

COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF ENERGY RESOURCES (DOER)
Judith Judson, Commissioner

PON-ENE-2015-028



PROGRAM OPPORTUNITY NOTICE (PON)
MA Clean Vehicle Project
Battery Electric Buses with Wireless Charging

DOER Issues PON	May 4, 2015
PON Response	First applied first reviewed until funds are committed

1. Introduction

The Massachusetts Department of Energy Resources (DOER) and the Massachusetts Clean Cities Coalition have long been at the forefront of efforts to diversify the types of motor fuels used in the Commonwealth, and to reduce greenhouse gas emissions from the transportation sector. In keeping with our efforts to lessen the use of, and dependence upon, petroleum based products as a motor fuel, and reduce greenhouse gas emissions, DOER is announcing a Program Opportunity Notice (PON) to encourage the replacement of diesel buses with battery powered electric busses to be recharged via inductive charging (*i.e.*, wireless charging).

This program will use the Congestion Mitigation and Air Quality (CMAQ) improvement program sponsored by the U.S Department of Transportation's Federal Highway Administration. The CMAQ program provides funding through the federal government for surface transportation projects which result in improvements to air quality and roadway congestion mitigation. The main goal is to reduce emissions in areas designated as "nonattainment" and "maintenance" areas for criteria air pollutants. The Clean Vehicles Program proposes to replace a variety of vehicles over a cross section of fleets in the Commonwealth.

2. Agency

The DOER is the state agency whose mandate includes the analysis and development of policies and programs to ensure that Massachusetts' transportation sector is aware of and adopting, alternative technologies and fuels available for vehicles today. To that end, DOER strives to create a clean energy future for the Commonwealth, which makes sense both economically and environmentally, with goals including:

- Accelerating the deployment of clean alternative fuel vehicles.
- Increasing the awareness of what technologies are available today.
- Working with fleets in the electric vehicle sector.
- Developing pilot programs to support the integration of electric vehicles into the grid (V2G).
- Providing information about the various alternative fuels and technologies to both public and private fleets.
- Reducing the consumption of petroleum fuels in the transportation sector
- Reducing the amount of CO₂ in the transportation sector
- Reducing the barriers preventing effective electric vehicle infrastructure, paving the way for expanded use of electric powered transportation.

3. Purpose of the PON

Wireless Charging

There is now proven technology that can provide electric buses to be powered by smaller batteries and eliminate the need to charge for an extended period of time at one location. This is done through wireless charging embedded in the ground installed on a bus route. Resonance Inductive Power Transfer is an example of one technology for relatively efficient wireless power transfer at rates and gap geometries sufficient for recharging of heavy duty vehicles like buses.

The purpose of this PON is to replace diesel or gasoline powered shuttle buses with battery electric shuttle buses that also use wireless charging. The funding can be used toward shuttle bus replacement or retrofit, as well as the cost for the installation of wireless charging equipment.

This PON has been developed to for bus operators to bid on the use of wireless charging technology. Care will be taken to match the technology with the route so it will provide a model example of this technology. This bus route must be a fixed route. Buses can be new buses or, depending on the age of the bus, the engines could be removed and a new electric drive installed. The infrastructure for charging is to be installed along the set route.

Available Grant Funding

Total funding available for this PON is \$2,250,000.00. For this PON, each selected grant recipient will be awarded up to a maximum of \$750,000. Grant payment shall be made at the completion of the wireless charging equipment installation and the bus(es) is placed into service. All awarded grant projects must be completed within two years of award date. If the total requested funding for all projects exceeds the available funding then funding will be based on date received and completeness of application. DOER reserves the right to limit the number of vehicles requested.

4. Procurement

Respondents may not alter PON language or any PON component files. Those submitting a proposal must respond in accordance to the PON directions and complete only those sections that prompt a respondent for a response. Modifications to the body of this PON, specifications, terms and conditions, or which change the intent of this PON are prohibited. Any unauthorized alterations will disqualify a response.

In accordance with 815 CMR 2.00 et seq., any applicant that is selected to receive a grant pursuant to this PON will be required to execute a Commonwealth Standard Contract and Standard Terms and Conditions Forms prior to receiving funds.¹ Applicants should carefully review these forms prior to submitting an application. The contract will also establish project specific terms and conditions and detail the terms of payment. To be considered for funding, applicants must supply a list of all costs associated with the project.

Massachusetts Public Records Law: All proposals and information submitted in response to this PON are subject to the Massachusetts Public Records Law, M.G.L., Chapter 66, Section 10, and Chapter 4, Section 7, Subsection 26. Any statements in submitted proposals that are inconsistent with these statutes shall be disregarded.

No Guarantee of Resulting Contract: The Commonwealth and DOER make no guarantee that an award will result from this PON or that any particular funding level will be awarded. All contracts shall be subject to available funding, whether through the appropriation and authorization of sufficient funds or the receipt of sufficient revenues.

