# Settlement Year 3 – Second Quarter Progress Report to California Public Utilities Commission Electric Vehicle Charging Station Project

### PUBLIC, NON-CONFIDENTIAL VERSION

For the period March 6, 2015 through June 5, 2015 (the Reporting Period) Submitted July 2, 2015 by NRG EV Services LLC on behalf of the Dynegy Parties<sup>1</sup>

#### **EXECUTIVE SUMMARY**

As of June 5, 2015 (the Reporting Date), NRG EV Services LLC (NRG) had a total of 116 Freedom Station sites either constructed or under development. During the Reporting Period, NRG completed construction on 16 additional Freedom Station installations, for a total of 84 completed sites.

The upgrades to the Freedom Stations to support the SAE Combo Charging Standard (CCS) were completed during the Reporting Period, and all Freedom Stations now support CCS. The new standard supports vehicles newly available for sale in California including the BMW i3, Chevy Spark and Volkswagen e-Golf. It is the largest CCS network in the U.S. and the Settlement Agreement has been instrumental to developing and deploying that technology, making it available to the broader California and national marketplace.

NRG is very close to completing the retrofit for credit card readers for all Freedom Stations. The retrofits allow any user to access the chargers anonymously for a one-time price. As of the Reporting Date, 59 of the 84 Freedom Stations sites include credit card readers, and NRG anticipates completing credit card swipe retrofits on all stations by mid-July.

20 out of the 84 Freedom Station sites are located in qualified low-income areas (PUMAs), exceeding the 20% commitment. New sites include Fashion Fair Mall in Fresno and Fresh & Easy in Hayward, bringing EV fast charging to these communities for the first time.

Utilization of the public charging infrastructure continues to increase during the Reporting Period, with energy dispensed in the Reporting Period increasing by 36%.

NRG added 24 contracted Make-Readies Sites representing 234 Make-Ready Stubs, for a total of 1,436 Make-Ready Stubs under contract at 179 Make-Readies Sites. In addition to fully contracted Make-Ready Stubs, NRG has received non-binding commitments for installations at approximately 163 additional site locations, representing approximately 885 to 1165 Stubs. These results reflect a new marketing program that has attracted new properties. The NRG team is now developing site designs and final agreements to establish service at these new properties. Total installations to date increased to 134 Make-Readies Sites and 1,013 Make-Ready Stubs.

<sup>&</sup>lt;sup>1</sup> Capitalized terms not otherwise defined herein shall have the meaning ascribed to such terms in the Long-Term Contract Settlement Agreement (the "Agreement").

The initial Technology Demonstration project is now commissioned for public use; phase 1 features two dual-hose fast-chargers (supporting both CHAdeMO and CCS) as well as a solar canopy. NRG is awaiting CPUC approval for two additional technology projects and one opportunity access project.

#### INSTALLATION OF PUBLIC EV CHARGING STATIONS (FREEDOM STATIONS)

As of the Reporting Date, a total of 116 Freedom Station sites were either completed, under construction, or in the permitting process.

The table below summarizes Freedom Station progress throughout the term of the Agreement:

DC Fast Charging Station Progress	2013		2014				2015		
	Q1/ Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Sites with Permits Submitted		6	22	12	2	22	17	13	13
Sites with Permits Approved		6	3	6	2	8	17	15	10
Sites under Construction		2	5	11	9	6	16	15	9
Sites Completed	0	1	10	15	36	46	56	68	84
Completed Sites w/ SAE Combo						3	23	51	84
Completed Sites w/ working credit card readers*							3	37	59**
Completed sites with credit card readers and SAE combo							2	31	59
Cumulative Settlement Target			40				100		·

<sup>\*</sup> Installation of credit card swipe will be complete by July 15, 2015.

#### **Installations**

During the Reporting Period, NRG completed construction on 16 additional Freedom Stations, for a total of 84 Freedom Stations. Completed Freedom Stations are listed in <u>Appendix A</u>, with new stations **in bold**.

#### Site Development

As of the Reporting Date, 9 additional Freedom Station sites were under construction, 10 more were fully permitted and another 13 sites had been submitted for permitting.

#### Low-Income PUMA Distribution

Twenty of the 84 Freedom Stations are located in low-income PUMAs: 8 in the San Francisco Bay Area, 8 in the Los Angeles Basin, 3 in San Diego County, and 1 in the San Joaquin Valley. They represent 24% of all operational sites, exceeding the goal of 20% in this category.

