader
3	20042371	Kiewit Offshore Services, Ltd.	\$175,365	26.30	0.0210	\$6,668	CC	Repower	Equipment	Loaders and graders
4	20042376	Berry Contracting, LP dba Bay Ltd.	\$726,631	105.21	0.0842	\$6,906	CC and HGA	Repower	Equipment	Hydraulic cranes
		<b>CORPUS CHRISTI AREA</b>	<b>\$1,919,996</b>	<b>279.04</b>	<b>0.22</b>	<b>\$6,881</b>				
1	20042071	Burlington Northern & Santa Fe Railway Co.	\$3,000,000	712.55	0.3167	\$4,210	DFW	Replacement	Switcher Locomotives -Railpower Technologies "Green Goat" Hybrid System	Switcher locomotives
2	20042114	Red Dog Tracks, Inc.	\$310,000	82.43	0.0471	\$3,761	DFW	Repower	Truck and Equipment	Wabco 60B Haul Truck and Terex 90-C Loader
3	20042136a	Union Pacific Railroad Company	\$3,020,000	748.91	0.5991	\$4,033	DFW	Replacement	Switcher Locomotives -Railpower Technologies "Green Goat" Hybrid System	Switcher locomotives
4	20042207	TXI Operations LP	\$225,759	49.57	0.0397	\$4,554	DFW	Repower	Trucks and Equipment	Dump trucks, loaders, dozer, and grader

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5	20042346	North Texas Municipal Water District	\$122,923	31.05	0.0248	\$3,959	DFW	Repower	Equipment	Dozers
6	20042194	Trinity Materials, Inc.	\$495,914	89.00	0.0509	\$5,572	DFW	Repower and replacement	Trucks and Equipment	Loaders and haul trucks
7	20042268	Texas Lime Company	\$226,528	41.31	0.0330	\$5,484	DFW	Repower	Equipment	Loaders and dozer
8	20042101	Mario Sinacola & Sons Excavating, Inc.	\$1,325,000	189.33	0.1082	\$6,998	DFW	Replacement	Equipment	Excavating equipment
9	20042171a	Vulcan Construction Materials, LP	\$1,574,930	224.99	0.1286	\$7,000	DFW	Repower and replacement	Trucks and Equipment	Nonroad equipment and haul trucks
10	20042094	Wildcat Cranes, Inc.	\$280,900	44.19	0.0253	\$6,357	DFW	Repower and replacement	Equipment	Cranes
11	20042048	TXI Operations L.P.	\$221,000	31.71	0.0254	\$6,969	DFW	Repower	Equipment	Loaders
12	20042027	DCMM Rental One, Ltd.	\$12,850	3.11	0.0025	\$4,132	DFW	Purchase	Equipment	Backhoe loader and dozer
13	20042059	BAR Constructors, Inc.	\$140,000	20.09	0.0161	\$6,969	DFW	Replacement	Equipment	Excavators
14	20042109	Austin Bridge & Road, L.P.	\$433,000	61.94	0.0496	\$6,991	DFW	Replacement	Equipment	Equipment
15	20042096	Commercial Metals Company	\$189,000	27.01	0.0154	\$6,999	DFW	Replacement	Equipment	Excavators
16	20042099	Commercial Metals Company	\$228,000	32.64	0.0187	\$6,985	DFW	Replacement	Equipment	Material handlers
17	20042083	TISEO Paving Company	\$157,000	22.51	0.0129	\$6,975	DFW	Replacement	Equipment	Loaders, graders, and backhoes
18	20042142	Dallas Area Rapid Transit	\$557,000	79.57	0.0354	\$7,000	DFW	Retrofit/Add-on	Buses - Cleaire "Longview" Emission Reduction System	Buses
19	20042141	Foundation Drillers, Inc.	\$348,810	49.83	0.0285	\$7,000	DFW	Repower	Trucks and Equipment	Cranes and carriers
20	20042435	Texas Shafts, Inc.	\$206,000	29.51	0.0169	\$6,981	DFW	Replacement and Repower	Equipment	Drilling rigs
21	20042352	Liberty Leasing, Inc.	\$876,000	125.23	0.1002	\$6,995	DFW	Replacement	Equipment	Excavators
22	20042222	Wright Construction Co., Inc.	\$265,000	37.93	0.0303	\$6,987	DFW	Replacement	Equipment	Excavators and Loaders
23	20042424	Cowtown Bus Charters	\$54,000	7.73	0.0044	\$6,986	DFW	Repower	Bus	MCI Bus
24	20042367	RWS Transport, LP	\$745,000	106.46	0.0852	\$6,998	DFW	Replacement	Trucks	Trucks
25	20042240	Dallas County Schools	\$1,283,000	183.38	0.0734	\$6,996	DFW	Retrofit/Add-on	Bus - Eglehard PM Filter w/engine recalibration	Bus
26	20042212	TXI Chaparral Steel Midlothian LP	\$105,000	15.02	0.0120	\$6,991	DFW	Repower	Equipment	Loaders
27	20042153	Acme Brick Company	\$406,000	58.02	0.0464	\$6,998	DFW	Replacement	Trucks and Equipment	Trucks, Loaders, Scrapers, Forklift
28	20042197	JMG Construction, Inc.	\$81,480	11.64	0.0093	\$7,000	DFW	Replacement	Equipment	Loaders
29	20042364	Fort Worth Excavating, Inc.	\$88,830	12.69	0.0102	\$7,000	DFW	Repower	Equipment	Graders
30	20042381	J.D. Abrams, LP	\$165,900	23.70	0.0135	\$7,000	DFW	Replacement	Equipment	Excavator and Loader
31	20042361	Jimmy Evans Company, Ltd.	\$151,814	21.69	0.0174	\$6,999	DFW	Repower	Equipment	Dozers
32	20042038	Big Excavation, Inc.	\$256,984	36.71	0.0294	\$7,000	DFW	Replacement	Equipment	Dozer and Scraper
33	20042234	CW Young Construction LP	\$45,220	6.46	0.0052	\$7,000	DFW	Replacement	Equipment	CAT 345BL II
34	20042205	HJG Trucking Company	\$45,669	6.52	0.0052	\$7,000	DFW	Replacement	Equipment	Loader
35	20042423	Rock Solid Crushed Stone	\$134,890	19.27	0.0154	\$7,000	DFW	Repower	Equipment	Loaders
36	20042227	Collin County Equipment LTD	\$126,549	18.08	0.0145	\$7,000	DFW	Replacement	Equipment	Excavators
37	20042085	Liberty Leasing, Inc.	\$117,530	16.79	0.0134	\$7,000	DFW	Repower	Equipment	Graders
38	20042206	Fincher and Rambo, Inc.	\$78,548	11.22	0.0090	\$7,000	DFW	Replacement	Equipment	Excavator
39	20042221	Izzarelli & Holdgate, LTD	\$41,003	5.86	0.0047	\$7,000	DFW	Replacement	Equipment	Case CX240
40	20042281	Woody Contractors, Inc.	\$79,170	11.31	0.0065	\$7,000	DFW	Replacement	Equipment	Loaders
41	20042448	Armor Aggregates, Ltd. dba Armor Materials	\$50,400	7.20	0.0058	\$7,000	DFW	Replacement	Equipment	CAT 769D
42	20042247	Ascend Alliance, LP	\$131,929	18.85	0.0151	\$7,000	DFW	Replacement	Equipment	Excavators and Loaders
43	20042304	William J. Schultz, Inc.	\$148,882	21.27	0.0106	\$7,000	DFW	Replacement	Equipment	Kawasaki 652V and 702V

