

APPENDIX D-4
Beneficiary Eligible Mitigation Action Certification

BENEFICIARY ELIGIBLE MITIGATION ACTION CERTIFICATION

Beneficiary State of Iowa

Lead Agency Authorized to Act on Behalf of the Beneficiary Iowa Department of Transportation
(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)

Action Title:	2021-2022 Diesel Emission Reduction Act (DERA) Option
Beneficiary's Project ID:	EMA 10
Funding Request No.	(sequential) 18
Request Type: (select one or more)	☐ Reimbursement ☒ Advance ☐ Other (specify): _____
Payment to be made to: (select one or more)	☒ Beneficiary ☐ Other (specify): _____
Funding Request & Direction (Attachment A)	☒ Attached to this Certification ☐ To be Provided Separately

SUMMARY

Eligible Mitigation Action	☒ Appendix D-2 item (specify): <u>Item 10</u>
Action Type	☒ Item 10 - DERA Option (5.2.12) (specify and attach DERA Proposal):
Explanation of how funding request fits into Beneficiary's Mitigation Plan (5.2.1): Iowa's Beneficiary Mitigation Plan states that Iowa will use Volkswagen Trust Funds as voluntary state match.	
Detailed Description of Mitigation Action Item Including Community and Air Quality Benefits (5.2.2): Overall detail can be found in attachments D, E, and the attached DERA Work Plan. Estimated lifetime benefits are 57.42 short tons for NOx, 4.117 short tons for PM2.5, 4.659 short tons for HC, 12.38 short tons for CO, and 2871.67 short tons for CO2.	
Estimate of Anticipated NOx Reductions (5.2.3): According to EPA's Diesel Emissions Quantifier, the estimated anticipated NOx reductions from these projects are 52.63 short tons (lifetime).	
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): Iowa Department of Transportation - Planning, Programming, and Modal Bureau	
Describe how the Beneficiary will make documentation publicly available (5.2.7.2). The public may access documents pursuant to Iowa Code, Chapter 22 and 761 I.A.C.4. In addition, information will be available on Iowa's VW website at www.iowadot.gov/vwsettlement	
Describe any cost share requirement to be placed on each NOx source proposed to be mitigated (5.2.8). This is outlined in Attachment E, the DERA Work Plan, and the 2022 DERA Information Guide.	
Describe how the Beneficiary complied with subparagraph 4.2.8, related to notice to U.S. Government Agencies (5.2.9). On February 22, 2018, the Iowa DOT emailed representatives from the National Park Service, U.S. Fish and Wildlife Service, and Department of Agriculture, providing a copy of the State Trust Agreement and informing them of the availability of the funds.	

If applicable, describe how the mitigation action will mitigate the impacts of NO_x emissions on communities that have historically borne a disproportionate share of the adverse impacts of such emissions (5.2.10).

Projects were ranked and awarded based on counties with higher concentrations of mobile and non-point NO_x emissions, higher rates of asthma and heart failure, higher rates of poverty, higher rates of young and elderly populations.

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 Iowa, 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)

DATED:

April 7, 2026



Scott C. Marler

Director

Iowa Department of Transportation

[LEAD AGENCY]

for

State of Iowa

[BENEFICIARY]

ATTACHMENT B

ELIGIBLE MITIGATION ACTION MANAGEMENT PLAN INCLUDING DETAILED BUDGET AND IMPLEMENTATION AND EXPENDITURES TIMELINE

MANAGEMENT PLAN SCHEDULE AND MILESTONES

MILESTONE	COMPLETION DATE - 2021	COMPLETION DATE - 2022
Draft DERA Work Plan Due	June 2, 2021	June 2, 2022
Final Approved DERA Work Plan and Budget Submittal	June 17, 2021	June 17, 2022
Provide Notice of Availability of DERA funds	July 13, 2021	July 13, 2022
Project Period for FY 2021 DERA Begins	October 1, 2021	October 1, 2022
Quarterly Report Due	October 30, 2021	October 30, 2022
Participant Submits Application	September 9, 2021	September 9, 2022
Application Evaluation, Scoring and Ranking	September 27, 2021	September 26, 2022
Provide Written Approval of Participant Proposal	October 27, 2021	October 27, 2022
Quarterly Report Due	January 30, 2022	January 30, 2023
Prepare Agreements for Participants	October 28, 2021	October 28, 2022
Participant Enters into Contracts, Purchase Orders, etc.	November 4, 2021	November 4, 2022
Public Notification of Awarded Projects	October 27, 2021	October 27, 2022
Project Installation - Start	November 4, 2021	November 4, 2022
Quarterly Report Due	April 30, 2022	April 30, 2023
Quarterly Report Due	July 30, 2022	July 30, 2023
Monitoring and Oversight of Project Implementation	August 30, 2022	August 30, 2023
Project Installation - Complete	August 30, 2022	August 30, 2023
Participants provide detailed invoices for all claimed project costs, documentaion for emission reduction estimates, required certification documents to support reimbursement	August 30, 2022	August 30, 2023
Final Report Due/EPA Closeout	December 31, 2022	December 31, 2023

ATTACHMENT B - 2021							
ELIGIBLE MITIGATION ACTION MANAGEMENT PLAN INCLUDING DETAILED BUDGET AND IMPLEMENTATION AND EXPENDITURES TIMELINE							
BUDGET							
Project Description	Project Participant	Project Subtotal	Amount Funded by Trust	Amount Funded by EPA	Amount Funded by Project Participant		
Vehicle Replacement-Terminal Truck	PDI	\$377,074.00	\$57,926.14	\$86,889.21	\$232,258.65		
Idle Reduction Technology	Wernimont Enterprises, LLC	\$14,950.00	\$1,446.00	\$2,169.00	\$11,335.00		
Vehicle Replacement-Motor Grader	Mahaska County Secondary Roads	\$318,800.00	\$31,880.00	\$47,820.00	\$239,100.00		
Vehicle Replacement-Bus	STA of Iowa Inc	\$540,886.38	\$53,371.20	\$80,056.80	\$407,458.38		
Vehicle Replacement-Terminal Truck	Hy-Vee - Chariton	\$323,957.03	\$58,312.26	\$87,468.40	\$178,176.37		
Vehicle Replacement-Forklift	Iowa Steel & Wire Company, Inc.	\$88,204.94	\$15,876.89	\$23,815.33	\$48,512.72		
Vehicle Replacement-Dump Truck	Mahaska County Secondary Roads	\$260,058.00	\$24,620.00	\$36,930.00	\$198,508.00		
Vehicle Replacement-Bus	Riverside CSD	\$106,500.00	\$10,550.00	\$15,825.00	\$80,125.00		
Vehicle Replacement-Dump Truck	Washington County Secondary Roads	\$282,479.00	\$30,800.00	\$46,200.00	\$205,479.00		
Vehicle Replacement-Dump Truck	Keokuk County Highway Department	\$490,768.00	\$46,182.80	\$69,274.20	\$375,311.00		
		Totals	\$2,803,677.35	\$330,965.29	\$496,447.94	\$1,976,264.12	
		Percentage	100.0%	11.8%	17.7%	70.5%	

