Airport Related Comments

The Raleigh-Durham Airport Authority is responding to the North Carolina Department of Environmental Quality's Request for Information on the *Volkswagen Consent Decree Environmental Mitigation Trust Project Ideas* dated November 21, 2017.

Section 1: Project Applicant Information

Raleigh-Durham Airport Authority
Gina Danison, Environmental Program Administrator
Local Government
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Section 2: VW Program and Solicitation Design Questions

The Authority does not have any comments on this section.

Section 3: Submitting Your Project Information

Identify Applicable Eligible Mitigation Project Category

- Class 4-8 School, shuttle, or transit buses with model year 2009 or older engines and a GVWR greater than 14,001 lbs. and used for transporting people.

Project Summary

The project will take place at the Raleigh-Durham International Airport located within Wake and Durham Counties, North Carolina. Currently four diesel powered buses are slated to be replaced with electric powered, zero emission buses. The size of the electric bus fleet will continue to rise as funding is secured and diesel powered buses need to be replaced.

Total cost of project, including charging infrastructure, ZEV buses, and training is $3,266,600 with $1,633,300 being funded by the Federal Aviation Administration (FAA). Further details are located on page 4 of this submission.

Anticipated benefits are a reduction in emissions, assisting Wake County towards Attainment in Carbon Monoxide (from Maintenance). The electric buses will also be quieter and will help reduce noise at the terminal curbs. As the Project will be replacing diesel powered buses, a total lifetime tailpipe Greenhouse Gas (GHG) emissions of 16,860,934 lbs will be prevented with these replacements. There will also be an overall reduction in in operating and maintenance costs of the buses.

Emission Reductions Per Bus

Step 1	**Calculate Annual Grams of NOx Reduction** (Annual Vehicle Miles x 0.226)	13,560.00
Step 2	**Convert to Annual Pounds of NOx Reduction** (Result of Step 1 x 0.0022)	29.83
Step 3	**Calculate Pounds of NOx Reduction over Vehicle Useful Life** (Result of Step 2 x Useful Life)	298.32
Step 4	**Convert to Tons of NOx Reduction over Vehicle Useful Life** (Result of Step 3 divided by 2,000)	0.15
Step 5	**Calculate Annual Grams of VOC Reduction** (Annual Vehicle Miles x (0.17)	10,200.00
Step 6	**Convert to Annual Pounds of VOC Reduction** (Result of Step 5 x 0.0022)	22.44
Step 7	**Calculate Pounds of VOC Reduction over Vehicle Useful Life** (Result of Step 6 x Useful Life)	224.40
Step 8	**Convert to Tons of NOx Reduction over Vehicle Useful Life** (Result of Step 7 divided by 2,000)	0.11
Step 9	**Total NOx and VOC Reduction** (Sum Step 4 and Step 8)	0.26

This table is from the Authority's FAA ZEV grant application.

<u>Project Detail</u>

Four Gillig 40' low-floor diesel powered buses to be removed from fleet and replaced with Proterra 40' Catalyst #E2 electric buses.

The Gillig buses typically last for ten (10) years and 60,000 miles. The Proterra buses are anticipated to last at least 12 years and 500,000 miles.

Four Plug-In 120kW charging stations will be installed at our maintenance facility.

Capital and Project Costs and Expected Proposed Project Benefits

Refueling/Recharging Station Cost Calculation					
Description	**Unit Cost (50%)**	**No. of Units**	**AIP [1] Funding (50%)**	**Required Matching Funds (50%)**	**Total Cost ($)**
Equipment Costs	$ 40,000.00	3	$ 60,000.00	$ 60,000.00	$ 120,000.00
Equipment Installation and Infrastructure	$ 15,000.00	3	$ 22,500.00	$ 22,500.00	$ 45,000.00
Total	$ 55,000.00	6	$ 82,500.00	$ 82,500.00	$ 165,000.00

[1] AIP- Airport Improvement Program

Total Cost Calculation			
Category	**AIP Funding (50%)**	**Required Matching Funds (50%)**	**Total Cost ($)**
Vehicles	$ 1,646,000.00	$ 1,646,000.00	$ 3,292,000.00
Refueling and Recharging Stations	$ 2,500.00	$ 82,500.00	$ 165,000.00
Technical Assistance, Design Fees, and Project Formulation [1]	$ 10,000.00	$ 10,000.00	$ 20,000.00
Totals	$ 1,738,500.00	$ 1,738,500.00	$ 3,477,000.00

[1] Not to exceed 10% of total vehicle costs

Project Cost Effectiveness Calculation			
Pollutant	**Total Project Cost (C)**	**Projected Emissions Reductions Over Useful Life of Project**	**Cost Effectiveness Over Useful Life of Project ($/ton)[1]**
Ozone (Nox + VOC)	$ 3,477,000.00	0.26136	13303489.44

[1] Total Project Cost Divided by Total Tons of Ozone

Funding costs above include matching funds from the FAA as shown in the AIP Funding columns. Emissions were calculated using the FAA's ZEV Grant Application tables as found on their website https://www.faa.gov/airports/environmental/zero_emissions_vehicles/

Tracy Montross
Regional Director
Government Affairs

Introduction

American Airlines is pleased to present the attached response in reference to the North Carolina's Department of Environmental Quality Request for Information. The Volkswagen Environmental Mitigation Trust (EMT) presents a unique opportunity for the state to leverage its resources in collaboration with American and our airport partners to reduce emissions at key airports and their surrounding communities throughout North Carolina.

