

South Portland City Council  
***Position Paper of the City Manager***

***Subject:***

**ORDER #148-13/14 - Authorizing the City Manager to execute (i) an electric vehicle grant matching agreement with Central Maine Power Company, and (ii) an electric vehicle charging station agreement with the American Lung Association of the Northeast, both in order to facilitate the installation and maintenance of public electric vehicle charging station infrastructure on City property. Passage requires majority vote.**

***Position:***

The City has been selected to receive a DC Fast Charging Unit for electric vehicles (EV) from Nissan via the American Lung Association of the Northeast with an approximate value between \$15,000 - \$30,000 and a \$10,000 grant from Central Maine Power (CMP) for the cost of installation.

The EV charging unit will be installed at the Community Center along with a Level 2 charging unit. The DC Fast Charging Unit will allow an EV to be charged from 0% to 80% in approximately 30 minutes. The City was one of only two locations selected in Maine as of this date.

***Requested Action:***

Council passage of ORDER #148-13/14.

  
City Manager



CITY OF SOUTH PORTLAND

GERARD A. JALBERT  
Mayor

JAMES H. GAILEY  
City Manager

SUSAN M. MOONEY  
City Clerk

SALLY J. DAGGETT  
Jensen Baird Gardner & Henry

**IN CITY COUNCIL**

**ORDER #148-13/14**

District One  
MICHAEL R. POCK

\_\_\_\_\_

District Two  
PATRICIA A. SMITH

\_\_\_\_\_

District Three  
MELISSA E. LINSOTT

\_\_\_\_\_

District Four  
LINDA C. COHEN

\_\_\_\_\_

District Five  
GERARD A. JALBERT

\_\_\_\_\_

At Large  
MAXINE R. BEECHER

\_\_\_\_\_

At Large  
THOMAS E. BLAKE

**ORDERED**, that the City Manager be and hereby is authorized to execute (i) an electric vehicle grant matching agreement with Central Maine Power Company, and (ii) an electric vehicle charging station agreement with the American Lung Association of the Northeast, both in order to facilitate the installation and maintenance of public electric vehicle charging station infrastructure on City property; and

**BE IT FURTHER ORDERED**, that the City Council hereby accepts a \$10,000 grant from Central Maine Power to be used for the electric vehicle charging station.

\$10,000 shall be credited to CMP Revenue Account #202435-435008-15513.

Fiscal Note: \$10,000 - Revenue

Dated: May 5, 2014

**ELECTRIC VEHICLE MATCHING GRANT AGREEMENT**  
**between**  
**Central Maine Power Company**  
**and**  
**The City of South Portland**

This Matching Grant Agreement, hereinafter referred to as "Agreement", is made this 30<sup>th</sup> day of April, 2014 between Central Maine Power Company, hereinafter referred to as "CMP," and the City of South Portland, hereinafter referred to as "GRANTEE".

**RECITALS**

WHEREAS, CMP has designed an electric vehicle matching grant program in accordance with Paragraph V (B) (6) of the May 7, 2010 Stipulation in Docket No. 2008-255, as approved by the Maine Public Utilities Commission, which states that the Maine Power Reliability Program "will include a process for pilot projects to facilitate the increased use of hybrid and electric cars in Maine, and to promote the storage of renewable and other energy generated off-peak to replace fuels with greater climate impacts;"

WHEREAS, CMP wants to increase the use of hybrid and electric cars in Maine and to promote the storage of renewable and other energy generated off-peak to replace fuels with greater climate impacts;

WHEREAS, GRANTEE wants to participate in the vehicle grant program by installing public charging station infrastructure on its property and acting as a host site to maintain its accessibility.

NOW, THEREFORE, in consideration of the mutual promises and conditions listed below, it is hereby agreed between CMP and GRANTEE as follows:

**GRANT TERMS AND CONDITIONS**

1. Obligations to be Performed Under this Agreement.

GRANTEE shall perform all of the obligations described in this Agreement and set forth in the STATEMENT OF GRANT OBLIGATIONS, which is attached hereto as **Attachment A** (*Statement of Grant Obligations*) and incorporated herein by this reference.

GRANTEE agrees to furnish required licenses, permits, fees, and other appropriate legal authorization from all applicable federal, state, and local jurisdictions necessary to perform and complete the obligations described herein.

2. Time of Performance.

This Agreement shall commence on the date of signing by the GRANTEE and CMP and shall remain in effect for no longer than two (2) years, except for those obligations specified in Section 10, Indemnification.

GRANTEE shall have completed the tasks described in **Attachment A** (*Statement of Grant Obligations*), within 90 days of the full execution of this Agreement, unless otherwise noted in Attachment A.

3. Grant Funding.

CMP hereby agrees to provide matching funds to GRANTEE in an amount up to the amount expended by GRANTEE, not to exceed \$10,000 toward the cost of completing the tasks described in **Attachment A** (*Statement of Grant Obligations*). GRANTEE shall invoice CMP in accordance with **Attachment B** (*Grant Invoice Payment*). GRANTEE shall provide CMP any information necessary to verify the accuracy of the invoice, including evidence of the amount of private funding expended to match CMP's grant award. CMP will pay GRANTEE within thirty days of receipt of GRANTEE's invoice.