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44	20042319	Mike Albert, Inc.	\$29,996	4.29	0.0034	\$7,000	DFW	Replacement	Equipment	Excavator
45	20042449	Armor Aggregates, Ltd. dba Armor Materials	\$50,905	7.27	0.0058	\$7,000	DFW	Replacement	Equipment	Loader
46	20042362	Four D Construction, Inc.	\$25,333	3.62	0.0029	\$7,000	DFW	Replacement	Equipment	Excavator
47	20042318	Mike Albert, Inc.	\$18,580	2.65	0.0021	\$7,000	DFW	Replacement	Equipment	Loader
48	20042397	Austin White Lime Company	\$18,337	2.62	0.0017	\$6,999	DFW	Replacement	Truck	Freightliner Columbia
49	20042112	Boyer, Inc.	\$63,889	9.13	0.0073	\$7,000	DFW	Repower	Equipment	Excavators
50	20042057	Viking Industries, Inc.	\$67,321	9.62	0.0077	\$6,998	DFW	Replacement	Equipment	Loaders
51	20042231	Mike Albert, Inc.	\$7,630	1.09	0.0009	\$7,000	DFW	Replacement	Equipment	Loader
52	20042053	North Texas Contracting, Inc	\$109,830	15.69	0.0126	\$7,000	DFW	Replacement	Equipment	Excavators
53	20042182	Precision Management and Construction	\$66,780	9.54	0.0076	\$7,000	DFW	Replacement	Equipment	Excavator
54	20042229	Craig, Sheffield and Austin, Inc.	\$17,780	2.54	0.0015	\$7,000	DFW	Replacement	Equipment	Case CX240
55	20042187	W G Cullim & Company	\$41,930	5.99	0.0048	\$7,000	DFW	Replacement	Equipment	John Deere 624J
56	20042339	SYB Construction Company, Inc.	\$28,000	4.00	0.0032	\$7,000	DFW	Replacement	Equipment	Komatsu PC228
57	20042214	Rodman Equipment Services, Inc.	\$103,625	14.80	0.0118	\$7,002	DFW	Repower	Equipment	Loaders
58	20042238	Collin County Equipment, LTD	\$30,450	4.35	0.0035	\$7,000	DFW	Replacement	Equipment	John Deere 450-LC
59	20042128	Oldcastle APG Texas, Inc. dba Custom-C	\$33,530	4.79	0.0038	\$7,000	DFW	Replacement	Truck	Kenworth T800
60	20042186	Precision Management and Construction	\$17,731	2.53	0.0020	\$7,000	DFW	Replacement	Equipment	John Deere 544J
61	20042369	Dannie Williams	\$38,043	5.43	0.0043	\$7,000	DFW	Replacement	Truck	Kenworth T2120
62	20042031	TXI Operations L.P.	\$48,580	6.94	0.0056	\$7,000	DFW	Repower	Equipment	Grader and Loaders
63	20042232	Schramme Construction Company	\$13,020	1.86	0.0011	\$7,000	DFW	Replacement	Equipment	Case SV208
64	20042409	Cowtown Bus Charters, Inc.	\$101,850	14.55	0.0083	\$7,000	DFW	Repower	Bus	Bus
65	20042213	TXI Chaparral Steel, LP	\$48,510	6.93	0.0055	\$7,000	DFW	Replacement	Equipment	Loaders
66	20042140	Thomas Valek	\$13,930	1.99	0.0016	\$7,000	DFW	Repower	Equipment	Dozer
67	20042267	Texas Lime Company	\$100,820	14.40	0.0115	\$7,000	DFW	Replacement	Equipment	Loader
68	20042139	James B. Arnold Construction, Inc.	\$77,910	11.13	0.0089	\$7,000	DFW	Replacement	Equipment	Volvo A25D
69	20042046	Double Eagle Foundation Drilling, Inc.	\$35,644	5.09	0.0041	\$7,000	DFW	Replacement	Truck	Sterling LT 7501 and CLO CD30L
70	20042305	Moss Construction Company, Inc.	\$64,757	9.25	0.0074	\$7,000	DFW	Replacement	Equipment	Excavator
71	20042373	Hawk Steel Industries, Inc.	\$60,970	8.71	0.0070	\$7,000	DFW	Replacement	Equipment	Excavator
72	20042188	BNB Structures	\$1,626	0.23	0.0002	\$7,000	DFW	Replacement	Equipment	John Deere 310SG
73	20042445	AAA Asphalt Paving, Inc.	\$48,669	6.95	0.0056	\$7,000	DFW	Replacement	Equipment	CMI PR-600
74	20042302	Southern Mechanical Plumbing, Inc.	\$43,841	6.26	0.0050	\$7,000	DFW	Replacement	Equipment	Excavators
75	20042422	Schroeder Construction Co.	\$28,431	4.06	0.0032	\$7,000	DFW	Replacement	Equipment	Komatsu PC200LC-7
76	20042403	Zemer International, LLC	\$12,810	1.83	0.0015	\$7,000	DFW	Repower	Equipment	Dozer
77	20042271	Collin County Equipment, LTD	\$23,425	3.35	0.0027	\$7,000	DFW	Replacement	Equipment	Volvo L70E
78	20042191	SMB Enterprises	\$4,981	0.71	0.0006	\$7,000	DFW	Purchase	Equipment	John Deere 310G
79	20042303	Larrett, Inc.	\$34,540	4.93	0.0039	\$7,000	DFW	Replacement	Equipment	Kobelco SK480LCVI Excavator
80	20042256	Walter Torrance dba North Texas Sand	\$32,357	4.62	0.0037	\$7,000	DFW	Replacement	Equipment	Volvo EC210B
81	20042380	James C. Meek & Scott S. Meek	\$15,890	2.27	0.0018	\$7,000	DFW	Replacement	Equipment	Volvo L70E
82	20042230	Collin County Equipment LTD	\$10,167	1.45	0.0012	\$7,000	DFW	Purchase	Equipment	John Deere 310G
83	20042013	Granbury Excavating, Inc.	\$1,470	0.21	0.0002	\$7,000	DFW	Purchase	Equipment	John Deere 310SG