As the world's largest airline, American Airlines ("American") operates an average of nearly 6,700 flights per day to nearly 350 destinations in more than 50 countries. American is the only carrier to serve the nine commercial airports in North Carolina, including Charlotte, Raleigh-Durham, Greensboro, Wilmington, Asheville, Pitt-Greenville, New Bern, Fayetteville and Jacksonville. Charlotte Douglas International Airport (CLT) is an important hub for American that serves more than 44 million passengers departing on 650 daily flights to 142 destinations to 28 countries last year. American is proud to employ nearly 14,000 people in North Carolina who contribute more than $14 billion to the state's economy from payroll, induced and indirect economic input.

American recognizes the impact that our operations have on the environment and we are focused on minimizing this impact while growing in a sustainable and responsible manner. Some of the initiatives we have implemented to reduce our environmental footprint include:

- *Aggressively retiring older aircraft and replacing them with new, more fuel-efficient aircraft.* By the end of 2017, American's fleet will be the youngest among the top U.S. network carriers with the average age less than 10 years. Compared to the aircraft they replace, the new aircraft improve fuel efficiency by up to 20 percent through new engines, increased use of lightweight composite materials, more efficient systems applications and modern aerodynamics.
- *Reducing fuel consumption through operational efficiency.* American's internal fuel conservation program identifies and implements initiatives to maximize fuel efficiency and reduce greenhouse gas (GHG) emissions. To date, the program helped American save more than 800 million gallons of fuel and reduce emissions by 7.8 million tons of carbon dioxide.
- *Replacing Ground Support Equipment* with new, more fuel-efficient ground support equipment, including alternative fuel and electric powered equipment. In 2010, US Airways procured thirty-eight electric baggage tractors to serve operations at Philadelphia International Airport. In just two years, more than 140,000 gallons of fuel have been avoided as a result of the operation of these electric baggage tractors.
- *Research and Development:* In 2012 American partnered with Boeing in its FAA-funded eco-Demonstrator program, using a brand new American aircraft to promote alternative fuel and noise reduction technologies. American also recently signed an agreement with Neste

Oil, the world's largest producer of renewable fuels, to collaborate in exploring opportunities to commercialize sustainable jet fuels and low emissions technologies.

American is committed to responsible environmental practices across all aspects of our operations. Indeed, American was an influential proponent of historical global agreements at the International Civil Aviation Organization (ICAO) that will significantly reduce international aviation CO2 emissions. American also contributed to efforts by the Federal Aviation Administration (FAA) to implement more efficient descent profiles and other airspace enhancements as part of the FAA's CLT-area "Metroplex" project. The FAA estimates that airlines will burn at least 4.2 million fewer gallons of fuel each year in the skies above Charlotte-Mecklenburg, thus reducing the impact of emissions on the communities below.

American has operated electric Ground Support Equipment (GSE) at Charlotte Douglas (CLT) since 2000. Most recently, American purchased 48 pieces of diesel GSE in CLT that meet the EPA's Tier 4 standards, the cleanest standard for diesel equipment. The State's support to replace another 348 vehicles through the EMT would enable a significant reduction of GSE-sourced emissions in a much shorter timeframe than would otherwise be possible. Replacing still-viable diesel GSE with new electric GSE made possible through the EMT would significantly reduce emissions and benefit all those who live, work or visit North Carolina.

American is also interested in partnering with local airports to request charging stations where EMT-eligible GSE can be replaced with electric vehicles. American is currently exploring opportunities to work with these four Airports for possible project cost sharing and/or collaboration. Airports across North Carolina recognize the importance of making investments in GSE renewal and share American's goal to reduce emissions and pollutions, which will improve the environment for airport and airline employees and the citizens who live and work in surrounding communities.

INFORMATION REQUESTED

SECTION 1 – Project Applicant Information

American Airlines Group, Inc. is a publicly-traded company, listed on the NASDAQ exchange (AAL) and is hereby responding to DEQ's Request for Information.

The contact person for this request is:

Tracy Montross, Regional Director of Government Affairs
American Airlines
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SECTION 2 – VW Program and Solicitation Design

1. **How should DEQ prioritize projects?**
   DEQ should prioritize projects so that funds are allocated for each project type to ensure that all industries and all segments of the identified project categories benefit from the investment. Projects that meet the below listed factors should be given a higher evaluation score, regardless of whether the request comes from a government or non-government entity. The percentage of funding should be based on a determination of the following factors:
   - Is the project identified as an applicable eligible mitigation project category and does it reduce diesel emission exposures in areas designated as poor air quality areas, areas with historical air quality issues, and areas that receive a disproportionate quantity of air pollution from diesel fleets?
   - Is the project cost-effective and does the applicant have experience with cost-effective thresholds?
   - Does the project applicant have demonstrated experience and programmatic structures in place to effectively and efficiently implement the project?
   - Does the project have partnerships in place that will help with efficiency and cost-savings? (For example, American envisions partnering with airport operators in integrated GSE electrification projects that will enable cost-effective investments in electric GSE).
   - Does the project align with the State's priority to invest in projects that can be implemented within three years of the award date?
   - Does the project benefit a locality that has already been designated by the state as a funding priority area?