ATTACHMENT B - 2022							
ELIGIBLE MITIGATION ACTION MANAGEMENT PLAN INCLUDING DETAILED BUDGET AND IMPLEMENTATION AND EXPENDITURES TIMELINE							
BUDGET							
Project Description	Project Participant	Project Subtotal	Amount Funded by Trust	Amount Funded by EPA	Amount Funded by Project Participant		
Engine Replacement-Nonroad	Cedar Rapids & Iowa City Railway	\$87,057.00	\$13,928.80	\$20,893.20	\$52,235.00		
Vehicle Replacement-Truck	Washington County Secondary Roads	\$303,305.00	\$39,620.00	\$59,430.00	\$204,255.00		
Vehicle Replacement-Dump Truck	Mahaska County Secondary Roads	\$571,708.00	\$80,039.12	\$120,058.68	\$371,610.20		
Vehicle Replacement-Terminal Truck	Lime Rock Springs DBA/Pepsi-Cola Bottling Co of Dubuque	\$132,913.50	\$13,283.20	\$19,924.80	\$99,705.50		
Vehicle Replacement-Terminal Truck	Hy-Vee - Cherokee	\$365,205.65	\$62,231.20	\$93,346.80	\$209,627.65		
Vehicle Replacement-Terminal Truck	Ruan	\$337,645.33	\$60,776.16	\$91,164.24	\$185,704.93		
Vehicle Replacement-Dump Truck	Lee County Secondary Roads	\$386,346.00	\$52,311.20	\$78,466.80	\$255,568.00		
Vehicle Replacement-Dump Truck	Keokuk County Highway Department	\$287,350.00	\$10,271.20	\$15,406.80	\$261,672.00		
Vehicle Replacement-Terminal Truck	Iowa Steel & Wire Company, Inc	\$87,400.00	\$15,732.00	\$23,598.00	\$48,070.00		
		Totals	\$2,558,930.48	\$348,192.88	\$522,289.32	\$1,688,448.28	
		Percentage	100.0%	13.6%	20.4%	66.0%	

ATTACHMENT B

ELIGIBLE MITIGATION ACTION MANAGEMENT PLAN INCLUDING DETAILED BUDGET AND IMPLEMENTATION AND EXPENDITURES TIMELINE

PROJECTED TRUST ALLOCATIONS

	2018	2019	2020	2021	2022
1. Anticipated Annual Project Funding Request to be paid through the Trust	\$588,733.37	\$3,004,848.29	\$1,480,878.96	\$4,481,248.97	\$5,252,531.19
2. Anticipated Annual Cost Share	\$3,447,985.58	\$10,541,018.68	\$5,036,174.04	\$12,141,609.59	\$15,963,238.40
3. Anticipated Total Project Funding by Year (line 1 plus line 2)	\$4,036,718.95	\$13,545,866.97	\$6,517,053.00	\$16,622,858.56	\$21,215,769.59
4. Cumulative Trustee Payments Made to Date Against Cumulative Approved Beneficiary Allocation	\$0.00	\$588,733.37	\$3,593,581.66	\$5,074,460.62	\$9,555,709.59
5. Current Beneficiary Project Funding to be paid through the Trust (line 1)	\$588,733.37	\$3,004,848.29	\$1,480,878.96	\$4,481,248.97	\$5,252,531.19
6. Total Funding Allocated to for Beneficiary, inclusive of Current Action by Year (line 4 plus line 5)	\$588,733.37	\$3,593,581.66	\$5,074,460.62	\$9,555,709.59	\$14,808,240.78
7. Beneficiary Share of Estimated Funds Remaining in Trust	\$21,201,737.70	\$20,613,004.33	\$17,608,156.04	\$16,127,277.08	\$11,646,028.11
8. Net Beneficiary Funds Remaining in Trust, net of cumulative Beneficiary Funding Actions (line 7 minus line 5)	\$20,613,004.33	\$17,608,156.04	\$16,127,277.08	\$11,646,028.11	\$6,393,496.92

ATTACHMENT C

DETAILED PLAN FOR REPORTING ON ELIGIBLE MITIGATION ACTION IMPLEMENTATION

Consistent with 5.2.11 of the *Environmental Mitigation Trust Agreement for State Beneficiaries* (Trust), Beneficiaries must submit with their Appendix D-4 request for Eligible Mitigation Action funding a detailed plan for reporting on Eligible Mitigation Action implementation. The Iowa Department of Transportation (DOT) intends to achieve the Beneficiary Reporting Obligations as outlined with 5.3 of the Trust.

The Iowa DOT is devoted to carrying out the reporting requirements of the Trust, according to 5.3, Beneficiary Reporting Obligations, as described below:

For each Eligible Mitigation Action, no later than six months after receiving its first disbursement of Trust Assets, and thereafter no later than January 30 (for the preceding six-month period of July 1 to December 31) and July 30 (for the preceding six-month period of January 1 to June 30) of each year, each Beneficiary shall submit to the Trustee a semiannual report describing the progress of implementing each Eligible Mitigation Action during the six-month period leading up to the reporting date (including a summary of all costs expended on the Eligible Mitigation Action through the reporting date). Such reports shall include a complete description of the status (including actual or projected termination date), development, implementation, and any modification of each approved Eligible Mitigation Action. Beneficiaries may group multiple Eligible Mitigation Actions and multiple sub-beneficiaries into a single report. These reports shall be signed by an official with the authority to submit the report for the Beneficiary and must contain an attestation that the information is true and correct and that the submission is made under penalty of perjury. To the extent a Beneficiary avails itself of the DERA Option described in Appendix D-2, that Beneficiary may submit its DERA Quarterly Programmatic reports in satisfaction of its obligations under this Paragraph as to those Eligible Mitigation actions funded through the DERA Option. The Trustee shall post each semiannual report on the State Trusts public-facing website upon receipt.

Furthermore, on top of the semiannual reporting to the Trustee, the Iowa DOT will be issuing quarterly and final reports to the EPA during the project period, as required by the DERA FY 21-22 State Program Programmatic Terms and Conditions of Iowa DOT's U.S. EPA Assistance Amendment. The following is an excerpt from that amendment:

C. Quarterly Reporting and Environmental Results

Quarterly progress reports will be required. Quarterly reports are considered project status reports and will address the progress made achieving the work plan goals. In general, quarterly reports will include summary information on technical progress and expenditures, and planned activities for next quarter. A template for the quarterly report will be available at www.epa.gov/cleandiesel/clean-diesel-state-allocations. Quarterly reports are due according to the following schedule. If a due date falls on a weekend or holiday, the report will be due on the next business day.

April 1 – June 30 Reporting Period: report due date July 30

July 1 – September 30 Reporting Period: report due date October 30

October 1 – December 31 Reporting Period: report due date January 30

January 1 – March 31 Reporting Period: report due date April 30

If a project start date falls within a defined Reporting Period, the recipient must report for that period by the given due date. This quarterly reporting schedule shall be repeated for the duration of the award agreement.

D. Final Report:

The final project report will include all categories of information required for quarterly reporting, including a final, detailed fleet description. The final project report will also include a narrative summary of the project or activity, project results (outputs and outcomes) including final emissions benefit calculations, and the successes and lessons learned for the entire project. To the extent possible, final emission benefit calculations should be based on the actual number and type of technologies, vehicles, equipment and engines implemented under the award and actual vehicle miles traveled, idling and/or operating hours, and fuel use. If actual vehicle miles traveled, idling and/or operating hours, and fuel use are not available, the final report will include a detailed explanation of how these values are derived, as well as any assumptions or default values used, for the purposes of emissions benefit calculations. The final report will also detail the methodologies used for the emission benefit calculation.