Costs: By submitting a response, respondents agree that any cost incurred in responding to this PON, or in support of activities or presentations associated with this PON, shall be the sole responsibility of the submitting respondent. DOER shall not be held responsible for any costs incurred by respondents in preparing their respective responses to this PON.

Review Rights: DOER reserves the right to have a review performed of any and all responses to this PON, including materials presented at any presentations. Said review may be conducted by, but is not limited to, officials in DOER or any Massachusetts state agency and any independent consultants retained by DOER.

5. Recipient Responsibilities

- Coordinate with a vendor that provides alternative fuel vehicles, conversions, charging stations, or technologies.
- Submit a request for reimbursement that includes pertinent invoice and backup documentation, including proof of destruction of replaced vehicle that confirms the purchase of the alternative fuel vehicle.
- Use and maintain the alternative fuel or technology for a minimum of Five (5) years. Should the alternative fuel technology be taken out of service, scrapped, or

¹ The forms are available at the following locations: <http://www.mass.gov/osc/docs/forms/contracts/comm-termsconditions.pdf>; and <http://www.mass.gov/osc/docs/forms/contracts/standard-contract-frm.pdf>.

transferred or sold out-of-state prior to the lapse of the five-year period, DOER would be reimbursed for a prorated amount of the grant awarded to the public or private entity.

- Submit fuel savings from alternative fuel technologies installed or deployed.
- In the case of a bus engine retrofit, the original gas or diesel engine must be rendered permanently inoperable.
- The selected grant recipient is responsible for compliance with all competitive procurement principles and guidelines. The Contract will require proof of a competitive procurement process by the selected grant recipient prior to payment.
- Company or public entity personnel shall be trained to operate the alternative fuel vehicles.
- Project must be completed within 2 years of the award date.
- All awards are subject to strict adherence to the Federal Highway Administration’s **Title 23**. See APPENDIX

This includes but is not limited to the following sections:

- **Sec. 313 “Buy American,” and**
- **Sec. 113 “Prevailing Wage”**

6. Proposal Requirements

The following are requirements for the project proposal:

1. All proposals must include the Mandatory Criteria Chart below with an attached brief narrative addressing each point:

(A NO ANSWER WILL ELIMINATE APPLICANT)

	ITEM	YES	NO
A.	Must either operate the vehicle in a commercial operation, or in a public fleet, and used on a regular basis		
B.	Applicant must demonstrate the ability to fund the balance of the vehicles cost		
C.	Applicant must sign a state contract and therefore must be in compliance with all applicable terms and conditions		
D.	Recipient must provide Fuel savings report yearly.		

2. All proposals must include an explicitly mapped out bus route including planned timing and stops.

3. All proposals must include specifications of wireless EVSE appropriate for use with the vehicles listed above, including but not limited to the following:

General Specifications

- Charging Power Output
 - Charging Input Voltage
 - Input Power Connections
 - Recommended Service Panel Breaker
 - Parking Pad Maximum Wheel Load
 - Nominal Gap
 - Ground Clearance
 - Vehicle Interface
 - Foreign Object Detection
 - Vehicle Guidance
 - Enclosure Ratings
 - Operating Temperature
 - Approximate Weight
4. All proposals must include a detailed breakdown of all costs including, but not limited to, the cost of vehicles and/or retrofits, the cost of charging infrastructure and installation, a breakdown of any subcontractors and their costs, and all cost-share from any and all partners. The cost projections must be submitted within the application as well as in a separate excel file within the electronically submitted version. The grantee must do their own competitive procurement for all technology used in this program.
 5. All proposals must complete the AFLEET tool, found at https://greet.es.anl.gov/afleet_tool, to determine the Fuel and Energy savings by replacing a conventional fuel powered bus with an electric bus. The AFLEET Tool tables must be submitted annually to DOER for a five-year period following the completion of the project, within two months of the close of the previous calendar year.
 6. All proposals must include a schedule with a project start and end date and a timeline, or Gantt chart, with milestones to complete the project. Projects that are replacing a bus currently in service will receive preferential treatment in the evaluation of this proposal.
 7. Partnerships must be fully described in the proposal and must include letters of support detailing each of the participating entities financial commitment to the project. For projects that will involve work in a public way that is owned by or otherwise under the care, custody, and control of a public entity (*e.g.*, municipality, Commonwealth agency, etc.), the proposal shall include documentation confirming that the applicable public entity will allow the proposed

project to be installed in the public way. Public entities are encouraged to partner with and submit joint applications with one or more of the involved municipalities in which the proposed project is to be located. The joint application must detail each public entity's roles and responsibilities for owning, operating, and maintaining the equipment for the proposed project.

8. All proposals must include a detailed applicant profile and resumes from the primary project manager and project staff.
9. All proposals must include details of what entity will own and maintain the equipment, including an equipment disposition plan. This plan must detail who will take ownership and operation of the equipment should the applicant become insolvent.

7. General Instructions

- A. In .pdf format, please provide the on the cover sheet of your response: Name, Address, and primary contact for this PON and email address along with contact phone numbers followed by:
 - A description of your company and the basis of your expertise in offering a response to this PON.