2. **What is the anticipated demand for each eligible project type?**
   Given the lack of VALE funding that has been available specifically to airport authorities and airlines in North Carolina, there is significant pent-up demand within the industry to replace older airport GSE.

   As background, past grant opportunities for Airport GSE, such as those under the Diesel Emissions Reduction Act (DERA) or the Voluntary Airport Low Emissions Program (VALE), have only been available to governmental authorities, such as airport authorities, and unfortunately, airport authorities within North Carolina have not been awarded these grants since the program was created in 2004.

3. **The percentage of trust funds, if any, that DEQ should devote to Light Duty Zero Emission Vehicle Supply Equipment?**
   Access to supply equipment is critical for the success of any zero emission vehicle project. However, American believes trust funds should only be spent on Light Duty Zero Emission Vehicle Supply Equipment that supports funding for zero emission vehicles.

4. **What is the anticipated demand for specific types of diesel emission reduction projects not eligible under the VW settlement, but otherwise eligible under DERA or other state programs?**
   American anticipates little demand for diesel emission reduction projects not eligible under the VW Settlement of Airport GSE. Other types of projects, such as particulate filters and oxidation catalysts often require continued maintenance to be effective and do not provide the assured emissions reduction that is provided by electrification.

5. **Should a certain percentage of available VW funds be allocated to each eligible project type and if so how should that percentage be determined?**
   Yes. The funds should be allocated for each project type to ensure that all industries and all segments of the identified project categories benefit from the investment. Projects that meet the below listed factors should be given a higher evaluation score, regardless of whether the request comes from a government or non-government entity. The percentage of funding should be based on a determination of the factors listed in Question #1.

6. **Should a certain percentage of available Mitigation Trust funds be reserved for government projects?**
   Yes, but only to the extent that government project is equal to all other non-government project categories. A government project should not be given precedence simply because it is a government project, but should be held to the same criteria as a non-government agency project within a particular project category. Cost-effectiveness and speed of implementation capabilities should be factored when considering any proposed project.

7. **Should funds be geographically distributed, and if so, how?**
   Yes. The funds should be allocated for each project type and distributed throughout the whole of the State in order to ensure the benefits of the investment are realized throughout all North Carolina. However, as identified above in question number 5, the overarching goal should be to leverage the funds to best reduce pollution in critical non-attainment zones and zones at risk of becoming non-attainment, and no distributions should be made until the project has been scored against these criteria.

   North Carolina's main regions are identified as Western, Southwestern, Triad, Triangle, Eastern, and Southeastern. To the extent possible, DEQ should consider each region, whether there is a project opportunity in the region, and then allot investment funds based on population and air emissions levels.

8. **Should governmental entities be required to provide matching funds and if so, how much?**
   Government and non-government entities should be given the opportunity to provide matching funds. An entity's ability to provide matching funds or a partnership that allows for an expansion of the investment should be given greater consideration.

9. **Should DEQ establish a minimum project size, and if so, what size?**
   Yes, DEQ should establish a minimum project size. For electrification projects, establishing a minimum project size will help maximize the environmental benefit of the available funds. Smaller electrification projects will likely require that a greater portion of funding go to infrastructure, such as charger installation, instead of vehicle replacement. Larger electrification projects will likely be better able to utilize chargers which will allow for more funds to be spent on electric vehicles and result in greater emissions reductions.

10. **In addition to evaluating a proposed project's total cost effectiveness ($/ton), what other key factors should DEQ consider when evaluating projects?**
    Please review factors outlined above in Question 1.

11. **What other feedback do you have on project evaluation and/or scoring criteria?**
    Again, the factors identified above in question 1, which should be applied to all proposals and used as a basis for evaluating all projects, regardless of whether they are government or non-government projects.

12. **What publicly available tool(s) should be used to quantify anticipated emission reductions/offsets for eligible mitigation projects? What, if any, additional resources should be provided and made available?**
    The Environmental Protection Agency's Diesel Emissions Quantifier Tool (DEQT) is an easy to use, publically available tool for estimating diesel emissions.

13. **What methods could DEQ employ to reduce barriers and increase participation in future solicitations for projects?**
    American appreciates the transparency and the methods utilized by DEQ to communicate with stakeholders interested in this initiative and we urge DEQ to continue these efforts in all future solicitations.