For projects involving vehicle/engine/equipment replacement the recipient must provide in the final report: 1) Evidence that the replacement activity is an “early replacement,” and would not have occurred through normal attrition/fleet turnover (i.e. without the financial assistance provided by EPA) within three years of the project period start date. Supporting evidence can include verification that the vehicles or equipment being replaced have useful life left and fleet characterization showing fleet age ranges and average turnover rates per the vehicle or fleet owner’s budget plan, operating plan, standard procedures, or retirement schedule; 2) Evidence of appropriate scrappage (see E.9.4 below); and 3) Specification of the model years and the emission standard levels for PM and NOx, for both the engine being replaced and the new engine.

For projects that take place in an area affected by, or includes vehicles, engines or equipment affected by federal law mandating emissions reductions, the recipient must provide in the final report evidence that emission reductions funded with EPA funds were implemented prior to the effective date of the mandate and/or are in excess of (above and beyond) those required by the applicable mandate.

The final report shall be submitted to the EPA Project Officer within 90 days after the project period end date or termination of the assistance agreement. A template for the final report will be available at www.epa.gov/cleandiesel/clean-diesel-state-allocations.

ATTACHMENT D
DETAILED COST ESTIMATES FROM SELECTED OR POTENTIAL VENDORS FOR EACH PROPOSED
EXPENDITURE EXCEEDING \$25,000.

Consistent with 5.2.6 of the *Environmental Mitigation Trust Agreement for State Beneficiaries* (Trust), Beneficiaries must submit for each proposed expenditure exceeding \$25,000, detailed cost estimates from selected or potential vendors.

The Iowa DOT is devoted to carrying out the reporting requirements of the Trust, according to 5.2.6, as detailed in the following page for a breakdown of reimbursements from the awarded applications:

ATTACHMENT D continued

Applicant	Mitigation Sub-Category	New Fuel Type	Number of Vehicles	Total Project Cost	Cost per Vehicle	Funding Request	Funding Awarded	Award per Vehicle
PDI	Class 8 Local Freight and Drayage Truck	All-Electric	1	\$377,074.00	\$377,074.00	\$144,815.35	\$144,815.35	\$144,815.35
Wernimont Enterprises, LLC	Idle Reduction Technology	Diesel	1	\$14,950.00	\$14,950.00	\$3,615.00	\$3,615.00	\$3,615.00
Mahaska County Secondary Roads	Class 8 Local Freight and Drayage Truck	Diesel	1	\$260,058.00	\$260,058.00	\$61,550.00	\$61,550.00	\$61,550.00
STA of Iowa, Inc	School or Shuttle Bus (Class 4-7)	Diesel	6	\$540,886.38	\$90,147.73	\$133,428.00	\$133,428.00	\$22,238.00
Hy-Vee - Chariton	Class 8 Local Freight and Drayage Truck	All-Electric	1	\$323,957.03	\$323,957.03	\$145,780.66	\$145,780.66	\$145,780.66
Iowa Steel & Wire Company, Inc	Forklift	All-Electric	1	\$88,204.94	\$88,204.94	\$39,692.22	\$39,692.22	\$39,692.22
Riverside CSD	School or Shuttle Bus (Class 4-7)	Diesel	1	\$106,500.00	\$106,500.00	\$26,375.00	\$26,375.00	\$26,375.00
Washington County Secondary Roads	Class 8 Local Freight and Drayage Truck	Propane	2	\$585,784.00	\$292,892.00	\$176,050.00	\$176,050.00	\$88,025.00
Keokuk County Highway Department	Class 8 Local Freight and Drayage Truck	Propane	3	\$778,118.00	\$259,372.67	\$141,135.00	\$141,135.00	\$47,045.00
Cedar Rapids & Iowa City Railway	Engine Replacement - Locomotive	Diesel	1	\$87,057.00	\$87,057.00	\$34,822.00	\$34,822.00	\$34,822.00
Lime Rock Springs DBA/Pepsi-Cola Bottling Co. of Dubuque	Class 8 Local Freight and Drayage Truck	Diesel	1	\$132,913.50	\$132,913.50	\$33,208.00	\$33,208.00	\$33,208.00
Hy-Vee - Cherokee	Class 8 Local Freight and Drayage Truck	All-Electric	1	\$365,205.65	\$365,205.65	\$155,578.00	\$155,578.00	\$155,578.00
Ruan	Class 8 Local Freight and Drayage Truck	All-Electric	1	\$337,645.33	\$337,645.33	\$151,940.40	\$151,940.40	\$151,940.40
Mahaska County Secondary Roads	Class 8 Local Freight and Drayage Truck	Propane	2	\$571,708.00	\$285,854.00	\$200,097.80	\$200,097.80	\$100,048.90
Mahaska County Secondary Roads	Motorgrader	Diesel	1	\$318,800.00	\$318,800.00	\$79,700.00	\$79,700.00	\$79,700.00
Lee County Secondary Roads	Class 8 Local Freight and Drayage Truck	Propane	2	\$386,346.00	\$193,173.00	\$130,778.00	\$130,778.00	\$65,389.00

	New Fuel Type	Number of Vehicles	Total Project Cost	Cost per Vehicle	Funding Request	Funding Awarded	Award per Vehicle
TOTAL -- AWARDED APPLICATIONS (47)	All	26	\$5,275,207.83	\$202,892.61	\$1,658,565.43	\$1,658,565.43	\$63,790.98
<i>School or Shuttle Bus (Class 4-7)</i>	<i>Diesel</i>	<i>7</i>	<i>\$647,386.38</i>	<i>\$92,483.77</i>	<i>\$159,803.00</i>	<i>\$159,803.00</i>	<i>\$22,829.00</i>
<i>Class 8 Local Freight and Drayage Truck</i>	<i>Diesel</i>	<i>2</i>	<i>\$392,971.50</i>	<i>\$196,485.75</i>	<i>\$94,758.00</i>	<i>\$94,758.00</i>	<i>\$47,379.00</i>
<i>Class 8 Local Freight and Drayage Truck</i>	<i>Propane</i>	<i>9</i>	<i>\$2,321,956.00</i>	<i>\$257,995.11</i>	<i>\$648,060.80</i>	<i>\$648,060.80</i>	<i>\$72,006.76</i>
<i>Class 8 Local Freight and Drayage Truck</i>	<i>All-Electric</i>	<i>4</i>	<i>\$1,403,882.01</i>	<i>\$350,970.50</i>	<i>\$598,114.41</i>	<i>\$598,114.41</i>	<i>\$149,528.60</i>
<i>Forklift</i>	<i>All-Electric</i>	<i>1</i>	<i>\$88,204.94</i>	<i>\$88,204.94</i>	<i>\$39,692.22</i>	<i>\$39,692.22</i>	<i>\$39,692.22</i>
<i>Motorgrader</i>	<i>Diesel</i>	<i>1</i>	<i>\$318,800.00</i>	<i>\$318,800.00</i>	<i>\$79,700.00</i>	<i>\$79,700.00</i>	<i>\$79,700.00</i>
<i>Engine Replacement - Locomotive</i>	<i>Diesel</i>	<i>1</i>	<i>\$87,057.00</i>	<i>\$87,057.00</i>	<i>\$34,822.00</i>	<i>\$34,822.00</i>	<i>\$34,822.00</i>
<i>Idle Reduction Technology</i>	<i>Diesel</i>	<i>1</i>	<i>14,950.00</i>	<i>\$14,950.00</i>	<i>3,615.00</i>	<i>3,615.00</i>	<i>3,615.00</i>

2022 Diesel Emissions Reduction Act (DERA) State Grants

Work Plan and Budget Narrative Template

INSTRUCTIONS: States and territories applying for 2022 DERA State Grant funds should use this template to prepare their Work Plan and Budget Narrative.

