

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

State of Nebraska  
Funding Request #11

## BENEFICIARY ELIGIBLE MITIGATION ACTION CERTIFICATION

Beneficiary State of Nebraska

Lead Agency Authorized to Act on Behalf of the Beneficiary Nebraska Department of Environment and Energy  
(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>	Nebraska 2023 DERA Program Projects
<b>Beneficiary's Project ID:</b>	VWT2024-11
<b>Funding Request No.</b>	(sequential) 10
<b>Request Type:</b> (select one or more)	<input type="checkbox"/> Reimbursement <input checked="" type="checkbox"/> Advance <input type="checkbox"/> Other (specify): _____
<b>Payment to be made to:</b> (select one or more)	<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</b> <input type="checkbox"/> Appendix D-2 item (specify): _____ <b>Action Type</b> <input checked="" type="checkbox"/> Item 10 - DERA Option (5.2.12) (specify and attach DERA Proposal): Attach. E
<b>Explanation of how funding request fits into Beneficiary's Mitigation Plan (5.2.1):</b> See attached SUMMARY Supplement (page 5).
<b>Detailed Description of Mitigation Action Item Including Community and Air Quality Benefits (5.2.2):</b> See attached SUMMARY Supplement (page 5).
<b>Estimate of Anticipated NOx Reductions (5.2.3):</b> See attached SUMMARY Supplement (page 6).
<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> Nebraska Auditor of Public Accounts
<b>Describe how the Beneficiary will make documentation publicly available (5.2.7.2).</b> See attached SUMMARY Supplement (page 6).
<b>Describe any cost share requirement to be placed on each NOx source proposed to be mitigated (5.2.8).</b> See attached SUMMARY Supplement (page 6).
<b>Describe how the Beneficiary complied with subparagraph 4.2.8, related to notice to U.S. Government Agencies (5.2.9).</b> On 26 February 2018 NDEQ sent e-mail notices of availability of funds to representatives of the U.S. Department of Interior and the U.S. Department of Agriculture listed in subparagraph 4.2.8 of the Trust Agreement.

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

See attached SUMMARY Supplement (page 6).

**ATTACHMENTS**  
**(CHECK BOX IF ATTACHED)**

- |                                     |                     |   |
|-------------------------------------|---------------------|---|
| <input checked="" type="checkbox"/> | <b>Attachment A</b> | <b>Funding Request and Direction.</b>   |
| <input checked="" type="checkbox"/> | <b>Attachment B</b> | <b>Eligible Mitigation Action Management Plan Including Detailed Budget and Implementation and Expenditures Timeline (5.2.4).</b>   |
| <input checked="" type="checkbox"/> | <b>Attachment C</b> | <b>Detailed Plan for Reporting on Eligible Mitigation Action Implementation (5.2.11).</b>   |
| <input checked="" type="checkbox"/> | <b>Attachment D</b> | <b>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.]</b> |
| <input checked="" type="checkbox"/> | <b>Attachment E</b> | <b>DERA Option (5.2.12). [Attach only if using DERA option.]</b>  |
| <input type="checkbox"/>            | <b>Attachment F</b> | <b>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.]</b> |

**CERTIFICATIONS**

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

- 1. This application is submitted on behalf of Beneficiary State of Nebraska, 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: 5/31/2024

Kara L. Valentine  
Deputy Director

[NAME]

[TITLE]

Nebraska Department of Environment and Energy

[LEAD AGENCY]

for

State of Nebraska

[BENEFICIARY]



Signature

## **SUMMARY SUPPLEMENT**

### **Explanation of how funding request fits into Beneficiary’s Mitigation Plan (5.2.1):**

Nebraska’s Beneficiary Mitigation Plan posted in January 2018 proposed to use 25% of Nebraska’s initial allocation, or approximately \$3 million, to supplement federal funding of the Nebraska Clean Diesel Program under the U.S. Environmental Protection Agency (EPA) DERA State Grant Program, consistent with Eligible Mitigation Action 10 (DERA Option) of the State Trust Agreement. This request will provide funding for the state’s 2023 Clean Diesel Rebate Program under DERA.

### **Detailed Description of Mitigation Action Item Including Community and Air Quality Benefits (5.2.2):**

The Nebraska Dept. of Environment and Energy (NDEE) elected to fund DERA rebates to individual Clean Diesel Rebate recipients using either federal funds or voluntary state matching funds obtained through the Volkswagen Diesel Emission Environmental Mitigation Trust for States (VW State Trust). The subprojects in this funding request are those DERA rebates being funded entirely by the voluntary state matching funds from the VW State Trust.

#### **Non-Road Agricultural Diesel Engine Replacement with All-Electric Equipment**

Under DERA Eligible Diesel Emission Reduction Solution VIII.C.2 (Engine Replacement), NDEE is providing rebates for the replacement of diesel engines powering surface agricultural irrigation pumps. The engine must be replaced by an electric motor.

Following the DERA Program Guide, NDEE is providing reimbursement of 60% of the cost of equipment and labor for these replacement projects, including the cost of extending electrical service to the well site. After examining previous project costs, NDEE set a maximum rebate amount of \$20,000.

Replacement of 11 diesel irrigation engines with all-electric equipment will completely remove the diesel pollutants currently being emitted by these engines, which contribute to generation of harmful ozone during the warm summer months.