4. Non-Partnership.

This Agreement is not intended by the parties to constitute or create a joint venture, pooling arrangement, or formal business organization of any kind. The rights and obligations of the parties shall be only those expressly set forth herein.

5. Status of GRANTEE.

GRANTEE and GRANTEE's subcontractors shall perform all services under this Agreement as independent contractors and not as employees, officers or agents of CMP.

6. Records.

GRANTEE shall keep and provide to CMP or its agents upon request, accurate financial records (including invoices and

published price lists on which this Agreement was based) necessary to enable CMP to review GRANTEE's performance of this Agreement. These records shall demonstrate the grant funding has been used for the completion of the tasks described in **Attachment A** (*Statement of Grant Obligations*). GRANTEE shall maintain all such records for at least three years after the termination of this Agreement.

7. Grant Reporting.

GRANTEE may be required to submit report(s) to CMP in accordance with the schedule and format specified in **Attachment A** (*Statement of Grant Obligations*). Should GRANTEE fail to submit any required reports to CMP, GRANTEE shall make the charging station funded by this Agreement available for on-site monitoring by CMP for the term of the Agreement. Such on-site monitoring shall not relieve GRANTEE of its obligation to submit all required reports.

8. Audit and Review.

CMP or its agents shall have the right to audit and review the records identified in Section 6 (*Records*), above, maintained by GRANTEE pursuant to the terms of this Agreement to the extent necessary to verify the grant has been used in accordance with the terms of this Agreement. Any such audit and review will be conducted by CMP or, at GRANTEE's option and expense, by a mutually acceptable third party.

9. Insurance.

GRANTEE shall purchase and maintain a policy of commercial general liability insurance in at least the amount of Four Hundred Thousand Dollars (\$400,000) per occurrence for causes of action pursuant to the Maine Tort Claims Act, and will be increased from time to time, if required to meet the maximum coverage provisions of the Maine Tort Claims Act, as it may be amended, and in at least the amount of One Million Dollars (\$1,000,000) per occurrence and Two Million Dollars (\$2,000,000) in the aggregate for causes of action pursuant to federal law or State law for which immunity is not provided under the Maine Tort Claims Act. Such insurance shall include contractual liability insurance. Nothing in this Agreement is intended, or shall be construed, to constitute a waiver of any defense, immunity or limitation of liability that may be

available to GRANTEE, its officers, agents and employees, pursuant to the Maine Tort Claims Act or as otherwise provided by law.

All insurance must be in effect before CMP will issue the grant. For all insurance, the GRANTEE must deliver an industry-recognized certificate of insurance evidencing the amount and nature of the coverage, the expiration date of the policy and stating that the policy of insurance issued to GRANTEE will not be cancelled or changed without prior written notice to CMP within such period of time as is reasonable under the terms of the insurance policy.

Also where applicable, such certificate of insurance shall evidence CMP as an additional insured. The GRANTEE shall submit such certificates of insurance annually to CMP as evidence that it has maintained all required insurance.

GRANTEE is responsible for determining whether the above minimum insurance coverages are adequate to protect its interests.

10. Indemnification.

The GRANTEE agrees to indemnify CMP against any claim or cause of action arising out of or related to GRANTEE's use of the grant for the commissioning, use and decommissioning of the charging station but only with respect to liability caused, in whole or in part, by the acts, conduct or omissions of GRANTEE. This indemnification shall be capped at the limits of insurance as referenced in Section 9.

11. Title to Charging Station.

Title to, and risk of loss of, any charging station funded by this Agreement shall at all times vest in and with GRANTEE. GRANTEE acknowledges that CMP did not supply, design or manufacture any charging station funded by this Agreement. CMP specifically disclaims all warranties, express and implied, including the implied warranties of merchantability and fitness for the intended purpose, as to the charging station field tests. In no event shall CMP be liable to GRANTEE or any third party for any direct, indirect, consequential, special, incidental, or punitive damages for the design, manufacture, operation, maintenance, performance, or demonstration of the charging station under any theory, including but not limited to, tort, contract, breach of warranty, or strict liability.

12. Termination.

a) CMP. CMP may, in its sole discretion, terminate this Agreement for convenience by giving thirty (30) days prior written notice to GRANTEE. GRANTEE shall not incur any unnecessary expenses or costs which are reimbursable under this Agreement during this period except those absolutely necessary to close out all activities related to the Agreement. Any other charges incurred by GRANTEE during this period will not be compensated by CMP unless approved in writing by CMP.

