



DALLAS COUNTY SCHOOLS - SCHOOL BUS VOLUNTARY TEST PROGRAM

Baseline test: FEBRUARY 9-10, 2007

Go Green Hydrogen Enrichment Systems installed and operational: FEBRUARY 10, 2007

1st Emissions test after Go Green Hydrogen Enrichment: FEBRUARY 22-24, 2007

2nd Emissions test after Go Green Hydrogen Enrichment: MARCH 28-29, 2007

3rd Emissions test after Go Green Hydrogen Enrichment: APRIL 24-26, 2007

4th Emissions test after Go Green Hydrogen Enrichment: JULY 16-18, 2007

5th Emissions test after Go Green Hydrogen Enrichment: SEPT 21- OCT 03, 2007

Baseline emission tests were performed February 9-10, 2007 on five (5) Dallas County School Buses. Emissions testing were again completed after utilization of the Go Green Fuel Hydrogen Enrichment System in February, March, April, July and September of 2007. The vehicle mileage and hours of operation are provided on the Test Results Summary Pages.

The following Emissions Reduction **Summary Chart** and **Detailed Summary Chart** show detailed and documented overall NOx reductions for the five buses, averaging between 22% and 48%, with the greatest individual reduction being 64%; and overall CO reductions, averaging between 12% and 39%, with the greatest individual reduction being 57%.

The five buses tested were **D-423; D-503; D-504; D-729; D-762**. Specifications of each bus are located on the bus data sheets.

The emission tests were performed with an ECOM AC portable emissions analyzer, and conducted by individuals certified by ECOM America in the use of this analyzer. The ECOM AC Analyzer used is distributed by ECOM America, 1628 Oakbrook Drive, Gainesville, GA, 30507.

All tests were administered, after allowing each bus to run at idle for 60 minutes prior to the start of each baseline and post hydrogen enrichment test. The first test with hydrogen, conducted February 22-24, 2007, consisted of three consecutive, thirty minute tests. The second, third, fourth and fifth tests, conducted in March, April, July and September 21 - October 3 of 2007, consisted of three consecutive, fifteen minute tests. The analyzer was recalibrated after each test.

These follow-up tests illustrate the ongoing emissions reduction gained by using the Go Green Fuel Hydrogen Enrichment System.

OUR GOALS ARE TO REDUCE EMISSIONS, INCREASE FUEL MILEAGE, INCREASE POWER, PERFORMANCE AND THE LONGEVITY OF THE ENGINE, AND TO REDUCE MAINTENANCE COSTS AND DOWNTIME FOR AS MANY VEHICLES AND EQUIPMENT AS POSSIBLE USING OUR GO GREEN PRODUCTS.

Dallas County School Bus Emissions Reduction Summary

The following summaries document the emissions reductions when compared to the baseline tests performed February 2007.

Testing performed February 22nd - 24th 2007

<u>Bus #</u>	<u>D423</u>	<u>D503</u>	<u>D504</u>	<u>D729</u>	<u>D762</u>	<u>Average</u>
Emissions Gas						
CO	0%	-18%	-20%	-15%	-6%	-12%
NO	-33%	-20%	-7%	-3%	-22%	-17%
NO2	-62%	-56%	-46%	-2%	-9%	-35%
NOx	-41%	-31%	-16%	-3%	-21%	-22%

Testing consisted of a 60 minute idle followed by three thirty minute emissions tests at 7,000 RPM's. Testing was performed with an ECOM AC portable emissions analyzer, and conducted at GGF's headquarters in Lancaster, TX.

Testing performed March 28th - 29th 2007

<u>Bus #</u>	<u>D423</u>	<u>D503</u>	<u>D504</u>	<u>D729</u>	<u>D762</u>	<u>Average</u>
Emissions Gas						
CO	20%	-19%	-18%	-24%	-37%	-16%
NO	-51%	-35%	-30%	-37%	-28%	-36%
NO2	-65%	-63%	-48%	-26%	-16%	-43%
NOx	-55%	-44%	-34%	-35%	-27%	-39%

Testing consisted of a 60 minute idle followed by three thirty minute emissions tests at 7,000 RPM's. Testing was performed with an ECOM AC portable emissions analyzer, and conducted at GGF's headquarters in Lancaster, TX.

