

Missouri Department of dnr.mo.gov

# NATURAL RESOURCES

Michael L. Parson, Governor

Carol S. Comer, Director

JAN 08 2019

Mr. Russell L. Crane  
Volkswagen Environmental Mitigation Trust  
c/o Wilmington Trust, N.A. as Trustee  
1100 North Market Street  
Attn: Capital Markets & Agency Services  
Wilmington, DE 19890

Dear Mr. Crane,

The Missouri Department of Natural Resources has enclosed a revision to Missouri's first funding request through the Volkswagen Environmental Mitigation Trust (Project ID: Cat 7-EMA10 FY19-001). The department previously sent this revised D-4 submission electronically through Intralinks. The enclosure is to fulfill the requirement of a hard copy as required by paragraph 5.2 of the Trust Agreement.

Thank you for attention to this matter. If you have any questions regarding this submission, please contact Emily Wilbur, with the department's Air Pollution Control Program at P.O. Box 176, Jefferson City, MO 65102 or by phone at (573) 751-7840 or email at [emily.wilbur@dnr.mo.gov](mailto:emily.wilbur@dnr.mo.gov).

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Darcy A. Bybee  
Director

DAB:cm

Enclosure



Recycled paper



**APPENDIX D-4**  
**Beneficiary Eligible Mitigation Action Certification**

Missouri Funding Request #1

Project ID: Cat 7-EMA10 FY19-001

**BENEFICIARY ELIGIBLE MITIGATION ACTION CERTIFICATION**

Beneficiary State of Missouri

Lead Agency Authorized to Act on Behalf of the Beneficiary Missouri Department of Natural Resources  
*(Any authorized person with delegation of such authority to direct the Trustee delivered to the Trustee pursuant to a Delegation of Authority and Certificate of Incumbency)*

<b>Action Title:</b>	DERA Award Category – FY2019
<b>Beneficiary’s Project ID:</b>	Cat 7-EMA10 FY19-001
<b>Funding Request No.</b>	1
<b>Request Type: (select one or more)</b>	<input type="checkbox"/> Reimbursement <input checked="" type="checkbox"/> Advance <input type="checkbox"/> Other (specify): _____
<b>Payment to be made to: (select one or more)</b>	<input checked="" type="checkbox"/> Beneficiary <input type="checkbox"/> Other (specify): _____
<b>Funding Request &amp; Direction (Attachment A)</b>	<input checked="" type="checkbox"/> Attached to this Certification <input type="checkbox"/> To be Provided Separately

**SUMMARY**

<b>Eligible Mitigation Action Type</b>	<input type="checkbox"/> Appendix D-2 item (specify): <input checked="" type="checkbox"/> Item 10 - DERA Option (5.2.12) (Match for Missouri’s 2018 State DERA Grant):
<b>Explanation of how funding request fits into Beneficiary’s Mitigation Plan (5.2.1):</b> Missouri’s BMP allocates \$3 million to provide the state’s match to the state allocated DERA grant each year throughout the ten-year period of the VW Trust. This funding request will provide the state’s match for Missouri’s State DERA Grant for federal fiscal year 2018. Under this grant program, Missouri plan to provide funding for the early replacement of school buses. Replacing school buses is a specific goal listed in Missouri’s BMP.	
<b>Detailed Description of Mitigation Action Item Including Community and Air Quality Benefits (5.2.2):</b> Missouri’s work plan and budget for the FY2018 State DERA grant is attached. Under the grant program, Missouri expects to implement 29 early school bus replacements throughout the state. School buses operate five days a week in highly populated areas. Newer buses are safer, more fuel-efficient, require less maintenance, and are over 90 percent cleaner than older school buses. Cleaner school bus emissions mean significantly less acute exposure to concentrated diesel emissions for students and drivers.	
<b>Estimate of Anticipated NO<sub>x</sub> Reductions (5.2.3):</b> In Missouri’s work plan for the FY2018 State DERA grant, the department calculated an estimated eight tons of lifetime NO <sub>x</sub> emission reductions from the 29 early school bus replacements that will be funded through the grant. The department will calculate the emission reductions from each individual project implemented based on the characteristics of the actual buses replaced and include the calculated emission reductions in the semi-annual reports the department will submit to the trustee.	
<b>Identification of Governmental Entity Responsible for Reviewing and Auditing Expenditures of Eligible Mitigation Action Funds to Ensure Compliance with Applicable Law (5.2.7.1):</b> Missouri Department of Natural Resources	
<b>Describe how the Beneficiary will make documentation publicly available (5.2.7.2).</b> The Missouri Department of Natural Resources, as lead agency for the state of Missouri implementing the Environmental Mitigation Plan, has established a webpage on the VW Trust and mitigation actions, <a href="https://dnr.mo.gov/env/apcp/vw">https://dnr.mo.gov/env/apcp/vw</a> .	
<b>Describe any cost share requirement to be placed on each NO<sub>x</sub> source proposed to be mitigated (5.2.8).</b> Missouri’s DERA grant dollars will be used to fund a portion of the 29 school bus replacements along with the administrative costs associated with implementing the grant program. Using the grant dollars and the Trust dollars, the department will provide 25% of the cost, up to \$22,000 per bus, for each school bus replacement and the fleet owners will pay the remaining cost.	
<b>Describe how the Beneficiary complied with subparagraph 4.2.8, related to notice to U.S. Government Agencies (5.2.9).</b> On February 28, 2018, the Department notified the Department of Interior, including the National Park Service and U.S. Fish and Wildlife Service, and the Department of Agriculture, including the Forest Service of the availability of VW funds for locations within Missouri. The Department did not receive notice from any federal agency indicating interest in these funds.	
<b>If applicable, describe how the mitigation action will mitigate the impacts of NO<sub>x</sub> emissions on communities that have historically borne a disproportionate share of the adverse impacts of such emissions (5.2.10).</b> The projects funded through this funding request will benefit school-aged children, which are a sensitive population. As a sensitive population, children bear an increased share of the air pollution burden.	

