March 11, 2018

VIA ELECTRONIC SUBMISSION

The Honorable E. Scott Pruitt
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., N.W.
Washington, DC 20460

Attn: EPA-HQ-OAR-2014-0827

RE: Third Supplemental Comment of Environmental Defense Fund on the Environmental Protection Agency's Proposed Rule, Repeal of Emission Requirements for Glider Vehicles, Glider Engines, and Glider Kits, 82 Fed. Reg. 53,442 (November 16, 2017)

The Environmental Defense Fund ("EDF") respectfully submits this supplemental comment on the Environmental Protection Agency's ("EPA") Proposed Rule, *Repeal of Emission Requirements for Glider Vehicles, Glider Engines, and Glider Kits*, 82 Fed. Reg. 53,442 (November 16, 2017) ("Proposed Rule"), addressing provisions contained in the agency's 2016 final rule, *Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2*, 81 Fed. Reg. 73,478 (October 25, 2016) ("Phase 2 Standards"). New information has emerged indicating that from the outset of the public comment period, EPA had access to the underlying test report and data for a study cited in the Proposed Rule, yet the agency did not release any of that information to the public until after the comment period closed. The test report was placed in the docket late and with emissions data redacted, without any explanation but apparently due to the preference of an industry stakeholder. In light of the further evidence that this rulemaking is fundamentally flawed, we again call upon EPA to withdraw its proposal.

As stated in our prior supplemental comments of February 14 and February 27, 2018, EPA's Proposed Rule cites to a study[1] performed by Tennessee Technological University ("TTU") and

[1] U.S. EPA, Proposed Rule: *Repeal of Emission Requirements for Glider Vehicles, Glider Engines, and Glider Kits*, 82 Fed. Reg. 53,442, 53,444 (Nov. 16, 2017).

funded by Fitzgerald Glider Kits.[2] According to a summary document, the TTU study—overseen by Associate Vice President of Research Tom Brewer at a Fitzgerald facility—purported to conclude that remanufactured glider engines performed equally as well or outperformed modern engines with regard to pollutant emissions.[3] These results are at odds with both recent EPA testing of glider vehicles and emission factors for the model year diesel engines that glider vehicles use, which show that uncontrolled glider vehicles have nitrogen oxide and particulate matter pollution emissions many multiples greater than other new freight trucks.[4]

EPA explicitly discussed the TTU study and summarized the study's conclusions, without critical assessment, in its Proposed Rule to repeal emission requirements for glider vehicles.[5] The Proposed Rule did not cite to any other analyses purporting to address the proposal's health or environmental impacts.[6]

Documents obtained by the Southern Environmental Law Center through a public records request under Tennessee law indicate that TTU released the test report with emissions data underlying its study to EPA as early as November 17, 2017, but maintained that EPA not release the information to the public because of the university's agreement with the company sponsoring the research, Fitzgerald Glider Kits.[7] EPA did not submit any of this information into the docket during the comment period, which closed on January 5, 2018. On January 9, 2018, the agency posted to the docket a version of the test report with all emissions data redacted.[8] EPA has not provided any explanation for the delay**,** nor for why emissions information that underlies discussion in its Proposed Rule was not made available to the public for review and comment, and even now remains unavailable for public review.

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[2] Tenn. Tech. University Office of Research, Tennessee Technological University Annual Report 2015-16 (Volume 2) 42 (2016), *available at* https://www.tntech.edu/assets/userfiles/resourcefiles/13847/1476976572_2015-16%20Annual%20Report_FINAL.pdf; Tenn. Tech. University, Grants Rewarded Report (09/01/2016 – 09/30/2016), *available at* https://www.tntech.edu/assets/userfiles/resourcefiles/9512/1481215150_Grants%20Awarded%20Sept%202016.pdf; Tenn. Tech. University, Academic Affairs Highlights 25 (2017), available at https://www.tntech.edu/assets/usermedia/provost/12546/2017_End_of_the_Year_Statement.pdf.

[3] July 10, 2017 Petition for Reconsideration of Application of the Final Rule Entitled "Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles—Phase 2 Final Rule" to Gliders, from Fitzgerald Glider Kits, LLC; Harrison Truck Centers, Inc.; and Indiana Phoenix, Inc. (July 10, 2017), EPA–HQ–OAR–2014–0827, Exhibit 1, *available at* https://www.epa.gov/sites/production/files/2017-07/documents/hd-ghg-fr-fitzgerald-recons-petition-2017-07-10.pdf.