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App. Number	Applicant	Approved Amount	Total Projected NOx Reduction	Tons Per Day of NOx Reduced	Projected Cost per Ton	Area(s)	Category	Equipment/Vehicles	Equipment	
84	20042289	The Letco Group, I. P.	\$250,488	41.59	0.0208	\$6,023	DFW and HGA	Repower and replacement	Trucks and Equipment	Forklifts, trucks, and compactors
85	20042228	Worldwide Flight Service, Inc.	\$869,000	124.23	0.0994	\$6,995	DFW and HGA	Replacement, new purchase, and Infrastructure: on-site electrification/idle reduction	Electric Cargo Tugs and Infrastructure	Electric tugs and charging system
86	20042138	Bulk Services Transportation, Inc.	\$600,000	90.32	0.0723	\$6,643	DFW, HGA, AUS, SAT, CC, VIC	Replacement	Trucks and Equipment	Bulk cement trucks
87	20042354	Oscar Renda Contracting, Inc.	\$278,138	40.34	0.0323	\$6,895	DFW, HGA, SAT, TYL, AUS, CC, BPA	Replacement	Equipment	Excavator
88	20042093	Claude Cox	\$288,754	70.20	0.0562	\$4,113	DFW, HGA, HGA, BPA, AUS, SAT, CC, VIC, ELP	Repower	Equipment	Loaders and dozers
		<b>DALLAS-FORT WORTH AREA</b>	<b>\$22,433,679</b>	<b>3,948.65</b>	<b>2.59</b>	<b>\$5,681</b>				
1	20042097	Commercial Metals Company	\$97,000	13.87	0.0079	\$6,994	ELP	Replacement	Equipment	Loaders
2	20042152	Key Energy Services, Inc.	\$360,017	100.29	0.0802	\$3,590	ELP and other areas	Repower	Equipment	Drilling rigs
		<b>EL PASO COUNTY</b>	<b>\$457,017</b>	<b>114.16</b>	<b>0.09</b>	<b>\$4,003</b>				
1	20042136b	Union Pacific Railroad Company	\$3,020,000	570.28	0.4562	\$5,296	HGA	Replacement	Switcher Locomotives -Railpower Technologies "Green Goat" Hybrid System	Switcher locomotives
2	20042451	Hanson Aggregates, Inc.	\$731,005	185.39	0.1401	\$3,943	HGA	Repower and replacement	Equipment	equipment, and electric generation equipment at aggregate mining operation.
3	20042478	CANAC Transportation Management, Inc.	\$3,450,000	534.98	0.2675	\$6,449	HGA	Replacement	Switcher Locomotives -Railpower Technologies "Green Goat" Hybrid System	Switcher locomotives
4	20042331	Harris Construction Company, Ltd.	\$45,671	11.49	0.0077	\$3,973	HGA	Replacement	Equipment	Excavator
5	20042195	Nature's Way Resource Management, Inc.	\$12,069	4.23	0.0024	\$2,855	HGA	Repower	Equipment	Fuel Harvester Screen Plant, Model E622
6	20042411	Shippers Stevedoring Company	\$338,139	50.22	0.0402	\$6,733	HGA	Replacement	Equipment	Yard Trucks
7	20042113	Jancintoport International, LP	\$710,000	101.53	0.0812	\$6,993	HGA	Replacement	Equipment	Terminal tractors and forklifts
8	20042090	Hodges Ready Mix Company, Inc.	\$39,458	6.50	0.0052	\$6,070	HGA	Repower	Equipment	Loader
9	20042193	TXI Clodine Expanded Shale & Clay Products PI	\$230,969	32.99	0.0264	\$7,001	HGA	Repower	Equipment	Loaders and scrapers
10	20042226	Rail Link Inc. dba RL Switching	\$594,000	84.88	0.0679	\$6,998	HGA	Replacement	Switcher Locomotives -Railpower Technologies "Green Goat" Hybrid System	Switcher locomotive
11	20042308	Robinson Iron & Metal Company, Inc.	\$1,405,279	200.75	0.1147	\$7,000	HGA	Replacement	Equipment	Excavators
12	20042078	Houston Tubulars, Inc.	\$216,779	30.97	0.0248	\$7,000	HGA	Replacement	Equipment	Loaders
13	20042447	Gulf Stream Marine, Inc.	\$102,550	14.65	0.0117	\$7,000	HGA	Replacements	Equipment	Equipment
14	20042341	Galveston Railroad, LP	\$585,000	83.71	0.0372	\$6,988	HGA	Replacement	Switcher Locomotives -Railpower Technologies "Green Goat" Hybrid System	Switcher locomotives
15	20042135	Remedial Construction Services, LP	\$135,000	19.37	0.0155	\$6,969	HGA	Replacement	Equipment	Moxy MT31, Liebherr R 954 B
16	20042150	Gulf Stream Marine	\$105,000	15.06	0.0120	\$6,972	HGA	Replacement	Equipment	Capacity TJ7000
17	20042310	AIMCOR Global Industrial Services	\$943,000	134.84	0.1079	\$6,994	HGA	Replacement	Equipment	Loaders and dozers