**ATTACHMENTS**

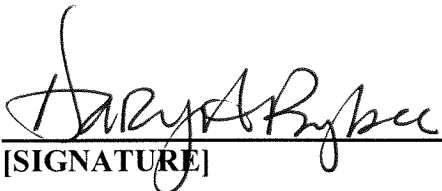
**(CHECK BOX IF ATTACHED)**

- Attachment A Funding Request and Direction
  - Attachment B Eligible Mitigation Action Management Plan Including Detailed Budget and Implementation and Expenditures Timeline (5.2.4)
  - Attachment C Detailed Plan for Reporting on Eligible Mitigation Action Implementation (5.2.11)
  - Attachment D Detailed cost estimates from selected or potential vendors for each proposed expenditure exceeding \$25,000 (5.2.6) [Attach only if project involves vendor expenditures exceeding \$25,000]
  - Attachment E DERA Option (5.2.12) [Attach only if using DERA option]
  - Attachment F Attachment specifying amount of requested funding to be debited against each beneficiary's allocation (5.2.13) [Attach only if this is a joint application involving multiple beneficiaries]
-

**CERTIFICATIONS**

By submitting this application, the Lead Agency makes the following certifications:

1. This application is submitted on behalf of Beneficiary State of Missouri, and the person executing this certification has authority to make this certification on behalf of the Lead Agency and Beneficiary, pursuant to the Certification for Beneficiary Status filed with the Court.
2. Beneficiary requests and directs that the Trustee make the payments described in this application and Attachment A to this Form.
3. This application contains all information and certifications required by Paragraph 5.2 of the Trust Agreement, and the Trustee may rely on this application, Attachment A, and related certifications in making disbursements of trust funds for the aforementioned Project ID.
4. Any vendors were or will be selected in accordance with a jurisdiction's public contracting law as applicable. (5.2.5)
5. Beneficiary will maintain and make publicly available all documentation submitted in support of this funding request and all records supporting all expenditures of eligible mitigation action funds subject to applicable laws governing the publication of confidential business information and personally identifiable information. (5.2.7.2)

  
[SIGNATURE]

JAN 08 2019

\_\_\_\_\_  
[DATE]

**DARCY BYBEE**

\_\_\_\_\_  
[NAME]

**AIR POLLUTION CONTROL  
PROGRAM DIRECTOR**

\_\_\_\_\_  
[TITLE]

**MISSOURI DEPARTMENT OF  
NATURAL RESOURCES**

\_\_\_\_\_  
[LEAD AGENCY]

For

**STATE OF MISSOURI**  
\_\_\_\_\_  
[BENEFICIARY]

**ATTACHMENT B**

**Beneficiary Eligible Mitigation Action Certification – Missouri Funding Request #1  
Project ID: Cat 7-EMA10 FY19-001**

**Eligible Mitigation Action Management Plan Including Detailed Budget and  
Implementation and Expenditures Timeline**

**PROJECT MANAGEMENT PLAN**

**PROJECT SCHEDULE AND MILESTONES**

Milestone	Date
Lead agency provides notice of availability of mitigation action funds	August 2018
Due date for project sponsors to submit proposals to lead agency	September 2018
Lead agency provides approval of successful project sponsors' proposals	November 2018
Recipients complete procurement and submit purchase orders	Project approval + 2 months
Buses delivered to project sponsors	Project approval + 5 months
Project sponsors submit evidence of vehicle scrapping, invoices, proof of payment, and other documents required for reimbursement	Project approval + 5.5 months
Lead agency reviews, requests corrections if necessary, certifies project completion, and provides reimbursement	Project approval + 6 months
Lead agency reports to Trustee on status of and expenditures with mitigation actions completed and underway	Within 6 months of first disbursement; Jan. 30 and July 30 thereafter

**PROJECT BUDGET**

**Period of Performance: July 2018 – June 2019**

Budget Category	Total Approved Budget	Share of Total Budget to be Funded by the Trust	Cost-Share, if applicable (DERA Grant)	Cost-Share, if applicable (Project Sponsors)
1. Equipment Expenditure	\$2,552,000	\$276,411	\$361,589	\$1,914,000
2. Contractor Support <i>(Provide List of Approved Contractors as Attachment with approved funding ceilings)</i>	\$0	\$0	\$0	\$0
3. Subrecipient Support <i>(Provide List of Approved Subrecipients or Grant Awardees as Attachment with approved funding ceilings)</i>	\$0	\$0	\$0	\$0
4. Administrative <sup>1</sup>	\$53,028	\$0	\$53,028	\$
<b>Project Totals</b>	\$2,605,028	\$276,411	\$414,617	\$1,914,000
<b>Percentage</b>	100%	10.6%	15.9%	73.5%

<sup>1</sup> Subject to Appendix D-2 15% administrative cap.