CMP may also terminate this Agreement for cause should GRANTEE default in the performance of this Agreement or materially breach any of its provisions provided that CMP provides GRANTEE with prior written notice of its intent to terminate this Agreement, specifying the condition giving rise to such right, and GRANTEE shall not have caused to be cured the condition giving rise to the right of termination within thirty (30) days after such notice or, in the case of a failure which is not by its nature capable of being cured within thirty (30) days, if GRANTEE fails to take action to cure the breach within said thirty (30) days and fails to prosecute the curing of the same diligently to completion. Such termination shall be by written notice. CMP may seek whatever legal, equitable, and other remedies available under State law for the GRANTEE's failure to comply and fully perform under the Agreement.

b) GRANTEE. GRANTEE may terminate its obligation under this Agreement for good cause, provided that GRANTEE shall reimburse CMP for the Grant funding specified in Section 3 (*Grant Funding*), as follows:

| <u>Termination Date</u> | <u>Reimbursement Due to CMP</u> |
|-------------------------|---------------------------------|
| Prior to acquisition    | 100 percent of Grant Funding    |
| Year 1 of acquisition   | 50 percent of Grant Funding     |
| Year 2 of acquisition   | 20 percent of Grant Funding     |

GRANTEE's notice of termination shall be in writing and shall be effective upon completion of the terms of this section. Such notice shall terminate GRANTEE's obligation under Sections 1 (*Obligations to be Performed Under this Agreement*) and 2 (*Time of Performance*) of this Agreement.

13. Taxes.

GRANTEE shall be responsible for payment of all taxes due as a result of the Agreement.

14. Project Logos.

At the option of CMP, GRANTEE shall allow the placement of a CMP logo or appropriate signage on or near the charging station. The placement will be determined mutually by CMP and GRANTEE.

15. Remedies Not Exclusive.

No remedy herein conferred upon or reserved to CMP or GRANTEE is intended to be exclusive of any other remedy or remedies, and each and every such remedy, to the extent permitted by law, shall be cumulative and in addition to any other remedy given hereunder or now or hereafter existing at law or in equity or otherwise.

16. Waivers.

The waiver by either party to this Agreement of any term, covenant, or condition of this Agreement or of any provision, ordinance, or law, shall not be deemed to be a continuing waiver of such term, covenant, condition, or law, or of any subsequent breach or violation of the same, or of any other term, covenant, or ordinance of law.

17. Amendment.

This Agreement may only be amended in writing executed by CMP and GRANTEE.

18. Maine Law to Apply.

This Agreement shall be construed under and in accordance with the laws of the State of Maine except any choice of law rule that may direct the application of the laws of any other state or jurisdiction.

19. Assignment.

This Agreement shall not be assigned by GRANTEE without the prior written consent of CMP. In the event GRANTEE desires to sell, lease, or otherwise transfer the charging station funded by this Agreement, GRANTEE shall promptly notify CMP and shall provide the potential buyer or other transferee with a copy of this Agreement. The buyer or other transferee must agree in writing to abide by the terms of this Agreement prior to GRANTEE closing any such sale, lease or other transfer.



20. Grant Agreement Integrated.

This Agreement represents the entire and integrated Agreement between CMP and GRANTEE and supersedes any and all other negotiations, representations, and/or agreements, either oral or in writing, between the parties hereto with respect to the subject matter hereof, and no other agreement, statement or promise relating to the subject matter of this Agreement which is not contained herein shall be valid or binding.

21. Conflicts Between Grant Agreement and Incorporated Attachments.

To the extent that any provisions in any of the attachment(s) which are incorporated into this Agreement by reference conflict with any provision contained in this Agreement, the provision of this Agreement shall take precedence and govern.

22. Unusual Circumstances.

The parties shall be excused from performing their respective obligations in the event they are prevented from performing so by reason of circumstances beyond their control, including, but not limited to, strikes and other labor disputes, wars, civil commotion, natural calamity, fire, equipment breakdown or failures. In the event of any delay described above, the time for performance may be extended by mutual agreement for a period equal to the length of the delay.

23. Point of Contact.

All notices referenced in this Agreement shall be in writing and shall be given by first class mail addressed as follows, or at such other address or to such other person that the parties may from time to time designate in writing:

**GRANTEE**

James H. Gailey  
City Manager  
City of South Portland  
25 Cottage Road  
South Portland, ME 04106

**CMP**

Adam Cutter  
Central Maine Power  
83 Edison Drive  
Augusta, ME 04336

24. Asset Maintenance.

GRANTEE will maintain and operate any charging station funded by this Agreement according to manufacturer's recommendations.

This Grant Agreement between Central Maine Power Company and the City of South Portland was executed on the day and year first above written.

**Central Maine Power Company**

By: 

Date: 4/30/2014

City of South Portland

By: \_\_\_\_\_

Date: \_\_\_\_\_

**ATTACHMENT A**  
**STATEMENT OF GRANT OBLIGATIONS**

1. Sign agreements with American Lung Association of the Northeast, who is donating the Nissan DC Quick Charge (DCQC) level 3 charger, electrician and any other installation service provider within thirty days from the full execution of this document.
2. Provide CMP with proof of delivery of the Nissan DCQC unit.
3. Take possession of the Nissan DCQC charging station within ninety days from the full execution of this document.
4. Operate and maintain the charging station in a responsible manner. For example, comply with all manufacturer's recommended services and maintenance.
5. Operate and maintain the charging station at a physical location that is visible and that allows it to be publicly accessible.
6. Pay all costs of ownership and operation of the charging station.
7. Agree to cooperate with CMP and Nissan USA in the co-promotion of the charging station for a period of up to two years. Allow CMP to apply signage that includes the owner's logo, CMP's logo and that the charging station is sponsored by CMP.
8. Agree to cooperate with CMP in the collection of operation and user feedback data for a period of up to two years, providing CMP with requested data within a reasonable time but no later than sixty (60) days after such a request is made.

