



**Announcing the MSRC's**

## **Showcase III Manufacturer Program**

**An Opportunity for Manufacturers of Off-Road  
Diesel Emission Reduction Technologies**

**Request for Manufacturer Qualifications &  
Participation Application**

**RFQ2012-13**

**June 1, 2012**

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## **SECTION I.A: PROGRAM INTRODUCTION**

The Mobile Source Air Pollution Reduction Review Committee (MSRC) is pleased to announce an opportunity for manufacturers of diesel emission reduction technologies to demonstrate the viability and effectiveness of their products in heavy-duty off-road diesel equipment under various operating conditions and duty cycles. The Off-Road Diesel Retrofit “Showcase III” Program is designed to encourage manufacturers of qualifying retrofit after-treatment, alternative fuel, and hybrid drive systems to participate with off-road vehicle fleet owners in retrofitting their equipment with technologies that reduce emissions.

While the Showcase III Program will result in significant immediate reductions in harmful diesel emissions, either through direct control or increased efficiency, the principal goal is to successfully demonstrate the viability and effectiveness of diesel emission reduction technologies on those segments of the off-road heavy-duty diesel equipment inventory which are not yet fully served with such systems. If they have not already obtained verification, manufacturers participating in this Program must commit to seek CARB verified status following successful demonstration of their retrofit device.

All technologies must be qualified pursuant to this RFQ before they can be approved for installation in specific vehicles. The qualification of a technology for participation in the Showcase III Program will be based upon evaluation of the Qualifications & Participation Application submitted by the interested manufacturer. Applications will be evaluated by the technical staff of the MSRC, CARB, and South Coast Air Quality Management District (AQMD).

While the MSRC strives to be inclusive with its **Clean Transportation Funding**<sup>™</sup> programs, it is important to state up front that the Showcase III Demonstration Program is unique. While each manufacturer seeking participation in the Program will be given thorough and thoughtful consideration, some manufacturer applications may not be deemed qualified. Once qualified, there is no guarantee that a particular technology will be matched with any vehicles.

## **I.B. PROGRAM SCHEDULE**

The Showcase III demonstration program will be conducted in accordance with the timeline shown below. Manufacturer Participation Applications will be accepted as of July 17, 2012, with the application preparation and acceptance period closing on September 5, 2012. Applications may be submitted at any time during this period. The MSRC may elect to extend the period during which applications may be submitted.

Table 1.B.1: Key Program Dates

Showcase III Event	Date
RFQ Release	June 1, 2012
Applicant Workshop	July 12, 2012
Earliest Date for Application Submission	July 17, 2012
Last Date that Applications will be Accepted	September 5, 2012, 5:00 p.m.
Qualification of Devices	Continuously throughout application period and months immediately following
Matching of Devices with Equipment	

MSRC and CARB staff members are available to answer questions and provide technical guidance anytime during the application acceptance period. Please refer Section I.G. of this document for a list of staff contacts.

### I.C. APPLICANT WORKSHOP

A joint fleet/manufacturer/vendor Applicant Workshop will be held on July 12, 2012. **Please note that attendance at the Workshop is voluntary.** The purpose is to provide new or updated solicitation information, provide clarification, and answer general questions regarding application preparation. In addition, the Applicant Workshop will provide a forum to address individual application preparation issues and provide one-on-one guidance to potential applicants. The location and time for the Workshop is as follows:

Date: July 12, 2012  
 Time: 10:00 a.m.  
 Location: South Coast AQMD Headquarters  
 Conference Room CC-6  
 Address: 21865 Copley Drive  
 Diamond Bar, California 91765

Please contact the MSRC staff if you need directions or more information regarding the Workshop. Contact information is provided in Section I.G.

### I.D. PARTICIPATION GUIDELINES, REQUIREMENTS, & PROCEDURES

The Showcase III Program is a voluntary demonstration program that will pair manufacturers of diesel emission control technologies with off-road vehicle operators located in the South Coast Air Quality Management District (AQMD)<sup>1</sup>. To ensure that the Showcase III Program conforms to all applicable AQMD legal requirements and MSRC policies, the following requirements and conditions have been established and apply to all manufacturer applicants:

<sup>1</sup> The geographical jurisdiction of the South Coast AQMD includes the urban, non-desert portions of Los Angeles, Orange, Riverside, and San Bernardino Counties in Southern California.