[4] U.S. EPA, Chassis Dynamometer Testing of Two Recent Model Year Heavy-Duty On-Highway Diesel Glider Vehicles (Nov. 20, 2017), Docket No. EPA-HQ-OAR-2014-0827-2417, *available at* https://www.regulations.gov/document?D=EPA-HQ-OAR-2014-0827-2417; EPA Greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles - Phase 2, Response to Comments for Joint Rulemaking, at 1960-68, 1965, Appendix A (Aug. 2016), *available at* https://nepis.epa.gov/Exe/ZyPDF.cgi/P100P8IS.PDF?Dockey=P100P8IS.PDF.

[5] 82 Fed. Reg. at 53,444.

[6] *See id.*

[7] *See* attached TTU Document Production.

[8] Docket ID EPA-HQ-OAR-2014-0827-4804, "Redacted 11-17-17 Email from Tom Brewer with Follow-Up," (posted Jan. 9, 2018), available at https://www.regulations.gov/document?D=EPA-HQ-OAR-2014-0827-4804.

As we articulated in joint comments on the Proposed Rule submitted together with the Environmental Law and Policy Center and WE ACT for Environmental Justice,[9] Section 307(d)(3) of the Clean Air Act requires that EPA provide notice in the proposed rule of "the factual data on which the proposed rule is based," "the methodology used in obtaining the data and in analyzing the data," and the "major … policy considerations underlying the proposed rule." All these data and documents are to be included in the docket on the date of proposal.[10] The newly-obtained documents indicating EPA has had this emissions information since early November, yet has failed to fully disclose it and provided no explanation for its delay and withholding, further underscore the flawed nature of EPA's rulemaking.

Because the TTU study is the only information in the proposal that purports to address the health and environmental impacts of repealing the 2016 glider vehicle emissions limits, information related to the legitimacy of the study is of particular importance. These developments provide further reason why, as our earlier comments urged, EPA must withdraw its flawed repeal proposal.

Sincerely,

Alice Henderson
Erin Murphy
Martha Roberts

Environmental Defense Fund
1875 Connecticut Ave., NW
Suite 600
Washington, DC 20009
(202) 387-3500

[9] Comment of EDF, ELPC, & WE ACT on EPA's Proposed Rule, *Repeal of Emission Requirements for Glider Vehicles, Glider Engines, and Glider Kits*, 82 Fed. Reg. 53,442 (Jan. 10, 2018), at Part VII(d), *available at* https://www.regulations.gov/document?D=EPA-HQ-OAR-2014-0827-4861.
[10] 42 U.S.C. § 7607(d)(3)(C).

FW: Tennessee Tech University - Follow Up

Brewer, Tom

Mon 2/12/2018 3:39 PM

To:Lykins, Karen <KLykins@tntech.edu>;

Thomas Brewer
Associate Vice President

Executive Director
TCIM – Tennessee Center for Intelligent Mobility

Tennessee TECH

From: Brewer, Tom
Sent: Tuesday, December 12, 2017 10:25 AM
To: 'Charmley, William' <charmley.william@epa.gov>
Cc: Cullen, Angela <cullen.angela@epa.gov>; Nelson, Brian <nelson.brian@epa.gov>; Carpenter, Kae <kcarpenter@tntech.edu>; Soni, Bharat <bsoni@tntech.edu>; Wray, Lee <lwray@tntech.edu>
Subject: RE: Tennessee Tech University - Follow Up

Bill …. Thank you for your email.

The document you reference is part of a Sponsored Research project.

Consequently, Tennessee Tech University does not have the authority to grant permission to publish it.

Thomas Brewer
Associate Vice President

Executive Director
TCIM – Tennessee Center for Intelligent Mobility

Tennessee TECH

From: Charmley, William [mailto:charmley.william@epa.gov]
Sent: Friday, December 08, 2017 3:22 PM
To: Brewer, Tom <TBrewer@tntech.edu>
Cc: Cullen, Angela <cullen.angela@epa.gov>; Nelson, Brian <nelson.brian@epa.gov>
Subject: RE: Tennessee Tech University - Follow Up

Dear Tom,

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My staff and I would like to place this data into the public docket for our current rulemaking, that is, the proposal EPA issues last month to repeal the current EPA standards that apply to glider tractors. This would make the TTU test data for the additional test modes available for stakeholders to review.