**ATTACHMENT B**  
**GRANT INVOICE PAYMENT**

GRANTEE shall invoice CMP as follows:

Provide CMP with a copy of any and all invoices or costs associated with purchasing and installing the Nissan DCQC charging station.

The invoice(s) should include:

- A list of each item purchased and/or each service paid for, along with each associated cost.
- The name and address of any companies or individuals that were involved in the installation of the charging station.

Invoices should be sent via e-mail to:

Shelley Morris ([Shelley.morris@cmpco.com](mailto:Shelley.morris@cmpco.com))

Or via mail to:

Central Maine Power  
Electric Vehicle Grant Program  
Attn: Shelley Morris  
83 Edison Drive  
Augusta, ME 04336

**DC QUICK CHARGER LEVEL 3 AGREEMENT**  
**between**  
**American Lung Association of the Northeast**  
**and**  
**City of South Portland**

This DC Quick Charger Level 3 Agreement, hereinafter referred to as "Agreement", is made this \_\_\_\_ day of April, 2014 between the American Lung Association of the Northeast, hereinafter referred to as "ALANE" and City of South Portland, hereinafter referred to as "South Portland".

**RECITALS**

WHEREAS, ALANE is a member of the Maine Electric Vehicle Alliance and a participant in Central Maine Power's Electric Vehicle Pilot 2B ("the Pilot"):

WHEREAS, ALANE recognizes the beneficial effect of electrified transportation as a solution to the environmental, economic and public health impacts stemming from the use of fossil fuel;

WHEREAS, ALANE has acquired a DC Quick Charge Level 3 Unit ("DCQC") directly from a source supplier ("Source Supplier") by separate agreement and as part of the Pilot;

WHEREAS, ALANE agrees to convey ownership of a DCQC "AS IS" to South Portland for no consideration other than the terms and conditions contained herein;

WHEREAS, South Portland agrees to install and maintain the DCQC as part of the Pilot and make it publicly accessible in return for acquiring ownership of the Unit.

NOW, THEREFORE, in consideration of the mutual promises and conditions listed below, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, it is hereby agreed between ALANE and South Portland as follows:

**GRANT TERMS AND CONDITIONS**

1. Obligations to be Performed Under this Agreement.

Within the time specified in Section 2 (*Time of Performance*), ALANE and South Portland shall perform all of the obligations described in this Agreement.

South Portland agrees to timely obtain all required licenses, permits, and other appropriate legal authorization from all applicable federal, state, and local jurisdictions, and to make payment and fully satisfy all fees and other assessments associated with the foregoing, as are necessary to perform and complete the obligations described herein.

After obtaining and satisfying the foregoing, South Portland shall present to ALANE any documentation ALANE shall reasonably request as proof of the suitability of the installation site, and, upon confirming the validity of the documentation provided, and only after ALANE has determined the suitability of the site (in its sole and absolute discretion), ALANE will direct its Source Supplier to arrange for the shipment and delivery of the DCQC to any reasonable location requested by South Portland.

South Portland agrees that it shall assume all costs of installation and all ongoing maintenance, that the DCQC is being accepted "as is", and that the charger shall be made publicly accessible and available for public use.

2. Time of Performance

This Agreement shall commence on the date of signing by South Portland and ALANE. Both Parties understand that time is of the essence and shall perform their obligations with due diligence and, unless otherwise agreed upon in writing: (i) South Portland shall provide ALANE with a properly issued and signed permit from applicable state or local permitting authorities (as the case may be) for the applicable install site of the DCQC prior to May, 2014; and (ii) South Portland shall cause the DCQC to be installed and fully operational by June, 2014.

3. Non-Partnership.

This Agreement is not intended by the parties to constitute or create a joint venture, partnership, pooling arrangement, or formal business organization of any kind. The rights and

obligations of the parties shall be only those expressly set forth herein.

4. Status of South Portland.

South Portland and South Portland's contractors shall perform all services under this Agreement as independent contractors and not as employees, officers or agents of ALANE. Any person or entity performing the installation of the DCQC shall be fully licensed, insured and bonded with respect to the performance of such installation.

5. Indemnification.

South Portland agrees to defend, indemnify and hold ALANE and its DCQC Source Supplier harmless from and against any and all damages, liabilities, losses, claims, causes of action and expenses arising out of or related to the installation, operation or maintenance of the DCQC but only with respect to liability caused, in whole or in part, by the acts, conduct or omissions of South Portland. This Section 5 shall survive indefinitely.

6. Title to Charging Station; Maintenance.

Title to, and risk of loss of, the charging station provided by this Agreement shall upon delivery pursuant to Section 1 and 2 hereof, vest in and with South Portland. South Portland acknowledges that ALANE did not design or manufacture any charging station provided by this Agreement, and that the DCQC is being provided "as is", ALANE specifically disclaims all warranties, express or implied, including the implied warranties of merchantability and fitness for the intended purpose, as to DCQC. In no event shall ALANE be liable to South Portland or any third party for any direct, indirect, consequential, special, incidental, or punitive damages for the design, manufacture, operation, maintenance, performance, or demonstration of the charging station under any theory, including but not limited to, tort, contract, breach of warranty, equity or strict liability.