### **Estimate of Anticipated NOx Reductions (5.2.3):**

Nebraska DEE estimated diesel emission reductions using the EPA on-line Diesel Emissions Quantifier. We calculated reductions for each diesel irrigation engine applicant using the provided annual operating hours, fuel use, and estimated remaining lifetime of the diesel engine.

We estimate that the irrigation engine replacement projects funded by this request will result in lifetime reductions in NOx emissions of 20.9 tons and reduction in particulate emissions of 1.19 tons.

### **Describe how the Beneficiary will make documentation publicly available (5.2.7.2):**

NDEE maintains a series of webpages describing the Nebraska Clean Diesel Program, with the main page at <http://deq.ne.gov/NDEQProg.nsf/OnWeb/NCDGP>. Separate pages are provided for applicants and rebate recipients for each type of project under the program.

All application materials, reimbursement requests, and required documentation submitted by applicants and rebate recipients for the Clean Diesel Program are archived in Nebraska’s Enterprise Content Management (ECM) system and are available to the public through a Public Records Search web page accessed through the NDEE website. Also see Attachment C.

### **Describe any cost-share requirement to be placed on each NOx source proposed to be mitigated (5.2.8):**

Recipients of diesel irrigation engine rebates are subject to a minimum 40% cost-share for the purchase and installation of new all-electric equipment. Cost-share percentages for individual projects may

## Beneficiary Eligible Mitigation Action Certification – Nebraska Funding Request #11

exceed these minimum percentages if the dollar amount corresponding to the maximum reimbursement percentage exceeds the rebate limit imposed by NDEE based on typical project costs. See Attachment B for listings of recipients, expected rebates, and expected cost-share amounts.

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

Residents of urban areas in eastern Nebraska have historically borne a disproportionate share of the adverse effects of NOx emissions. Diesel irrigation engines operate during warmer months of the year when NOx emissions act as a chemical feedstock for the formation of low-level ozone. This transformation occurs over a period of hours as pollutants are transported in the atmosphere. The replacement of rural diesel irrigation engines that are upwind of the urban areas of eastern Nebraska will eliminate their NOx emissions and should reduce the production of ozone that would otherwise impact the downwind urban areas.

**ATTACHMENT B**

**PROJECT MANAGEMENT PLAN INCLUDING DETAILED BUDGET AND  
IMPLEMENTATION AND EXPENDITURES TIMELINE (5.2.4)**

**PROJECT SCHEDULE AND TIMELINE,**

**2023 NEBRASKA CLEAN DIESEL REBATE PROGRAM**

<b>Project Milestone</b>	<b>Date</b>
NDEE posts program information and application materials on agency website; e-mail notification to interested parties.	1 October 2023
Deadline for submission of applications	8 December 2023
Selection and notification of rebate recipients	11-20 December 2023
Finalization of agreements with rebate recipients	February 2024
Submission of Project Certification and Funding Direction	May 2024
Trustee Allocates Advanced Funding to NDEE	By 15 July 2024
NDEE reviews reimbursement requests from recipients and provides payment for projects as completed	2024 Quarter 3-4 2025 Quarter 1-3
NDEE reports on project progress	July 2024, January 2025, July 2025, January 2026
NDEE reports project completion	January 2026

## Beneficiary Eligible Mitigation Action Certification – Nebraska Funding Request #11

### EXPECTED COSTS OF INDIVIDUAL PROJECTS FUNDED THROUGH THIS REQUEST

#### **Non-Road Agricultural Diesel Engine Replacements with All-Electric Equipment**

Applications for this program were required to include price quotes for the new equipment, electrical contracting work, and utility service line extension. The expected rebate recipients are listed below.

<b>Rebate Recipient</b>	<b>Nebraska County</b>	<b>Rebate Amount</b>	<b>Recipient Cost-Share</b>	<b>Total Project Cost</b>
Kemling Farms LLC	Perkins	\$ 20,000.00	\$ 36,472.50	\$ 57,472.50
Kerkman Sandhills Farms	Antelope	\$ 20,000.00	\$ 13,713.85	\$ 33,713.85
Maxwell-Zikmund LLC	Butler	\$ 20,000.00	\$ 14,189.00	\$ 34,189.00
Reichmuth, Keith	Madison	\$ 20,000.00	\$ 15,816.14	\$ 35,816.14
Reichmuth, Sandi	Madison	\$ 20,000.00	\$ 14,102.58	\$ 34,102.58
Sandberg, Robert Jr	Keith	\$ 20,000.00	\$ 28,666.00	\$ 48,666.00
Dennis A. & Diane A. Sanne Trust	Antelope	\$ 20,000.00	\$ 16,576.30	\$ 36,576.30
T&T Bader Farms	Butler	\$ 20,000.00	\$ 17,521.98	\$ 37,521.98
Trambly, Nelson P. & Kelly	Franklin	\$ 17,932.93	\$ 11,955.29	\$ 29,888.22
Trambly, Nelson F. & Maryetta	Franklin	\$ 20,000.00	\$ 14,321.00	\$ 34,321.00
Winkelbauer, Matthew	Holt	\$ 20,000.00	\$ 37,754.00	\$ 57,754.00
<b>TOTAL</b>		<b>\$ 217,932.93</b>	<b>\$ 221,088.64</b>	<b>\$ 493,021.57</b>