Testing performed April 24th - 26th 2007

<u>Bus #</u>	<u>D423</u>	<u>D503</u>	<u>D504</u>	<u>D729</u>	<u>D762</u>	<u>Average</u>
Emissions Gas						
CO	-14%	-16%	-36%	-32%	-21%	-24%
NO	-60%	-37%	-37%	-50%	-37%	-44%
NO2	-76%	-64%	-58%	-37%	-31%	-53%
NOx	-64%	-45%	-42%	-47%	-36%	-47%

Testing consisted of a 60 minute idle followed by three thirty minute emissions tests at 7,000 RPM's. Testing was performed with an ECOM AC portable emissions analyzer, and conducted at GGF's headquarters in Lancaster, TX.

Testing performed July 16th - 18th 2007

<u>Bus #</u>	<u>D423</u>	<u>D503</u>	<u>D504</u>	<u>D729</u>	<u>D762</u>	<u>Average</u>
Emissions Gas						
<u>CO</u>	-29%	-36%	-62%	-39%	-29%	<u>-39%</u>
<u>NO</u>	-62%	-42%	-30%	-51%	-44%	<u>-46%</u>
<u>NO2</u>	-68%	-55%	-75%	-39%	11%	<u>-45%</u>
<u>NOx</u>	-64%	-46%	-40%	-49%	-39%	<u>-48%</u>

Testing consisted of a 60 minute idle followed by three thirty minute emissions tests at 7,000 RPM's. Testing was performed with an ECOM AC portable emissions analyzer, and conducted at GGF's headquarters in Lancaster, TX.

Testing performed September 21st - October 3rd 2007

<u>Bus #</u>	<u>D423</u>	<u>D503</u>	<u>D504</u>	<u>D729</u>	<u>D762</u>	<u>Average</u>
Emissions Gas						
<u>CO</u>	-57%	-20%	-29%	-55%	-36%	<u>-39%</u>
<u>NO</u>	-56%	-38%	-46%	-48%	-45%	<u>-47%</u>
<u>NO2</u>	-87%	-55%	-45%	-48%	16%	<u>-44%</u>
<u>NOx</u>	-64%	-43%	-46%	-48%	-40%	<u>-48%</u>

Testing consisted of a 60 minute idle followed by three thirty minute emissions tests at 7,000 RPM's. Testing was performed with an ECOM AC portable emissions analyzer, and conducted at GGF's headquarters in Lancaster, TX.

Emissions Testing Update Detail Dallas County School Buses

		<u>Bus D423</u>					
	<u>Baseline</u>	<u>2/23/2007</u>	<u>%Change</u>	<u>3/28/2007</u>	<u>%Change</u>	<u>4/24/2007</u>	<u>%Change</u>
CO (PPM)	73.097	73.326	0%	87.897	20%	62.718	-14%
NO (PPM)	192.700	128.637	-33%	93.788	-51%	76.601	-60%
NO2(PPM)	66.061	25.217	-62%	23.150	-65%	15.557	-76%
NOx (PPM)	258.761	153.855	-41%	116.938	-55%	92.158	-64%
	<u>7/17/2007</u>	<u>%Change</u>	<u>9/21/2007</u>	<u>%Change</u>			
CO (PPM)	51.615	29%	31.114	-57%			
NO (PPM)	73.271	-62%	84.557	-56%			
NO2 (PPM)	21.121	-68%	8.725	-87%			
NOx (PPM)	94.392	-64%	93.282	-64%			