Can you please let us know if that is acceptable to TTU?

Please not that next week, December 11-15, I will not be in the office. If you have any questions you can respond to this mail, and Angela or Brian can follow up with you.

Best regards,

Bill

Bill Charmley
Director
Assessment and Standards Division
Office of Transportation and Air Quality
U.S. Environmental Protection Agency

National Vehicle and Fuel Emissions Laboratory
2000 Traverwood Drive
Ann Arbor, MI 48105

desk ph. 734-214-4466
cell ph. 734-545-0333
e-mail: charmley.william@epa.gov

From: Brewer, Tom [mailto:TBrewer@tntech.edu]
Sent: Friday, November 17, 2017 3:43 PM
To: Charmley, William <charmley.william@epa.gov>
Subject: Tennessee Tech University - Follow Up

Bill .... Per your request for the TTU Heavy Duty Truck Emissions Field Testing results ..... please see the attached details of the data for the (15) vehicles.

And to follow up from our Conference Call, the minutes you sent for us to review are accurate !

Lastly, TTU is requesting two pieces of information from the EPA :

- Ø Specifications (Cetane Rating etc) for the Fuel used in Emissions Testing at the EPA Ann Abor Lab
- Ø How many / What Make and Model of Glider Kits are you currently testing ?

Thank you so much and don't hesitate contacting me for further information.

Thomas Brewer
Associate Vice President

Executive Director

TCIM – Tennessee Center for Intelligent Mobility

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Bill Charmley
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U.S. Environmental Protection Agency

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2000 Traverwood Drive
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desk ph. 734-214-4466
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e-mail: charmley.william@epa.gov

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Executive Director
TCIM – Tennessee Center for Intelligent Mobility

Tennessee TECH

TCIM

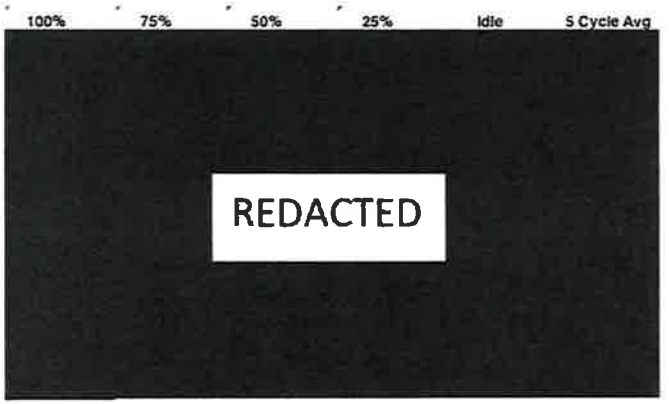
Tennessee Center for Intelligent Mobility

Heavy Duty Vehicle Emissions Testing Cycle Results - Nitrogen Oxide (NOx)

Purpose : **Gather Field Test Emissions Data to compare Glider Kits Remanufactured Engines versus OEM 'Certified' Engines**

Vehicle	Engine	Test Date	Mileage	Type	Model Yr
1	Detroit Diesel Series 60 12.7 Liter	09/19/16	52	ReMan	Pre 2003
2	Detroit Diesel Series 60 12.7 Liter	09/19/16	656,419	ReMan	Pre 2003
3	Detroit Diesel Series 60 12.7 Liter	09/22/16	52	ReMan	Pre 2003
4	Detroit Diesel Series 60 12.7 Liter	09/22/16	68	ReMan	Pre 2003
5	Detroit Diesel Series 60 12.7 Liter	10/17/16	63	ReMan	Pre 2003
6	Detroit Diesel Series 60 12.7 Liter	10/17/16	63	ReMan	Pre 2003
7	Detroit Diesel DD15	11/09/16	63	ReMan	2007
8	Caterpillar CT13	11/09/16	67,958	ReMan	Pre 2003
9	Detroit Diesel DD15	11/29/16	375	OEM	2017
10	Detroit Diesel DD15	11/29/16	375	OEM	2017
11	Detroit Diesel DD15	11/29/16	384	OEM	2017
12	Detroit Diesel DD15	11/29/16	378	OEM	2017
13	Detroit Diesel DD15	11/29/16	356	OEM	2017
14	Volvo D13	09/27/17	700,000	OEM	2014
15	Volvo D13	10/16/17	250,721	OEM	2017