Please refer to the 2021-2022 DERA State Grants Program Guide full program details, eligibility criteria and funding restrictions, and application instructions.

SUMMARY PAGE

Project Title: Diesel Emission Reductions Solutions for Iowa

Project Manager and Contact Information

Organization Name: Iowa Department of Transportation

Project Manager: Jared Smith

Mailing Address: 800 Lincoln Way, Ames, Iowa 50010

Phone: 515-239-1713

Fax: N/A

Email: jared.smith@iowadot.us

Project Budget Overview:

	2021*	2022
EPA Base Allocation	\$ 342,915	\$ 353,912
EPA Match Bonus (if applicable)	\$ 171,458	\$ 176,956
Voluntary Matching Funds (if applicable)	\$ 342,915	\$ 353,912
Mandatory Cost-Share	\$	\$
TOTAL Project Cost	\$ 857,288	\$ 884,780

*If state participated in 2021

Project Period for 2021-2022 DERA State Grants

October 1, 2021 – September 30, 2023

Summary Statement

The Iowa Department of Transportation (Iowa DOT) will create and implement a process that will allow profit, non-profit, and public entities that own or operate diesel fleets and equipment in all 99 counties to receive funding for diesel emission reduction projects in FY 2022. Projects will need to implement the most cost-effective strategies that result in the greatest emissions reductions consistent with the funding available. The state currently has two websites that detail past DERA State Clean Diesel Program projects. One website is located at www.iowadnr.gov/dera and is maintained by the Iowa Department of Natural Resources. This website lists projects that were completed with the 2016 DERA program. The 2017 - current DERA programs are administered by the Iowa DOT and its website is located here:

<https://www.iowadot.gov/dera>. Links are available to help the user navigate from one site to the other.

SCOPE OF WORK

STATE/TERRITORY GOALS AND PRIORITIES: Mobile sources emit various pollutants including carbon monoxide (CO), carbon dioxide (CO₂), particulate matter (PM), nitrogen oxides (NO_x), volatile organic compounds (VOC), also referred to as hydrocarbons (HC), and various other air toxics. Mobile source emissions are contributors to high fine particulates (PM_{2.5}) background levels and are responsible for over fifty percent (50%) of all NO_x emissions. NO_x emissions are formed primarily due to fuel burning at a high temperature in a vehicle engine. Hydrocarbons result from incomplete fuel combustion and from fuel evaporation. Ground-level ozone, a serious air pollutant is formed by reactions involving hydrocarbons and nitrogen oxides in the presence of sunlight.

While federal standards continue to ensure a reduction of emissions from newer diesel engines; older, dirtier diesel engines remain in service and continue to emit unrestricted levels of air pollution. Iowa's state regulations are not allowed by state statute to be more stringent than federal standards for vehicles and Iowa does not have a state regulatory program for mobile source emissions. Creating emission reduction programs and funding opportunities can aid in reducing the levels of ozone, PM, and other pollutants in areas of concern and improve air quality in higher population density areas where at-risk populations (elderly, poor health, children) live, work and play. Reducing diesel exhaust is an important strategy in helping lower pollutants across Iowa.

Iowa's air contains a relatively high concentration of fine particles across the state. For the past few years, monitored areas around Iowa have been on the edge of EPA's health standard for fine particulate matter with a diameter less than or equal to 2.5 microns (PM_{2.5}). Add in prevailing winds, centers of industry and concentrated areas of diesel exhaust, some counties are being observed. Currently though, Iowa does not have any designated air quality nonattainment or maintenance areas for transportation-related air pollution that do not meet the National Ambient Air Quality Standards of the 1990 Clean Air Act Amendments. Overall, Iowa's air quality has improved dramatically since 1978, largely due to large facilities across Iowa that have actively worked to reduce emissions by replacing aging equipment with more efficient technology that incorporates the latest emissions controls. While Iowa's trend since 1978 shows substantial benefits in air quality and decreases in air pollutant emissions, Iowa's productivity, populations, and vehicle travel miles increased – all potential sources of pollution. Iowa's gross domestic product is up by 65 percent since 1990, vehicle miles traveled climbed by 38 percent and population increased by 11 percent. To see real-time air quality data, please visit the Iowa Department of Natural Resources Air Quality Bureau webpage on [Monitoring Ambient Air](#).

The primary sectors that make up the diesel fleet in Iowa are aircraft, commercial marine vessels, locomotives, non-road equipment, on-road diesel heavy duty vehicles, and on-road diesel light

duty vehicles. According to EPA's 2014 National Emissions Inventory for Iowa, on-road diesel transportation was the second largest source of mobile pollution in general and the largest source of pollution among all mobile sources for carbon monoxide (CO) at 42%, and ammonia (NH₃) at 68%. Non-road diesel equipment is the largest source of mobile pollution in general. A cursory review of the mobile and stationary source emissions inventory data for nitrogen oxides (NO_x) indicates that NO_x emissions from mobile on-road diesel sources are greater than that from stationary sources. Partnering with public and private organizations to reduce mobile diesel engine emissions will be beneficial to reducing these air pollution emissions.

VEHICLES AND TECHNOLOGIES: Eligible Entities. Funding for diesel emission reduction projects is available to profit, nonprofit, and public entities that own or operate diesel fleets and equipment in the state of Iowa.

Eligible Diesel Vehicles, Engines, and Equipment. Eligible on-road or non-road vehicles and equipment may include:

- School Buses (of Type A, B, C, and D);
- Medium-duty or Heavy-duty Transit Buses;
- Medium-duty or Heavy-duty Trucks (defined as Class 5 through Class 8);
- Marine Engines;
- Locomotives; and
- Non-road engines, equipment, or vehicles used in:
 - Construction;
 - Handling of cargo (including at a port or airport);
 - Agriculture;
 - Mining; or
 - Energy production (including stationary generators and pumps)

Eligible Diesel Emission Reduction Strategies

- 1. Vehicle and Equipment Replacements:** Nonroad and highway diesel vehicles and equipment, locomotives, and marine vessels can be replaced with newer, cleaner vehicles and equipment. Eligible replacement vehicles and equipment include those powered by diesel or clean alternative fuel engines (including gasoline), electric generators (gensets), hybrid engines, and zero tailpipe emissions power sources (grid, battery or fuel cell).

To be eligible for funding, vehicles and equipment must be powered by engines certified by EPA and, if applicable, CARB emission standards. Zero tailpipe emissions vehicles and equipment do not require EPA or CARB certification. EPA's annual certification data for vehicles, engines, and equipment may be found at: www.epa.gov/compliance-and-fuel-economy-data/annual-certification-data-vehicles-engines-and-equipment. EPA's engine emission standards may be found at: www.epa.gov/emission-standards-reference.

