Cause No. 43960

INDIANAPOLIS POWER & LIGHT COMPANY

Electric Vehicle Program

Year 3
2013 Report

May 2, 2014

Contents

IPL Electric Vehicle Program

Background

Indianapolis Power & Light Company (IPL) finalized its electric vehicle (EV) pilot program plans following the receipt of a Smart Grid Investment Grant award from the US Department of Energy in April 2010. The proposed plan allowed IPL customers, who purchased a plug in EV, to receive an advanced charging station that would allow for reduced charging rate. The initial pilot program was designed to be a two year program that ran from January 2011 through December 2012. Additional funding was secured through the Indiana Office of Energy and Development through Energy Systems Network in the third quarter of 2010. In December 2010, IPL supplemented its testimony in a demand side management proceeding, Cause No. 43960, before the Indiana Utility Regulatory Commission (IURC) to include a request for timely cost recovery of the non-grant funded portion of the EV program. In its order issued in November 2011, the IURC granted IPL permission to defer expenses totaling up to $1,053,000, for recovery in its next rate case proceeding.[1] In anticipation of the completion of the two year pilot program, IPL requested to extend Rate EVX and Rate EVP through the end of 2014. IPL proposed changes to Rate EVX to require customers to procure, pay for, install, and maintain the EV charging equipment, while IPL would pay for, install, own, and maintain the submeter. The Indiana Utility Regulatory Commission approved the extension of Rate EVX (with the proposed modifications) and Rate EVP in October 2012.

This report provides a description of the project objectives, participation from March 2011 through December 2013, current status, and expected next steps. This report is the third and final report given the completion of the pilot program and related grant funding.

[1]The IURC previously approved EV tariffs including a time of use customer premise rate, EVX, and public rate of $2.50 per charge, EVP, through an administrative filing approved in January 2011 for a 2 year period.

Project Objectives

IPL's EV program objectives include:

- Accommodate the use of EVs in IPL's service territory by offering time-of-use (TOU) rates to EV customers, which are designed to promote charging during off-peak periods;
- Foster EV adoption by installing public charging stations at convenient locations in order to reduce range anxiety;
- Gain further insight into the potential system impact from the use of EVs
- Educate public about electric transportation
- Understand customer expectations

Current Status

The two year EV pilot program is successfully complete. The initial program objectives have been achieved. IPL has successfully accommodated the use of EVs by offering charging equipment in residential and public locations, and offering a Time of Use (TOU) rate structure. Following the completion of the pilot program, IPL continues to offer its TOU rate to customers under the revised guidelines, and has seen a continued interest from customers willing to charge off peak in exchange for a reduced rate. The limited number of electric vehicles deployed has not necessitated upgrading IPL generation, transmission, or distribution facilities. IPL will continue to monitor and analyze the information gathered from the pilot program in order to better understand the continuing impact EVs may have on the electric grid.

Significant Milestones

During its two year pilot, IPL successfully launched the EV program, coordinated the deployment of software products that support Electric Vehicle Supply Equipment (EVSE)[2] in central Indiana, and participated in a significant number of seminars and public outreach events. Following an announced partnership between IPL and Mayor Ballard's office, IPL provided 26 charging stations to support Executive Order number 6-2012, raising program installations to 86% of the expected two-year total EVSE program volumes in residential, fleet, and public venues. IPL was one of the first investor owned utilities to install public EVSEs in the United States. Specific accomplishments are highlighted below.

- As of March 31, 2013, IPL has installed 162 chargers in 111 locations. The locations consist of 89 residential; 11 fleet; and 8 public.
- In addition, ten (10) previously owned residential units (secondary use units) were donated for installation at three businesses; Tom Wood Ford, the Indianapolis Zoo, and Eli Lilly & Company.

[2] The terms "EVSE," "chargers," and "charging stations" are used interchangeably in this report.

- IPL has installed 22 public chargers at eight public locations that allow EV users to charge vehicles at a flat fee of $2.50 per charge for an unlimited amount of time through the approved Rate EVP tariff. The public locations include:

1. Denison Merchant's Garage; 31 S Meridian St. (4 chargers)
2. Arthur M. Glick Jewish Community Center; 6701 Hoover Rd. (2 chargers)
3. Garfield Park Public Library; 2502 Shelby St. (2 chargers)
4. Indiana State Garage; 401 W Washington St. (6 chargers)
5. Georgia St Boardwalk; 201 McCrea St. (2 chargers)
6. Denison Plaza Garage; 103 S Capitol Ave. (2 Chargers)
7. Butler University Hinkle Fieldhouse; 510 W 49th St. (2 Chargers)
8. City Way; 301 S Delaware St. (2 Chargers)

EV Usage

Detailed energy usage for EV charging comprises Appendices C, D and E which are summarized in the following points.