South Portland shall be solely responsible for maintaining the DCQC in suitable operating condition for the reasonable operational life-expectancy of the DCQC.

7. Termination.

Either Party may terminate this Agreement for cause should the other Party default in the performance of this Agreement or materially breach any of its provisions provided that the Party provides the breaching Party with prior written notice of its intent to terminate this Agreement, specifying the condition giving rise to such right, and the breaching Party shall not have caused to be cured the condition giving rise to the right of termination within thirty (30) days after such notice or, in the case of a failure which is not by its nature capable of being cured within thirty (30) days, if the breaching Party fails to take action to cure the breach within said thirty (30) days and fails to prosecute the curing of the same diligently to completion. Such termination shall be by written notice. Either Party may seek whatever legal, equitable, and other remedies available under State law for the breaching Party's failure to comply and fully perform under the Agreement, subject to Section 5 hereof.

8. Taxes.

South Portland shall be responsible for payment of all taxes due as a result of the Agreement.

9. Remedies Not Exclusive.

No remedy herein conferred upon or reserved to either Party is intended to be exclusive of any other remedy or remedies, and each and every such remedy, to the extent permitted by law, shall be cumulative and in addition to any other remedy given hereunder or now or hereafter existing at law or in equity or otherwise.

10. Waivers.

The waiver by either party to this Agreement of any term, covenant, or condition of this Agreement or of any provision, ordinance, or law, shall not be deemed to be a continuing waiver of such term, covenant, condition, or law, or of any subsequent breach or violation of the same, or of any other term, covenant, or ordinance of law.



11. Amendment.

This Agreement may only be amended in writing executed by the Parties.

12. Maine Law to Apply.

This Agreement shall be construed under and in accordance with the laws of the State of Maine, without regard to its conflict of law provisions.

13. Agreement Integrated.

This Agreement represents the entire and integrated Agreement between the Parties and supersedes any and all other negotiations, representations, and/or agreements, either oral or in writing, between the parties hereto with respect to the subject matter hereof, and no other agreement, statement or promise relating to the subject matter of this Agreement which is not contained herein shall be valid or binding.

14. Assignment. This Agreement shall not be assignable without the assigning party first obtaining the express written consent of the non-assigning party, which consent shall not be unreasonably withheld, conditioned or delayed.

15. Counterparts. This Agreement may be executed in multiple counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. In the event that any signature is delivered by facsimile transmission, such signature shall create a binding obligation of the party executing (or on whose behalf such signature is executed) the same with the same force and effect as if such facsimile signature were the original thereof.

This Agreement between American Lung Association of the Northeast and South Portland was executed on the day and year first above written.

**American Lung Association of the Northeast**

By: \_\_\_\_\_

Name: \_\_\_\_\_

Date: \_\_\_\_\_

**City of South Portland**

By: \_\_\_\_\_

Name: James H. Gailey, City Manager, South Portland

Date: \_\_\_\_\_

## Public/Commercial DC Fast Charge Stations



# Charge smarter. Drive farther.

**AeroVironment is the exclusive distributor of Nissan's DC fast charge station.**

The Nissan DC Quick Charger allows you to charge your electric vehicle from 0% to 80% in about 30 minutes\*, ideal for public or commercial/fleet applications.



### STANDARD FEATURES

- › Standard CHAdeMO connector
- › Input power: 480V, 3 phase, 50/60Hz
- › Rated output power: 44kW
- › Dimensions: 72"H x 15"W x 28"D (approximate)
- › UL Listed
- › One year limited warranty
- › LCD user interface screen
- › Exposed, outdoor weather rated enclosure (NEMA 3R)

### INSTALLATION AND MAINTENANCE OPTIONS

- › Site technical feasibility report
- › Full turn-key installation service available through AV
- › Construction management services
- › Final commissioning services
- › Maintenance services

### MODEL OPTIONS

- › Cold Weather Package option (-22°F to 104°F)
- › Cellular Network Capabilities (optional)
  - Access control
    - RFID fobs
    - Remote authorization
  - User and charge session length data

**Request a quote: [www.nissanqc.com](http://www.nissanqc.com)**

\*Based on 24kWh Nissan LEAF battery

**AeroVironment™ EV Solutions™**

181 W. Huntington Dr., Suite 202, Monrovia, CA 91016 P. 888. 833.2148 F. 626.359.9628 [www.evsolutions.com](http://www.evsolutions.com) [ev@avinc.com](mailto:ev@avinc.com)