**Beneficiary Eligible Mitigation Action Certification – Missouri Funding Request #1**  
**Project ID: Cat 7-EMA10 FY19-001**

**PROJECTED TRUST ALLOCATIONS**

	<b>FY 2019</b> (July 2018-June 2019)	<b>FY 2020</b>	<b>FY 2021-28</b>
1. Anticipated Annual Project Funding Requests to be paid through Trust	\$ 7,471,938	\$ 14,723,117	\$ 18,956,996
2. Anticipated Annual Cost Share	\$ 9,494,667	\$ 18,708,813	\$ 24,088,846
3. Anticipated Total Project Funding by Year (line 1 plus line 2)	\$ 16,966,605	\$ 33,431,930	\$ 43,045,842
4. Cumulative Trustee Payments made to Date Against Cumulative Approved Beneficiary Allocation	\$ -	\$ 7,471,938	\$ 22,195,055
5. Current Beneficiary Project Funding to be paid through the Trust (line 1)	\$ 7,471,938	\$ 14,723,117	\$ 18,956,996
6. Total Funding Allocated to Beneficiary, inclusive of Current Action by Year (line 4 plus line 5)	\$ 7,471,938	\$ 22,195,055	\$ 41,152,051
7. Beneficiary Share of Estimated Funds Remaining in Trust	\$ 41,152,051	\$ 33,680,113	\$ -
8. Net Beneficiary Funds Remaining in Trust, net of cumulative Beneficiary Funding Actions (line 7 minus line 6)	\$ 33,680,113	\$ 11,485,058	\$ -



## **ATTACHMENT C**

### **Detailed Plan for Reporting on Eligible Mitigation Action Implementation (5.2.11)**

Records of the applicant, selected projects, and financial reports will be made available on the department's VW webpage in the form of a report to coincide with reporting requirements listed in the trust. Records may also be obtained through the state sunshine request portal.



**ATTACHMENT D**

**Detailed cost estimates from selected or potential vendors for each proposed expenditure exceeding \$25,000 (5.2.6)**

**Beneficiary Eligible Mitigation Action Certification – Missouri Funding Request #1**

Project ID: Cat 7-EMA10 FY19-001

School Bus Replacement Projects

Bus Style	Diesel	Propane	Compressed Natural Gas
Type A	\$60,000 - \$85,000	\$65,000 - \$95,000	\$75,000 - \$105,000
Type B	NA	NA	NA
Type C	\$88,000 - \$120,000	\$100,000 - \$130,000	\$110,000 - \$150,000
Type D	\$100,000 - \$140,000	NA	NA

The department reviewed invoices for school bus purchases that schools have made in recent grants the department administered. School buses are classified by type that reflects passenger capacity and body style. Nearly 100 percent of the school buses purchased through this funding request will be diesel-powered, based on the applications that schools submitted. The department did not receive any applications for electric school bus purchases in this application round.



Attachment E



Office of Transportation and Air Quality  
May 2018

**FISCAL YEARS 2017 AND 2018  
STATE CLEAN DIESEL GRANT PROGRAM  
WORK PLAN AND BUDGET NARRATIVE**

**SUMMARY PAGE**

**Project Title: 2017 and 2018 Missouri State Clean Diesel Program**

**Project Manager and Contact Information**

Organization Name:	Missouri Department of Natural Resources (the department)
Project Manager:	Mark Leath
Mailing Address:	P.O. Box 176, Jefferson City, MO 65102-0176
Phone:	(573) 751-4817
Fax:	(573) 751-2706
Email:	<a href="mailto:mark.leath@dnr.mo.gov">mark.leath@dnr.mo.gov</a>

**Project Budget Overview:**

	<b>FY 2017*</b>	<b>FY 2018</b>
EPA Base Allocation	\$246,296	\$276,411
State or Territory Matching Funds (if applicable)	\$0	\$276,411
EPA Match Incentive (if applicable)	\$0	\$138,206
Mandatory Cost-Share	\$0	\$0
<b>TOTAL Project</b>	<b>\$246,296</b>	<b>\$691,028</b>

\*FY 2017 budget is only for states and territories with open FY 2017 State DERA grants

**Project Period**

October 1, 2018 – September 30, 2019

**Summary Statement**

The department plans to implement early school bus replacement programs in both fiscal years (2017 and 2018). Request for Applications will be developed and released in each year. All school bus fleets with buses with engine model years 1995 – 2006 that operate in the state will be

eligible to apply. The school bus fleets that will receive funds will be selected by a random drawing ensuring equal opportunity to all applicants. Each bus being replaced will be disabled and all new buses must be powered by 2017 (or newer) model year engines that are certified to EPA emission standards. The department will fund 12 school bus replacements through the FY 2017 program, and the department expects to fund 29 additional school bus replacements through the FY 2018 program for a total of 41 school bus replacements over both years.