		<u>Bus D503</u>					
	<u>Baseline</u>	<u>2/23/2007</u>	<u>%Change</u>	<u>3/28/2007</u>	<u>%Change</u>	<u>4/24/2007</u>	<u>%Change</u>
CO (PPM)	97.839	79.845	-18%	79.117	-19%	81.769	-16%
NO (PPM)	127.032	101.648	-20%	82.615	-35%	79.476	-37%
NO2(PPM)	54.603	24.149	-56%	20.143	-63%	19.835	-64%
NOx(PPM)	181.903	125.797	-31%	102.758	-44%	99.311	-45%

	<u>7/17/2007</u>	<u>%Change</u>	<u>10/3/2007</u>	<u>%Change</u>
CO (PPM)	62.560	-36%	78.484	-20%
NO (PPM)	73.821	-42%	78.725	-38%
NO2(PPM)	24.421	-55%	24.641	-55%
NOx(PPM)	98.242	-46%	103.366	-43%

Bus D504

	<u>Baseline</u>	<u>2/23/2007</u>	<u>%Change</u>	<u>3/28/2007</u>	<u>%Change</u>	<u>4/24/2007</u>	<u>%Change</u>
CO (PPM)	99.968	80.015	-20%	82.429	-18%	64.055	-36%
NO (PPM)	150.045	139.394	-7%	104.352	-30%	93.842	-37%
NO2(PPM)	43.600	23.385	-46%	22.689	-48%	18.385	-58%
NOx(PPM)	193.645	162.779	-16%	127.040	-34%	112.227	-42%

	<u>7/16/2007</u>	<u>%Change</u>	<u>10/3/2007</u>	<u>%Change</u>
CO (PPM)	38.158	-62%	71.451	-29%
NO (PPM)	105.114	-30%	80.374	-46%
NO2(PPM)	10.703	-75%	24.176	-45%
NOx(PPM)	115.817	-40%	104.549	-46%

Bus D729

	<u>Baseline</u>	<u>2/23/2007</u>	<u>%Change</u>	<u>3/28/2007</u>	<u>%Change</u>	<u>4/24/2007</u>	<u>%Change</u>
CO (PPM)	218.407	185.265	-15%	165.824	-24%	148.073	-32%
NO (PPM)	213.242	206.238	-3%	134.626	-37%	107.473	-50%
NO2(PPM)	50.396	49.330	-2%	37.432	-26%	31.498	-37%
NOx(PPM)	263.637	255.567	-3%	172.059	-35%	138.971	-47%

	<u>7/18/2007</u>	<u>%Change</u>	<u>10/3/2007</u>	<u>%Change</u>
CO (PPM)	132.905	-39%	97.498	-55%
NO (PPM)	104.579	-51%	110.103	-48%
NO2(PPM)	30.681	-39%	26.410	-48%
NOx(PPM)	135.260	-49%	136.513	-48%

Bus D762

	<u>Baseline</u>	<u>2/23/2007</u>	<u>%Change</u>	<u>3/28/2007</u>	<u>%Change</u>	<u>4/24/2007</u>	<u>%Change</u>
CO (PPM)	54.297	50.878	-6%	34.018	-37%	42.758	-21%
NO (PPM)	228.352	177.063	-22%	163.930	-28%	144.198	-37%
NO2(PPM)	22.484	20.517	-9%	18.982	-16%	15.538	-31%
NOx(PPM)	250.835	197.580	-21%	182.912	-27%	159.736	-36%

	<u>7/18/2007</u>	<u>%Change</u>	<u>9/21/2007</u>	<u>%Change</u>
CO (PPM)	38.557	-29%	34.861	-36%
NO (PPM)	127.234	-44%	125.132	-45%
NO2(PPM)	24.883	11%	25.985	16%
NOx(PPM)	152.117	-39%	151.117	-40%

Average Reduction

	<u>2/23/2007</u>	<u>3/28/2007</u>	<u>4/24/2007</u>	<u>7/18/2007</u>	<u>10/3/2007</u>
CO (PPM)	-12%	-16%	-24%	-27%	-39%
NO (PPM)	-17%	-36%	-44%	-46%	-47%
NO2 (PPM)	-35%	-43%	-53%	-45%	-44%
NOx (PPM)	-22%	-39%	-47%	-48%	-48%