# Public/Commercial DC Fast Charge Stations Specifications

| Technical Specifications   |  | Model NSQC442E |
|--|--|----------------|
| <b>Input</b>   |  |                |
| Fixed Input Voltage  | 480 VAC +/- 15% 3 phases   |                |
| Input Power  | 50 kVA   |                |
| Power Factor   | > 95%  |                |
| Input Frequency  | 50/60 Hz +/- 5%  |                |
| Total Harmonic Distortion (THD)                                    | less than 5% rated output  |                |
| Efficiency   | > 90%  |                |
| Input Current  | 54 A @ 480 VAC   |                |
| <b>Output</b>  |  |                |
| Output Voltage Range   | 50 - 500 V DC  |                |
| Output Current Range   | 0 to 120 A DC  |                |
| Maximum Output Power   | 44 kW  |                |
| Cable/Connector  | CHAdEMO compliant, conforms to JEVS G 105-1993   |                |
| Cable Length   | 13.1 feet  |                |
| Cable Management   | Cord grip handle and stowage hook  |                |
| <b>Dimensions (housing only)</b>                                   |  |                |
| Depth  | 27.6"  |                |
| Width  | 15.0"  |                |
| Height   | 72.4"  |                |
| <b>Weight (Unit only, as shipped)</b>                              |  |                |
| Charge Station / Charge Station with Crate                         | 590 lbs / ~790 lbs with crate  |                |
| <b>Mechanical</b>  |  |                |
| Cooling  | Forced air   |                |
| De-energization on Cable Breakaway                                 | Yes  |                |
| <b>Environmental Conditions</b>                                    |  |                |
| Installation Placement   | Outdoor  |                |
| Enclosure Rating   | Rain Proof (UL2202) / NEMA 3R  |                |
| Operating Temperature Range (standard)                             | +14°F to +104°F  |                |
| Operating Temperature Range - with cold weather package (optional) | -22°F to +104°F  |                |
| Operating Humidity   | 30% to 90% RH  |                |
| Elevation  | Installed at < 3,280 ft  |                |
| Atmosphere   | Free of corrosive or flammable gas   |                |
| RoHS   | All elements are RoHS compliant  |                |
| Operational Noise Level  | < 65 dBA (39.4" away, 39.4" in height)   |                |
| <b>Standards and Certifications</b>                                |  |                |
| Safety for Electric Vehicle (EV) Charging System Equipment         | UL 2202  |                |
| Personnel Protection Systems for EV Charging Circuits              | UL 2231-1 and UL-2231-2  |                |
| Plugs, Receptacles and Couplers for Electric Vehicles (EV)         | UL 2251<br>CHAdEMO certification Rev. 0.9<br>Americans with Disabilities Act (ADA)<br>FCC Compliant<br>NFPA 70 National Electrical Code N(NEC), Article 625 EV Charging System |                |

Specifications subject to change without notice.





# INNOVATION THAT ELECTRIFIES

**The NISSAN  
EV Advantage  
DC Fast  
Charger  
Program**

**10.2013**



**Zero Emission**

# Getting Started



*Nissan is excited to partner with your organization to support the proliferation of DC Fast Chargers in the State of Oregon.*

*Since its inception, **Nissan has invested more than \$4 Billion into developing its EV portfolio.** It is committed to its products and its consumers to provide a superb driving and charging experience.*

*The Nissan EV Advantage Program provides your organization with **monetary incentives and technical & marketing assistance** to enable it be at the forefront of a rapidly growing electric vehicle market.*



# Rapidly Expanding EV Market

- Nissan LEAF continues to be best-selling 100% electric vehicle in the U.S. & World
  - Global sales: 80,000+
  - U.S. sales: over 35,000 on the road today
  - August 2013 was a record month: 2,420 LEAFs sold!
- DC Fast Charger growth must be accelerated
  - DC Fast Chargers have grown tremendously since last year:
    - 474% year-on-year (YoY) growth
    - 327 CHAdeMO DC Fast Chargers in the US as of 9/2013
  - YoY growth is impressive, but DC Fast Charger demand exceeding supply as vehicle sales growth continues to accelerate

**Nissan EV Advantage program aims to accelerate DC Fast Charger growth through innovative strategic partnerships**



## DC Fast Charging Primer

- **What is DC Fast Charging?**
  - Rapidly charge EVs with direct current electricity
  - Nissan LEAF (24 kWh battery) charged from zero to 80% in less than 30 minutes
- **Where do drivers use DC fast charging?**
  - Workplace
  - Commercial/Retail
  - Residential (building or community scale)
  - Airports
  - Destinations
  - Corridor charging (connecting regions/communities)



# Low Cost DC Fast Chargers



## Costs & Incentives

## Example

<sup>1</sup>Installation Cost =  
Charger Unit + Materials + Labor

\$40,000

<sup>2</sup>State of Oregon DOE Tax Credit

-\$8,750

<sup>3</sup>Federal Infrastructure Tax  
Credit (Expires 12/31/2013)

-\$7,500

Regional/Local/  
Utility Incentives

If Applicable

<sup>4</sup>Nissan  
Funds

-\$15,000

Net Cost to Site Host

\$8,750

Savings

78%

<sup>1</sup>Installation costs vary.

<sup>2</sup>Assumes 35% of installation cost. Maximum of \$30,000 allowed for utility connection fees. See page 6 for more details.

<sup>3</sup>30% of installation cost up to \$30,000.

See page 6 for more details.

<sup>4</sup>Nissan incentives subject to availability.