<sup>\*\*</sup> NRG previously communicated to the CPUC that 54 credit card readers were installed as of June 8, 2015; internal reporting had not yet been updated to reflect the 5 additional installations.

#### SAE Combo Rollout Status

During the Reporting Period, NRG completed the upgrades to all Freedom Stations to support the SAE combo standard (CCS).

Credit Card Payment Upgrades Rollout Status

Installation of the credit card payment systems was delayed due to delivery delays from the equipment vendor. 59 of the 84 Freedom Stations are now able to accept credit card swipe, and NRG expects all sites to have this functionality by mid-July.

#### INSTALLATION OF MAKE READY STUBS AND MAKE READY ARRAYS

Status of Make-Readies Sites

Overall, NRG has 179 Make-Readies Sites under contract, representing 1,436 Make-Ready Stubs. Of these, 1,013 Make-Ready Stubs have been installed at 134 sites, as set forth in confidential Appendix A. In addition, NRG has signed master host agreements covering 90 additional sites, representing approximately 610 to 680 Make-Ready Stubs. Finally, NRG has signed non-binding Letters of Intent through the Take Charge CA campaign, for 73 additional sites, representing approximately another 275 to 385 Make-Ready Stubs.

Pursuant to Section 4(b)(vi)(B) of the Agreement, NRG has established a website which identifies each installed Make-Ready Array's location and Start-Up Period expiration date. See <a href="http://www.nrgevgo.com/california-rev-progress/">http://www.nrgevgo.com/california-rev-progress/</a>.

NRG has conducted a total of 741 site assessments. Of these sites, 394 are Multi-Family Housing Sites, 254 are Workplace Sites and 93 are Public Interest sites, and they would equate to approximately 4,850 Make-Ready Stubs.

Mixed-Income Multi-Family Housing Sites

Negotiations continue with previously discussed San Diego based community housing providers. In the Reporting Period, NRG assessed and made a proposal to an additional mixed-income property owner in the Bay Area. In addition, discussions have commenced with the owner of a multi-property portfolio with several properties in San Diego and others throughout California.

#### **DEMONSTRATION PROGRAMS**

#### **Battery Energy Storage System**

As of June 2, 2015, Phase 1 of the Battery Energy Storage System (BESS) Test Charging Station has been commissioned for public use. Located at the UCSD Regents West Parking Lot, the technology demonstration offers two (2) 50 kW ABB dual standard DC fast chargers – supporting both CHAdeMO and SAE Combo Charging System (CCS) – under a 12.6 kW solar canopy.

In the Phase 2, NRG will deploy two (2) high-power charging "engines" that will power four (4) 50kW chargers (approximately 200kW total capacity) in an effort to advance the state of the charging industry as well as incorporate the use of second-life EV batteries for demonstrating demand charge mitigation as well as the ability to incorporate advanced micro-grid applications.

The objective of the first Technology Demonstration Project is to demonstrate how micro-grid components (including energy storage, power conversion, solar photovoltaic electricity generation, and EV charge dispensing) can reduce the cost of developing, constructing, and operating DC Fast Chargers when deployed as modules that are custom combined with the chargers to meet the needs and characteristics of individual properties.

#### Overview of Phase 1 Development

Phase 1 of the Technology Demonstration Program creates a platform for various models and types of technologies to be installed, tested, and evaluated. The site has a 12.6 kW solar canopy with forty (40) SolarWorld 315 modules feeding into the demonstration site through an SMA 10kW inverter. The canopy acts as both a generator and a shade structure for vehicles coming to utilize the stations. At night, the canopy is fitted with downward facing LED lighting for driver convenience and safety. In future applications, the array generation will be balanced with EV charging and stationary battery units.

Phase 1 of the BESS site hosts two (2) multi-standard ABB Terra 53 chargers, supporting both CHAdeMO and SAE CCS, serving four parking spaces. Each unit can support up to 50 kW charging. Customers who are part of the NRG EVgo DC network can charge at this station instantly with the swipe of their fob key. Those without an account can call the toll-free number listed on the charging stations to activate the charging unit.

Inside the fenced area is a 200A service at 480V to support EV charging capabilities from the UCSD Micro-grid. Additional spacing and electrical hook ups have been provisioned for future incorporation of stationary energy storage systems employing secondary us of EV batteries from the BMW Mini-E project vehicles; an automatic load management system (ALMS), and engine blocks for future charging station applications.