1. **Eligible Participants** – Any manufacturer of off-road diesel emission control retrofit systems, hybrid drive technologies, or alternative fuel conversions may apply. The applicant must manufacture the proposed technology. Authorized distributors or vendors are not eligible to submit applications to this RFQ, although they can respond to its companion Program Announcement PA 2012-17 – Showcase III Vehicle Program, as described therein. Retrofit devices brought forward by manufacturers who demonstrate experience with the verification process, by virtue of having earned a prior on-road or off-road verification from the United States Environmental Protection Agency's (U.S. EPA) **Voluntary Retrofit Program**, CARB's **Verification Procedure**, or the **Verminderung der Emissionen von Realmaschinen im Tunnelbau** (VERT) program for one or more of their company's products, are more likely to be deemed qualified.
2. **Authorized Individual(s)** – Only those individuals designated as authorized representatives by the manufacturer of the technology may sign the application form as agreement to participate in the Showcase III Program, and as such, will be held responsible for the accuracy of any and all information provided.
3. **Diesel Emission Control Strategy Requirement** – Retrofit devices which reduce NO<sub>x</sub> only are eligible for demonstration. Otherwise, after-treatment retrofit devices must reduce particulate matter emissions by at least 85% (Level 3 verification) except in cases where installation of a Level 3 device poses insurmountable visibility challenges as discussed below in Section I.E. - Priority Retrofit Profiles. However, all Showcase III Program diesel emission control after-treatment retrofit devices which control particulate matter must achieve a reduction in particulate matter emissions of at least 50% (Level 2 verification). Alternative fuel or hybrid-drive technologies must indicate their effect on NO<sub>x</sub>, PM, HC, CO, and CO<sub>2</sub> emissions.
4. **Verification Requirement** – As previously stated, one of the primary goals of the Showcase III Program is to obtain new verified diesel emission control systems for those segments of the off-road heavy-duty diesel equipment inventory which are not yet fully served with such systems. Therefore, if they have not already obtained verification, **manufacturers participating in Showcase III must intend to pursue verification of their product through CARB in the near future**. In all cases, applicants must agree to comply with all requirements and conditions as detailed in the CARB Verification Procedure. Complete information may be found in the *Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines* on the CARB website at: [www.arb.ca.gov/diesel/verdev/verdev.htm](http://www.arb.ca.gov/diesel/verdev/verdev.htm). If a participating manufacturer determines they are no longer interested in continuing with their verification process, they are responsible (upon vehicle owner's approval) to bring the vehicle back to OEM configuration regardless of the warranty period.
5. **Experimental Permit Requirement** - Manufacturers are required to obtain an experimental permit(s) before installing a non-CARB verified device or system on an engine for use in the Showcase III project. Section 43014 of the California Health and Safety Code allows the Air Resources Board to issue this permit for the testing of experimental motor vehicle pollution control device installed in used motor vehicles. To obtain a permit, the manufacturer must submit a letter of request to:

Air Resources Board  
Aftermarket Parts Section  
9480 Telstar Avenue  
El Monte, CA 91731  
Attn: Ms. Rose Castro

These experimental permits are valid for one year from the date of signature and are not transferable. If the demonstration testing for the Showcase III project continues beyond this time period, the manufacturer must apply for an extension of the permit(s). Note: documentation of a valid experimental permit will be required prior to approval of installation designs.

Questions regarding this requirement should be addressed to:

Ms. Rose Castro, Manager, Aftermarket Parts Section, at (626) 575-6848.

6. **Modification of Technology** – Once proposed in response to this RFQ, a manufacturer's product *cannot* be modified without first notifying the MSRC. This includes, but is not limited to, modifications following installation. In most cases, modifications to installed technologies will restart the accumulation of durability hours that can be included as part of the CARB verification process.
7. **Conditional Verification** – Applicants may be eligible to receive conditional verification of their product by completing one-third of the required minimum durability period or through the use of preexisting data. Conditional verification is equivalent to full verification for the purposes of satisfying the requirements of in-use emission control regulations as set forth by CARB. CARB has sole authority to grant a conditional verification.
8. **Application Screening** – Applications received in response to this RFQ will be screened to ensure they comply with all program requirements and policies of the MSRC and CARB. Applications deemed noncompliant with the requirements included herein will not undergo further evaluation and their submitters will be duly notified. The MSRC retains sole authority for determining whether or not an application meets the minimum qualifications requirements.
9. **Selection Criteria** – Rating of manufacturers' applications will include the selection criteria as outlined in Section I.F. Those applications which are judged both to fulfill mandatory requirements and to provide a high probability of successful demonstration will be deemed Qualified. A technology must be Qualified before it can be matched with a vehicle. However, achieving Qualified status is no guarantee that the technology will be matched with any vehicles.
10. **Device/Vehicle Matching** – Vehicles will be proposed to demonstrate technologies in response to the Showcase III Vehicle Program Announcement PA2012-17. Technologies will be matched with proposed off-road vehicles based on applicability and compatibility of technologies. In those cases where a vehicle owner proposes a vehicle to participate without proposing a specific technology, one or more Qualified manufacturers deemed compatible with the proposed vehicle, engine and duty-cycle will be asked to provide a quote to install their technology on that vehicle. Final match decisions will be made by MSRC and CARB based upon factors including, but not limited to, technology purchase and maintenance costs, and the vehicle/technology pairing's ability to address Program