14. **What information/resources would be most valuable for stakeholders interested in submitting projects and what is the best way to communicate those?**
    The greatest value to stakeholders interested in submitting projects is to ensure that requested information is clearly stated and that only the information that will be used to make funding decisions will be included in the request. American appreciates the opportunity to submit this response and commends DEQ for soliciting informational proposals as a way to help frame the investment. The VW mitigation investment presents a significant opportunity for North Carolina and the RFI process will better enable DEQ to understand the projects that are most important to the businesses and citizens of the Old North State. Thank you.

SECTION 3 – Project Summary

Project Information
Applicable Eligible Mitigation Project Category: American's proposed project is Category Seven, "Airport Ground-Support Equipment," as listed in Appendix D-2 of the Partial Consent Decree.

Project Summary
American Airlines proposes to replace 348 airport Ground Support Equipment (GSE) vehicles at four airports in North Carolina with electric GSE vehicles. The GSE vehicles we intend to replace are Tier 0-2 diesel and uncertified and are EMT-eligible for replacement in accordance with the VW Partial Consent Decree.

American's GSE replacement project would include the following airports:

- Charlotte Douglas International Airport (CLT)
- Raleigh-Durham International Airport (RDU)
- Central North Carolina International Airport (GSO)
- Wilmington International Airport (ILM)

American has conducted initial outreach to authorities at each of these airports about supporting infrastructure for electric GSE equipment, and we expect each airport will support needed change to utilize EMT.

GSE is used to transfer baggage between airport terminals, load and unload baggage from the aircraft, and push or tow aircraft. This equipment is utilized in the operation on a daily basis and throughout the year to service various aircraft in the fleet. Replacing current GSE equipment with all-electric equipment is particularly impactful because diesel GSE is left idling, especially during winter months, to ensure that it is ready for operation whenever needed. Electric vehicles have no such operational issues or emissions. American first operated electric vehicles in North Carolina in 2000, and now has a fleet of 129 electric vehicles, with the majority of those located at Charlotte Douglas International Airport.

Eligible Diesel GSE to be replaced

	Bag Tractor	Belt Loader	Pushout	Total
CLT	199	106	8	313
RDU	12	7	2	21
GSO	1	4	-	5
ILM	4	4	1	9
				348

American will take appropriate steps to ensure that any unused engines and other equipment are scrapped in accordance with the VW Partial Consent Decree. This will include requiring contracted vendors to provide American with verification that the engines have been scrapped in such a way that they are inoperable and cannot be reassembled.

Project Detail

Information on Eligible Verified or Certified Diesel Emission Reduction Technologies
Existing Ground Support Equipment will be replaced with 348 all-electric powered GSE at four airports in North Carolina. These new electric GSE vehicles will require approximately 348 additional charging stations.

Benefit of Emission Reduction to the Airport communities that have been disproportionately impacted by NOx and other pollutants.
North Carolina's investment in new emissions-free electric equipment for the airlines will also provide several health benefits to the greater population around these airports and their downwind communities. American estimates that the above mentioned airports and their neighboring regions, which include Central Piedmont, the Triad, Triangle, and Cape Fear Region will benefit from a reduction in NOx emissions of 203.4 tons annually. The greatest reduction in NOx and other emissions will occur at CLT in Mecklenburg County, which is listed by the U.S. Environmental Protection Agency as marginal nonattainment for the 8-hour ozone (2008) National Ambient Air Quality Standards (NAAQS). The project will also eliminate local NOx emissions and other emission at RDU in Wake County and GSO in Guilford County, which are counties that are close to the minimum nonattainment threshold for the 8-hour ozone NAAQS, according to the DEQ website with the most recently available data on North Carolina Counties with 8-hour ozone violations (2011-2013).

Capabilities to Manage and Implement a Diesel Reduction Project
American has more than 15 years of experience in managing the purchase, deployment, and maintenance of new electric GSE vehicles at airports within North Carolina and throughout the United States. American's largest fleet of GSE within North Carolina is at CLT, where we have operated electric GSE since2000. Our fleet management experience also includes grant-enabled emissions reduction projects. For example, American is currently using state funding to replace diesel powered buses as Los Angeles International Airport with lower emitting natural gas powered buses. American replaced 38 diesel and gasoline powered GSE with electric GSE at Philadelphia International Airport with funding from VALE and additional state AFIG grants. This was a two phase project that required extensive coordination and communication with not only internal departments, but also external parties, including the airport authority, to deploy the new electric GSE and install sufficient electric GSE charging equipment. At our largest hub at Dallas/Fort Worth International Airport, American has purchased, deployed and managed electric GSE vehicles for the past 20 years. Its current fleet of 600 vehicles is one of the largest electric GSE fleets in the country.