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App. Number	Applicant	Approved Amount	Total Projected NOx Reduction	Tons Per Day of NOx Reduced	Projected Cost per Ton	Area(s)	Category	Equipment/Vehicles	Equipment	
18	20042298	Cherry Crushed Concrete, Inc.	\$460,000	65.75	0.0526	\$6,996	HGA	Replacement	Equipment	Excavators and Loaders
19	20042382	Commercial Metals Company	\$74,000	10.67	0.0061	\$6,935	HGA	Replacement	Equipment	CAT 330CL
20	20042180	Rose Acquisition, LLP	\$132,000	18.91	0.0108	\$6,980	HGA	Replacement	Equipment	Excavators and Loaders
21	20042384	Durwood Greene Construction, LP	\$43,897	6.27	0.0050	\$7,001	HGA	Replacement	Equipment	Loader
22	20042167	Dixie Box & Crating of Texas, Inc.	\$125,000	17.97	0.0144	\$6,956	HGA	Replacement	Equipment	Loaders
23	20042250	Dorsett Brothers Concrete Supply, Inc.	\$111,000	15.94	0.0128	\$6,964	HGA	Replacement	Trucks	Trucks
24	20042035	L&W Excavators, Inc.	\$332,000	47.52	0.0380	\$6,987	HGA	Replacement	Equipment	Excavators and tractors
25	20042165	Genesis Aircraft Support, Inc	\$75,000	10.75	0.0061	\$6,979	HGA	Replacement	Equipment	CAT P5000-LP
26	20042323	Galveston Party Boats, Inc.	\$445,350	71.71	0.0287	\$6,210	HGA	Repower	Commercial Vessel	Breaux's Bay Craft, Fishing, Detroit Dies.
27	20042275	Echo Towing Service, Inc.	\$177,516	50.20	0.0287	\$3,536	HGA and BPA	Repower	Push Boats	Push Boats
28	20042413	Echo Towing Service, Inc.	\$177,516	50.20	0.0287	\$3,536	HGA and BPA	Repower	Push Boats	Push Boat auxiliary and propulsion engines
29	20042198	Laxson Boats, Inc.	\$177,516	47.69	0.0273	\$3,722	HGA and BPA	Repower	Push Boat	Propulsion and auxiliary engines on push boat
30	20042220	Railsolve, Inc.	\$8,305,000	1186.47	0.6780	\$7,000	HGA and BPA	Replacement	Switcher Locomotives -Railpower Technologies "Green Goat" Hybrid System	Switcher locomotives
31	20042459	Inter-Bay Marine, Inc.	\$43,150	8.61	0.0049	\$5,012	HGA and BPA	Repower	Push Boat	Push Boat auxiliary engine
32	20042320	Buffalo Marine Services, Inc.	\$1,892,000	270.32	0.1802	\$6,999	HGA and BPA	Repower	Tug Boat	Tug auxiliary and main engines
33	20042215	Pool Company Texas Ltd	\$230,000	32.86	0.0188	\$7,000	HGA and BPA	Repower	Equipment	Cranes
34	20042070	Boring & Tunneling Company of America, Inc.	\$123,882	19.17	0.0153	\$6,462	HGA and DFW	Replacement	Generator Sets	Generator sets
35	20042440	Breathwit Marine Contractors, Inc	\$503,497	154.91	0.0885	\$3,250	HGA and VIC	Repower and replacement	Equipment and push/tow boats	repower auxiliary and propulsion engines on push boats and bow boats
36	20042293	Houston Marine Services, Inc.	\$1,625,000	232.55	0.1163	\$6,988	HGA, BPA, CC, and VIC	Repower	Push Boats	Auxiliary and main engines on 5 push boats
37	20042061	Williams Brothers Construction Co. Inc.	\$3,730,000	532.95	0.4264	\$6,999	HGA, BPA, DFW, CC, and VIC	Repower	Equipment	Loaders and dozers
38	20042265	Hazlett Drilling & Supply, Inc.	\$683,150	119.72	0.0684	\$5,706	VIC, DFW, and BPA	Repower	Equipment	Drilling rigs compactors, dozers and backhoe. 244 retrofits of dozers, compactors, and trucks
39	20042156	Waste Management of Texas, Inc.	\$2,215,000	316.44	0.1808	\$7,000	HGA, DFW, TYL, BPA, SAT, CC, VIC, ELP	Replacement	Trucks	244 retrofits of dozers, compactors, and trucks
40	20042145	Williams Brothers Const. Co., Inc.	\$29,000	4.20	0.0034	\$6,905	HGA, TYL, DFW, BPA, SAT	Repower	Equipment	Grader
41	20042216	Pool Company Texas Ltd	\$194,748	34.61	0.0277	\$5,628	HGA, TYL, DFW, CC, and VIC	Repower	Equipment	Oil field servicing equipment
42	20042060	Trans Global Solutions	\$442,000	163.99	0.1312	\$2,695	HGA, VIC, and other areas	Infrastructure: on-vehicle electrification/idle reduction	Switcher Locomotive - EcoTrans Auxiliary Power Unit Idle Reduction System	Switcher locomotives
		<b>HOUSTON-GALVESTON AREA</b>	<b>\$35,011,142</b>	<b>5,572.20</b>	<b>3.62</b>	<b>\$6,283</b>				
1	20042393	Dean Word Co., Ltd	\$120,000	30.26	0.0242	\$3,966	SAT	Replacement	Stationary generator sets	Stationary electric generator sets
2	20042068	Timms Trucking & Excavating, Ltd.	\$61,867	15.72	0.0105	\$3,936	SAT	Repower	Equipment	Loaders