priorities. Both the manufacturer and the vehicle owner will be asked to approve the proposed match. If a manufacturer and/or vehicle owner declines a proposed match, MSRC and CARB may, at their discretion, propose an alternative match for that vehicle.

11. **Multimedia Assessment** – Manufacturers whose diesel emission control strategies rely on Alternative Diesel Fuel or a fuel additive must complete a multimedia assessment to ensure that their product does not have any adverse effect on the environment. The multimedia requirement represents a significant cost of verification and applicants should thoroughly understand the process before deciding to undertake this testing. Information on the multimedia requirement may be found in the *Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines*, Section 2710, available on CARB's website at: [www.arb.ca.gov/diesel/verdev/verdev.htm](http://www.arb.ca.gov/diesel/verdev/verdev.htm). Applicants intending to utilize alternative diesel fuel or fuel additives are encouraged to contact Ms. Shawn Daley (see Contact Information Section I.G.) to discuss multimedia requirements.
12. **Initial Vehicle Evaluation** – Once a vehicle/technology match is approved and a contract executed, the manufacturer is required to evaluate the vehicle's engine to assure readiness for the demonstration, i.e. that it is well maintained, and to provide the results of the evaluation to MSRC. In most cases, the manufacturer will also be required to complete initial data logging in accordance with MSRC and CARB guidance to confirm the feasibility of the particular technology's operation on that vehicle. Reasonable data logging costs will be reimbursed. MSRC and CARB staff may agree to allow these evaluations to be performed in a single visit, but retain the discretion to require a satisfactory engine evaluation prior to the performance of data logging.
13. **Additional Installation Requirements** – A proposed installation design drawing showing the location of major components *must* be submitted and approved for each vehicle prior to installation. The design must demonstrate compliance with the CalOSHA visibility requirements. Additionally, notwithstanding any data-logging capabilities incorporated in the after-treatment device, the manufacturer will be required to purchase and install an independent data-logging device on each retrofitted vehicle to monitor the after-treatment device. It shall be and function as a stand-alone system, complete with the hardware and software needed to interface with the vehicle. Required specifications will be provided in the contract, but are expected to resemble the specifications in the original Showcase Program. Reasonable installation design and data logger costs will be reimbursed to the Project Participant following completion of the installation in accordance with the approved installation design.
14. **Post-installation** —MSRC or CARB staff will conduct an inspection within two weeks of receiving notice of the completion of the installation and fully operational system.
15. **Optional Particulate Matter Sensors** – In the recent past, engine mechanics relied on visual cues such as smoke to determine whether an engine was in need of attention. With the use of diesel particulate filters these cues are absent. Manufacturers *may* propose the installation of particulate matter sensors as a tool to indicate if the state of the engine has changed and to predict the soot loading rate to the filter. By notifying the vehicle owner and/or device manufacturer of changes in engine condition, the frequency of device regeneration might be reduced. Requests to include such sensors as part of a Showcase III demonstration will be considered as part of the vehicle/technology matching process. If the

use of such sensors is approved for a particular demonstration, their purchase and installation will be an allowable expense.