NOx (g / HP * hr)



Notes :

- > Field Tested (15) Heavy Duty Class 8 Vehicles for NOx / CO / Particulate Matter
- > (8) Remanufactured Engines vs (7) OEM 'Certified' Engines
- > Vehicles # 1 & 3 Same Truck ... # 1 with Small Turbocharger / # 3 with Large Turbocharger
- > Vehicle # 4 recorded unusable data except for 100% Load Test Cycle
- > 'Off the Lot' Representative Vehicle Samples / Low & High Mileage
- > All Vehicles Field Tested on common Chassis Dynamometer @ common Location
- > Uncontrolled Variables - Air Density / Ambient Temperature / Humidity / Fuel Mixture & Cetane Rating / Oil Type
- > Utilized EPA 40 CFR 1065 Field Test Procedures and (PEMS) Portable Emissions Measurement System

Prepared By:

Thomas Brewer

Executive Director

TN Center for Intelligent Mobility

Tennessee Tech University

Dated : 11 / 15 / 2017

Vehicle	Engine	Test Date	CO				NOx (g/HP * hr)				
			Idle	Allowed	75%	100%	75%	50%	25%	Idle	5 State Avg
Show truck, smaller turbo	Detroit Diesel Series 60 12 7 Liter	09/19/16									
ad1772	Detroit Diesel Series 60 12 7 Liter	09/19/16									
39251 ECU 2	Detroit Diesel Series 60 12 7 Liter	10/17/16									
39252 ECU 1	Detroit Diesel Series 60 12 7 Liter	10/17/16									
432833.00	Detroit Diesel DD15	11/09/16									
Post 2007 new 1	Detroit Diesel DD15	11/29/16									
Post 2007 new 2	Detroit Diesel DD15	11/29/16									
Post 2007 new 3	Detroit Diesel DD15	11/29/16									
Post 2007 new 4	Detroit Diesel DD15	11/29/16									
Post 2007 new 5	Detroit Diesel DD15	11/29/16									
Show truck, Large turbo	Detroit Diesel Series 60 12 7 Liter	09/22/16									
498201.00	Cat CT13	11/09/16									
Volvo VNL 300 2(	Volvo D13	09/27/17									

[redacted]

REDACTED

The purpose of this test was to gather preliminary data as to how close to certified vehicles glider kits are and to gather data to investigate how to improve their emissions.

Cells marked 0 are below detection threshold of 1 part per million mass
"N/A" is marked when the EPA documentation says "N/A" for a rating
HP is measured horsepower. An SAE recommended 85% mechanical effeciency is assumed
Data for gx7384 was unusable except for full load. All data for it is at full load
While the preliminary tests were as controlled as possible without disrupting daily activities, the following variables can change the resulting emmissions:
Air temperature
Air density
Humidity
Wear
Fuel is 'as driven'
Fuel Temperature
Oil type
Ambient emissions
Mechanical Effeciency
Intake irregularities
Exhaust irregularities

FW: Tennessee Tech Univ - Follow Up

Brewer, Tom

Mon 2/12/2018 3:19 PM

To: Lykins, Karen <KLykins@tntech.edu>;

1 attachments (111 KB)

TCIM - HDV Emissions Test Procedure July 2016.docx;

Thomas Brewer
Associate Vice President

Executive Director
TCIM – Tennessee Center for Intelligent Mobility

Tennessee TECH

From: Brewer, Tom
Sent: Tuesday, November 07, 2017 4:46 PM
To: Charmley, William <charmley.william@epa.gov>
Subject: Tennessee Tech Univ - Follow Up

Hey Bill ... enjoyed our conversation today .... don't hesitate contacting me if you need anything else.

See attached file that documents our Test Procedures ..... and the links below for both the Chassis Dyno and Combustion Analyzer.