## SCOPE OF WORK

### **2017 and 2018 Narrative Project Description:**

The department plans to implement early school bus replacement programs in both fiscal years (2017 and 2018). Request for Applications will be developed and released in each year. All school bus fleets with buses with engine model years 1995 – 2006 that operate in the state will be eligible to apply. The department will use a random drawing to select the school bus fleets that will receive funds to ensure equal opportunity to all applicants. Each bus being replaced will be disabled and all new buses must be powered by 2017 (or newer) model year engines that are certified to EPA emission standards. The department will fund 12 school bus replacements through the FY 2017 program, and the department expects to fund 29 additional school bus replacements through the FY 2018 program for a total of 41 school bus replacements over both years.

**Requirements/Details:** The department will develop Requests for Applications (RFAs) to solicit school bus replacement projects in Missouri each year of the program. In the 2017 program, school bus fleets will receive awards to fund ~25% of the cost of one or two new school buses, up to \$18,000 per bus. In the 2018 program, school bus fleets will receive awards to fund ~25% of the cost of 1-3 new school buses, up to \$22,000 per bus. Exception for fleets transitioning to alternative fuel or all-electric: For the 2018 program, the department will allow school bus fleets to apply for up to 10 school bus replacements if the fleet is planning to transition their entire fleet from diesel to an alternative fuel or all-electric. In both years, after the department selects the school bus fleets to receive awards, the department will develop financial assistance agreements for these school bus fleets. The financial assistance agreements will act as rebate programs, and will outline the necessary tasks that schools must perform to receive their rebates for their school bus purchases. The tasks identified below will allow the Department to complete the project successfully. The Program Timeline identifies anticipated dates for the completion of various milestones for both program years.

**Task # 1 – Develop the RFA:** The department will develop RFAs each year that explain all of the eligibility requirements, funding levels, project deadlines, and implementation procedures. The RFAs will include application forms that applicants will need to fill out in order to apply for the funding.

**Task # 2 – Update Department Website and Release the RFA:** Once the department develops the RFAs each year, the department will place them on the department's website along with applicable closing dates and project period dates. The department will also place instructions on the website explaining the steps to apply for the grant. The website will also include information about the benefits of clean diesel projects and activities.

**Task # 3 – Announce and Advertise the RFAs:** The department will announce each year’s RFA not only through the publication on the website, but the department will also send out emails to the following groups/organizations: the Department of Elementary and Secondary Education, the department’s email list-serve for the state clean diesel webpage and the Volkswagen Trust, the department’s school district email distribution list, and the department’s school bus vendor/manufacturer email distribution list. The emails will inform the groups of the opportunities available through the RFAs each year and encourage the groups to pass the information along to eligible fleets in the state.

**Task # 4 – Review Applications and Select the Awardees:** After the RFA deadline passes each year, the department will review each application submitted for completeness and to ensure that applicants meet all the eligibility requirements. Eligibility requirements will include a requirement that only buses with engine model years within the range of 1995 – 2006 may be replaced. The department will also review other eligibility requirements such as requirements for the new bus engine model year, gross vehicle weight rating, and cost share requirements as outlined in each of the RFAs. If the department determines any applications to be incomplete or ineligible, the department will return the application to the applicant with an explanation of why they are not being included in the drawing. The department will then assign all eligible applications a number. For each number assigned, the department will enter the applications into a random drawing. The department will draw numbers, and the department will give each application a drawing order. The department will automatically select the first application drawn for an award, and the department will continue selecting applications for an award in their corresponding drawing order until the funding runs out. However, the department will maintain a list of the order in which non-selected applications were drawn, which the department will use in the event that additional funds become available due to projects that may withdraw from the grant.

**Task # 5 – Award Financial Assistance Agreements/Rebate Awards to School Bus Fleets:** After the drawing, the department will develop financial assistance agreements for the fleets the department selected to receive funding. The financial assistance agreements will act like rebate awards, and will detail all of the work plan tasks, terms, conditions, requirements, and deadlines necessary to receive the rebate award for the new school bus purchases. Each financial assistance agreement will also include clauses to ensure that awardees do not sell any new buses purchased through the grant within three years of the end of the project period. Finally, each financial assistance agreement will include milestone deadline clauses, which if not met, could result in forfeiture of the award, in which case the department would offer funding to the next applicant in line from the drawing results.

**Task # 6 – Select Vendors for School Buses:** All school bus fleets selected for an award will determine the vendor for the new bus or buses they will purchase following their standard procurement procedures for new bus purchases, which must comply with any applicable public contracting laws associated with school bus purchases. The program will only allow school bus fleets to purchase buses with an EPA certified engine configuration conforming to 2017 (or newer) engine model year emission regulations as part of this grant. The school bus fleets provide a written explanation of the procedure they use to select the school bus vendor from

which they will purchase the new buses. The explanation must describe whether the procedure they used conforms to the standard procedure they have used in recent years to purchase school buses and how the procedure complies with all state procurement laws for new school bus purchases. The school district must provide to the department any and all documentation of the procurement process they use to select the new school bus vendor.