16. **Available Funding** – The amount of MSRC funding currently allocated to the Showcase III Program is \$1,500,000.
17. **Participation with Multiple Off-Road Construction Equipment Fleets** – Manufacturers may participate with more than one off-road vehicle owner, if applicable.
18. **Payment** –The contractor under PA2012-17 – Showcase III Vehicle Program will be able to request separate reimbursement from the MSRC for engine evaluation, initial vehicle data logging, and installation design upon completion and acceptance. All other reimbursements are contingent upon completion of technology installation, submission of all required reports and invoices, and completion of a post-inspection to confirm installation in accordance with approved installation design. Payment will also be contingent upon proof of warranty with coverage for full repair or replacement cost of returning engine components to the condition they were in prior to a failure of the technology and for damage to the engine proximately caused by the technology. Furthermore, Contractors will be required to provide documentation to MSRC that they (or the owner of the vehicle(s), if different) have been properly trained in the operation of the retrofitted/modified vehicle(s). A copy of the training material should be provided electronically to MSRC. Vehicle owners will have the *option* to, but are not required to, request that payments be made directly to the manufacturer or vendor. Each Manufacturer should negotiate payment provisions with the vehicle owner as part of their agreement.
19. **Agreement with Vehicle Owner** – Manufacturers will be required to enter into a contract and/or legally enforceable agreement with the off-road vehicle owner for the purchase and installation of the agreed-upon technologies. All technologies must be purchased and installed within twelve (12) months of execution of this Agreement. All technologies are to become the property of the vehicle owner.
20. **Priority Retrofit Profiles** – Vehicles proposed for participation under PA2012-17 will be divided into two ranks for evaluation. Rank 1 will consist of those vehicles falling within a Priority category as described in Section I.E. Rank 2 will consist of all other vehicles. These profiles are primarily based upon identified “holes” in the universe of available off-road retrofits. For example, a certain vehicle may have verified devices but needs demonstration of a Cal/OSHA compliant installation design. *These profiles have no bearing on a proposed technology achieving Qualified status.* Technologies with the potential to fulfill one of the designated priorities may be more likely to be matched with vehicles because Rank 1 vehicle/technology matches will be funded first.
21. **Technical Support and Issue Resolution** – Manufacturers will be required to provide at least four hours of training to fleet personnel, as well as on-site technical support for the duration of the demonstration project, which will include 1000 hours of operation. This may include, but is not limited to: troubleshooting installation issues; malfunction of backpressure monitors; training of equipment operators in device operation and regeneration; any other issue that may arise while the demonstration is in progress. Manufacturers will be expected to respond to a complaint or issue reported by a fleet or by MSRC within 24 hours. On-site response by the manufacturer or its local service representative must be made in a time frame acceptable to the fleet. Failure to promptly respond to complaints or issues will be considered in future applications by the manufacturer. .



## I.E. PRIORITY PROFILES

Priorities span a number of characteristics, so that some vehicles and/or technologies may fall into more than one Priority category, but any of the following will qualify as Priority (all Priority categories are deemed equal, regardless of order below):

1. **Vehicles Difficult to Retrofit Without Impacting Driver Visibility** – Some vehicle designs are more challenging to retrofit in compliance with Cal/OSHA visibility requirements. The MSRC believes that, in many of these cases, a motivated manufacturer or installer could develop a solution using a verified Level 3 device, and higher than average installation design costs would be allowable. For this category only, Level 2 devices could be demonstrated in the interests of achieving substantial emission benefits when it is not feasible to install a Level 3 device. Representative vehicles in this category include, but are not limited to, the following vehicle types:
  - Deere 624J wheel loader
  - Caterpillar RC60 forklift
  - Deere 200CLC excavator
  - Deere 225C excavator
  - Rollers (including Ingersoll Rand, Dynapac, Cat, and Hyster)
  - Cat 613C scraper
  - Cat 623B scraper
  - Deere 772D grader
  - Dresser 850 grader
2. **Engines with EGR** – Due to the increased complexity of retrofit, vehicles equipped with engines which utilize exhaust gas recirculation (EGR) to reduce NO<sub>x</sub> emissions
3. **Tier 3 Engines** – Tier 3 engines have a low NO<sub>x</sub> to PM ratio, and many of the currently verified devices are not verified for use on Tier 3 engines
4. **≥ 500 Hp Engines** – Due to a need for additional demonstrations in this size category, vehicles equipped with 500 horsepower or greater engines
5. **Particulate Matter Sensor** – For a maximum of one demonstration per Qualified technology, coupling the emission reduction technology with a particulate matter sensor will make it a Priority
6. **Hybridization** – Technologies which would hybridize existing diesel vehicles