[redacted]

Thomas Brewer
Associate Vice President

Executive Director
TCIM – Tennessee Center for Intelligent Mobility

e-mail: charmley.william@epa.gov

From: Brewer, Tom [mailto:TBrewer@tntech.edu]
Sent: Tuesday, November 07, 2017 5:46 PM
To: Charmley, William <charmley.william@epa.gov>
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Associate Vice President

Executive Director
TCIM – Tennessee Center for Intelligent Mobility

Tennessee TECH

FW: Tennessee Tech University - Follow Up

Brewer, Tom

Mon 2/12/2018 3:40 PM

To: Lykins, Karen <KLykins@tntech.edu>;

2 attachments (862 KB)

Redacted 11-17-17 Email from Tom Brewer with Follow-Up.pdf; ATT00001.htm;

See attached

Thomas Brewer
Associate Vice President

Executive Director
TCIM – Tennessee Center for Intelligent Mobility

Tennessee TECH

From: Brewer, Tom
Sent: Thursday, January 04, 2018 6:32 PM
To: Joe DePew [redacted]; [redacted]
Subject: Fwd: Tennessee Tech University - Follow Up

FYI ... I will send Joe's email address as the Research Sponsor contact to Bill Charmley.

Further, what does ' a redacted version' mean ?

Thanks
Tom B

Sent from my iPad

Begin forwarded message:

> **From:** "Charmley, William" <charmley.william@epa.gov>
> **To:** "Brewer, Tom" <TBrewer@tntech.edu>
> **Cc:** "Carpenter, Kae" <kcarpenter@tntech.edu>, "Soni, Bharat" <bsoni@tntech.edu>, "Wray, Lee" <lwray@tntech.edu>
> **Subject: RE: Tennessee Tech University - Follow Up**
>
> Dear Tom,
>
> If it is still possible for EPA to perform outreach to the sponsor of the TTU test program in order to find out if we can make the additional TTU emission test data available to the public, please let me know, as I would be happy to follow-up directly with the sponsor.

In the meantime, EPA's Office of General Counsel , the legal office within EPA, advised my team and I that we should place a redacted version of the TTU data into the public docket. This will make it clear that EPA has such data and we can consider the data in the context of the current glider rulemaking, but that per TTU's request, we are not releasing the detailed emissions test data.

A copy of the information we have placed into the public docket is attached.

Please let me know if you have any questions on this topic, and also your thoughts regarding EPA following up with the sponsor of this research program.

Best regards,

Bill

Bill Charmley
Director
Assessment and Standards Division
Office of Transportation and Air Quality
U.S. Environmental Protection Agency

National Vehicle and Fuel Emissions Laboratory
2000 Traverwood Drive
Ann Arbor, MI 48105

desk ph. 734-214-4466
cell ph. 734-545-0333
e-mail: charmley.william@epa.gov

From: Charmley, William
Sent: Thursday, December 21, 2017 4:49 PM
To: 'Brewer, Tom' <TBrewer@tntech.edu>
Cc: Cullen, Angela <cullen.angela@epa.gov>; Nelson, Brian <nelson.brian@epa.gov>; Carpenter, Kae <kcarpenter@tntech.edu>; Soni, Bharat <bsoni@tntech.edu>; Wray, Lee <lwray@tntech.edu>
Subject: RE: Tennessee Tech University - Follow Up

Dear Tom,

Thank you for this response below regarding the additional test data. I was out of the office last week and I'm still catching up.

Is it possible I could ask the sponsor of the research program if the test data can be made available to the public?

Please let me know your thoughts on this.

Have a peaceful holiday,

Bill

Bill Charmley
Director
Assessment and Standards Division
Office of Transportation and Air Quality
U.S. Environmental Protection Agency

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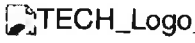

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TECH_Logo_Horizontal_Purple_RGB

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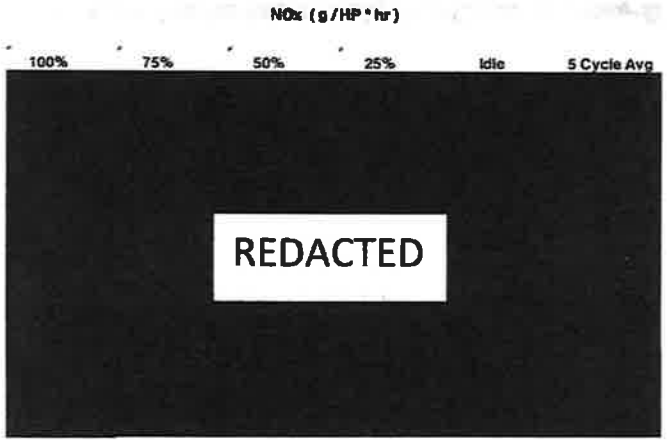
Heavy Duty Vehicle Emissions Testing Cycle Results - Nitrogen Oxide (NOx)