### PROJECT BUDGET

<b>Period of Performance: July 2024 – January 2026</b>			
<b>Budget Category</b>	<b>Share of Total Budget to be Funded by the Trust</b>	<b>Cost-Share to be Paid by Project Recipients</b>	<b>Total Budget Amount</b>
<u>Equipment:</u>			
Irrigation Engine Rebates	\$ 217,933	\$ 221,089	\$ 439,022
Contractor Support	\$ 0	\$ 0	\$ 0
Subrecipient Support	\$ 0	\$ 0	\$ 0
Administrative Costs	\$ 0	\$ 0	\$ 0
<b>Project Totals</b>	<b>\$ 217,933</b>	<b>\$ 221,089</b>	<b>\$ 439,022</b>
<b>Percentage</b>	<b>49.6%</b>	<b>50.4%</b>	<b>100%</b>



## Beneficiary Eligible Mitigation Action Certification – Nebraska Funding Request #11

### **FUNDING REQUESTS: PREVIOUS, CURRENT, AND PLANNED**

<b>Funding Request</b>	<b>Received from Trust</b>	<b>Trust Funds Expended</b>	<b>Recipient Cost-Share</b>	<b>Total Project Funding</b>	<b>Status</b>	<b>Unspent Amount Returned to Trust</b>	<b>Amount Remaining</b>
<u>Previous Requests</u>							
1. 2017 DERA Program Projects	\$ 287,243	\$ 287,243	\$ 713,968	\$ 1,001,211	Complete	\$ 0	\$ 0
2. 2018 School Bus Rebates	\$ 1,891,527	\$ 1,746,840	\$ 2,012,772	\$ 3,759,612	Complete	\$ 144,687	\$ 0
3. 2018 Transit Bus Rebates	\$ 1,255,206	\$ 1,241,620	\$ 2,089,368	\$ 3,330,988	Complete	\$ 13,780	\$ 0
4. 2018 DERA Program	\$ 775,213	\$ 720,227	\$ 856,317	\$ 1,576,543	Complete	\$ 55,036	\$ 0
5. 2019 School Bus Rebates	\$ 2,758,981	\$ 2,652,775	\$ 3,429,763	\$ 6,082,538	Complete	\$ 106,206	\$ 0
6. Electric Vehicle Charging Rebates	\$ 1,909,134	\$ 1,844,043	\$ 907,161	\$ 2,751,204	Complete	\$ 65,091	\$ 0
7. 2019 DERA Program Projects	\$ 525,784	\$ 393,425	\$ 546,211	\$ 939,635	Complete	\$ 132,359	\$ 0
8. 2020 School Bus Rebates	\$ 2,033,476	\$ 1,877,319	\$ 2,420,619	\$ 4,307,938	Complete	\$ 146,157	\$ 0
9. 2020 DERA Program Projects	\$ 843,735	\$ 712,738	\$ 1,782,562	\$ 2,495,345	Complete	\$ 130,952	\$ 0
10. 2021 DERA Program Projects	\$ 811,860	\$ 457,016	\$ 1,334,373	\$ 1,791,389	Active	\$ 0	\$ 354,844
<u>Current Request:</u>							
11. 2023 DERA Program Projects	\$ 217,933		\$ 221,089	\$ 439,022			
<b>TOTALS</b>	<b>\$ 13,310,092</b>	<b>\$ 11,943,290</b>	<b>\$ 16,314,203</b>	<b>\$ 28,475,426</b>		<b>\$ 794,269</b>	<b>\$ 354,844</b>

**Beneficiary Eligible Mitigation Action Certification – Nebraska Funding Request #11****PROJECTED ANNUAL TRUST ALLOCATIONS**

	<b>2023</b>	<b>2024</b>	<b>2025</b>
1. Anticipated Annual Project Funding Request to be paid through the Trust	\$ 217,933	\$ 250,000	\$ 155,646
2. Anticipated Annual Cost Share	\$ 221,089	\$ 250,000	\$ 155,000
3. Anticipated Total Project Funding by Year (line 1 plus line 2)	\$ 439,022	\$ 500,000	\$ 310,646
4. Net Beneficiary Funds Remaining in Trust at Start of Year	\$ 45,771	\$ 162,802	\$ 154,646
5. Unspent Beneficiary Funds Returned to the Trust in Current Year	\$ 328,403	\$ 234,844	\$ 0
6. Beneficiary Net Income on Trust Assets in Current Year to Date	\$ 1,324	\$ 1,000	\$ 1,000
7. Net Beneficiary Funds Remaining in Trust Prior to Current Request (sum of lines 4 through 6)	\$ 375,498	\$ 398,646	\$ 155,646
8. Current Beneficiary Project Funding to be paid through the Trust (line 1)	\$ 217,933	\$ 250,000	\$ 155,646
9. Net Beneficiary Funds Remaining in Trust after current action (line 7 minus line 8)	\$ 157,565	\$ 148,646	\$ 0

## **ATTACHMENT C**

### **DETAILED PLAN FOR REPORTING ON ELIGIBLE MITIGATION ACTION IMPLEMENTATION (5.2.11)**

The Nebraska Department of Environment and Energy (NDEE) will provide detailed reporting on this funding request under Eligible Mitigation Action 11 (DERA Option) in two ways: 1) timely updates to NDEE's Volkswagen Environmental Mitigation Trust – Nebraska Diesel Emission Mitigation Program web pages; and 2) semi-annual reports to the Trustee as required by subparagraph 5.3 of the Environmental Mitigation Trust Agreement for State Beneficiaries.