- Rate EVX has seen an increase from sixty (60) customers in December 2012 to ninety-five (95) customers in December 2013. On average, these customers used approximately 209 kWh in December of 2013.
- Approximately 76% of the electricity used for residential EV charging occurred off-peak, an additional 4% occurred mid-peak, and the remaining 20% occurred in peak periods.
- Public units on Rate EVP indicate a total of 10,600 kWh used from January 1, 2013, to December 31, 2013, with an average of 883 kWh consumed per month. This is a 204% increase in kWh per month over the previous year.

Conclusion/Expected Next Steps

- Overall experiences have been very positive for IPL and its customers.
- IPL better understands distribution grid impacts through metered usage.
- Project costs were less than budgeted in part due to less than the targeted number of 200 units being installed. Construction costs were also less than originally expected.
- During 2014 IPL will:
    - Continue to keep partners and customers informed on the status of Rate EVX and Rate EVP.
    - Continue to provide excellent customer service to EVX and EVP customers

- Evaluate Rate EVX and Rate EVP in anticipation of scheduled expiration at year end 2014 and submit a filing to the IURC for any requests to modify or extend the current rates.

Appendix A: Electric Vehicle Supply Equipment

By Classification

Formatted Table

Residential	Fleet	Public	Secondary Use Units*	Total
89	51	22	10	172

Locations

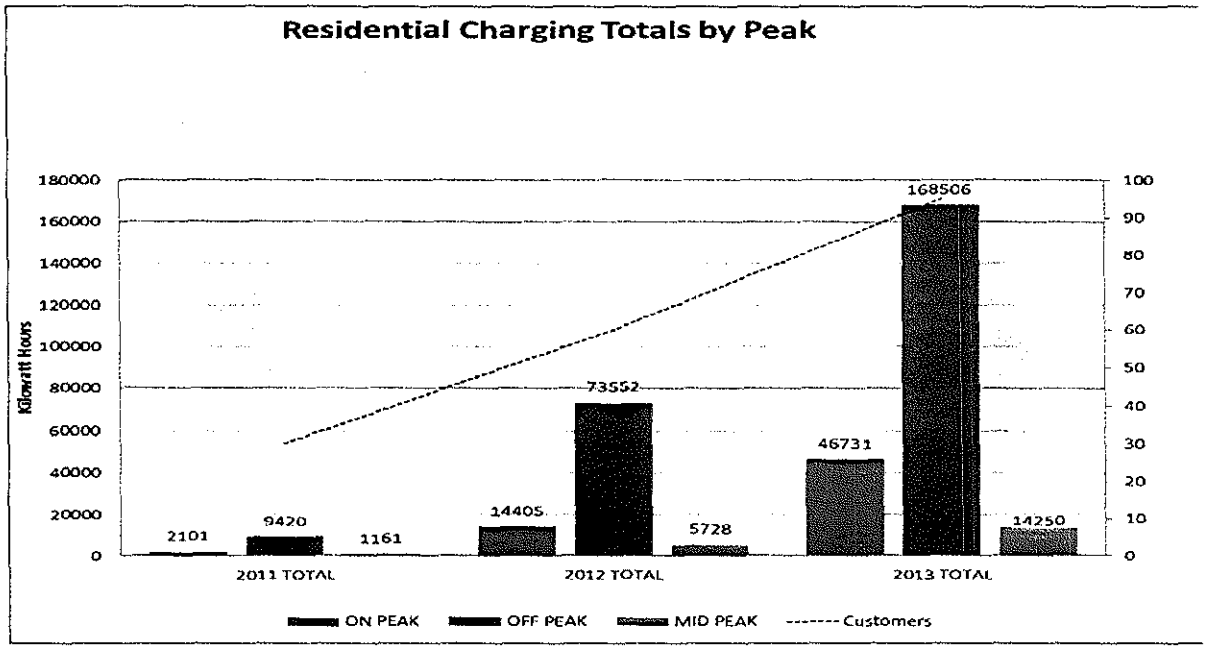
Residential	Fleet	Public	Secondary Use Units*	Total
89	14	8	3	114

