



REQUESTS FOR PROPOSALS

for Plug-in Electric Vehicles and Infrastructure

A way to increase the use and adoption of plug-in electric vehicles (PEVs) is for entities to enter Requests for Proposals (RFPs) to help them procure the technology. An RFP is meant to present the preliminary requirements for a commodity, in this case PEVs or supporting infrastructure, such as charging stations. An RFP is a way for entities, who have decided that PEVs or PEV charging infrastructure will meet their requirements, to ensure that the vendors they hire can provide them with exactly what they need. The purpose of this document is to provide local officials with guidance and best practices for preparing a successful RFP for either a PEV or PEV-related charging infrastructure.

RFPs for PEVs

Types of PEVs

There are several PEVs on the market today and it is important to consider precisely which type will best suit the needs of the organization.

Battery Powered Vehicle (BEV):

- A highway-capable vehicle that operates completely on battery power and does not take any other type of fuel.
- Example: Nissan LEAF

Plug-In Hybrid Electric Vehicle (PHEV):

- A highway-capable vehicle that operates primarily utilizing a battery powered motor, but has a backup gasoline engine as well.
- Example: Chevy VOLT

Neighborhood Electric Vehicle (NEV):

- A vehicle designed to travel up to 45 mph, which operates exclusively by a battery-powered motor.

Vehicle Features

PEVs, like normal vehicles, come with many different features, and there are some features that potential PEV owners should consider prior to purchase, such as:



Smart Phone Connectivity

Does the driver want to access the vehicle through their smart phone so they can remotely:

- Start and stop charging
- Start and stop air conditioning and heat while the vehicle is still plugged-in (to save vehicle range)
- Check vehicle's available range

GPS Features

Does the driver want the vehicle to have a built-in GPS to be able to:

- Get directions and access maps of publicly available infrastructure
- Have these maps periodically updated as more charging infrastructure is installed
- Remember certain sites (home, work, etc.) previously utilized for charging

DC Fast Charge Capability

- DC Fast charge technology is beginning to become more common throughout the country. This technology can bring PEVs up to 80 percent of their battery charge within 30 minutes (but charging levels and times vary depending on the PEV). Not all PEVs have DCFC ports and standards vary between vehicles.



State Contract Availability

Depending on the standards and procedures of your organization, it may be necessary that a PEV intended for purchase be available on the State Vehicle Contract for your particular state. Additional information regarding these contracts varies by state, but should be available to view online. If this is something which your organization desires, it is vital to include it in your RFP.

Cost

The initial cost of PEVs is often seen as a barrier to their adoption. Total cost of ownership is an extremely important factor for organizations to consider, and should be included in the RFP. However, this high up-front cost can have a reasonable payback period when compared to internal combustion engine vehicles. Federal incentives, as well as the offset of fuel prices, can greatly reduce the payback period for the cost difference between these vehicles.

RFPs for Electric Vehicle Charging Stations

Minimum Recommendations

It is recommended that public charging stations be at a minimum:

- Certified by a National Recognized Testing Laboratory
- Commercial grade
- Compliant with the SAE J1772 plug interface or compatible DCFC connector standard

Ability to Add Communications Technology

In order to ensure that the charging stations installed today are relevant in the future, it is important to consider communications and payment technologies that may eventually be needed. Some questions to answer while the RFP is being written include:

- Is it preferred that communications be hard-wired or wireless?
- Do the stations need to have the ability to accept payment now or in the future?
- Do the stations have the ability to collect charging data that could be significant to monitoring PEV charging behavior?
- Is there any other specific technology your organization may need?

Contractor Selection

It is crucial that the contractor fully understands the installation costs and needs prior to finalizing the proposal, as even a small misunderstanding can end up adding significantly to the installation cost.

Additional Resources: State Contracts

Vehicle contracts are available for many state agencies and are often also available for political subdivisions. There are many different categories that apply for vehicles, and each may have their own list.

- For the most applicable list visit: www.doa.state.nc.us/pandc/070a.pdf
- For information in North Carolina, visit: www.doa.state.nc.us/pandc/keyword.asp

It is also vital to ensure that the contractor can have access to the site prior to the installation in order to assess the installation area. If the site chosen isn't properly assessed prior to the installation, it is possible that hidden costs could reveal themselves later in the process. To see more

specific information, please review the Charging Station Installation Handbook.

Americans with Disabilities Act Compliance

It is important to have full knowledge of the Americans with Disabilities Act (ADA) regulations that affect your chosen electric vehicle charging station location, and to make sure that ADA compliance is a requirement listed in your RFP.