#### Milestones Accomplished

Finalized site License Agreement
Permit Package Approved
February 7, 2015
February 28, 2015
Construction Begins
March 16, 2015
Inspector Approval of Installation
Charging Station Commissioning
Open to the Public
June 2, 2015
June 2, 2015

#### Objectives for Phase 2

• Remove current ABB dual connector chargers and replace with four (4) 50 kW DC fast charging dispensers with two (2) 100 kW engine cubes. The new charging stations will still support charging via CHAdeMO and CCS connector standards. The design of this installation will explore opportunities to minimize the size of charging equipment for the

- driver interface, and relocate bulky power requirements to less critical real estate, while creating a quieter DC fast charge experience for the EV driver.
- Install 50 kWh of second-life Mini E stationary batteries.
- Deploy Automatic Load Management System (ALMS) to control an excess of equipment capacity on a smaller panel size by limiting the equipment power draw from the source.
- Integrate intelligent control logic on site to balance solar generation with stationary battery storage and vehicle charging patterns to demonstration on-site demand reduction potential and micro-grid management.

Applications such as this are ideal for locations where supply power may be limited. With the ALMS capabilities, as well as stationary energy storage installation, the site provides more robust charging capabilities when charging demand is high and the opportunity to limit host electricity costs through demand charge mitigation.

#### **Extreme High Speed Charging**

On April 1, 2015, NRG submitted a request to the CPUC for its approval of a second Technology Demonstration Project which will deploy "extreme" high power charging equipment (approximately 100kW and greater) in an effort to advance the state of the charging industry by bringing together partners, demonstrating new technologies, and deploying new technologies in the field for drivers to test and utilize. The proposed budget is \$2,100,000. NRG continues to await CPUC approval.

#### **EV OPPORTUNITY PROJECTS**

An EV Opportunity project was submitted to CPUC for approval on April 1, 2015 for an EV transportation program for neighborhood health clinics. The initial proposed budget was \$2,060,000; after discussion with the CPUC, NRG amended its proposal, reducing the proposed scope and budget to \$890,000. NRG continues to await CPUC approval.

Additional projects are pending. The projects are expected to leverage program offerings from Air Resources Board for car sharing and school bus demonstrations.

#### **USAGE DATA**

NRG EVgo completed 66,694 charging sessions in the second quarter at Freedom Station sites and dispensed over 611,000 kilowatt-hours of electricity, a 36% increase over the previous quarter.

This translates to over 1.8 million miles driven on electricity in this quarter alone, displacing nearly 61,000 gallons of gasoline (assuming 30 mpg).

See confidential Appendix C for the original raw usage data for the Reporting Period.

## Appendix A

## **Freedom Station Table**

See attached.