# Cost & Incentive Details

- **Installation Costs**

- DC Fast Charger equipment can cost approximately \$15k-\$30k depending on functionality and power levels
- Installation costs will likely fall between \$10k and \$30k

- **Federal Infrastructure Tax Credit**

- Expires 12/31/2013
- Can carry forward for 20 years & backward 1 year
- 30% of installation cost up to \$30,000
- IRS Form 8911 (<http://www.afdc.energy.gov/laws/laws/US/tech/3270>)

- **State of Oregon Department of Energy Tax Credit**

- Up to 35% in tax credits
- Apply now through 11/29/2013. Visit the website for more information.
- <http://www.oregon.gov/energy/BUSINESS/Incentives/Pages/EIP-Trans.aspx>

- **Nissan Incentives<sup>1</sup>**

- \$10,000 per fast charger if installed or permitted by 3/31/2014
- \$5,000 bonus if installed by 12/31/2013
- Incentives are subject to available funds
- Contact Nissan to find out how to apply (contact info at end)



## Operating & Site Requirements

- Use best efforts to ensure charging sessions can be activated and the Charger can charge a vehicle at all times;
- Charger must be accessible and available to the general public to the furthest extent possible (workplace applications will be evaluated separately);
- Chargers to be installed within a 0.25 mile radius of Commercial Land Use, preferably adjacent to land used for retail, restaurant and office space. Commercial Land Use includes:
  - Retail
  - Restaurant
  - Office
  - Multifamily residence (i.e., apartments and condominiums)
  - Other non-residential uses, such as hotels, hospitality and medical

# DC Fast Charger FAQs



| Category              | Question   | Comments   |
|-----------------------|--|--|
| <b>Input Power</b>    | What are the input power requirements for a DC Fast Charger?                 | 208 Volt AC 3-Phase and 480 Volt AC 3-Phase power are the most common input types. Step-up and step-down transformers are also available.  |
| <b>Connector Type</b> | The Nissan LEAF uses the CHAdeMO standard, does this charge all vehicles?    | The CHAdeMO standard is a global standard with over 300 units in the United States and thousands worldwide. CHAdeMO can charge Nissan LEAF, Mitsubishi iMiEV and several other vehicles. The future SAE Combo standard is expected to charge other plug-in vehicles, such as those expected to be manufactured by GM and BMW. Tesla uses its own standard. |
| <b>Connector Type</b> | I want to be able to charge as many vehicles as possible – what should I do? | There are over 33,000 Nissan LEAFs in the U.S. (8/13) – nearly all with a DC Fast Charge port – so a CHAdeMO connector is essential. There are fast chargers where a SAE Combo connector can be added at a future date. Some sites install a CHAdeMO unit first and have an adjacent electrically wired pad ready for a SAE Combo charger.                 |

# DC Fast Charger FAQs



| Category                    | Question                                  | Comments  |
|-----------------------------|---|---|
| <b>Point of Sale Device</b> | What point of sale devices are available? | It depends on the unit. Generally, magnetic credit card swipe, contactless credit card, and proprietary RFID card.  |
| <b>Networks</b>             | Do I need to be on a network?             | It depends on the application. Networks can offer benefits to drivers and/or provide benefits to site hosts/asset operators. In some cases it can complicate the charging experience.   |
| <b>Equipment</b>            | How do I choose equipment?                | Nissan can help you choose the right equipment to meet your needs. Nissan's only requirement is that the hardware include CHAdeMO. Any other standard, including SAE Combo, can be added as Nissan supports the site host's commitment to charging EVs. |



## Contact Information

Please contact Nissan directly (phone or email) to learn more about how to take advantage of this program:

David Peterson

Nissan

615.957.8308

[david.peterson@nissan-usa.com](mailto:david.peterson@nissan-usa.com)



## LOCATION

Electric Avenue is located in Portland, Oregon on SW Montgomery Street between SW Broadway and SW Sixth Avenue on the Portland State University campus.

## ABOUT THE PROJECT

This joint research and development project is designed to address several objectives over the next two years:

- To raise awareness among the general public of a parking and charging oasis in downtown Portland, serving a range of all-electric and plug-in hybrid passenger, urban freight and service vehicles.
- Researchers at the Oregon Transportation Research and Education Consortium at PSU will use the site to expand data and research into the impact of electric vehicles on energy, transportation systems, and the built environment. The results will be shared with manufacturers and technology partners.
- To provide a public showroom and launch site for low- and zero-emissions vehicles and charging stations that are potentially well-suited to the Portland region and of interest to the general public.
- To allow the three sponsors (PSU, PGE, and the City of Portland) manufacturers, and technology partners to learn about the placement, use and maintenance of EV charging infrastructure in the urban setting.



## ABOUT THE PROJECT SPONSORS

Electric Avenue is a research project that allows electric vehicle (EV) and electric bicycle owners to park and charge up. It's a collaboration of Portland State University (PSU), Portland General Electric (PGE), and the City of Portland that showcases EVs, charging technology, and urban design through collaboration.