[guide/all-epa-emission-standards](#). Engines certified by CARB may be found by searching CARB's Executive Orders for Heavy-duty Engines and Vehicles, found at: www.arb.ca.gov/msprog/onroad/cert/cert.php. Please see the Low-NO_x Engine Factsheet found at www.epa.gov/dera/state for guidance on identifying engines certified to meet CARB's Optional Low NO_x Standards.

2. **Engine Replacement:** Nonroad and highway diesel vehicles and equipment, locomotives, and marine vessels can have their engines replaced with newer, cleaner engines. Eligible replacement engines include those certified for use with diesel or clean alternative fuel (including gasoline), electric generators (gensets), hybrid engines, and zero tailpipe emissions power sources (grid, battery or fuel cell).

To be eligible for funding, replacement engines must be certified to EPA or, if applicable, CARB emission standards. However, zero tailpipe emissions engine replacements do not require EPA or CARB certification. EPA's annual certification data for vehicles, engines, and equipment may be found at: www.epa.gov/compliance-and-fuel-economy-data/annual-certification-data-vehicles-engines-and-equipment. EPA's engine emission standards may be found at: www.epa.gov/emission-standards-reference-guide/all-epa-emission-standards. Engines certified by CARB may be found by searching CARB's Executive Orders for Heavy-duty Engines and Vehicles, found at: www.arb.ca.gov/msprog/onroad/cert/cert.php.

Please see the Low-NO_x Engine Factsheet found at www.epa.gov/dera/state for guidance on identifying engines certified to meet CARB's Optional Low NO_x Standards.

3. **Certified Remanufacture Systems:** Generally, a certified remanufacture system is applied during an engine rebuild and involves the removal of parts on an engine and replacement with parts that cause the engine to represent an engine configuration which is cleaner than the original engine. Some locomotives and marine engines can be upgraded through the application of a certified remanufacture system (i.e. kit). Engine remanufacture systems may not be available for all engines, and not all remanufacture systems may achieve an emissions benefit. Applications for certified remanufacture systems should include a discussion of the availability of engine remanufacture systems and indicate the pre- and post-project emission standard levels of the engines to demonstrate that the upgrade will result in a PM and/or NO_x emissions benefit. If a certified remanufacture system is applied at the time of rebuild, funds under this award cannot be used for the entire cost of the engine rebuild, but only for the cost of the certified remanufacture system and associated labor costs for installation of the kit.

To be eligible for funding, remanufacture systems for locomotives and marine engines must be certified by EPA at the time of acquisition. List of certified remanufacture systems are available at: www.epa.gov/compliance-and-fuel-economy-data/engine-certification-data, and additional information on remanufacture systems is available at: www.epa.gov/vehicle-and-engine-certification/remanufacture-systems-category-1-and-2-marine-diesel-engines.

- 4. Verified Idle Reduction Technologies:** An idle reduction project is generally defined as the installation of a technology or device that reduces unnecessary idling of diesel engines and/or is designed to provide services (such as heat, air conditioning, and/or electricity) to vehicles and equipment that would otherwise require the operation of the main drive or auxiliary engine(s) while the vehicle is temporarily parked or remains stationary.

The eligible idle reduction technologies by associated vehicle type are below. To be eligible for funding under (a) through (d) below, these technologies must be on EPA's SmartWay Verified Technologies list (www.epa.gov/verified-diesel-tech/smartway-technology) at the time of acquisition.

a) **Long haul Class 8 trucks equipped with sleeper cabs:**

- Auxiliary power units and generator sets
- Battery air conditioning systems
- Thermal storage systems
- Fuel operated heaters (direct fired heaters)
- Electrified parking spaces (truck stop electrification)

b) **School buses:** Fuel operated heaters (direct fired heaters)

c) **Transport refrigeration units:** Electrified parking spaces

Please see the TRU Factsheet at www.epa.gov/dera/state for information on TRUs and eligible TRU projects.

d) **Locomotives:**

- Automatic engine shut down/start-up systems
- Auxiliary power units and generator sets
- Fuel operated heaters (direct fired heaters)
- Shore power connection systems

No funds awarded under this grant shall be used for locomotive shore connection system projects that are expected to be used less than 1,000 hours/year.

e) **Marine vessels:** Shore power connection systems

Funding may support new installations, or expansions of existing shore power systems. More information on marine shore power connection systems may be found at www.epa.gov/verified-diesel-tech/learn-about-marine-technology. To be eligible for funding, marine shore power projects must meet the following criteria:

1. Applicants must attest to compliance with international shore power design standards (ISO/IEC/IEEE 80005-1:2012 High Voltage Shore Connection Systems or the IEC/PAS 80005-3:2014 Low Voltage Shore Connection Systems).
2. Shore power connection systems must be supplied with electricity from the local utility grid.

3. Demonstration that the proposed system has the capacity, demand, and commitment to be used for more than 1,000 megawatt-hours per year. Smaller projects will be considered if the applicant can demonstrate cost effectiveness.
4. Due to the unique nature and custom design of marine shore power connection systems, EPA will review and approve marine shore power connection systems on a case-by-case basis. If the project application is selected for funding, the final design of the marine shore power connection system will require specific EPA approval prior to purchase and installation.
5. Applicants must commit to reporting usage information to EPA for five years after the system is operational.
6. Shore power capable vessels docked at a berth where shore power is available must be required to turn off the vessel's engines and use the shore power system, with limited exceptions for extreme circumstances.
7. Applicants proposing marine shore power connection systems will need to include the following information:
 - a) the annual number of ship visits to berth where the shore power system is to be installed;
 - b) average hoteling (or idling) time per visit; and
 - c) information about the fleet of vessels that has, or will have, the ability to use the shore-side connection system, including:
 - the estimated annual number of ship visits to the shore power enabled berth that will use the shore power system;
 - estimated annual hoteling hours using shore power system;
 - fuel type and average sulfur content of fuel used in the auxiliary engines for each vessel;
 - auxiliary engine and boiler information for each vessel;
 - estimated annual hoteling load requirements (megawatt-hours);
 - d) any documented commitment of visits and hours by the fleet of vessels that has, or will have, the ability to use the shore-side connection system; and
 - e) estimated emissions reductions. Applicants can use the calculator tool found here: www.epa.gov/ports-initiative/shore-power-technology-assessment-us-ports

5. Verified Retrofit Technologies: Diesel engine retrofits are one of the most cost-effective solutions for reducing diesel engine emissions. Retrofits include engine exhaust after-treatment technologies, such as diesel oxidation catalysts (DOCs), diesel particulate filters (DPFs), closed crankcase filtration systems (CCVs), and selective catalytic reduction systems (SCRs). Manufacturer engine upgrades which achieve specific levels of emission

reductions by applying a package of components have been verified as retrofits for some nonroad and marine engines. Several systems which convert a conventional diesel engine configuration to a hybrid-electric system have been verified as retrofits for some nonroad and marine engines. Some cleaner fuels and additives have been verified as retrofits by EPA and/or CARB to achieve emissions reductions when applied to an existing diesel engine. Older, heavy-duty diesel vehicles that will not be retired for several years are good candidates for verified retrofit technologies. EPA suggests that fleets proposing to install verified retrofit technologies consult with suppliers to confirm that the proposed vehicles/engines and their duty-cycles are good candidates for the technology.