Codes and standards that govern accessibility can vary depending on which codes the Authority Having Jurisdiction (AHJ) for the facility have adopted. Whether the charging stations are part of a state or local government facility, a public accommodation/commercial facility, or a private business can also make a difference in which regulations must be followed. Accessibility requirements are generally governed by three standards:

- The International Building Code (IBC);
- The American National Standards Institute's (ANSI) Standard A117.1 "Accessible and Usable Building and Facilities"
- The U.S. Department of Justice (DOJ) 2010 ADA Standards for Accessible Design

The AHJ may establish requirements that are more stringent than the general standards, and that AHJ is typically responsible for enforcement of ADA requirements.

Please refer to the PEV Planning Toolbox Article "Accessibility for Public Charging Stations" for additional information and for specific requirements applicable to installations in North Carolina.

Proposed Cost

Cost is an extremely important factor to consider when searching for electric vehicle charging station installation. The average cost of installing a commercial AC Level 2 charging unit, for use by the public, employees or fleet vehicles, is typically between \$1,500 and \$15,000. There are two main factors that must be included in the total cost:

- Electric vehicle supply equipment (EVSE)
- Ancillary equipment/installation services

Typical Installation Costs & Installation Options (EVSE not included)		
Commercial Install	Avg Install Cost (per unit)	Avg Install Cost (per cord)
Wall Mount	\$2,109	\$2,109
Pedestal Mount	\$2,875	\$2,875
Dual Pedestal Mount	\$4,129	\$2,064
Optional		
Wheel Stops (each)		\$250
Bollards (each)		\$500
Engineering (per station) ²		\$1,000
Notes: ¹ Number of installations estimated or performed of this type ² Assumes site specific engineering drawings are available		

Source: NC PEV Roadmap

Durability & Warranty Lengths

Other factors seen in RFPs are the infrastructure’s durability and warranty lengths. Organizations would like to install infrastructure that is durable and able to withstand extreme weather conditions in order to limit future maintenance costs and needs. They’d also like the infrastructure to be warranted. The warranty period of the infrastructure has great potential to limit future costs if durability fails, and should be included for considerations.

It is also important to note that organizations have the right to request specific warranty lengths and durability criteria by detailing these requirements within the RFP.

Sample Request for Proposal Outline: Vehicles

1. Statement of Problem and Project Objectives
 - a. Description of PEV
 - b. Supporting documentation
 - What types of PEVs are accepted?
 - What makes a vehicle superior to other choices (range, safety, size, etc)?
 - What benefits should it provide?
 - c. Objectives
2. Administrative Information
 - a. Respondent qualifications
 - b. Clarification and information
 - c. Requests
 - d. Scheduled meeting information
 - e. Potential respondents
 - f. Proposal selection criteria
 - g. Other administrative information
3. Cost Requirements
 - a. Pricing delineation
 - What cost is acceptable?
 - b. Cost justification
 - c. Alternative solutions cost analysis
4. Required Deliverables
 - a. Vehicle information
 - b. Vehicle benefits
 - c. Must the vehicle be available on the state contract?
 - d. Warranty
5. Submission and Decision Schedules
 - a. Final date for proposal submission
 - b. Expected date of selection
 - c. Schedule for completion of work

Sample Request for Proposal Outline: Electric Vehicle Supply Equipment

Statement of Problem and Project Objectives

1. Statement of problem and project objectives
 - a. Description of EVSE (charging infrastructure)
 - b. Supporting documentation
 - What types of EVSEs are accepted?
 - What benefits should it provide?
 - c. Objectives
2. Administrative Information
 - a. Respondent qualifications
 - b. Clarification and information
 - c. Requests
 - d. Scheduled meeting information
 - e. Potential respondents
 - f. Proposal selection criteria
 - g. Other administrative information
3. Technological Requirements
 - a. Certified by a National Recognized Testing Laboratory
 - b. Commercial grade
 - c. Compliant with the SAE J1772 plug interface
 - d. Ability to add communication technology
4. Cost Requirements
 - a. Pricing delineation
 - What cost is acceptable?
 - b. Cost justification
 - c. Alternative solutions cost analysis

5. Referenced Documents

- a. Standards
- b. ADA compliance
- c. AJH adherence
- d. Others (IBC, ANSI, DOJ)
- e. Product literature

6. Required Deliverables

- a. EVSE information
- b. EVSE features
- c. Warranty and durability

7. Submission and Decision Schedules

- a. Final date for proposal submission
- b. Expected date of selection
- c. Schedule for completion of work



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