* These gently used units were redeployed to commercial customers

Appendix B: IPL Electric Vehicle Program Costs

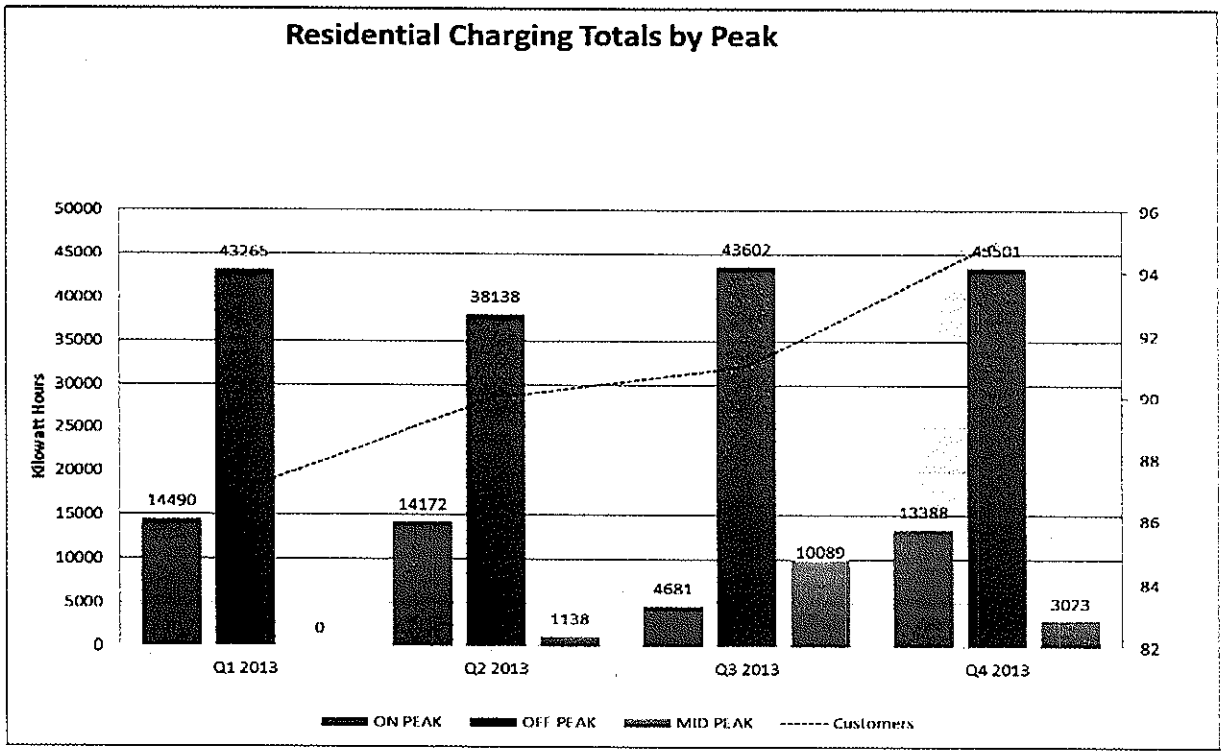
IPL EV Program Summary	3 Year Budget	Actual Costs	Budget Variance
Estimated Total Expenses	$1,663,000	$741,508	$921,492
Grant Funding	($610,000)	($363,098)	($246,902)
Net Totals	$1,053,000	$378,410	$674,590

Appendix C: Residential Charging by Period- Yearly Comparison



These totals are reflective of the usage billed during a given billing period, which can include usage from two calendar months.

Appendix D: Residential Charging by Period- 2013 Quarterly



Appendix E: kWH Usage

Electric Vehicle Usage (kWh)

Residential locations	2011 Totals	2012 Total kWh	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	2013 Total	Total kWh
Residential EV Usage	12,682	106,369	23,483	17,073	17,199	17,038	16,189	20,221	20,449	20,172	17,752	20,816	19,223	19,872	229,487	348,538

Fleet locations	2011 Totals	2012 Total kWh	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	2013 Total	Total kWh
Cal EV Usage	6,900	25,816	835	862	962	984	820	1,420	1,485	1,811	1,702	1,807	1,675	1,736	16,099	48,815

Public Locations	2011 Totals	2012 Total kWh	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	2013 Total	Total kWh
Indiana Black Garage	1,096	1,587	3	0	0	16	0	52	32	7	0	10	8	16	144	2,827
Denison Merchants Garage	841	2,081	234	298	332	279	484	614	625	573	415	472	159	324	4809	7,731
Garfield Park Public Library	54	309	197	155	28	86	202	114	100	78	23	27	26	19	1055	1,418
Jewish Community Center	51	362	38	29	24	23	39	28	27	30	24	30	33	25	350	763
Osborn Street	-	408	132	53	120	132	179	315	406	443	446	396	345	466	3433	3,841
Butler Public Parkhouse	-	215	31	38	39	29	38	41	39	29	28	87	41	41	481	696
Denison Plaza Garage	-	-	0	32	0	0	32	25	35	14	0	0	34	6	178	178
City Way	-	-							0	0	4	13	15	118	150	150
	2,042	4,962													10,600	17,604

These totals are reflective of usage during a calendar month and may vary from calculations based on billing cycle.