#### **NDEE Website**

NDEE maintains a series of webpages describing the Nebraska Diesel Emission Mitigation Program under the Volkswagen Diesel Emissions Environmental Mitigation Trust for State Beneficiaries. The main Volkswagen Trust webpage, which outlines the mitigation actions eligible for funding and their status, can be found at <http://dee.ne.gov/NDEQProg.nsf/OnWeb/AirVW>. Copies of funding request certifications to the Trustee will be available through this web page. Separate web pages for individual project categories are developed and posted as funding programs open; these pages track the status, progress, and results for projects under these funding categories.

All application materials, reimbursement requests, and required documentation submitted by applicants and rebate recipients for Nebraska's Diesel Emission Mitigation program are archived electronically in Nebraska's Enterprise Content Management (ECM) system and are available to the public through a Public Records Search web page accessed through the NDEE website.

#### **Semi-Annual Reports to the Trustee**

As required by subparagraph 5.3 of the Environmental Mitigation Trust Agreement for State Beneficiaries, NDEE will submit a report to the Trustee no later than January 30 and July 30 each year for the preceding 6-month periods. These reports will describe the progress implementing this and any other Eligible Mitigation Action ongoing during the reporting period. These reports will include a summary of all costs expended and a complete description of the status (including the actual or projected termination date), development, implementation, and any modification of the Eligible Mitigation Action. These semi-annual reports to the Trustee will be available for public access through links on the main Volkswagen Trust page on the NDEE website.

## **ATTACHMENT D**

### **DETAILED COST ESTIMATES FROM SELECTED VENDORS FOR EACH PROPOSED EXPENDITURE EXCEEDING \$25,000 (5.2.6)**

#### **DIESEL IRRIGATION ENGINE REPLACEMENTS WITH ALL-ELECTRIC EQUIPMENT**

Each applicant for the 2023 Nebraska Clean Diesel Irrigation Engine Rebate Program was required to provide price quotes for a new electric motor (if needed), other required electrical and well equipment (conduit, panels, etc.) and labor, and for the cost of extending electric service to the irrigation well site. Quoted cost ranges from the 11 recipients to be funded through this request are shown below. Costs are quite variable depending on the equipment to be installed and the length of utility service line needed to connect the well site to the electric grid.

<b>Recipient</b>	<b>Equipment &amp; Installation</b>	<b>Electrical Work</b>	<b>Electric Utility Costs</b>	<b>Total Project Cost</b>	<b>Rebate</b>	<b>Cost-Share</b>
Kemling Farms LLC	\$13,085.00	\$3,160.00	\$40,227.50	\$56,472.50	\$20,000.00	\$36,472.50
Kerkman Sandhills Farms	\$33,713.85	\$0	\$0	\$33,713.85	\$20,000.00	\$13,713.85
Maxwell-Zikmund LLC	\$7,600.00	\$15,000.00	\$11,589.00	\$34,189.00	\$20,000.00	\$14,189.00
Reichmuth, Keith	\$11,185.36	\$18,293.18	\$6,337.60	\$35,816.14	\$20,000.00	\$15,816.14
Reichmuth, Sandi	\$11,185.36	\$16,579.62	\$6,337.60	\$34,102.58	\$20,000.00	\$14,102.58
Sandberg, Robert Jr	\$17,066.00	\$0	\$31,600.00	\$48,666.00	\$20,000.00	\$28,666.00
Dennis A. & Diane A. Sanne Trust	\$7,600.00	\$28,976.30	\$0	\$36,576.30	\$20,000.00	\$16,576.30
T&T Bader Farms	\$31,481.78	\$6,040.20	\$0	\$37,521.98	\$20,000.00	\$17,521.98
Trambly, Nelson P. & Kelly	\$10,870.00	\$19,018.22	\$0	\$29,888.22	\$17,932.93	\$11,955.29
Trambly, Nelson F. & Maryetta	\$10,980.00	\$23,341.00	\$0	\$34,321.00	\$20,000.00	\$14,321.00
Winkelbauer, Matthew	\$34,824.00	\$0	\$22,930.00	\$57,754.00	\$20,000.00	\$37,754.00

**2023-2024 Diesel Emissions Reduction Act (DERA) State Program**

**Work Plan and Budget Narrative**

**NEBRASKA DEPARTMENT OF ENVIRONMENT AND ENERGY**

**AUGUST 2023**

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## SUMMARY PAGE

**Project Title:** 2023-2024 Nebraska Clean Diesel Rebate Program

### Project Manager and Contact Information

**Organization Name:** Nebraska Department of Environment and Energy

**Project Manager:** Randy Smith

**Mailing Address:** Nebraska Department of Environment and Energy  
P.O. Box 98922  
Lincoln, NE 68509-8922

**Phone:** (402) 471-4272

**Fax:** (402) 471-2909

**Email:** randy.smith@nebraska.gov

### Project Budget Overview:

	2022*	2023	2024	Total 2023-2024
EPA Base Allocation	\$ 349,978	\$ 416,866	\$ 373,585	\$ 790,451
Total State Contribution ( <i>Voluntary state match</i> )	\$ 0	\$ 291,200	\$ 0	\$ 291,200
EPA Match Bonus ( <i>If applicable</i> )	\$ 0	\$ 0	\$ 0	\$ 0
Total EPA Allocation ( <i>base plus match bonus if applicable</i> )	\$ 349,978	\$ 416,866	\$ 373,585	\$ 790,451
<b>TOTAL Project Cost (EPA Allocation plus State contribution)</b>	<b>\$ 349,978</b>	<b>\$ 707,866</b>	<b>\$ 373,585</b>	<b>\$ 1,081,451</b>