## I.F. DEVICE EVALUATION & SELECTION CRITERIA

Each technology proposed by a manufacturer for demonstration in the Showcase III Program will undergo evaluation by a Committee comprised of representatives of the MSRC, South Coast AQMD and CARB staff. The criteria set forth below will be considered in the evaluation process to determine whether a technology is deemed Qualified:

1. **Mandatory** – Failure in either of these elements will automatically disqualify the product:

- a. If product is not already verified, applicant must attest their intention to complete the verification process for the product in the near future (retrofit after-treatment devices only).
  - b. Applicant must also agree to provide technical support throughout the demonstration project period.
2. **Other Criteria** – these criteria will also be considered in determining Qualification status:
- a. Demonstrated manufacturer experience. This includes MSRC/CARB/AQMD experience with previous applications of the technology.
  - b. Anticipated/verified PM reduction level (Level 2 devices can only be used on vehicles with insurmountable visibility issues)
  - c. Potential increase in pollutants other than NOx or PM
  - d. Feasibility of operation and installation
  - e. Readiness for commercial availability
  - f. Cost of technology, installation, and maintenance
  - g. Manufacturer's methods for evaluating vehicles for installation

## **I.G. IF YOU NEED HELP... CONTACT INFORMATION**

This Request for Qualifications and Participation Application can be obtained by accessing the MSRC web site at [www.CleanTransportationFunding.org](http://www.CleanTransportationFunding.org) or the Air Resources Board Showcase website at [www.arb.ca.gov/diesel/showcase/showcase.htm](http://www.arb.ca.gov/diesel/showcase/showcase.htm). MSRC and CARB staff members are available to answer questions during the application acceptance period. In order to help expedite assistance, please direct your inquiries to the applicable staff person, as follows:

- For **General & Administrative Assistance**, please contact:  
Ms. Cynthia Ravenstein  
MSRC Contracts Administrator  
Phone: 909-396-3269  
Fax: 909-396-3682  
E-mail: [cravenstein@aqmd.gov](mailto:cravenstein@aqmd.gov)
- For **Testing and Installation**, please contact:  
Mr. John Karim  
CARB In-Use Retrofit Section  
Phone: 626-459-4303  
Fax: 626-575-6699  
E-mail: [jkarim@arb.ca.gov](mailto:jkarim@arb.ca.gov)
- For **Verification Program**, please contact:  
Ms. Shawn Daley  
Manager, CARB Retrofit Assessment Section  
Phone: 626-575-6972  
Fax: 626-575-6699  
E-mail: [sdaley@arb.ca.gov](mailto:sdaley@arb.ca.gov)

- For **Experimental Permits**, please contact:

Ms. Rose Castro  
Manager, Aftermarket Parts Section  
Phone: 626-575-6848  
Fax: 626-575-6699  
E-mail: [rcastro@arb.ca.gov](mailto:rcastro@arb.ca.gov)

## SECTION II: APPLICATION PROCESS

### II.A. APPLICATION INSTRUCTIONS

A Participation Application must be completed and submitted prior to receiving approval to participate in the Showcase III Program. A separate application must be submitted for each technology proposed for Qualification. The application forms are included in Section II.B. of this document. Applications must be submitted in accordance with the instructions outlined below and all requested information must be supplied.

1. **Application Elements** - All applications must contain the following:
  - a) **Cover letter** - Transmittal of the application must be accompanied by a cover letter signed by the person(s) authorized to contractually bind the proposing entity. In the cover letter, applicants must agree to provide technical support during the demonstration project period. And if the proposed product is an after-treatment retrofit device which is not already verified, applicant must attest their intention to complete the verification process for the product in the near future.
  - b) **Application Forms** - Applications must include completed Forms, including all required attachments and supporting documentation as requested.
  - c) **Product brochure** – Include a copy of your product brochure
2. **Application Submittal Instructions** - All applicants must submit four (4) complete copies in a sealed envelope, marked in the upper left-hand corner with the name and address of the applicant and the words “RFQ2012-13 Showcase III Manufacturer Program”. The earliest date for application submittal is July 17, 2012. Please note that Showcase III applications must be received no later than 5:00 p.m. September 5, 2012 to be considered. All applications should be directed to:

Procurement Unit  
South Coast Air Quality Management District  
21865 Copley Drive  
Diamond Bar, CA 91765

In addition to the paper application, applicants must also submit an electronic copy of their application in either PDF or Microsoft Word format. This should be provided via CD-ROM in care of the Procurement Unit at the street address listed above. The brochure need not be included in the electronic copy.