Please submit (a) three bound hard copies of the application and (b) an electronic copy, in the specified format above, to the contact person listed below.

- B. All questions must be submitted to MassDOER, care of Michelle Broussard by email at michelle.broussard@state.ma.us
- C. Questions and answers will be periodically posted on the Massachusetts DOER website.
- D. Response Submissions. All responses will be first come first served until funds are committed or May 1, 2016 whichever comes first..
- E. Additional Information. DOER retains the right to request additional information from respondents, either individually or from all submitting vendors. DOER may, at its sole discretion, elect to request formal presentations from certain vendors of the products or services detailed in their response submissions.
- F. Contact Information: Please direct all communications, questions, and responses to the following contact:

Contact:	Michelle Broussard Department of Energy Resources 100 Cambridge Street, Suite 1020 Boston, MA 02114
Telephone:	(617) 626-7377
E-mail:	michelle.broussard@state.ma.us
PON Name:	MA Grants: Clean Vehicle Battery Electric Vehicles
PON File Number:	PON-ENE-2015-028

APPENDIX

- **Title 23.** <http://www.fhwa.dot.gov/legsregs/title23.pdf>
- All awards are subject to strict adherence to **Title 23**, including but not limited to:
- **Title 23 Sec. 313:**
 - (a) Notwithstanding any other provision of law, the Secretary of Transportation shall not obligate any funds authorized to be appropriated to carry out the Surface Transportation Assistance Act of 1982 (96 Stat. 2097) or this title and administered by the Department of Transportation, unless steel, iron, and manufactured products used in such project are produced in the United States.
 - (b) The provisions of subsection (a) of this section shall not apply where the Secretary finds - (1) that their application would be inconsistent with the public interest;
 - (2) that such materials and products are not produced in the United States in sufficient and reasonably available quantities and of a satisfactory quality; or
 - (3) that inclusion of domestic material will increase the cost of the overall project contract by more than 25 percent.
 - (c) For purposes of this section, in calculating components' costs, labor costs involved in final assembly shall not be included in the calculation.
 - (d) The Secretary of Transportation shall not impose any limitation or condition on assistance provided under the Surface Transportation Assistance Act of 1982 (96 Stat. 2097) or this title that restricts any State from imposing more stringent requirements than this section on the use of articles, materials, and supplies mined, produced, or manufactured in foreign countries in projects carried out with such assistance or restricts any recipient of such assistance from complying with such State imposed requirements.
 - (e) Intentional Violations. - If it has been determined by a court or Federal agency that any person intentionally -
 - (1) affixed a label bearing a "Made in America" inscription, or any inscription with the same meaning, to any product used in projects to which this section applies, sold in or shipped to the United States that was not made in the United

States; or (2) represented that any product used in projects to which this section applies, sold in or shipped to the United States that was not produced in the United States, was produced in the United States; that person shall be ineligible to receive any contract or subcontract made with funds authorized under the Intermodal Surface Transportation Efficiency Act of 1991 pursuant to the debarment, suspension, and ineligibility procedures in subpart 9.4 of chapter 1 of title 48, Code of Federal Regulations.

(f) Limitation on Applicability of Waivers to Products Produced in Certain Foreign Countries. - If the Secretary, in consultation with the United States Trade Representative, determines that -

(1) a foreign country is a party to an agreement with the United States and pursuant to that agreement the head of an agency of the United States has waived the requirements of this section, and

(2) the foreign country has violated the terms of the agreement by discriminating against products covered by this section that are produced in the United States and are covered by the agreement, the provisions of subsection (b) shall not apply to products produced in that foreign country.

(g) Application to Highway Programs. - The requirements under this section shall apply to all contracts eligible for assistance under this chapter for a project carried out within the scope of the applicable finding, determination, or decision under the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.), regardless of the funding source of such contracts, if at least 1 contract for the project is funded with amounts made available to carry out this title.

○ **Title 23 Sec. 113.** Prevailing rate of wage:

(a) The Secretary shall take such action as may be necessary to insure that all laborers and mechanics employed by contractors or subcontractors on the construction work performed on highway projects on the Federal-aid highways authorized under the highway laws providing for the expenditure of Federal funds upon Federal-aid highways, shall be paid wages at rates not less than those prevailing on the same type of work on similar construction in the immediate locality as determined by the Secretary of Labor in accordance with sections 3141-3144, 3146, and 3147 of title 40.

(b) In carrying out the duties of subsection (a) of this section, the Secretary of Labor shall consult with the highway department of the State in which a project on any Federal-aid highway is to be performed. After giving due regard to the information thus obtained, he shall make a predetermination of the minimum wages to be paid laborers and mechanics in accordance with the provisions of subsection (a) of this section which shall be set out in each project

advertisement for bids and in each bid proposal form and shall be made a part of the contract covering the project.

(c) The provisions of the section shall not be applicable to employment pursuant to apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting equal employment opportunity in connection with Federal-aid highway construction programs.