Note: \*If state participated in 2022

**3 Year Project Period for 2023-2024 State DERA Grants<sup>1</sup>**

FY2023 First Phase: October 1, 2023 – September 30, 2024

FY2024 Incremental Amendments: October 1, 2024 – September 30, 2025

2023-2024 Project Period Close Out: September 30, 2026

**Summary Statement**

The Nebraska Department of Environment and Energy (NDEE) proposes to award approximately thirty-seven rebates for all-electric replacements of diesel engines powering agricultural irrigation pumps in the 2023 Clean Diesel Rebate Program. NDEE will supplement EPA grant funds with approximately \$291,200 in voluntary match funds from the Volkswagen Environmental Mitigation Trust. The 2024 program could include a selection of projects such as irrigation engine all-electric replacements, school bus replacements, and diesel refuse truck replacements.

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**SCOPE OF WORK**

**STATE/TERRITORY GOALS AND PRIORITIES:**

All areas of Nebraska are currently in attainment with the National Ambient Air Quality Standards (NAAQS) for all criteria pollutants, so there are no Nebraska counties on the 2023-2024 DERA Priority Area List. However, ozone levels approaching and temporarily exceeding the ozone NAAQS (0.70 ppm) have been recorded at times in the Omaha metropolitan area and at Santee in northeastern Nebraska. Ozone levels at rural monitoring sites in and around Nebraska also have ranged from 80% to 96% of the NAAQS in recent years, showing that ozone levels are elevated throughout the region. Ozone levels have been particularly elevated in 2023 in the central plains, with frequent 24-hour exceedances of the standard in many locations.

According to the 2020 National Emissions Inventory, diesel vehicles and equipment in Nebraska are annually responsible for 62,350 tons of nitrogen oxide (NO<sub>x</sub>) emissions, 2,593 tons of coarse particulates (PM<sub>10</sub>), and 2,293 tons of fine particulates (PM<sub>2.5</sub>), primarily from heavy-duty diesel highway vehicles, locomotives, and non-road diesel equipment. Diesel sources are responsible for 57.3% of the non-biogenic NO<sub>x</sub> emissions in the state, which can contribute to the production of ground-level ozone. Reducing diesel emissions is therefore a priority for the Nebraska Department of Environment and Energy (NDEE).

As of May 2022, Nebraska had over 96,300 active agricultural irrigation wells, many of which have pumps powered by diesel engines. Exhaust from this large number of diesel engines is a significant contributor to air pollution in the state. Although these engines are in rural areas, they operate during the warmer months of the year when formation of ozone from diesel exhaust is at a maximum, and ozone can be transported readily to nearby urban areas.

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<sup>1</sup> FY2024 funds will be dispersed as an incremental amendment to existing 2023 DERA State Grants or, if a state does not have a 2023 grant, a new award.

## **VEHICLES AND TECHNOLOGIES:**

Nebraska's 2023 Clean Diesel Rebate Program will offer rebates to assist active farming operations in Nebraska with:

- 1) purchase of an electric motor and associated electrical infrastructure needed to replace a non-road diesel engine powering a surface agricultural irrigation pump; or
- 2) costs of supplying the infrastructure needed to connect an existing submersible irrigation pump to the electric grid as a replacement for a diesel engine powering a generator.

These projects will be eligible for a 60% rebate of equipment, labor, and electric infrastructure costs, up to a maximum rebate amount of \$20,000. The average cost of this type of project over the past two years has been approximately \$18,000. NDEE has submitted a request for a waiver of the DERA program guideline excluding electric infrastructure costs outside of the property line from eligibility.

The applicant will be required to certify that they have owned the diesel irrigation engine for at least two years prior to replacement, that the engine has operated at least 250 hours per year during those two years, and that the engine has at least three years of remaining life at the time of the application.

NDEE anticipates funding between 36 and 40 diesel irrigation engine replacement projects in the 2023 program. All entities that receive a rebate will be required to follow the scrappage requirements outlined in the FY2023-2024 DERA State Grants Program Guide.

For the 2024 program, potential projects could include:

- irrigation engine all-electric replacements
- replacement of diesel school buses with new diesel, propane, or electric buses
- replacement of diesel refuse trucks with new diesel or CNG-fueled trucks
- or other options allowed under the 2023-2024 DERA State Grants Program Guide.

## **ROLES AND RESPONSIBILITIES:**

NDEE will use 2023 DERA State Grant funds to support a rebate program for all-electric replacements of diesel irrigation engines in Nebraska. NDEE has successfully administered rebate programs with funding from EPA's State Clean Diesel Program to reduce diesel emissions since 2008, including funding from the American Recovery and Reinvestment Act from 2009 to 2012. Projects funded prior to 2013 included diesel emission control retrofits, auxiliary power units and aerodynamic equipment for long-haul trucks, diesel engine replacements, and vehicle replacements. Rebate recipients in these projects included both government and private-sector entities. From 2013 to 2016 NDEE administered an annual Clean Diesel School Bus Rebate Program. Beginning in 2017 rebate programs for local diesel truck replacements and diesel irrigation engine replacements were added to the Nebraska Clean Diesel Program, with voluntary match funding from Nebraska's portion of the Volkswagen Diesel Emissions settlement. Since then NDEE has recorded 31 truck replacement projects and 145 irrigation engine replacement projects completed or underway. This



experience demonstrates NDEE's ability to successfully carry out varied diesel emissions reduction rebate programs.