*Please note that the application is only deemed “received” when the four (4) complete paper copies are submitted in accordance with the above instructions - submittal of an electronic application only does not constitute receipt by the AQMD. In addition, please note that*

faxed applications will not be accepted. All applications will be time and date stamped upon receipt by the South Coast Air Quality Management District. **PLEASE NOTE THAT ANY PROPOSAL TIME STAMPED 5:01 P.M. OR LATER ON SEPTEMBER 5, 2012 WILL NOT BE REVIEWED AND WILL NOT BE DEEMED QUALIFIED; AND THEREFORE WILL NOT BE ELIGIBLE TO PARTICIPATE.** No exceptions will be granted regardless of reason or circumstances.

3. **Addenda** – The MSRC may modify the RFQ and/or issue supplementary information or guidelines relating to the RFQ during the application preparation period of June 1, 2012 through September 5, 2012. Any solicitation amendments will be posted on the MSRC Website at [www.CleanTransportationFunding.org](http://www.CleanTransportationFunding.org).
4. **Application Modifications** - Once submitted, applications cannot be altered without the prior written consent of the MSRC.
5. **Application Screening** - Applications received in response to this Showcase III RFQ will be screened upon receipt to insure they comply with all program legal requirements of the AQMD and policies of the MSRC and CARB. Applications that do not comply with the stipulated requirements will not be evaluated further and the applicant will be duly notified. Only applications received that comply with all minimum submission requirements will be deemed acceptable and undergo further evaluation.
6. **Application Evaluation & Approval Process** - Applications deemed compliant by MSRC staff will be forwarded to a Committee of representatives from MSRC, South Coast AQMD and CARB staff. This committee will evaluate applications using criteria previously described in Section I.F.

Following Application evaluation, the MSRC will notify all manufacturer applicants as to the results of the evaluation. Manufacturers whose technologies are deemed Qualified will receive written confirmation from the MSRC. Manufacturers who are not recommended for participation in the Showcase Demonstration Program will receive a written explanation of the evaluation results and Committee member findings and will be offered a formal application debriefing if desired. The MSRC retains sole authority to determine which technologies, if any, are deemed Qualified to participate in the Showcase III Program.

The MSRC and CARB will match Qualified technologies with participating off-road equipment. ***While every effort will be made to match each manufacturer's qualified technology with a participating fleet, the unique attributes of the Showcase III Demonstration may result in some technologies not being demonstrated. Thus, the MSRC cannot guarantee that every Qualified technology will ultimately participate in the Showcase III Program.***

## Manufacturers of Diesel Emission Control Technologies Application for Participation in the Showcase Program

### MANUFACTURER INFORMATION

<b>A. Identification Information</b>						
Name of Company:						
Name of Primary Contact Person:						
Phone Number:		E-Mail Address:				
Company Mailing Address:						
City:		State:		Zip:		
Do you currently have a control strategy verified by any of the following agencies?		ARB <input type="checkbox"/> EPA <input type="checkbox"/> VERT <input type="checkbox"/> Check all that apply				
Is the control strategy for which you are applying verified by any of the following agencies?		ARB <input type="checkbox"/> EPA <input type="checkbox"/> VERT <input type="checkbox"/> Check all that apply				
If verified by CARB, list the Executive Order Number or Control Strategy Family Name						
If verified, describe the engines and applications for which it has been verified						

### **B. Product Availability**

Is the control strategy currently commercially available in California?		Yes <input type="checkbox"/>	No <input type="checkbox"/>
Name of distributor:			
Company Location:			
Primary Contact Person:			
Phone Number:			
E-Mail Address:			

**C. Technology Type** (check all applicable boxes)

DPF <input type="checkbox"/> Active <input type="checkbox"/> Passive <input type="checkbox"/> NOx Reduction <input type="checkbox"/> Hybrid Drive System <input type="checkbox"/> Other <input type="checkbox"/>	
If DPF uses catalyst, specify catalyst formulation:	
Filter regenerated on-line?	<input type="checkbox"/>
Filter regenerated off-line?	<input type="checkbox"/>
Number of hours of operation before regeneration required:	
Time required for regeneration: Is regeneration dependent on size of unit?      YES <input type="checkbox"/> NO <input type="checkbox"/>	
Source of regeneration energy:	
Electricity	<input type="checkbox"/>
Fuel	<input type="checkbox"/>
NOx Control	<input type="checkbox"/> Describe:
FBC	<input type="checkbox"/> Describe:
Other	<input type="checkbox"/> Describe:
If technology is NOx Reduction, Hybrid Drive, or Other, please describe below:	
Describe the installation process/procedure for the technology:	