All partners devoted a lot of time to the project—concept design, project management, communication, problem-solving, and each partner's roles were essentially:

- PGE: Technical expertise, installation of electrical infrastructure and charging stations, and energy usage information collection for joint research and development.
- PSU: Project management, location improvements, and ongoing research.
- City of Portland: Technical assistance and implemented changes to the right of way.

### ABOUT THE TECHNOLOGY PARTNERS

The following electric vehicle service supply equipment (EVSE) companies—a.k.a. charging station providers—are partnering with PSU, PGE, and the City on this project.

#### ABOUT THE TECHNOLOGY PARTNERS

- **Eaton** ([eaton.com](http://eaton.com)) is providing two charging stations: a DC Quick Charge station and a Level 2 (240-volt) charging station—Leslie Swiantek, 724-880-1122, [leslie@largemouthpr.com](mailto:leslie@largemouthpr.com)
- **ECotality** ([ecotality.com](http://ecotality.com)) is providing one Level 2 (240-volt) charging station, Amy Hillman, [ahillman@ecotality.com](mailto:ahillman@ecotality.com)
- **General Electric** ([ge.com](http://ge.com)) is providing a Level 2 (240-volt) charging station, Ashley Kusowski, 860-378-9006, [Ashley.kusowski@ge.com](mailto:Ashley.kusowski@ge.com)
- **Northwrite Inc** ([northwrite.com](http://northwrite.com)) provided metering equipment and ongoing energy data collection, Melissa Amoree, 503-430-5186, [mamoree@northwriteinc.com](mailto:mamoree@northwriteinc.com)
- **OpConnect**, ([opconnect.com](http://opconnect.com)) is providing a dual-headed Level 2 (240-volt) charging station, Dexter Turner, 503-553-9106, [dturner@opconnect.com](mailto:dturner@opconnect.com)
- **SPX** ([spx.com](http://spx.com)) is providing a Level 2 (240-volt) charging station, Melinda Spangler, 586-533-9502, [Melinda.spangler@spx.com](mailto:Melinda.spangler@spx.com)
- **Shorepower Technologies** ([shorepower.com](http://shorepower.com)) is providing a Level 2 (240-volt) charging station, Alan Bates, 503-810-7396, [abates@shorepower.com](mailto:abates@shorepower.com)

### ABOUT THE CHARGING UNITS

- Electric Avenue is designed to serve a range of electric vehicles, including: passenger vehicles; urban freight and service vehicles; neighborhood electric vehicles (NEVs); motorcycles; bicycles and even Segways.
- All the charging stations on Electric Avenue provide vehicles with PGE renewable power.
- Each technology provider offers either industry standard Level 1 (120V) outlet or Level 2 (240V)





connectors, and in some cases both. A level 1 charger can restore a depleted passenger vehicle battery in 12-20 hours. A Level 2 charger can, refuel a depleted passenger vehicle battery in 4-8 hours.

- The DC Quick Charger unit can refresh a depleted passenger vehicle battery to a 60% charge state in about 10-minutes and to 80% in about 20-25 minutes.
- The paid parking meter time limit for the Eaton DC Quick Charging bay on Electric Avenue is 60minutes. Cost of electricity is sponsored by PSU.
- The paid parking meter time limit for all other Level 1 and Level 2 bays on Electric Avenue is 3 hours. Cost of electricity is sponsored by PSU.

### ABOUT THE SITE

Electric Avenue is located in the heart of the Portland State University campus on S.W. Montgomery Street between S.W. Broadway and S.W. Sixth Avenues, approximately 7 blocks south of the downtown core of Portland, Oregon. The location is noteworthy for several reasons:

- This visible region of the City is home to 29,000 students and several thousand more faculty and staff, not to mention a substantial number of residents and workers in the area.
- It intersects Portland's recently remodeled and highly acclaimed Sixth Avenue Transit Mall where the MAX light rail train, TriMet buses, the Portland Streetcar, automobiles, bicycles, car sharing services, and wide pedestrian boulevards join together in a symphony of mobility options.
- The location serves as a gateway to other electrified transportation options in downtown Portland. For example, an EV driver could park, charge up, and then visit the PSU campus or the downtown area via the MAX or streetcar, using electrons as fuel rather than gasoline.
- For electric vehicle drivers traveling through Portland, Electric Avenue is easily accessible from Interstate-5, Interstate-405, and U.S. Highway 26, offering Level 1, Level 2 and a DC Quick Charging units in a convenient and commercially viable area with a variety of nearby amenities.

### FOR MORE INFORMATION

- Media inquiries:
  - Scott Gallagher, Portland State University, 503-725-8789, [svg@pdx.edu](mailto:svg@pdx.edu)
  - Elaina Medina, Portland General Electric, 503-464-8790, [elaina.medina@pgn.com](mailto:elaina.medina@pgn.com)
  - Caryn Brooks, city of Portland, 503-823-1126, [caryn.brooks@portlandoregon.gov](mailto:caryn.brooks@portlandoregon.gov)
- To reserve Electric Avenue or other PSU facilities for vehicle demonstration, launches, or seminars contact George K Beard, Office of Research & Strategic Partnerships, 503-725-9817, [gbeard@pdx.edu](mailto:gbeard@pdx.edu)

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