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App. Number	Applicant	Approved Amount	Total Projected NOx Reduction	Tons Per Day of NOx Reduced	Projected Cost per Ton	Area(s)	Category	Equipment/Vehicles	Equipment
3	20042064 Alamo Gulf Coast Railroad	\$34,000	9.46	0.0076	\$3,594	SAT	Infrastructure: on-vehicle electrification/idle reduction	Switcher Locomotive - EcoTrans Auxiliary Power Unit Idle Reducton System	Switcher locomotive
4	20042358 Martin Marietta Materials Southwest, Ltd.	\$418,606	59.80	0.0399	\$7,000	SAT	Repowers and Replacements	Equipment	Loaders and dozers
5	20042171b Vulcan Construction Materials, LP	\$1,913,450	273.35	0.1783	\$7,000	SAT, DFW	Repower and replacement	Trucks and Equipment	Nonroad equipment and haul trucks
	<b>SAN ANTONIO AREA</b>	<b>\$2,547,923</b>	<b>388.59</b>	<b>0.26</b>	<b>\$6,557</b>				
1	20042056 The Sabine Mining Company	\$427,450	69.55	0.0556	\$6,146	TYL	Replacement	Equipment	Dozer and excavator
2	20042204 New Waskom Gas, LP	\$372,000	53.19	0.0426	\$6,994	TYL	Infrastructure: on-site electrification/idle reduction	Infrastructure for stationary compressor pumps	Hanover Pumps
	<b>TYLER-LONGVIEW AREA</b>	<b>\$799,450</b>	<b>122.74</b>	<b>0.10</b>	<b>\$6,514</b>				
1	20042015 Fordyce Ltd.	\$337,000	48.10	0.0385	\$7,006	VIC	Repower	Equipment	Loaders, dozers, and graders
2	20042257 El Toro Farms, JV	\$47,390	8.07	0.0065	\$5,872	VIC	Repower	Trucks and Equipment	Pumps and truck
3	20042264 Arrow Drilling Company	\$424,000	60.66	0.0347	\$6,990	VIC, CC, HGA	Repower	Equipment	Drilling rigs
	<b>VICTORIA COUNTY</b>	<b>\$808,390</b>	<b>116.83</b>	<b>0.08</b>	<b>\$6,919</b>				
	<b>TOTALS</b>	<b>\$71,906,715</b>	<b>11,825.47</b>	<b>7.82</b>	<b>\$6,081</b>				

Note: Some projects may operate in more than one area. Projects are listed by a primary area.