**Task # 7 – Collect Pre-Purchase Approval Documentation:** Once the school bus fleets have selected their vendors for the new school bus purchases, they will submit the written explanation and documentation of the process they used to select the vendor along with their choice for the vendor to the department. In addition, the school bus fleets must submit “before” pictures of the buses they are replacing including a bus profile picture, a picture of the VIN tag, a picture of the engine, and a picture of the engine tag. The department will review the pictures and procurement documentation, and the department verifies the pictures and documentation, the department will submit written approval to inform the school bus fleet that they may order the new bus.

**Task # 8 – Purchase the School Buses:** Once the school bus fleet receives approval from the department to purchase their bus, they will place an order for the new bus with the vendor they selected. Once the new bus is delivered to and accepted by the school bus fleet, they will put the new bus on route. When the school bus fleet accepts the new bus and puts it into service, they must take the old bus they are replacing out of operation. The school bus fleet will pay for 100% of the cost of the bus to the vendor, and provide proof of payment to the department.

**Task # 9 – Roll Funding to Next Applicant in Line (if necessary):** The department will place milestone deadlines into each financial assistance agreement awarded. If a school bus fleet fails to select a vendor and place an order for their new school bus by the applicable deadline, the department may withdraw the funding opportunity the school bus fleet and offer the funds to the next applicant in line from the drawing results. Any new applicants will need to be able to complete their project on an expedited schedule.

**Task # 10 – Disable the Old School Buses:** Within 90 days of the receipt and acceptance of the new school buses, the school bus fleets must disable the old buses that they replaced. Disabling of the buses will require the chassis to be cut in half, and a hole to be drilled/cut through the engine block. The department also plans to allow it as an acceptable scrapping method to crush/break/tear apart the engine and body/chassis of the school buses, as is typically done at numerous scrap metal recycling yards. “Before”, “during”, and “after” pictures will be taken during the disabling process for each bus so that proper documentation can be placed in the grant file for the final report. If school bus fleets generate income by selling the disabled buses for scrap value or by salvaging/selling non-engine/non-chassis parts, the program income must be documented along with the use of the funding. The department expects that if school bus fleets generate program income in this fashion, they will use it to cover a portion of the non-federal cost share requirements for their project.

**Task # 11 – Reimbursing School Bus Fleets:** After the school bus fleets have disabled the old buses, received and accepted the new buses, and the department has gathered all invoice documentation, proof of payment, required photographs, and visual evidence that the new buses have been received, the school bus fleet will submit a pay request to the department for the



grant's portion of the cost of the new bus (For the 2017 program: 25% of the total cost of the bus, not to exceed \$18,000; For the 2018 program: 25% of the total cost of the bus, not to exceed \$22,000). The department will review the pay request and verify that the school bus fleet has submitted all required documentation. Once verified, the department will issue the payment to the school bus fleet.

**Task # 12 – Monitoring and Reporting:** Either the school bus fleets or the department (if the department decides to witness the disabling process) will take photographs documenting the disabling procedures for school buses replaced through the grant. The department will also require photographs of each of the new buses purchased through the grant. The witness to the disabling process (either the department or the school bus fleet) must also fill out a form developed by the department to further document the process. The department will require status reports (no less frequent than quarterly throughout the duration of the project) of each school bus fleet that receives an award under this grant. The applications submitted under the RFA will contain fleet description sheets for all buses that fleets are replacing through the grant. The department will use these fleet description sheets to develop the quarterly and final reports that the department submits to EPA. The department will complete and submit quarterly progress reports and a final report to EPA using EPA approved reporting templates.

**STATE/TERRITORY GOALS AND PRIORITIES:** Missouri contains a portion of the bi-state St. Louis nonattainment area. This area comprises St. Louis City, and the Counties of St. Louis, St. Charles, Franklin, and Jefferson. The area is designated nonattainment under the 2008 Ozone NAAQS as well as the 1997 annual PM<sub>2.5</sub> NAAQS. In addition, EPA has designated St. Louis City, St. Louis County, St. Charles County, and a portion of Franklin County as nonattainment under the 2015 Ozone NAAQS. Mobile sources comprise a significant percentage of emissions that contribute to fine particulate matter and ozone formation, with over 20 billion vehicle miles traveled annually in the five-county area.

According to EPA's 2018 Priority County List, seven counties outside of the St. Louis nonattainment area where portions of the population are exposed to more than 2.0 µg/m<sup>3</sup> of diesel particulate matter emissions in the 2011 National Scale Air Toxics Assessment, including Boone, Cass, Clay, Jackson, Johnson, Pettis, and Saline Counties. Also, Missouri includes three Ozone Advance areas including Joplin, Springfield/southwest Missouri and southeast Missouri.