To be eligible for funding, verified retrofit technologies must be on EPA's (www.epa.gov/verified-diesel-tech/verified-technologies-list-clean-diesel) or CARB's (<https://ww2.arb.ca.gov/verification-procedure-currently-verified>) Verified Technologies lists at the time of acquisition, must be used only for the vehicle/engine application specified on the lists, and must meet any applicable verification criteria. EPA will not fund stand-alone cleaner fuel/additive use. To be eligible for funding, verified fuels and additives must be for new or expanded use, and must be used in combination, and on the same vehicle, with a new eligible verified engine retrofit or an eligible engine upgrade or an eligible certified engine, vehicle, or equipment replacement funded under this grant.

6. Clean Alternative Fuel Conversions: Existing highway diesel engines can be altered to operate on alternative fuels such as propane and natural gas by applying an alternative fuel conversion kit.

To be eligible for funding, alternative fuel conversion systems must be certified by EPA and/or CARB or must be approved by EPA for Intermediate-Age engines. EPA's lists of "Certified Conversion Systems for New Vehicles and Engines" and "Conversion Systems for Intermediate-Age Vehicles and Engines" are available at www.epa.gov/vehicle-and-engine-certification/lists-epa-compliant-alternative-fuel-conversion-systems; CARB's list of "Approved Alternate Fuel Retrofit Systems" are available at: www.arb.ca.gov/msprog/aftermkt/altfuel/altfuel.htm.

To be eligible for funding, conversion systems for engine model years 2006 and earlier must achieve at least a 30% NO_x reduction and a 10% PM reduction from the applicable certified emission standards of the original engine. To be eligible for funding, conversion systems for engine model years 2007 and newer must achieve at least a 20% NO_x reduction with no increase in PM from the applicable certified emission standards of the original engine. Applications for clean alternative fuel conversions should include a discussion of the availability of conversion systems and indicate the pre- and post-project emission standard levels of the engines to demonstrate that the conversions result in the required emissions benefit.

7. Verified Aerodynamic Technologies and Verified Low Rolling Resistance Tires: To improve fuel efficiency, long haul Class 8 trucks can be equipped with aerodynamic trailer fairings and/or low rolling resistance tires.

To be eligible for funding, technologies must be on EPA's verified aerodynamic technologies list (www.epa.gov/verified-diesel-tech/smartway-verified-list-aerodynamic-devices) and verified list for low rolling resistance new and retread tire technologies list (www.epa.gov/verified-diesel-tech/smartway-verified-list-low-rolling-resistance-lrr-new-and-retread-tire) at the time of acquisition, must be used only for the application specified on the lists, and must meet any applicable verification criteria. EPA will not fund stand-alone aerodynamic technologies or low rolling resistance tires. To be eligible for funding, these technologies must be combined on the same vehicle with the new installation of an exhaust after-treatment retrofit funded under this grant.

Project Eligibility Criteria

- All existing engines and new vehicles, engines, and technologies will meet the eligibility criteria defined in Section VIII.D of the 2022 Diesel Emissions Reduction Act (DERA) State Grants Program Guide.

Eligible and Ineligible Project Costs

- Eligible project costs are those costs directly related to the implementation, management, and oversight of the project, including recipient and subrecipient personnel and benefits, equipment, contractual, travel, supplies, subgrants and rebates, and indirect costs. All project costs will meet the eligibility criteria defined in Section VIII.E of the 2022 Diesel Emissions Reduction Act (DERA) State Grants Program Guide.

Ownership, Usage and Remaining Life Requirements

1. The existing vehicle, engine, or equipment must be fully operational. Operational equipment must be able to start, move, and have all necessary parts to be operational.
2. The participating fleet owner must currently own and operate the existing vehicle or equipment and have owned and operated the vehicle during the two years prior to upgrade.
3. The existing vehicle, engine, or equipment must have at least three years of remaining life at the time of upgrade. Remaining life is the fleet owner's estimate of the number of years until the unit would have been retired from service if the unit were not being upgraded or scrapped because of the grant funding. The remaining life estimate is the number of years of operation remaining even if the unit were to be rebuilt or sold to another fleet. The remaining life estimate depends on the current age and condition of the vehicle at the time of upgrade, as well as things like usage, maintenance, and climate.
4. **Highway Usage:** The mileage of multiple units may be combined to reach the thresholds below where those units will be scrapped and replaced with a single unit.
 - a. **School Buses:** To be eligible for funding, the existing vehicle must have accumulated at least 7,000 miles/year during the two years prior to upgrade, or during calendar year (Jan-Dec) 2019.

- b. **All Other Highway Engines:** To be eligible for funding, the existing vehicle must have accumulated at least 7,000 miles/year during the two years prior to upgrade.
- 5. **Nonroad, Locomotive and Marine Usage:** The engine operating hours of multiple units may be combined to reach the thresholds below where those units will be scrapped and replaced with a single unit.
 - a. **Agricultural Pumps:** To be eligible for funding, agricultural pumps must operate at least 250 hours/year during the two years prior to upgrade.
 - b. **All Other Nonroad Engines:** To be eligible for funding, nonroad engines must operate at least 500 hours/year during the two years prior to upgrade.
 - c. **Locomotive and Marine Usage:** To be eligible for funding the existing locomotive and marine engines must operate at least 1,000 hours/year during the two years prior to upgrade.
- 6. **Documentation Requirements:** Participating fleet owners must attest to each criterion in 1-5 above in a signed eligibility statement which includes each vehicle make, model, year, vehicle identification number, odometer/usage meter reading, engine make, model, year, horsepower, engine ID or serial number, and vehicle/equipment registration/licensing number and state. This documentation is not required at the time of application submittal to EPA but is required as part of programmatic reporting to verify the eligible use of grant funds. A sample eligibility statement may be found at www.epa.gov/dera/state.

ROLES AND RESPONSIBILITIES: With the effort to reduce diesel emissions both inside and outside the vehicles, the Iowa DOT will create a competitive grant process, select eligible entities as program beneficiaries and ensure the implementation of the most cost-effective strategies that result in the greatest emissions reductions consistent with the funding available.

Program beneficiaries cannot be identified at this time as eligible entities have not been selected. Partners may include profit, nonprofit, and public entities that own or operate diesel fleets and equipment in the state of Iowa. Each program beneficiary will assign a specific contact who will be responsible for determining the vehicles that will be included, the appropriate strategy for diesel emissions reduction, the technologies to use, etc. The specific program beneficiary contact will manage the project activities and logistics to ensure timely, appropriate completion of the project and general reports and updates to the Iowa DOT.

The Iowa DOT will be responsible for selecting eligible entities, developing and managing all written agreements, handling oversight of the entire federal grant award, and submitting all quarterly and final reports.

Project Description. Projects will need to implement the most cost-effective strategies that result in the greatest emissions reductions consistent with the funding available. Interested entities will be required to submit an application identifying the strategy that makes the most sense for their diesel engine operations. The submitted application must at a minimum:

- Identify the type of diesel reduction strategy.

- Identify the type of vehicle or equipment. Information will need to include (but is not limited to) year, make/model, VIN #, and useful life;
- Give priority to the most used and oldest, highest emitting vehicles or equipment to optimize emissions reductions;
- Give priority to vehicles or equipment that generally serve areas with higher population density and a higher percentage of at-risk populations; and
- Implement the most cost-effective strategies that result in the greatest emissions reductions consistent with the funding available.