**Non-Road Agricultural Diesel Engine Replacements:**

NDEE will provide notice of the Irrigation Engine Rebate program via the agency website, a press release, and social media. Applicants for agricultural diesel engine replacement rebates will need to work with their electric service provider to determine the costs of electric line extension and other required infrastructure as well as the availability of incentives. NDEE therefore will directly notify all public power districts in Nebraska of the availability of Clean Diesel rebates for irrigation engine replacements. NDEE will also notify farm associations and the Natural Resource Districts (NRDs) in Nebraska, which manage surface and groundwater and work with irrigators in their districts.

NDEE will modify existing application materials and instructions to conform with current program requirements if needed and make them available on the agency website. The application form will require all of the information and eligibility certifications outlined in the DERA State Grants Sample Eligibility Statement. We will develop selection criteria specific to this program, assist applicants during the application process, select applicants for rebates, and provide rebates directly to the recipients. Recipients will be expected to provide mandatory matching funds to complete the financial commitments required for their projects.

NDEE staff will carry out inspections of scrapped engines and new equipment for a selection of projects to verify the information provided by the recipient and ensure conformance with program requirements and guidelines.

**General Administration and Disbursement Procedures**

The replacement equipment will be required to perform the same function and operation as the unit being replaced and at the same wellsite location.

The replaced engine will be required to be scrapped or rendered permanently disabled within 90 days of being replaced unless additional time is approved by EPA. Diesel engines will be scrapped by cutting a 3-in by 3-in hole in the engine block, or an equivalent scrapping method approved by EPA.

NDEE will maintain frequent contact with the successful applicants and provide assistance as needed to ensure that they stay on track to complete their projects within the specified time frame. After the new equipment has been delivered or installed, and prior to receiving reimbursement, applicants will be required to submit extensive documentation of the purchase along with documentation of scrapping of the old engine:

1. Completed *Request for Reimbursement* form
2. Photocopy of the purchase order for the new vehicle/engine and/or photocopy of the invoice for the new vehicle/engine and photo of the new engine label with the following information:
  - a. Serial number of replacement electric motor
  - b. Model number of replacement electric motor

- c. Motor manufacturer
  - d. Motor and other equipment cost
- 3. Proof of Payment, such as a paid invoice or receipt, photocopy of the canceled check, bank statement showing the check has cleared, or credit card statement showing the payment has cleared
- 4. Proof of scrappage of the old engine via a Certification of Engine Scrappage statement and:
  - a. Photo of the engine label that includes the engine serial number and EPA engine family
  - b. Photo of the engine block prior to scrappage
  - c. Photo of the engine block after scrappage showing the hole cut in the block

### **TIMELINE AND MILESTONES:**

NDEE's 2023 Nebraska Clean Diesel Rebate Program will begin in late September 2023 with public notice and outreach in advance of the October 2nd start of the grant period. During the first quarter of the grant year we will complete solicitation and processing of applications and select and notify rebate recipients. We will prepare and distribute project agreements at the start of the second quarter and provide commence work notifications when recipients have signed their agreements. This timeline is designed to allow participants to take early action to initiate their projects so that work can be completed prior to the start of the 2024 planting season. We anticipate that most recipients will complete their projects and receive reimbursements during the third and fourth quarters.

NDEE will follow the timeline below, assuming receipt of the EPA award in August:

Late September 2023: NDEE posts program information and application materials on the agency website and begins outreach to the target sectors.

October 2, 2023: NDEE begins accepting rebate applications.

December 8, 2023: Deadline for submission of rebate applications to NDEE.

December 11-20, 2023: Review of rebate applications and selection and notification of rebate recipients.

January 8-12, 2024: Project agreements provided to rebate recipients.

January 26, 2024: Deadline for rebate recipients to return signed agreements to NDEE. Public notification of rebate projects posted on NDEE website. Commence Work Notifications sent to recipients as signed agreements are received.

February–August 2024: Rebate recipients purchase and install equipment. NDEE monitors rebate recipients for project progress, and issues rebates as projects are completed. NDEE inspects a selection of project locations for program compliance.

September 13, 2024: Deadline for recipients to complete their project and submit complete reimbursement requests with documentation of scrappage.

**DERA PROGRAMMATIC PRIORITIES:**

NDEE's planned 2023 Clean Diesel Rebate Program expects to completely eliminate the emissions of approximately 37 diesel irrigation engines by replacing them with all-electric equipment. Although irrigation engines do not operate in highly-populated areas, the nitrogen oxides they produce during the warmer months are precursors to production of ground-level ozone that contributes to elevated regional ozone levels and can be transported to nearby urban areas.

**ENVIRONMENTAL JUSTICE AND DISADVANTAGED COMMUNITIES:**

No Nebraska counties have been designated as priority counties for the DERA Program based on NAAQS nonattainment/maintenance status or through the 2019 Air Toxic Screening Assessment.