Declined Grant

1	20042337 Southwest Constructors, Inc.	\$14,693	2.10	0.0012	\$7,000	AUS	Replacement	Equipment	Komatsu PC300LC-7
2	20042410 Ranger Excavating, LP	\$90,230	12.89	0.0103	\$7,000	DFW	Repower	Equipment	Loader and scraper
3	20042345 Lloyd D. Nabors Demolition, Inc.	\$17,150	2.45	0.0020	\$7,000	DFW	Repower	Equipment	Excavator
4	20042248 Brown Excavation Company, Inc.	\$39,213	5.60	0.0045	\$7,000	DFW	Replacement	Equipment	Excavator
5	20042262 Watco Companies, Inc.	\$916,000	130.96	0.1048	\$6,995	HGA	Replacement	Technologies "Green Goat" Hybrid System	Switcher locomotives
6	20042002 Rexco Inc.	\$20,000	2.98	0.4255	\$6,715	VIC	Replacement	Equipment	Loader
7	20042014 Wade Thornton	\$13,860	1.98	0.0011	\$7,000	DFW	Repower	Equipment	Dozer
	<b>TOTAL DECLINED</b>	<b>\$1,111,146.35</b>	<b>158.96</b>	<b>0.55</b>					

Third Party

1	20042137 Union Pacific Railroad Company	\$7,187,500	1625.08	0.9286	\$4,423	DFW	Replacement	Switcher Locomotives	Switcher locomotives
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# **APPENDIX 7**

## **NTRD FY04 APPLICATIONS**



# New Technology Research and Development (NTRD) Program

September 23, 2004

## Applications Selected to Receive FY04 Funding

Application Number	Applicant Name	Grant Description (as approved to be funded)	Total Amount Approved	Project Type	Purpose
2004-1-002N	Catalytica Energy Systems, Inc.	Development Testing of a retrofit device (Selective Catalytic Reduction (SCR)) for on-road engines, with claims of 50% NOx reductions. Funding requested for conducting preliminary emissions tests and the collection of field use data needed to determine durability and applicability of this device for use on heavy-duty vehicle applications.	\$331,579	Testing and/or Development	Reduces emissions from On-Road Vehicles
2004-1-003N	University of Texas, Benny Freeman	Development of novel polymeric membrane materials that have high H2 permeability, high H2/CO and H2/CO2 selectivities, and high thermal stability in order to reduce the cost of high-purity H2 production needed for advancing the development of fuel cell technology.	\$389,740	Testing and/or Development	Increases understanding of fuel cells
2004-1-008N	University of Texas, David Allen	Study on ozone transportation will add six ozone monitors at strategic locations in east and north Texas to measure background levels during the 2005-2006 field study. The information collected could be used to support a 126 petition requesting another state to reduce pollution, to evaluate the effectiveness of controls in place in Texas, and to determine transport within the state. The study proposes to have the temporary monitors in place for several months. Many of the locations proposed have never had ozone monitors. The placement of the monitors will not have a regulatory impact or attainment status due to the limited duration of the study.	\$350,268	Study	Increases understanding of ozone transportation
2004-1-016N	Power Research Inc.	Verification of a diesel fuel additive. The results of this testing could be submitted to the TCEQ as a request for approval of the PRI-D treated diesel as an alternative diesel formulation to be considered equivalent to Texas Low Emission Diesel (TxLED).	\$50,224	Verification and/or Deployment	Diesel Fuel additive to lower NOx emissions.
2004-1-020N	Capital Metropolitan Transportation Authority	Development and certification of a hybrid transit bus. Partnership with S&S, Allison, and Cummins to construct 2 hybrid-electric diesel buses, evaluate new emissions reducing technologies, and seek certifications of a new hybrid-electric diesel bus.	\$1,073,600	Testing and/or Development with certification	Reduces emissions from metropolitan transit buses
2004-1-024N	HydroFuels Systems, Inc	Verification of a retrofit device (Aqua Vapor System) for on-road engines, which uses water injection to lower NOx emissions for on-road vehicles.	\$652,125	Verification and/or Deployment	Reduces emissions from On-Road Vehicles
2004-1-031N	Converter Technology Incorporated (CTI)	Verification of an Exhaust Gas Recirculation (EGR) System with claims of 70% NOx reductions.	\$671,564	Verification and/or Deployment	Reduces emissions from On-Road Vehicles
2004-1-032N	ROTEC Design Ltd.	Verification of a retrofit device (FreedomAir) with claims of 65% NOx reduction.	\$354,600	Verification and/or Deployment	Reduces emissions from On-Road Vehicles and stationary engines
2004-1-045N	GE Rail	Verification of a locomotive rebuild from Tier 0 to Tier 2. The final development and certification of a low NOx retrofit (rebuild) system to be deployed on Switcher locomotives equipped with EMD 645E engines will be performed. The objective is to achieve EPA Tier 2 NOx levels on EMD Switcher locomotives; a reduction of approximately 42% of the Tier 0 level and 50% of non-regulated locomotives could be achieved.	\$369,000	Verification and/or Deployment	Reduces emissions from Locomotive Switchers
2004-1-049N	Eaton Corporation	Development of hydraulic hybrid technology for on-road vehicles. Concept of technology is proven on light duty trucks. This system is targeted at class 2B through Class 8 commercial vehicles.	\$666,815	Testing and/or Development	Reduces emissions from On-Road vehicles
2004-1-053N	Cummins West, Inc. dba Claire Advanced Emission Controls	Verification testing as well as advanced product development tests on the Lonestar system.	\$1,200,000	Verification and/or Deployment	Reduces emissions from On-Road vehicles