The Iowa DOT will use established evaluation criteria and will have the discretion to fund only the most effective components of the applications selected for reimbursement. Successful applicants will be required to sign a written agreement with the Iowa DOT, purchase and install the technology/equipment per the award agreement and be reimbursed for eligible expenses.

Specific Requirements. Eligible entities must understand and be willing to agree with all requirements as they relate to specifics of the diesel reduction strategies, early attrition policies, and disablement. A guidebook is available on the Iowa DOT's website that outlines the program (https://iowadot.gov/dera/pdfs/DERA_Grant_Program_Info_Guide.pdf) and will be updated as needed.

Evaluation Criteria. The evaluation criteria will include items such as:

- Number of registered Volkswagen vehicles in the county of the project (due to Iowa's state match coming from the DERA Option of the Volkswagen Settlement);
- Mobile source air pollution in areas of concern;
- Diesel Emissions Quantifier emission reduction estimates for NOx, PM2.5, VOC, and CO;
- Impacts of diesel emissions on sensitive populations related to human health (rate of asthma and rate of heart disease), environment (ozone), global climate (CO2) and areas of vulnerable populations;
- Priority county locations as noted in the 2021 Priority County List (air quality concerns); and,
- Cost effectiveness of NOx emission reduction (dollars per amount of NOx emissions reduced).

Funding and Match Requirements. Participating program beneficiaries will be eligible to receive a one-time, lump-sum reimbursement for up to the allowable cost share of eligible equipment and installation costs of their projects. The Iowa DOT will reimburse program beneficiaries, dependent on their project, up to the percentages outlined in the DERA Program Guide.

A participant support cost will not be considered incurred until the funded technology and/or equipment has been received and accepted by the organization. Request for reimbursement shall include documentation to show that the technology/equipment has been received and installed, that disablement has occurred (if necessary), that all written agreement requirements have been met, and that the expenses have been incurred and paid by the participating program beneficiary.

A written agreement between the Iowa DOT and the program beneficiary will include the following at a minimum:

- A description of the activities that will be eligible for reimbursement and supported by rebates, subsidies, or other payments;
- Identification of which party will have the title to the equipment (if any) purchased with a rebate or subsidy;
- Specified maximum amount eligible to be paid from the rebate, subsidy, or payment; and
- A description of the source documentation requirements to ensure proper accounting of EPA funds.

Matching funds are required for all projects that are not eligible for 100 percent reimbursement. Required matches must be monetary. Participating organizations may provide additional voluntary match, and if used, must enhance and expand the proposed project.

TIMELINE AND MILESTONES:

Major Milestones	Completion Dates
Deadline to submit work plan and budget narrative to EPA region	June 2, 2022
Deadline to submit application on Grants.gov	June 17, 2022
Request for grant applications from participating organizations	July 1 – August 31, 2022
Iowa DOT evaluates applications	September 2022
Project period for FY 2022 begins	October 1, 2022
Prepare agreement(s) between Iowa DOT and participating organization	October 1 – 15, 2022
Participating organization project begins	November 1, 2022
Public notification of projects on Iowa DOT's DERA website	60 days from agreement execution
Quarterly reporting due to EPA	Ongoing
Deadline for FY 2022 projects to be completed	September 15, 2023
Final reporting due to EPA	December 31, 2023

DERA PROGRAMMATIC PRIORITIES:

Priority Location. Areas in proximity to major transport routes or terminals, and areas which generate large amounts of truck traffic or school bus depots/yards (e.g. parking areas and/or garages where school buses are stored and maintained, or where school buses queue) tend to be locations where a disproportionate quantity of air pollution from diesel fleets occurs. Projects to decrease the diesel emissions within one or more of these two counties listed in the 2021 Priority County List would also help to alleviate the disproportionate quantity of air pollution.

Public Health Benefits. Because Iowa has historically not had air pollution concerns, the general population thinks of air quality in terms of odors and visibility--not its impact on people's health. Ground-level ozone causes health problems such as difficulty breathing, lung damage, and reduced cardiovascular functioning. Scientific studies have linked fine particle matter with a series of significant health problems such as respiratory related hospital admissions

and emergency room visits, aggravated asthma, and acute respiratory symptoms - including aggravated, coughing and difficult or painful breathing.

Reducing NOx, HC, PM2.5, and other pollutants and exposure to these pollutants through diesel emission reductions can help improve health benefits. It could also potentially decrease the cost of health care for asthmatics and high-risk populations, such as children and the elderly.

Cost-effectiveness. Actual cost effectiveness will in part be dependent on the specific strategies, manufacturer, technologies and applications involved in the program. Priority will be given to the oldest, highest emitting vehicles and equipment to optimize emissions reductions and associated cost-effectiveness of the reductions.

Verified Technologies. For any diesel engine operated vehicles being selected for retrofit technologies, the participating organizations will be required to use technologies from a list of EPA verified technologies (<https://www.epa.gov/verified-diesel-tech/verified-technologies-list-clean-diesel>) or CARB verified technologies (<http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm>).

Replacement vehicles will not be used to increase the size of fleets and must be early attrition projects. The new vehicle or equipment will be required to replace that of the same type and similar gross vehicle weight rating or horsepower and perform the same function. Replaced engines, vehicles, or equipment will be permanently disabled and documentation showing the disablement will be required. All new engines will be certified to comply with EPA emission standards in place at the time of certification.

Useful life of retrofits and engines. Previous projects undertaken by the Iowa Department of Natural Resources Air Quality Bureau have shown that technologies such as diesel oxidation catalysts (DOC) and diesel particulate filters (DPFs) have a useful life of five to ten years. The Iowa DOT will evaluate submitted plans to determine the useful life of engine configuration or verified technologies. All attempts to maximize the life of the vehicles/equipment will be made.

Conserve diesel fuel. Most retrofit technologies, such as DOCs and DPFs, require the use of ultra- low sulfur diesel fuel. Although some technologies (DOCs) can operate with levels of 500 ppm, the majority of retrofits are most effective when the sulfur content is 15 ppm or less. Vehicle replacement alone can provide benefits in fuel efficiency and may provide additional savings in fuel costs.

EPA'S STRATEGIC PLAN LINKAGE AND ANTICIPATED OUTCOMES/OUTPUTS:

Linkage to EPA Strategic Plan. By taking a statewide approach with this program, the projects selected by the Iowa DOT will reduce local and regional air pollution. Selected diesel emission reduction strategies and technologies will decrease the amount of PM2.5, oxides of nitrogen (NOX), carbon dioxide (CO2), volatile organic compounds (VOCs) and hazardous air pollutants (HAPs) emitted from mobile diesel sources.

Organizations participating in the program are making an effort to implement voluntary emissions reductions to their vehicles and equipment. Taking voluntary measures to decrease

diesel emissions shows citizens in Iowa that the organizations are serious about decreasing pollution and protecting high-risk populations.

Outputs. Specific outputs cannot be determined at this time since the plan for what strategies and vehicles are intended to be the focus of emissions reductions will not be known until the Iowa DOT has selected one or more project proposals.