A wide variety of diesel fleets are prominent throughout the state. The Missouri River runs through the middle of the state from Kansas City to St. Louis which generates diesel traffic from locomotives, marine engines, and other industry. Kansas City and St. Louis each contain international airports, major railroad hubs, marine ports, and significant on-road diesel vehicle traffic. The entire eastern edge of the state borders the Mississippi River, which likewise generates diesel traffic from marine, rail, and other industries. Dozens of smaller regional airports are spread throughout the state. The state contains over 550 public school districts, almost all of which offer transportation to students. Numerous cities around the state offer transportation services via diesel-powered public transit buses. There are over 100 incorporated cities in the state all of which offer public and/or contracted refuse hauling services. Missouri contains over 1,100 miles of interstate highway and approximately 40,000 miles of total roadway

system. This complex system generates billions of vehicle miles traveled annually, and accommodates tens of thousands of public and commercial diesel trucks that traverse the system.

**VEHICLES AND TECHNOLOGIES:** The program will target school buses operating within the state. Eligible buses for replacement through the program will include those with engine model years within 1995 – 2006. All buses replaced through the program must be permanently disabled. All replacement buses funded through the program will be required to contain engines with model year 2017 (or newer) certified to EPA emission standards.

**ROLES AND RESPONSIBILITIES:** The department does not intend to include any project partners to help implement the 2017 State DERA Program. The department has selected the schools that will receive funds through the 2017 program. These schools include Branson R-IV School District, Carl Junction R-I School District, Central R-III School District, De Soto School District #73, Gasconade County R-II School District, Hannibal Public School District #60, Winona R-III School District, and Worth County R-III School District.

The department has not yet selected the schools that will receive funds through the 2018 program. The department will work with each school bus fleet individually as a partner under the 2018 program after the department selects the schools to receive awards. For both program years, the department will provide technical assistance and oversight to school bus fleets as needed to ensure the successful implementation of each early school bus replacement under the program each year. Please see the tasks under the scope of work section of this work plan for more details regarding the roles and responsibilities of the department and the selected school bus fleets.

**TIMELINE AND MILESTONES:** The following two tables include timelines of expected target dates, milestones, and completion dates to achieve specific tasks and accomplishments during the budget and project period for the 2017 and 2018 programs, respectively.

**2017 Program**

<b>Milestone</b>	<b>Expected Date</b>
Department develops the RFA	June – July 2017
RFA is released to the public, and posted on the department’s website	July – August 2017
Drawing is held to select applicants to receive funding for early school bus replacements	August – September 2017
Subgrants awarded to school bus fleets	October – November 2017
School bus fleets procure their equipment, “before” pictures submitted, and department approves new bus purchases	October 2017 – January 2018
If a new bus has not yet been ordered, funding rolls to the next applicant in line	March 31, 2018
Old buses are disabled per the grant requirements	November 2017 – June 2018
Site inspections for new buses/old buses being disabled	November 2017 – June 2018
Reimbursements made to school bus fleets	After completion of each individual project (No later than September 2018)
School bus fleets submit status reports to the Department	Every quarter of the project

Department submits quarterly progress reports to EPA	Every quarter of the project
Project is completed	September 30, 2018
Final report submitted to EPA	December 31, 2018

### 2018 Program

Milestone	Expected Date
Department develops the RFA	June – July 2018
RFA is released to the public, and posted on the department’s website	July – August 2018
Drawing is held to select applicants to receive funding for early school bus replacements	August – September 2018
Subgrants awarded to school bus fleets	October – November 2018
School bus fleets procure their equipment, “before” pictures submitted, and department approves new bus purchases	October 2018 – January 2019
If a new bus has not yet been ordered, funding rolls to the next applicant in line	March 31, 2019
Old buses are disabled per the grant requirements	November 2018 – June 2019
Site inspections for new buses/old buses being disabled	November 2018 – June 2019
Reimbursements made to school bus fleets	After completion of each individual project (No later than September 2019)
School bus fleets submit status reports to the Department	Every quarter of the project
Department submits quarterly progress reports to EPA	Every quarter of the project
Project is completed	September 30, 2019
Final report submitted to EPA	December 31, 2019

**DERA PROGRAMMATIC PRIORITIES:** Through the 2017 and 2018 program, the department expects that school bus fleets in Missouri will replace 12 school buses and 29 school buses, respectively. School buses operate five days a week in highly populated areas. They also congregate in school bus parking lots and school bus depots, which receive disproportionately high amounts of diesel emissions. The drawing process that will be used to select the fleets to be chosen will reduce the administrative costs of the grant, thus improving the project’s cost effectiveness. Finally, each early school bus replacement will generate mandatory cost share funding, which also improves the project’s cost effectiveness.

Additionally, by targeting school buses, the main benefactors will be school-aged children, which are a sensitive group because they breathe at a faster rate and their respiratory and immune systems are still developing. Asthma is one of the most common long-term diseases of children and accounts for more school absenteeism and emergency room visits than any other chronic disease. Reducing diesel particulate matter and precursors that lead to the formation of ground-level ozone can help reduce the frequency of negative health symptoms for children who have been diagnosed with asthma or other respiratory diseases.