Vendors

American will comply with all North Carolina public contracting laws and North Carolina's Public Procurement policies by selecting suppliers for electric GSE and charging equipment. American strives to source the best quality products and services to provide to our customers. This effort extends to the purchase of electric GSE vehicles and supporting charger equipment. As part of our procurement procedures, we:

- Evaluate products and services on their merits, giving fair and impartial consideration to all suppliers
- Award contracts based on the highest quality and best delivery combined with the most competitive cost to the corporation
- Review the performance of our suppliers and contractors to enhance their ability to provide products and services that exceed industry standards
- Ensure inclusion of diverse companies in procurement opportunities

In accordance with its company policy, American and its employees always act with integrity, treat others with respect, and ensure every decision is made to the highest ethical standards. American strives to conduct business with suppliers that embrace these same values. American's Standards of Business Conduct for Suppliers clarifies the minimum expectations for workplace standards and ethical business practices that all airline suppliers must comply with before doing business with American.

Project Timeline

Appendix A includes a project timeline of key events for this proposed project.

Capital and Project Costs

American has already identified and priced the vehicles it would like to deploy for this project. The project cost estimates below are preliminary and may change as the project scope is refined. In addition, American is currently exploring opportunities with North Carolina's airports for possible project cost sharing and/or collaboration. The table below shows the estimated project cost for type of vehicle as well as total estimated cost:

	Cost Per Vehicle			
Equipment Type	**Est'd Vehicle Cost**	**Project Vehicles**	**Est' Total Project Cost**	**VW Funding at 75%**
Bag Tractors	$55,000	216	$11,800,000	$8,910,000
Belt Loaders	$65,000	121	$7,865,000	$5,898,750
Pushout Tractors	$230,000	11	$2,530,000	$1,897,500
ZEV Chargers	$15,000	348	$5,220,000	$3,915,000
Administrative Costs				$2,062,125

Expected Proposed Project Benefits

	NOx (lb)	PM2.5 (lb)	CO2 (ton)
Annual Emissions Reduction	406,800	45,280	12,252
Project Emissions Reduction	1,921,340	175,000	94,734
Cost per Unit of Project Emissions Reduction			
CLT	$11.5	$126.8	$233.2
RDU	$17.8	$178.8	$376.0
GSO	$11.8	$135.2	$234.6
ILM	$11.8	$130.1	$231.2
TOTAL	$11.8	$129.6	$239.4

APPENDIX A

High-Level Timeline of Key Events for Electric GSE Project

Based on American's more than 20 years of experience in managing the purchase, deployment and maintenance of new GSE vehicles at airports both in North Carolina and throughout the United States, we anticipate utilizing the following timeline.

Months 0 to 3

- Receive project funding notification from the North Carolina Mitigation Trust
- Obtain internal funding for remaining un-funded portion of project
- Validate that vehicles from American's existing electric GSE vehicle vendors will meet the needs of station requirements
- Develop delivery schedule for new equipment
- Order electric GSE equipment and charging equipment
- Notify airport authorities of electrical needs
- Develop training, safety, and maintenance plans for new vehicles
- Assess maintenance and spare part needs for new vehicles
- Develop phase-in plans for new GSE vehicles by station
- Develop plan for decommissioning replaced equipment
- Identify vendor for equipment destruction or develop destruction procedures if needed

Months 3 to 6

- Complete assessment of electrical capabilities at facilities
- Finalize site selection for charging equipment
- Order and take delivery of needed maintenance and spare parts
- Train airport personnel on operation and appropriate safety procedures for new equipment
- Train maintenance personnel on new equipment maintenance procedures
- Begin infrastructure work for charging equipment

Months 6-12

- Complete infrastructure needed for chargers
- Complete charger installation
- Take delivery of GSE and complete delivery inspection
- Log GSE data into internal database
- Establish restriction parameters for electric GSE in database to ensure funding requirements are met (for example, limits of movement)
- Begin equipment operation
- Decommission replaced equipment
- Complete destruction of decommissioned equipment
- Maintain documentation of destruction

Airlines for America®

We Connect the World

December 22, 2017

Submitted via email to daq.NC_VWGrants@ncdenr.gov

Phyllis Jones, Engineer
Brian Phillips, Environmental Program Supervisor III
North Carolina Department of Environmental Quality
217 West Jones St.
Raleigh, NC 27603

Re: Request for Information Volkswagen Consent Decree Environmental Mitigation Trust Project Ideas

Dear Ms. Jones and Mr. Phillips:

Airlines for America® ("A4A") would like to thank the North Carolina Department of Environmental Quality ("DEQ") for the opportunity to comment on the State's use of the Volkswagen Consent Decree Environmental Mitigation Trust funds and recommend that the State include projects that replace or repower airport ground support equipment with all-electric forms ("GSE projects") as an eligible mitigation action in its Beneficiary Mitigation Plan.