# APPENDIX A Dated as of: June 5, 2015

<u>Name</u>	Street Address	City	Completion	<u>PUMA</u>	SAE	<u>cc</u>
			<u>Date</u>		<u>Combo</u>	<u>Reader</u>
CE Day Avea						
<u>SF Bay Area</u> 1 Westlake Shopping Center	75 Southgate Ave.	Daly City	6/24/2013		x	x
2 Whole Foods Fremont	3111 Mowry Ave.	Fremont	9/25/2013		X	X
3 Whole Foods SF	2001 Market Street	San Francisco	11/7/2013		X	^
4 Vacaville Premium Outlets	321 Nut Tree Road	Vacaville	11/20/2013		X	х
5 Livermore Premium Outlets	2774 Paragon Outlets Drive	Livermore	1/6/2014		X	
	1175 Columbus	San Francisco	2/26/2014			X
6 Walgreens SF 7 Public Market	5959 Shellmound St.		12/23/2013	v	X	X
8 The Mall at Northgate		Emeryville San Rafael	12/23/2013	Х	X	X
	2150 Northgate Dr.			.,	X	Х
9 The Village at Corte Madera	1618 Redwood Hwy	Corte Madera	3/18/2014	Х	X	
10 Whole Foods Cupertino	20955 Stevens Creek Blvd	Cupertino	4/22/2014		X	х
11 Whole Foods Novato	790 De Long Ave	Novato	2/24/2014		Х	
12 Whole Foods Telegraph Ave	3000 Telegraph Ave	Berkeley	4/2/2014		Х	
13 Whole Foods Berkeley	1025 Gilman	Berkeley	11/5/2014		Х	Х
14 Whole Foods San Jose	777 The Alameda	San Jose	11/20/2014	Х	Х	Х
15 Linda Mar	1227 Linda Mar Shopping Center	Pacifica	8/28/2014		Х	Х
16 Whole Foods Lafayette	3502 Mt. Diablo Blvd	Lafayette	12/4/2014		Х	X
17 Whole Foods Los Altos	4800 El Camino Real	Los Altos	6/5/2014		x	X
18 Rose Pavilion	3903 Santa Rita Rd.	Pleasanton	11/6/2014		х	x
19 Great Mall	447 Great Mall Dr	Milpitas	5/27/2014		X	Х
20 Whole Foods Santa Rosa	733 Coddingtown Center	Santa Rosa	8/29/2014	х	X	Х
21 Petaluma Outlets	2200 Petaluma Blvd North	Petaluma	8/11/2014	х	х	Х
22 Nob Hill Foods Mountain View	1250 Grant Rd	Mountain View	7/24/2014		х	х
23 Crossroads	2316 Monument Blvd	Pleasant Hill	5/15/2014		x	
24 Santa Rosa Plaza	1071 Santa Rosa Plaza	Santa Rosa	11/7/2014	х	x	x
25 Napa Outlets	629 Factory Stores Drive	Napa	1/23/2015		х	
26 Whole Foods Redwood City	1250 Jefferson Ave	Redwood City	3/13/2015		x	
27 Gateway Plaza-Vallejo	173 Plaza Drive	, Vallejo	4/24/2015	х	x	
28 F&E Hayward	19691 Hesperian Blvd	Hayward	4/24/2015	х	x	
29 Stoneridge Mall	1700 Stoneridge Mall Rd	Pleasanton	4/30/2015		x	
30 Whole Foods Dublin	5200 Dublin Boulevard	Dublin	5/21/2015		x	
			30	8	30	19
<u>San Diego</u> 1 Fashion Valley	7007 Friars Road	San Diego	9/18/2013		x	X
2 Las Americas Premium Outlets	4211 Camino De La Plaza	San Diego	10/29/2013	х		X
3 Flower Hill Promenade	2600 Via De La Valle	Del Mar	12/20/2014	^	X	
4 Carlsbad Premium Outlets	5620 Paseo Del Norte	Carlsbad			X	X
			12/6/2013	.,	X	X
5 Broadway Plaza	1166 Broadway	Chula Vista	1/6/2014	Х	X	X
6 SDG&E Innovation Center	4750 EV Clairemont Mesa Blvd	San Diego	3/9/2014		Х	х
7 Rancho Penasquitos	13255 Black Mountain Rd	San Diego	3/31/2014		Х	х
8 Del Norte Plaza	330 West El Norte Plaza	Escondido	3/9/2014	Х	Х	х
9 Fenton Marketplace	2482 Friars Rd	San Diego	1/27/2015		Х	Х
10 San Diego Tech Center	9605 Scranton Rd	San Diego	2/25/2015		Х	х
11 Mira Mesa Mall	8110 - 8340 Mira Mesa Blvd	San Diego	3/31/2015		X	
12 Melrose Village	1601 South Melrose Drive	Vista	5/21/2015		Х	
			12	3	12	10
LA Basin						
1 Camarillo Premium Outlets	900 1/2 Camarillo Center Dr.	Camarillo	11/11/2013		x	х
2 Walgreens Tarzana	5353 Mecca Ave.	Tarzana	3/24/2014		x	х
	-		, , :=:			