Purpose : **Gather Field Test Emissions Data to compare Glider Kits Remanufactured Engines versus OEM 'Certified' Engines**

Vehicle	Engine	Test Date	Mileage	Type	Model Yr
1	Detroit Diesel Series 60 12.7 Liter	09/19/16	52	ReMan	Pre 2003
2	Detroit Diesel Series 60 12.7 Liter	09/19/16	656,419	ReMan	Pre 2003
3	Detroit Diesel Series 60 12.7 Liter	09/22/16	52	ReMan	Pre 2003
4	Detroit Diesel Series 60 12.7 Liter	09/22/16	58	ReMan	Pre 2003
5	Detroit Diesel Series 60 12.7 Liter	10/17/16	53	ReMan	Pre 2003
6	Detroit Diesel Series 60 12.7 Liter	10/17/16	53	ReMan	Pre 2003
7	Detroit Diesel DD15	11/09/16	63	ReMan	2007
8	Caterpillar CT13	11/09/16	67,958	ReMan	Pre 2003
9	Detroit Diesel DD15	11/29/16	375	OEM	2017
10	Detroit Diesel DD15	11/29/16	375	OEM	2017
11	Detroit Diesel DD15	11/29/16	384	OEM	2017
12	Detroit Diesel DD15	11/29/16	376	OEM	2017
13	Detroit Diesel DD15	11/29/16	356	OEM	2017
14	Volvo D13	09/27/17	700,000	OEM	2014
15	Volvo D13	10/16/17	250,721	OEM	2017



Notes :

- **Field Tested (15) Heavy Duty Class 8 Vehicles for NOx / CO / Particulate Matter**
- **(8) Remanufactured Engines vs (7) OEM 'Certified' Engines**
- **Vehicles # 1 & 3 Same Truck ... # 1 with Small Turbocharger / # 3 with Large Turbocharger**
- **Vehicle # 4 recorded unusable data except for 100% Load Test Cycle**
- **'Off the Lot' Representative Vehicle Samples / Low & High Mileage**
- **All Vehicles Field Tested on common Chassis Dynamometer @ common Location**
- **Uncontrolled Variables - Air Density / Ambient Temperature / Humidity / Fuel Mixture & Cetane Rating / Oil Type**
- **Utilized EPA 40 CFR 1065 Field Test Procedures and (PEMS) Portable Emissions Measurement System**

Prepared By:
Thomas Brewer
Executive Director
TN Center for Intelligent Mobility
Tennessee Tech University
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Vehicle	Engine	Test Date	CO				NOx (g/HP * hr)				
			Idle	Allowed	75%	100%	75%	50%	25%	Idle	5 State Avg
Show truck,smaller turbo	Detroit Diesel Series 60 12.7 Liter	09/19/16									
ad1772	Detroit Diesel Series 60 12.7 Liter	09/19/16									
39251 ECU 2	Detroit Diesel Series 60 12.7 Liter	10/17/16									
39252 ECU 1	Detroit Diesel Series 60 12.7 Liter	10/17/16									
432833.00	Detroit Diesel DD15	11/09/16									
Post 2007 new 1	Detroit Diesel DD15	11/29/16									
Post 2007 new 2	Detroit Diesel DD15	11/29/16									
Post 2007 new 3	Detroit Diesel DD15	11/29/16									
Post 2007 new 4	Detroit Diesel DD15	11/29/16									
Post 2007 new 5	Detroit Diesel DD15	11/29/16									
Show truck. Large turbo	Detroit Diesel Series 60 12.7 Liter	09/22/16									
498201.00	Cat CT13	11/09/16									
Volvo VNL 300 2(	Volvo D13	09/27/17									

REDACTED

The purpose of this test was to gather preliminary data as to how close to certified vehicles glider kits are and to gather data to investigate how to improve their emissions.

Cells marked 0 are below detection threshold of 1 part per million mass.
"N/A" is marked when the EPA documentation says "N/A" for a rating
HP is measured horsepower. An SAE recommended 85% mechanical effeciency is assumed.
Data for gx7384 was unusable except for full load. All data for it is at full load
While the preliminary tests were as controlled as possible without disrupting daily activities, the following variables can change the resulting emmissions:
Air temperature
Air density
Humidity
Wear
Fuel is 'as driven'
Fuel Temperature
Oil type
Ambient emissions
Mechanical Effeciency
Intake irregularities
Exhaust irregularities