A4A is the principal trade and service organization of the U.S. airline industry.[1] A4A and its airline members have a strong record of advancing environmental goals, including actively supporting efforts to achieve and maintain clean air, while also driving economic growth. For example, emissions from the commercial aviation sector constitute less than two percent of domestic greenhouse gas emissions nationally and have had much slower growth from 1990 levels (5%) compared to the transportation sector overall (17%) and on-road sources in particular (24%).[2] At the same time, our industry drives the national and state economies. In North Carolina, commercial aviation contributed over $26.1 billion in economic output and supported over 241,000 jobs in 2012.[3]

[1] A4A's members are: Alaska Airlines, Inc., American Airlines, Inc., Atlas Air, Inc., Federal Express Corporation, Hawaiian Airlines, JetBlue Airways Corp., Southwest Airlines Co., United Continental Holdings, Inc., and United Parcel Service Co. Air Canada, Inc. is an associate member.
[2] *See* U.S. Environmental Protection Agency, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2014 (April 2016), Table A-115. Moreover, this lower rate of growth is from a much smaller base.
[3] Federal Aviation Administration, The Economic Impact of Civil Aviation on the U.S. Economy: Economic Impact of Civil Aviation by State (2015), available at https://www.faa.gov/air_traffic/publications/media/2015-economic-impact-report.pdf. Nationally, commercial aviation drives 10.2 million U.S. jobs, $1.5 trillion per year in economic activity and 5 percent of U.S. gross domestic product.

U.S. airlines have achieved this level of simultaneous economic and environmental performance because we have relentlessly pursued and implemented technology, operational, and infrastructure measures to minimize our environmental impact. Among these measures, A4A member airlines have proactively worked with airports around the country to reduce emissions through cost-effective electrification of GSE. The United States and California have recognized the significant contribution GSE electrification can provide by naming it as an "Eligible Mitigation Action" that qualifies for funding from the Environmental Mitigation Trust ("Trust") established under the Volkswagen Consent Decree.

In accordance with the Consent Decree, A4A member airlines are well positioned to assist the State in making cost-effective, sustained emissions reductions in areas that bear a disproportionate share of the air pollution burden in North Carolina. GSE projects are often located in areas that receive a disproportionate quantity of air pollution from diesel fleets simply because airports are major hubs of economic activity. Moreover, because GSE are only operated on airport grounds, the State will have confidence in knowing that when it funds GSE projects the emissions benefits will be realized exclusively in that priority area. Additionally, emissions reductions from GSE projects will improve air quality not only for the surrounding residents but for workers on airport grounds as well.

GSE projects are also cost-effective. Member airlines have unlocked state grant funds with cost-effectiveness thresholds in the past,[4] and that experience readies them to propose equally cost-effective projects to make real differences in the local air quality surrounding airports in Indiana.

Similarly, member airlines and the airports they partner with have demonstrated experience and programmatic structures in place to effectively and efficiently implement GSE projects to reduce emissions. Member airlines have experience with the Federal Aviation Administration's Voluntary Aircraft Low Emissions ("VALE") Program, the Carl Moyer Program, and other state and local programs, and have implemented their qualifying projects effectively and efficiently. Securing funding from the Trust for GSE electrification will allow the airlines to realize similar air quality benefits for communities across North Carolina.

Our member airlines recognize that as non-government entities they will have to share the capital costs of replacing airline-owned GSE with all-electric alternatives. To be sure, electric GSE cannot be deployed without supporting infrastructure such as onsite power distribution and sufficient point of use recharging equipment, which typically is owned and operated by airport operators. As such, airlines envision partnering with airport operators in integrated GSE electrification projects that will enable cost-effective investments in electric GSE. Considering airports in North Carolina are usually owned by local governments, A4A encourages DEQ to incorporate clear funding mechanisms and programs to accommodate this real-life scenario, as airports will not likely invest in infrastructure without demand and airlines will not purchase electric GSE without guaranteed supporting infrastructure.

A4A also recommends that North Carolina use non-competitive funding programs to disburse the Trust funds to the various categories of projects. GSE projects are a cost-effective, long-term solution to mitigate nitrogen oxide emissions, but competitive grant processes are often prohibitively risky for GSE projects. Airline budgetary plans require higher levels of certainty throughout the planning process than competitive grants can guarantee. On the other hand, vouchers and rebates provide airlines the certainty necessary to invest resources in planning for equipment acquisition and in coordinating with airports to secure associated infrastructure. Reducing risk and streamlining the disbursement of Trust funds are especially important for our members who intend to continue to promote emissions reductions across the nation through investment in GSE projects under the Trust.

[4] *See e.g.*, Carl Moyer Program Guidelines (2011), Appendix G, available at https://www.arb.ca.gov/msprog/moyer/guidelines/current.htm.

Lastly, A4A urges North Carolina to carefully consider allocation of funds to the DERA Option. The requirements projects must meet to fulfill program requirements under DERA decrease the scope of projects that could possibly be funded through the Trust. Projects that may not fit within the project criteria of DERA may nonetheless effectively reduce emissions. North Carolina should not limit the types of projects applicants can use by over-allocating funds to the DERA Option.

* * * * *

Thank you for your consideration. Please let us know if you have any questions regarding our comments, and we look forward to working with DEQ and the State moving forward.

Sincerely,

Veronica Bradley
Manager
Environmental Affairs
Airlines for America

CC: Bobby Walston, Aviation Director, North Carolina Department of Transportation, bwalston@ncdot.gov

PROJECT APPLICANT INFORMATION

Charlotte Douglas International Airport

Contacts: Amy Harris / Kaitlyn Relyea – Aviation Finance - Capital Projects

Government entity – Enterprise fund of the City of Charlotte, NC

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VW PROGRAM AND SOLICITATION DESIGN QUESTIONS

How should DEQ prioritize projects?