2004-1-054N	EnviroFuels, LP.	Verification of a diesel fuel additive for locomotives. EPA verification test of EnviroFuels' BlueMarble Diesel Fuel Catalyzer for locomotives. If verified this fuel could be used to lower NOx emissions from locomotive engines.	\$65,887	Verification and/or Deployment	Diesel Fuel additive to lower NOx emissions from Locomotives.
2004-1-057N	ORYXE Energy International, Inc.	Verification of OR-D2 (fuel additive) using a test protocol approved by the TCEQ and the EPA.	\$179,211	Verification and/or Deployment	Diesel Fuel additive to lower NOx emissions.
2004-1-058N	Oshkosh Truck Corporation	Development of a hybrid refuse collection vehicle. Funding is for the construction of a refuse collection vehicle incorporating a hybrid electric drive train and an automated side loader body.	\$560,028	Testing and/or Development	Reduces emissions from refuse vehicles
2004-1-063N	Texas Engineering Experiment Station	Development of a Selective Non-Catalytic Reduction for coal fired power plants using a novel fuel called feedlot biomass (or cow manure) as reburn fuel since it contains N as urea which is released as NH3. Thus it can serve both as reburn fuel and as a SNCR agent. Initial results show 80-90% reduction of NOx.	\$326,607	Testing and/or Development	Reduces emissions from coal fired power plants
2004-1-068N	Lubrizol Corporation	Verification testing of PuriNOx fuel with DOC (Purimuffler) after treatment devices to lower NOx and PM emissions.	\$320,000	Verification and/or Deployment	Reduces emissions from On-Road Vehicles

**APPENDIX 8**

**TERP GRANTS  
ALLOCATION TABLE**



## TERP GRANTS ALLOCATION (*Maximum SIP Credit @ \$5,000 Per Ton*)

Area	Funding through FY 2004	tpd in 2005	Funding through 1st half of FY 2007	tpd in 2007	Funding through FY 2008	tpd in 2009
Houston-Galveston	\$59,953,107	6.0	\$242,592,926	<b>38.8</b>	\$343,627,926	53.4
Dallas-Fort Worth	\$46,467,763	7.6	\$138,782,665	<b>22.2</b>	\$239,817,665	37.2
Beaumont-Port Arthur	\$2,581,910	0.4	\$18,761,748	3.0	\$18,761,748	3.0
San Antonio	\$7,702,810	0.7	\$15,625,000	<b>2.5</b>	\$15,625,000	2.5
Austin	\$6,583,602	0.6	\$15,625,000	<b>2.5</b>	\$15,625,000	2.5
Tyler-Longview	\$799,450	0.1	\$9,381,231	1.5	\$9,381,231	1.5
El Paso County	\$1,932,018	0.3	\$9,380,408	1.5	\$9,380,408	1.5
Corpus Christi	\$1,923,428	0.2	\$9,380,414	1.5	\$9,380,414	1.5
Victoria County	\$828,390	0.5	\$9,381,210	1.5	\$9,381,210	1.5
<b>Totals</b>	<b>\$128,772,478</b>		<b>\$468,910,603</b>		<b>\$670,980,603</b>	

FY = state fiscal year (September 1 through August 31)

tpd = tons per day of NOx emissions reduced

### Assumptions

- a. average cost of \$5,000 per ton of NOx reduced
- b. average project life of 5 years
- c. 250-day operational year

08/30/04



# **APPENDIX 9**

## **SUMMARY OF COMMENTS AND TCEQ RESPONSES**



**APPENDIX 9**  
**Texas Emissions Reduction Plan Biennial Report to the Texas Legislature December 2004**  
**Summary of Comments and Responsiveness Summary**  
**October 2004**

<b>Comment Number</b>	<b>Name and Affiliation</b>	<b>Summary of Comment</b>	<b>TCEQ Response</b>
1.	P. Dasgupta, Texas Tech University and TERP Advisory Board member	Include information regarding how TCEQ is ensuring actions taken by grantees is resulting in actual Nox reductions	An explanation of the required grantee reporting component of the Emissions Reduction Incentive and Small Business Grants Programs has been added to the Report.
2.	P. Dasgupta, Texas Tech University and TERP Advisory Board member	Invite school districts to apply if initial estimates indicate that proposed actions will meet the requisite cap	School districts projects are currently eligible for funding consideration. TCEQ has participated in outreach efforts, such as presentations at Adopt-A-School Bus workshops and school bus association meetings, as requested by local groups. TCEQ will continue to be available to explain TERP to any interested group or organization.