**EPA’S STRATEGIC PLAN LINKAGE AND ANTICIPATED OUTCOMES/OUTPUTS:** The department expects the 2017 and 2018 programs to reduce diesel emissions throughout the state, including areas in Missouri facing air quality challenges. The emission reductions will be through the use of EPA certified engine configurations that replace engines that meet less

stringent emission standards. By reducing diesel emissions throughout Missouri, it is expected to protect public health and improve air quality throughout Missouri including several areas that are struggling to achieve and maintain air quality in compliance with the National Ambient Air Quality Standards.

**Outputs**

The expected outputs of the 2017 and 2018 program are to reduce diesel emissions throughout the state. The projects include funding for both public and private school bus fleets to help them achieve diesel emission reductions. All early replacement projects will have a minimum of 75% matching requirements, which are expected to leverage the greatest amount of money possible.

The department has already identified the 12 school buses that fleets will replace through the 2017 program. The fleets in the 2017 program will replace each of these buses with new school buses containing engines of model year 2017 (or newer) certified to EPA emission standards.

The department used the EPA Diesel Emission Quantifier to calculate the estimated emission reductions from the 12 early school bus replacements under the 2017 program. The emission reductions listed in the table below summarize the annual and lifetime emission reductions that the department calculated for the 2017 program.

<b>2017 Missouri State Clean Diesel Program Emission Reductions</b>				
	<b>NO<sub>x</sub></b>	<b>PM</b>	<b>HC</b>	<b>CO</b>
<b>Annual Reductions (Tons/Year)</b>	0.68	0.06	0.13	0.34
<b>Lifetime Reductions (Tons)</b>	3.08	0.29	0.56	1.59

For the 2018 program, the department has not yet selected the school buses that fleets will replace. However, under the 2018 program, school bus fleets will implement early replacements for 29 additional buses operating in Missouri, and each new bus purchased will contain engines of model year 2017 (or newer) certified to EPA emission standards.

Because the department has not yet selected the school buses that fleets will replace under the 2018 program, the department cannot yet calculate the exact emission reductions that will result from the 2018 program. However, the department has used the EPA Diesel Emission Quantifier to calculate the estimated emission reductions from 29 generic early school replacement projects. The emission reductions listed in the table below assume that 29 new school buses with engine model year 2017 will replace 29 school buses with engine model year 2002, having 8,000 annual miles, 100 annual idling hours, annual fuel consumption of 1,800 gallons per bus, and four years of remaining life per bus.

<b>2018 Missouri State Clean Diesel Program Estimated Emission Reductions</b>				
	<b>NO<sub>x</sub></b>	<b>PM</b>	<b>HC</b>	<b>CO</b>
<b>Annual Reductions (Tons/Year)</b>	2.02	0.16	0.42	0.94
<b>Lifetime Reductions (Tons)</b>	8.07	0.62	1.68	3.77

## **Outcomes**

• **Short-term outcomes:** The 2017 and 2018 programs will help school bus fleets replace older diesel powered school buses, which will reduce diesel emissions and conserve diesel fuel. It will provide both public and private fleets an opportunity to implement early replacements with the goal of reducing diesel emissions and fuel consumption, without paying full price for the equipment. The new engine configurations that will accompany the new buses include the latest and most stringent emission control technologies factory installed. As the fleet owners grow accustomed to these technologies they could decide to use their own funding to replace additional vehicles in their fleet.

• **Medium-term outcomes:** By successfully implementing the projects under the 2017 and 2018 programs, other fleet owners will see the fuel economy improvements, the reduced operational costs, and the environmental benefits and might decide to implement similar projects themselves.

• **Long-term outcomes:** Through this project, improved air quality measurements are expected in the future, and are anticipated to result in a decrease in the number of asthma attacks and other health issues exasperated by air pollution in and around the state of Missouri.

**SUSTAINABILITY OF THE PROGRAM:** The department anticipates the emission reductions realized through the 2017 and 2018 programs to continue after the agreement period, as the EPA certified engine configurations have long expected useful lives, and the improvement in operating costs expected by some of the fleets involved could spur further investment in technologies that improve fuel economy and reduce emissions. The fleets will also grow more accustomed to modern mobile source emission control equipment (selective catalytic reduction and diesel particulate filters), which will improve fleet owner acceptance of the new equipment and best practices for maintenance of such equipment.

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**BUDGET NARRATIVE**

**Itemized Project Budget**

Budget Category	FY 2017*			FY 2018			Total
	EPA Allocation	Voluntary Match (if applicable)	Mandatory Cost-Share (if applicable)	EPA Allocation	Voluntary Match (if applicable)	Mandatory Cost-Share (if applicable)	
1. Personnel	\$15,340			\$27,246			\$42,586
2. Fringe Benefits	\$7,210			\$13,808			\$21,018
3. Travel	\$800			\$500			\$1,300
4. Supplies	\$0			\$0			
5. Equipment	\$0			\$0			
6. Contractual	\$0			\$0			
7. Program Income	\$0			\$0			
8. Other	\$216,000			\$361,589	\$276,411		\$854,000
<b>9. Total Direct Charges</b>	<b>\$239,350</b>			<b>\$403,143</b>	<b>\$276,411</b>		<b>\$918,904</b>
10. Indirect Charges	\$6,946			\$11,474			\$18,420
<b>Total</b>	<b>\$246,296</b>			<b>\$414,617</b>	<b>\$276,411</b>		<b>\$937,324</b>