> Projects that have potential to provide highest quality impacts to as large a demographic as possible should be highest priority, ie: city populations should be of higher priority than rural, and public entities should be of higher priority than smaller reaching stakeholders.

What is the anticipated demand for each eligible project type?

> The demand for the projects the Airport is interested in pursuing would be high. The Airport is currently preparing to purchase various fleet vehicles, as well as traditional gas-fueled small equipment in the next fiscal year. The vehicles to be purchased impact the traveling public directly which drives a higher demand.

The percentage of trust funds, if any, that DEQ should devote to Light Duty Zero Emission Vehicle Supply Equipment?

> No input here. Focus should be on greatest potential emission impact regardless of size of project.

What is the anticipated demand for specific types of diesel emission reduction projects not eligible under the VW settlement but otherwise eligible under DERA or other state programs?

> Contingent upon the approval of funding, not only the purchase of emission reduction vehicles would be pursued, additional supporting infrastructure would be required as well. This would increase demand beyond simply the one-time purchase of fleet vehicles and small equipment, but also provide long-term benefits and create future demand for emission reduction projects.

Should a certain percentage of available VW funds be allocated to each eligible project type and if so how should the percentage be determined?

> No input here. Focus should be on greatest potential emission impact regardless of type of project.

Should a certain percentage of available Mitigation Trust funds be reserved for government projects?

> Absolutely, in order to provide equal benefit to a majority of the population, government projects must be prioritized. If 100% of the Trust funds were to be utilized by private stakeholders, the impact will be minimized.

Should funds be geographically distributed, and if so how?

> Definitely, in order to provide maximum benefit, the funds should be distributed based on population, as well as the size of the stakeholder's carbon foot-print.

Should governmental entities be required to provide matching funds and if so, how much?

> The Airport would certainly be willing to provide a local match, similar to Airport Improvement Program grants we currently receive from the FAA, which is a 75% / 25% split.

Should DEQ establish a minimum project size and if so, what size?

> No, any project that can provide some level of environmental mitigation should be considered.

In addition to evaluating a proposed project's total cost effectiveness ($/ton), what other key factors should DEQ consider when evaluating projects?

> The number of public users that will be reached by a project should be considered in order to provide maximum benefit. Additionally, the frequency of a projects' use by the public should be considered.

What other feedback do you have on project evaluation and/or scoring criteria?

> No input here.

What publicly available tool(s) should be used to quantify anticipated emission reductions/offsets for eligible mitigation projects? What, if any, additional resources should be provided and made available?

> No input here.

What methods could DEQ employ to reduce barriers and increase participation in future solicitations for projects?

> More widespread advertisement of the program, as well the process for seeking participation.

What information/resources would be most valuable for stakeholders interested in submitting projects and what is the best way to communicate those?

> Once defined, clearly defined eligibility requirements should be made available so that stakeholders are able to apply internal decision making processes prior to application.