### D. Previous Experience and Pre-Existing Data

Is your technology currently used in any off-road conditions?	If yes, please describe
Do you have any previous data-logging data on off-road applications? If yes, please provide with application.	Yes <input type="checkbox"/> No <input type="checkbox"/>
Do you have existing test data and/or engineering analysis to support anticipated emission reduction/increase claim(s)?  If yes, please provide with application.	Yes <input type="checkbox"/> No <input type="checkbox"/>

### E. Verification

For retrofit devices, the intent is to have project participants complete the verification process. Do you intend to pursue CARB verification?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
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### F. Identification of Emission Control Group

For what category of engines do you intend to verify/are you verified? Unregulated <input type="checkbox"/> Tier 1 <input type="checkbox"/> Tier 2 <input type="checkbox"/> Tier 3 <input type="checkbox"/> Tier 4i <input type="checkbox"/>	
What horse-power ranges are included in the above categories?	
Identify parameters used in selection of engines	
• Application	
• Engine type	
• Minimum exhaust temperature for proper operation	
• Maximum consecutive minutes operating below minimum exhaust temperature	
• Number of Hours of Operation Before Cleaning of Filter Required	
• Fuel Type	
• Verification Level Sought	
What is the maximum backpressure allowed when the control strategy is in operation?	

**G. Commercial Availability**

Is control strategy commercially available?
Please provide information on any demonstrated retrofits.

**H. Emissions Reduction**

What is the anticipated percent reduction from control strategy (from baseline emissions)?					
PM		A. %	NOx (if applicable)		%
What is the potential increase in other pollutant levels from control strategy (percent increase from baseline emissions)?					
NO <sub>2</sub>		%			
NO <sub>x</sub>		%			
CO		%			
CO <sub>2</sub>		%			
HC		%			



**I. Material and Installation Costs (include sales tax where applicable; note that these are standard costs/ranges, and specific quotes will be sought if a match is contemplated)**

Retrofit device	\$
Design cost for installation	\$
Installation cost	\$
Data-logging cost	\$
Fuel cost	\$
Fuel infrastructure cost (if applicable)	\$
Maintenance cost	\$
Will your company be willing to pay for a portion of the material and/or installation cost?	Yes <input type="checkbox"/> No <input type="checkbox"/>
If so, please specify amount:	

**J. Vehicle Evaluation**

Describe the methods your company uses to evaluate whether a particular vehicle and engine is suitable to be equipped with your device:

**K. Technical Support**

Your company will be required to provide technical support should problems arise during demonstration/installation. Please list the contact information for the person providing technical support during the test program:	
Name:	
Office Phone:	Mobile:

## Devices Participating in Original Showcase or Showcase II Program Application for Participation in the Showcase III Program

For retrofit devices qualified under the original Showcase or Showcase II Program which are proposed to be included in Showcase III without modification, manufacturers can complete and submit the following condensed application

### MANUFACTURER INFORMATION

<b>A. Identification Information</b>					
Name of Company:					
Name of Primary Contact Person:					
Phone Number:		E-Mail Address:			
Company Mailing Address:					
City:		State:		Zip:	
Device name:					

**B. Material and Installation Costs (include sales tax where applicable; note that these are standard costs/ranges, and specific quotes will be sought if a match is contemplated)**

Retrofit device	\$
Design cost for installation	\$
Installation cost	\$
Data-logging cost	\$
Fuel cost	\$
Fuel infrastructure cost (if applicable)	\$
Maintenance cost	\$
Will your company be willing to pay for a portion of the material and/or installation cost?	Yes <input type="checkbox"/> No <input type="checkbox"/>
If so, please specify amount:	

**C. Technical Support**

Your company will be required to provide technical support should problems arise during demonstration/installation. Please list the contact information for the person providing technical support during the test program:

Name:

Office Phone:

Mobile:

**D. No Modification**

Applicant attests that the specified device was deemed qualified under the original MSRC Showcase Program, and that the device is proposed for participation in Showcase III without modification to the device design or component materials

\_\_\_\_\_  
*Signature of Authorized Official*

Name:

Title:

Date: \_\_\_\_\_