\*FY 2017 budget is only for states and territories with open FY 2017 State DERA grants

**Explanation of Budget Framework**

1. Personnel

Category	FY 2017	
	EPA	State or Territory Match (if applicable)
Environmental Engineer, Project Manager \$27/hr x 330 hrs	\$8,910	\$0
Accounting Analyst, Grant Manager \$19/hr x 180 hrs	\$3,420	\$0
Administrative Clerical (payment processing, documentation review etc.), \$14.30/hr x 50 hrs	\$800	\$0
Financial & Administrative Manager, \$26/hr x 85 hrs	\$2,210	\$0

FY 2018		
Category	EPA	State or Territory Match (if applicable)
Environmental Engineer, Project Manager \$27/hr x 470 hrs	\$12,690	
Environmental Scientist, Program Technical Assistant \$24/hr x 303.85 hrs	\$7,292	
Accounting Analyst, Grant Manager \$19/hr x 330 hrs	\$6,270	
Administrative Clerical (payment processing, documentation review etc.), \$14/hr x 71 hrs	\$994	

2. Fringe Benefits

FY 2017		
Category	EPA	State or Territory Match (if applicable)
Social Security @ 7.65%	\$1,174	\$0
Health Insurance @ 21.47%	\$3,293	\$0
Retirement @ 17.88%	\$2,743	\$0

FY 2018		
Category	EPA	State or Territory Match (if applicable)
Social Security @ 7.65%	\$2,084	
Health Insurance @ 22.67%	\$6,177	
Retirement @ 20.36%	\$5,547	

3. Travel

FY 2017		
Category	EPA	State or Territory Match (if applicable)
Site visits		
Local Travel Mileage – 3,077 miles x \$0.26	\$800	\$0

	<b>FY 2018</b>	
<b>Category</b>	<b>EPA</b>	<b>State or Territory Match (if applicable)</b>
<i>Site visits</i>		
Local Travel Mileage – 1,924 miles x \$0.26	\$500	\$0

4. Supplies

	<b>FY 2017 and FY 2018</b>	
<b>Category</b>	<b>EPA</b>	<b>State or Territory Match (if applicable)</b>
NA	\$0	\$0

5. Contractual

	<b>FY 2017 and FY 2018</b>	
<b>Category</b>	<b>EPA</b>	<b>State or Territory Match (if applicable)</b>
NA	\$0	\$0

6. Equipment - \$0

There is no equipment in this grant except for the diesel emission reduction equipment that awardees will purchase, and the department reports those costs under the “other” (PSD) award category.

7. Other

	<b>FY 2017</b>	
<b>Category</b>	<b>EPA</b>	<b>State or Territory Match (if applicable)</b>
Other – PSD	\$216,000	\$0

	<b>FY 2018</b>	
<b>Category</b>	<b>EPA</b>	<b>State or Territory Match (if applicable)</b>
Other – PSD	\$361,589	\$276,411

8. Direct Charges



FY 2017		
Category	EPA	State or Territory Match (if applicable)
Direct	\$239,350	\$0

FY 2018		
Category	EPA	State or Territory Match (if applicable)
Direct	\$403,143	\$276,411

9. Indirect Charges

FY 2017		
Category	EPA	State or Territory Match (if applicable)
Indirect Rate 29.75%	\$6,946	\$0

Note: Indirect is not applied to the Other/PSD category above.

FY 2018		
Category	EPA	State or Territory Match (if applicable)
Indirect Rate 27.61%	\$11,474	

Note: Indirect is not applied to the Other/PSD category above.

**Administrative Costs Expense Cap**

States and territories must demonstrate that no more than 15% of a state's or territory's total project costs are being used to cover administrative costs as identified in OMB Circular A-87 Appendix B (e.g. personnel, benefits, travel, supplies). Total project costs include the federal share as well as any cost-share provided by the state. However, Regions have the discretion to allow state matching funds to exceed the 15% cap if the state provides justification for unique circumstances. The 15% maximum does not include indirect cost rates or funds assigned to projects, and total cost for the budget period.

**Matching Funds and Cost-Share Funds**

The Department anticipates the voluntary match under the 2018 program will come from Missouri's share of the Volkswagen Environmental Mitigation Trust Fund.

Both the 2017 and 2018 programs will require that fleet owners fund the mandatory cost share associated with their projects, which will equal 75 percent of the actual cost of the new buses purchased through the grant. However, since the rebate awards to school bus owners fall under the category of participant support costs and the department will cap the rebate awards to school

bus owners at 25 percent of the cost of the new buses, there is no requirement for the department to include the mandatory cost share amounts in our grant award with EPA.

### **Funding Partnerships**

The department does not intend to make any subawards to school bus fleets through the FY 2017 or 2018 programs. Instead, all awards the department gives will be rebates that only allow funding for a portion of the equipment that awardees purchase. The department will not reimburse school bus fleets for any personnel, fringe, or indirect costs associated with implementing the projects. This allows for the awards to fall under the category of participant support costs, thus avoiding the extensive subaward monitoring and management requirements.