**PROJECT SUSTAINABILITY:**

NDEE will continue to promote (and assist stakeholders in finding) reasonable and practical solutions to reduce diesel emissions and consumption of diesel fuel. Nebraska farmers have demonstrated sustained interest in replacing diesel irrigation engines with electric equipment, and rural electric utilities in Nebraska promote such conversions. Applications for NDEE's irrigation engine rebates have exceeded the available funding for several years, and NDEE's program has had at least a dozen repeat applicants during that time. The long-term economic benefits to farmers of such conversions will continue to drive interest and result in future reductions in diesel emissions, diesel fuel use, and wellsite soil contamination from diesel fuel and oil. DERA program rebates provide a vital means to reduce the high initial project costs to producers.

**PROJECT RESILIENCE TO CLIMATE IMPACTS:**

The projects in this program are not expected to have appreciable impact on resilience to climate impacts. The replacement equipment will be located at existing irrigation well sites. Although most of these locations are not susceptible to flooding, storm damage is a possible risk factor that would apply to the new electric equipment and the utility lines supplying electricity as well as to the replaced diesel engines.

**WORKFORCE DEVELOPMENT:**

The projects in this program are not expected to require additional workforce development. Irrigation well electrification projects do not involve new technology, and they are served by existing irrigation companies, electrical contractors, and rural electric utilities with extensive experience in this type of project. The funded projects are expected to be distributed across large regions of the state, and the existing businesses in these regions should be able to handle the number of projects expected to be funded.

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

**Linkage:** The actions outlined in this workplan support the goals in EPA’s 2022-2026 Strategic Plan. In particular, the support Goal 1, “Tackle the Climate Crisis” Objective 1.1, “Reduce Emissions that Cause Climate Change”, and Goal 4, “Ensure Clean and Healthy Air for All Communities” Objective 4.1, “Improve Air Quality and Reduce Localized Pollution and Health Impacts” of the Strategic Plan. Reducing emissions from diesel engines is an important component of the reduction of local and regional air pollution, thereby supporting EPA’s goal of “continued progress in reducing public health risks and improving the quality of the environment.” Replacing older, more polluting diesel engines with electric motors and equipment will eliminate the local emission of greenhouse gases and criteria air pollutants (NOx and particulate matter) and reduce the local and regional risk of exposure to ozone.

**Outputs:** The primary output of this program will be the replacement of older, more polluting diesel engines with new, zero-emission units. This output will be measurable in terms of the number of replacements funded and completed and the ages and operating characteristics of the engines. Emission reductions will be computed based on engine model year, horsepower, annual fuel use, and annual operating hours using the EPA Diesel Emission Quantifier.

NDEE will disseminate information about the program and the available technologies via the agency website, mail, and e-mail. These public outreach efforts will raise community awareness of the importance of reducing diesel emissions.

NDEE will track and measure the progress made by the rebate recipients and provide quarterly reports to EPA summarizing this progress. NDEE will also provide a final report on the program to EPA.

**Outcomes:** Nebraska’s proposed 2023 Clean Diesel Rebate Program will produce significant reductions in diesel emissions, reduce the exposure of vulnerable populations to these emissions, and reduce greenhouse gas emissions. In addition, NDEE’s outreach efforts will lead to increased community awareness of the importance and health benefits of emissions reductions.

Diesel irrigation engines in Nebraska have long lifetimes, commonly operating for decades. Among the 47 irrigation engine projects funded for the 2021 and 2022 grant years, the model years of the diesel engines being replaced ranged from 1973 to 2010. If the age profile of this year’s pool of engines matches that of the last two years, at least half of the replaced engines will be pre-Tier 1 engines lacking any emission controls (average model year 1992), and most of the rest will be Tier 1 engines (average model year 2003). Eliminating the emissions of these poorly-controlled engines will significantly reduce emissions of NOx and PM<sub>2.5</sub>. Table 1 below shows the estimated annual reductions in emissions and diesel fuel use from the replacement of 37 diesel irrigation engines, assuming 20 uncontrolled engines with average model year 1992 and 17 Tier 1 engines with average model year 2003. Table 2 shows the estimated lifetime reductions in emissions and diesel fuel assuming the replaced engines would otherwise have continued to operate for an additional seven years. Table 3 shows the lifetime cost-effectiveness of these replacements in grant dollars expended assuming an average DERA rebate amount of \$18,200.

## Beneficiary Eligible Mitigation Action Certification – Nebraska Funding Request #11 – Attachment E

**Table 1: Estimated annual reductions in emissions and diesel fuel from replacing 20 uncontrolled and 17 Tier 1 diesel irrigation engines with all-electric equipment, computed using the Diesel Emissions Quantifier.**

Engine Type	Annual Amount Reduced (short tons)					Gallons
	NOx	PM <sub>2.5</sub>	HC	CO	CO <sub>2</sub>	Fuel
20 Uncontrolled Engines <sup>1</sup>	52.781	3.020	4.379	19.679	236.3	21,000
17 Tier 1 Engines <sup>2</sup>	38.728	2.118	2.346	6.385	215.7	19,176
<b>TOTAL</b>	<b>91.509</b>	<b>5.138</b>	<b>6.725</b>	<b>26.064</b>	<b>452.0</b>	<b>40,176</b>

<sup>1</sup> Engine model year = 1992, HP = 146, Annual Hours = 1,050, Annual Fuel = 4,444 gallons

<sup>2</sup> Engine model year = 2003, HP = 157, Annual Hours = 1,128, Annual Fuel = 5,280 gallons