During project execution, the Iowa DOT may report on the following outputs, but are not limited to:

- number of replaced or retrofitted engines/vehicles/equipment; and/or
- hours of idling reduced.
- engaging affected communities with respect to the design and performance of the project,
- the project's inclusion in a broader-based environmental or air quality plan;
- the implementation of contract specifications requiring the use of cleaner vehicles and equipment;
- a documented commitment to continue to identify and address air quality issues in the affected community;
- a publicly available community engagement plan for meaningful engagement of the affected communities regarding either the environmental and/or other issues that the project is intended to address;
- adoption of an idle reduction policy;
- providing support to clean diesel coalitions by sharing information, working with interested fleets, and addressing specific geographic needs;
- number of subawards; and/or
- dissemination of project/technology information via list serves, websites, journals and outreach events.

Progress reports and a final report will also be outputs.

Outcomes. Through this effort and other efforts already in progress, the Iowa DOT expects to see improved ambient air quality in the state. Continued attainment of EPA health standards will reflect this, although other factors beyond diesel emission reductions will also contribute to this measurement. Continued attention to voluntary efforts that will reduce air pollution will not only help keep Iowa's air quality in attainment but will also help reduce the health risks of targeted "high-risk" populations.

EPA's Diesel Emissions Quantifier will be used to help estimate some of these expected outputs from the projects to be funded. Expected and potential outcomes may include, but are not limited to:

- tons of pollution reduced over the lifetime of the vehicles/engines/equipment, specifically:
 - fine particulate matter (PM_{2.5}),
 - nitrogen oxides (NO_x),
 - carbon monoxide (CO) and carbon dioxide (CO₂), and/or
 - volatile organic compounds (VOCs).
- tons of pollution reduced annually;
- lifetime total project cost effectiveness for NO_x and PM_{2.5};
- lifetime capital cost effectiveness for NO_x and PM_{2.5};
- net reduction in gallons of diesel fuel used;
- benefits to the communities affected by the project, including improvements to human health and the environment, the local economy, social conditions, and the welfare of residents in such communities
- community engagement and partnership;
- improved ambient air quality;
- health benefits achieved;
- changes in driver behavior regarding idling practices;
- an increased understanding of the environmental or economic effectiveness of the implemented technology;
- increased public awareness of project and results;
- widespread adoption of the implemented technology;
- demonstration and deployment of zero and near-zero emission vehicles and engines; and/or
- emissions reductions along freight transportation corridors.

SUSTAINABILITY OF THE PROGRAM:

The Iowa DOT will identify the program beneficiaries selected for the 2022 DERA Program on their website within sixty days of a signed agreement. Announcements on the Iowa DOT website, as well as social media will serve as the required public notification. Information will include the amount of funding and a description of the vehicles and technologies being funded. The Iowa DOT will also include diesel exhaust reduction efforts in communications with the governor's office and state legislators.

Program beneficiaries will be asked to publicize the project and the need to reduce diesel emissions on their websites (and in other publications if they choose) to help increase the awareness among their stakeholders. Opportunities such as conferences, publications, and meetings provide an additional outreach mechanism for the Iowa DOT to communicate with their stakeholders and citizens.

BUDGET NARRATIVE

2021 Itemized Project Budget

Budget Category	EPA Allocation	Mandatory Cost-Share	Voluntary Match (if applicable)		Line Total
			VW Mitigation Trust Funds	Other Funds	
1. Personnel					
2. Fringe Benefits					
3. Travel					
4. Equipment					
5. Supplies					
6. Contractual					
7. Other	\$514,373		\$342,915		\$857,288
8. Total Direct Charges (sum 1-7)					
9. Indirect Charges					
10. Total (Indirect + Direct)					
11. Program Income					

Explanation of Budget Framework

- **Personnel** - None
- **Fringe Benefits** – None
- **Travel** - None
- **Supplies** - None
- **Equipment** - None
- **Contractual** - None
- **Other** - Funding will be provided to program beneficiaries to be used only for the purchase and installation of diesel emissions reduction strategy technologies (i.e. retrofit equipment, vehicle replacement, etc.). All program beneficiaries will be required to enter into a written agreement with the Iowa DOT.

Indirect Charges – None

Administrative Costs Expense Cap

Iowa DOT has chosen to not use any of the DERA monies to cover administrative costs as identified in OMB Circular A-87 Appendix B (e.g. personnel, benefits, travel, supplies).

Matching Funds and Cost-Share Funds

Iowa DOT has chosen to use the Volkswagen Environmental Mitigation Trust Fund monies to match EPA's allocation. For all selected projects that require a cost-share (i.e. vehicle replacement), the project program beneficiary awarded funding will be responsible for meeting the minimum cost-share. Requirements for the cost-share will be identified in the written agreement between the project partner and the Iowa DOT.

Funding Partnerships

The Iowa DOT intends to provide participant support costs to program beneficiaries with eligible projects. Iowa DOT will grant one-time, lump-sum payments to fleet owners for the purchase and installation of eligible emission control technologies and vehicle replacements.

Eligible program beneficiaries will only receive reimbursement for up to the allowable cost-share of eligible equipment and installation costs. A written agreement between the Iowa DOT and the program beneficiary will include the following:

- A description of the activities that will be eligible for reimbursement;
- Identification of which party will have the title to the equipment purchased (if any);
- A listing of the maximum amount to be paid from the grant; and
- a description of the source documentation requirements to ensure proper accounting of EPA funds.

BUDGET NARRATIVE

2022 Itemized Project Budget

Budget Category	EPA Allocation	Mandatory Cost-Share	Voluntary Match (if applicable)		Line Total
			VW Mitigation Trust Funds	Other Funds	
1. Personnel					
2. Fringe Benefits					
3. Travel					
4. Equipment					
5. Supplies					
6. Contractual					
7. Other	\$530,868		\$353,912		
8. Total Direct Charges (sum 1-7)					
9. Indirect Charges					
10. Total (Indirect + Direct)					
11. Program Income					

[Explanation of Budget Framework]

- **Personnel** - None
- **Fringe Benefits** – None
- **Travel** - None
- **Supplies** - None
- **Equipment** - None
- **Contractual** – None
- **Other** – Funding will be provided to program beneficiaries to be used only for the purchase and installation of diesel emissions reduction strategy technologies (i.e. retrofit equipment, vehicle replacement, etc.). All program beneficiaries will be required to enter into a written agreement with the Iowa DOT.
- **Indirect Charges** – None

Administrative Costs Expense Cap

Expense Cap

Iowa DOT has chosen to not use any of the DERA monies to cover administrative costs as identified in OMB Circular A-87 Appendix B (e.g. personnel, benefits, travel, supplies).

Matching Funds and Cost-Share Funds

Iowa DOT has chosen to use the Volkswagen Environmental Mitigation Trust Fund monies to match EPA's allocation. For all selected projects that require a cost-share (i.e. vehicle replacement), the project program beneficiary awarded funding will be responsible for meeting the minimum cost-share. Requirements for the cost-share will be identified in the written agreement between the project partner and the Iowa DOT.

Funding Partnerships

The Iowa DOT intends to provide participant support costs to program beneficiaries with eligible projects. Iowa DOT will grant one-time, lump-sum payments to fleet owners for the purchase and installation of eligible emission control technologies and vehicle replacements.

Eligible program beneficiaries will only receive reimbursement for up to the allowable cost-share of eligible equipment and installation costs. A written agreement between the Iowa DOT and the program beneficiary will include the following:

- A description of the activities that will be eligible for reimbursement;
- Identification of which party will have the title to the equipment purchased (if any);
- A listing of the maximum amount to be paid from the grant; and
- a description of the source documentation requirements to ensure proper accounting of EPA funds.