Section 3: Submitting Your Project Information

See attached spreadsheet for information

VIN #	Year	Equipment Type	VW Grant Category	Estimated Cost	Status	Geographic Area	Fleet Type	Mitigation Action	Emission reduction/offset technology to be used	Operating Impact	Matching Funds
84184	2018	FORD F150 P/U TRUCK	9. Light Duty (LD) zero emiss	$ 5,000.00	Factory Ordered Propane Ready	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
84185	2018	FORD F150 P/U TRUCK	9. Light Duty (LD) zero emiss	$ 5,000.00	Factory Ordered Propane Ready	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
83489	2017	FORD TRANSIT VAN	9. Light Duty (LD) zero emiss	$ 5,000.00	Factory Ordered Propane Ready	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
83707	2017	FORD F 250	9. Light Duty (LD) zero emiss	$ 5,000.00	Factory Ordered Propane Ready	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
83699	2017	FORD F250 TRUCK	9. Light Duty (LD) zero emiss	$ 5,000.00	Factory Ordered Propane Ready	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
83700	2017	FORD F250 TRUCK	9. Light Duty (LD) zero emiss	$ 5,000.00	Factory Ordered Propane Ready	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
83701	2017	FORD F250 TRUCK	9. Light Duty (LD) zero emiss	$ 5,000.00	Factory Ordered Propane Ready	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
83704	2017	FORD TRANSIT VAN	9. Light Duty (LD) zero emiss	$ 5,000.00	Factory Ordered Propane Ready	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
83705	2017	FORD TRANSIT VAN	9. Light Duty (LD) zero emiss	$ 5,000.00	Factory Ordered Propane Ready	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
83706	2017	FORD F350 TRUCK	9. Light Duty (LD) zero emiss	$ 5,000.00	Factory Ordered Propane Ready	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
83805	2017	FORD F 350 TRUCK	9. Light Duty (LD) zero emiss	$ 5,000.00	Factory Ordered Propane Ready	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
83979	2017	FORD F 750 BOX TRUCK	9. Light Duty (LD) zero emiss	$ 5,000.00	Factory Ordered Propane Ready	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
83702	2017	FORD F 150 P/U	9. Light Duty (LD) zero emiss	$ 5,000.00	Factory Ordered Propane Ready	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
83708	2017	FORD F 250 P/U	9. Light Duty (LD) zero emiss	$ 5,000.00	Factory Ordered Propane Ready	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
83709	2017	FORD F 150	9. Light Duty (LD) zero emiss	$ 5,000.00	Factory Ordered Propane Ready	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
83563	2017	FORD F250	9. Light Duty (LD) zero emiss	$ 5,000.00	Factory Ordered Propane Ready	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
83564	2017	FORD F250	9. Light Duty (LD) zero emiss	$ 5,000.00	Factory Ordered Propane Ready	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
83703	2017	FORD F 350 TRUCK	9. Light Duty (LD) zero emiss	$ 5,000.00	Factory Ordered Propane Ready	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
82970	2016	FORD F350 UTILITY BED	9. Light Duty (LD) zero emiss	$ 5,000.00	Plan to Convert to Propane	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
82971	2016	FORD F350 TRUCK	9. Light Duty (LD) zero emiss	$ 5,000.00	Plan to Convert to Propane	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
82972	2016	FORD F350 TRUCK	9. Light Duty (LD) zero emiss	$ 5,000.00	Plan to Convert to Propane	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
82973	2016	FORD F350 TRUCK	9. Light Duty (LD) zero emiss	$ 5,000.00	Plan to Convert to Propane	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
82976	2016	FORD F250 UTILITY BED	9. Light Duty (LD) zero emiss	$ 5,000.00	Plan to Convert to Propane	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
82977	2016	FORD F250 UTILITY BED	9. Light Duty (LD) zero emiss	$ 5,000.00	Plan to Convert to Propane	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
82978	2016	FORD F250	9. Light Duty (LD) zero emiss	$ 5,000.00	Plan to Convert to Propane	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
82979	2016	FORD F250 UTILITY BED	9. Light Duty (LD) zero emiss	$ 5,000.00	Plan to Convert to Propane	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
82980	2016	FORD F250	9. Light Duty (LD) zero emiss	$ 5,000.00	Plan to Convert to Propane	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
82990	2016	FORD TRANSIT VAN	9. Light Duty (LD) zero emiss	$ 5,000.00	Plan to Convert to Propane	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
82991	2016	FORD TRANSIT VAN	9. Light Duty (LD) zero emiss	$ 5,000.00	Plan to Convert to Propane	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
83006	2016	FORD F250 P/U TRUCK	9. Light Duty (LD) zero emiss	$ 5,000.00	Plan to Convert to Propane	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
83007	2016	FORD F250 P/U TRUCK	9. Light Duty (LD) zero emiss	$ 5,000.00	Plan to Convert to Propane	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
83008	2016	FORD F250 P/U TRUCK	9. Light Duty (LD) zero emiss	$ 5,000.00	Plan to Convert to Propane	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
83009	2016	FORD F250 P/U TRUCK	9. Light Duty (LD) zero emiss	$ 5,000.00	Plan to Convert to Propane	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
82682	2016	FORD F250 PICKUP TRUCK	9. Light Duty (LD) zero emiss	$ 5,000.00	Plan to Convert to Propane	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
82683	2016	FORD F250 PICKUP TRUCK	9. Light Duty (LD) zero emiss	$ 5,000.00	Plan to Convert to Propane	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
82983	2016	FORD F 250 UTILITY BED	9. Light Duty (LD) zero emiss	$ 5,000.00	Plan to Convert to Propane	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
82984	2016	FORD F 250 UTILITY BED	9. Light Duty (LD) zero emiss	$ 5,000.00	Plan to Convert to Propane	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
82985	2016	FORD F 250 UTILITY BED	9. Light Duty (LD) zero emiss	$ 5,000.00	Plan to Convert to Propane	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
82986	2016	FORD F 250 UTILITY BED	9. Light Duty (LD) zero emiss	$ 5,000.00	Plan to Convert to Propane	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
82987	2016	FORD F 250 UTILITY BED	9. Light Duty (LD) zero emiss	$ 5,000.00	Plan to Convert to Propane	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
82988	2016	FORD F 250 UTILITY BED	9. Light Duty (LD) zero emiss	$ 5,000.00	Plan to Convert to Propane	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
82989	2016	FORD F 250 UTILITY BED	9. Light Duty (LD) zero emiss	$ 5,000.00	Plan to Convert to Propane	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
83013	2016	FORD F 250 UTILITY BED	9. Light Duty (LD) zero emiss	$ 5,000.00	Plan to Convert to Propane	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
83031	2016	FORD F 450 UTILITY BED	9. Light Duty (LD) zero emiss	$ 5,000.00	Plan to Convert to Propane	CLT Airport	Airport	Engine Repower	Propane	Yes, fuel costs, maintenance, etc.	Discretionary Cash
				$ 220,000.00							