**Table 1: Estimated lifetime reductions in emissions and diesel fuel from replacing 20 uncontrolled and 17 Tier 1 diesel irrigation engines with all-electric equipment, computed using the Diesel Emissions Quantifier. Assumes the replaced engines would otherwise have operated for an additional seven years.**

Engine Type	Lifetime Amount Reduced (short tons)					Gallons
	NOx	PM <sub>2.5</sub>	HC	CO	CO <sub>2</sub>	Fuel
20 Uncontrolled Engines <sup>1</sup>	369.464	21.138	30.654	137.756	1,653.8	147,000
17 Tier 1 Engines <sup>2</sup>	271.093	14.824	16.420	44.694	1,510.1	134,232
<b>TOTAL</b>	<b>640.557</b>	<b>35.962</b>	<b>47.074</b>	<b>182.45</b>	<b>3,163.9</b>	<b>281,232</b>

**Table 3: Lifetime cost effectiveness (in grant dollars expended) of replacing 20 uncontrolled and 17 Tier 1 diesel irrigation engines with all-electric equipment, computed using the Diesel Emissions Quantifier. Assumes the replaced engines would otherwise have operated for an additional seven years and an average reimbursement amount of \$18,200.**

Engine Type	Grant dollars expended / lifetime short ton reduced				
	NOx	PM <sub>2.5</sub>	HC	CO	CO <sub>2</sub>
20 Uncontrolled Engines <sup>1</sup>	\$985	\$17,220	\$11,875	\$2,642	\$220
17 Tier 1 Engines <sup>2</sup>	\$1,141	\$20,872	\$18,842	\$6,923	\$205

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### BUDGET NARRATIVE

#### 2023 Itemized Project Budget

Budget Category	EPA Allocation	Mandatory Cost-Share	Voluntary Match (if applicable)		Line Total
			VW Mitigation Trust Funds	Other Funds	
1. Personnel	\$19,955				\$19,955
Project Manager: \$27/hr x 665 hrs	\$17,955				

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Supervisor: \$50/hr x 40 hrs	\$2,000				
2. Fringe Benefits	\$6,535				\$6,535
3. Travel	\$1,500				\$1,500
4. Equipment					
5. Supplies					
6. Contractual					
7a. Other	\$130				\$130
7b. Other (Participant Support Costs)	\$382,200	\$468,131	\$291,200		\$1,141,531
21 Diesel irrigation engine electric replacements @ \$30,333 (60% rebate = \$18,200, maximum \$20,000)	\$382,200	\$254,800			
16 Diesel irrigation engine electric replacements @ \$30,333 (60% rebate = \$18,200, maximum \$20,000)		\$213,331	\$291,200		
<b>8. Total Direct Charges (sum 1-7)</b>	\$410,320		\$291,200		\$701,520
9. Indirect Charges	\$6,545				\$6,545
<b>10. Total (Indirect + Direct)</b>	\$416,866		\$291,200		\$708,066
11. Program Income	\$0				

**2024 Itemized Project Budget**

Budget Category	EPA Allocation	Mandatory Cost-Share	Voluntary Match (if applicable)		Line Total
			VW Mitigation Trust Funds	Other Funds	
1. Personnel	\$16,119				
2. Fringe Benefits	\$5,279				
3. Travel	\$1,000				
4. Equipment	0				

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5. Supplies	0				
6. Contractual	0				
7a. Other	\$100				
7b. Other (Participant Support Costs)	\$345,800	\$230,533			\$576,333
<b>8. Total Direct Charges (sum 1-7)</b>	\$368,298				
9. Indirect Charges	\$5,287				
<b>10. Total (Indirect + Direct)</b>	\$373,585				
11. Program Income	0				

**Explanation of Budget Framework for 2023**

- **Personnel -**

Salaries for NDEE Project Manager (32% time, 655 hours @ \$27/hr) and Supervisor (1.2% time, 40 hours @ \$50/hr).

- **Fringe Benefits -**

32.75% of Personnel Cost, covering health insurance, retirement, unemployment, and leave.

- **Travel –**

Up to five in-state inspection trips by NDEE personnel for a selected group of rebate recipients to verify eligibility of equipment to be replaced and replacement equipment. Cost based on 2,290 miles at 65.5 cents per mile.

- **Supplies –**

None.

- **Equipment –**

None.

- **Contractual –**

None.

- **Other –**

## **Beneficiary Eligible Mitigation Action Certification – Nebraska Funding Request #11 – Attachment E**

Postage for mailing of grant materials to applicants and/or recipients.

Participant Support Costs (rebates paid to successful applicants for engine replacement projects).

- ***Indirect Charges –***

Indirect charges are computed as 32.8% (2023 negotiated rate) of personnel costs.

### **Administrative Costs Expense Cap**

The budgeted administrative costs (sum of personnel, benefits, travel, and indirect costs) for this grant are \$27,990.26, or 3.95% of the available project funds (\$707,866). This amount is less than the 15% cap on administrative costs.

### **Matching Funds and Cost-Share Funds**

Nebraska will be using funds from the Volkswagen Diesel Emission Environmental Mitigation Trust for States as voluntary state match.

Recipients of participant support (rebates) will be expected to provide mandatory cost-share funds for their projects.

### **Funding Partnerships**

NDEE will fund project partner equipment and installation costs via participant support costs.