# APPENDIX A Dated as of: June 5, 2015

Name Street Address		<u>City</u>	Completion Date	<u>PUMA</u>	SAE Combo	<u>CC</u> Reader
3 Outlets at Orange	20 City Blvd W	Orange	4/21/2014		х	x
4 Westminster Mall	1025 Westminster Mall	Westminster	5/30/2014		x	x
5 Brea Mall	200 Brea Mall	Brea	5/2/2014		x	x
6 Los Cerritos Center	200 Los Cerritos Mall	Cerritos	6/4/2014		х	x
7 Stonewood Center	306 Stonewood Street	Downey	3/28/2014		x	x
8 Larwin Square	654 East 1st Street	Tustin	3/31/2014		x	x
9 Walgreens Huntington Beach	19501 Beach Boulevard	Huntington Beach	8/14/2014		х	x
10 Corona Hills Plaza	360 McKinley Street	Corona	9/2/2014		x	x
11 Hines Warner Center	5700 Canoga Ave	Woodland Hills	3/28/2014		x	x
12 Cabazon Outlets	48400 Seminole Drive	Cabazon	4/23/2014	х	x	x
13 Country Fair SC	12013 Central Avenue	Chino	5/20/2014		x	x
14 Inland Center	500 Inland Center Drive	San Bernardino	6/2/2014	х	x	x
15 Oaks Mall	350 W Hillcrest Drive	Thousand Oaks	4/30/2014		х	x
16 Pacific View Mall	3301-1 East Main Street	Ventura	4/23/2014		x	x
17 Pavilions Place	1600 Beach Blvd	Westminster	9/19/2014		X	x
18 Bristol Plaza	3361 South Bristol St	Santa Ana	11/20/2014		x	x
19 Shops at Mission Viejo	555 Shops At Mission Viejo	Mission Viejo	5/16/2014		x	x
20 City of Hermosa Beach Parking	1334 Hermosa Avenue	Hermosa Beach	7/23/2014		X	x
21 Dunlap - Huntington Harbor	16821 Algonquin St	Huntington Beach	9/2/2014		x	x
22 8000 Sunset Strip	8000 Sunset Strip	Los Angeles	10/27/2014		x	x
23 Tarragona	1000 N. Western Avenue	San Pedro	11/19/2014		x	X
24 Morongo Casino	49500 Seminole Drive	Cabazon	3/4/2015	Х	x	
25 Plaza Rio Vista	67800 Vista Chino	Cathedral City	3/5/2015	X	x	
26 Savi Ranch- Yorba Linda	23030 1/2 Eastpark Dr	Yorba Linda	12/30/2014	^	x	x
27 F&E Manhattan Beach	700-C Rosecrans Ave	Manhattan Beach	1/13/2015		x	x
28 Ontario Mills	1 Mills Circle	Ontario	3/4/2015		x	x
29 F&E Long Beach	3300 Atlantic Avenue	Long Beach	1/28/2015		x	x
30 F&E Norwalk	10930 Rosecrans Ave	Norwalk	2/25/2015		x	^
31 F&E Signal Hill	2475 Cherry Ave	Signal Hill	1/28/2015	Х	x	x
32 Gelson's Calabasas	22277 Mulholland Hwy	Calabasas	3/20/2015	^	x	^
33 Playa Vista Community Center	5510 Lincoln Blvd	Los Angeles	3/30/2015		x	
34 F&E Calimesa #1238	1126 Calimesa	Calimesa	4/7/2015	X	x	
35 Mall of Victor Valley	14370 Bear Valley Rd	Victorville	4/7/2015	X	x	
36 Gelsons Sherman Oaks	4520 Van Nuys Blvd	Sherman Oaks	4/22/2015	~	x	
37 Anaheim Plaza	510 N Euclid St.	Anaheim	5/6/2015		x	
38 F&E Rosemead #1445	9026 E. Valley Blvd	Rosemead	5/13/2015	x	x	
39 Sassounian Huntington Beach	21190 Beach Blvd	Huntington Beach	5/21/2015	^	x	
33			39	8	39	28
			33	Ū	•	
San Joaquin Valley						
1 Applegate Ranch	1000 Commerce Avenue	Atwater	9/30/2014		x	x
2 West Valley Mall	3200 N Naglee Road	Tracy	2/6/2015		x	x
3 Fashion Fair Mall	563 E. Shaw Ave.	Fresno	4/1/2015	х	х	
			3	1	3	2
		Takalı		20	0.4	F0
		Totals	84	20	84	59

#### Appendix B

#### **Make-Readies Detail**

#### See attached [CONFIDENTIAL].

The following information is confidential and protected material and may only be provided to those parties and their Eligible Reviewers that have executed a protective order in the FERC proceeding approving the Agreement and the settlement of the EL02-60/62 Proceeding. NRG retains an exclusive, non-public, proprietary right to such information for eighteen (18) months after the date of submittal to the CPUC, and during such time such information shall not to the extent permitted by law be subject to disclosure under FOIA or CAPRA.

Material Redacted in Public, Non-Confidential Version

#### **Appendix C**

#### Raw Usage Data

#### See attached [CONFIDENTIAL].

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