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**October 2004**

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3.	T. Davis, Catalytica Energy Systems, Inc.	TCEQ's public awareness campaign, combined with motivated dealer networks will lead to near-term capture of replacement and repower activities, leaving retrofits to offer the greatest promise. However, retrofits will be challenged to meet the \$7,000 cost/ton cap in the FY05 RFA. Recommend TCEQ amend the cap to be a target. This would leave the option open to funding solutions at > \$7,000/ton, while continuing to maximize NOX SIP reductions by administering all non-allocated funds to > \$7,000/ton proposals.	The direction for FY05 is a \$7,000 cost/ton cap for project applications. Individual activities may exceed the \$7,000 cost/ton limit, as long as the average of all activities under the project does not exceed \$7,000/ton of NOX emissions reduced.

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<b>Comment Number</b>	<b>Name and Affiliation</b>	<b>Summary of Comment</b>	<b>TCEQ Response</b>
4.	Bob Hennkens (advisor to federal labs on technologies and peer reviewer for Dept. Of Energy and EPA)	Obtaining verification status for retrofits for the transportation systems are difficult because of the number of miles necessary and target level of NOX or PM emissions needed before the technology can be verified and used as a pollution reduction solution. Suggest the federal labs can be a resource for the State, as the labs are also looking at technologies to reduce pollution from diesel fuel. This concept is carried through with the recent submittal of two applications under the New Technology Research and Development Program that include cooperation from federal agencies by contributing funds to the proposed project.	Texas accepts EPA or CARB verification of retrofits technologies. Texas itself does not verify any technologies. EPA and CARB have their own set of criteria to determine from what labs they will accept results for verification testing.

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**October 2004**

<b>Comment Number</b>	<b>Name and Affiliation</b>	<b>Summary of Comment</b>	<b>TCEQ Response</b>
5.	Hal Holloway (resident specialist on refuse and vocational trucks in the Dallas area)	There will be a shortfall of new trucks because build schedules are filling up to meet the new engine standards (if order today, deliver time frame is April/May 2005). So, there is a need of making reductions through retrofits. In addition to engine exhaust emission reductions, technologies to reduce emissions from brake and clutch matter, tire wear, and diesel fuel, are also needed.	One of the directions for Fiscal Year 2005 from the TCEQ commissioners was that TCEQ's NTRD program should focus on funding technologies that could be utilized in the Emissions Reduction Incentive and Small Business Grants programs. Helping companies with funding necessary for testing or demonstrations needed to obtain EPA/CARB certification/verification, increases the availability and marketability of technologies, while ensuring the State can obtain necessary NOX emission reductions.

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**October 2004**

<b>Comment Number</b>	<b>Name and Affiliation</b>	<b>Summary of Comment</b>	<b>TCEQ Response</b>
6.	Hal Holloway (resident specialist on refuse and vocational trucks in the Dallas area)	Ultra low sulfur diesel may negatively affect engine quality and performance because of lower lubricity. Something will need to be added to the fuel to address the problem - biodiesel is one solution.	Issues with the lubricity of ultra low sulfur diesel fuels has prompted the engine manufacturers and diesel refining industry to work together with ASTM International, originally known as the American Society for Testing and Materials (ASTM), to establish new standards for the lubricity of diesel fuels. These new lubricity standards are specified in ASTM D975-04b Standard Specification for Diesel Fuel Oils. Lubricity improver additives, including biodiesel, are anticipated to be used by many diesel producers to comply with these new ASTM standards.

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7.	Joe Hamilton (Navistar-International)	The concern about ultra low sulfur diesel (ULSD) was addressed when engine manufacturers met with the Engine Manufacturers Association (EMA) to ensure the fuel would be produced so it would not damage new or older engines. California has been using ULSD for several years, with success. Retrofit technologies exist today that, used with ULSD, result in fewer NOX emissions than converting vehicles or equipment to compressed natural gas. When taking into the cost of CNG fueling infrastructure, such projects are less costly.	The current goal of the Emissions Reduction Incentive and Small Business Grants Programs is a minimum 25% reduction of NOX from an activity. It is understood that there are several different types of activities that can achieve at least 25%.

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8.	Joe Hamilton (Navistar-International)	An example of monitoring improvements is OBD (on-board diagnostics) II technology. The engine manufacturers must have a light on the dash if tailpipe emissions exceed by 1 ½ times the certified engine limit; if 30% of the fleet exceeds, the manufacturer must notify the federal government. This is one way to move away from programs such as inspection/maintenance that put an onus on vehicle owners who must have their vehicles inspected and states whom must manage the programs.	No response necessary.

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9.	John Arnold (Looke Liddell & Sapp, Counsel for Clean Energy)	Clarification from the public meeting that diesel can be cleaner than natural gas on certain retrofits and does so without the overhead costs associated with the natural gas infrastructure. Today's natural gas engine technology already meets the 2007 PM standards and is close to meeting the 2007 NOX standard (some engines are EPA certified for NOX at 1.5 and/or 1.8 g/bhp-hr for 2004). In addition, there have been successful demonstrated public/private partnerships have resulted in natural gas projects at costs below the current cost of diesel fuel.	No response necessary.