MEMORANDUM

To: Missouri Public Service Commission Case File Case No. ET-2016-0246, Ameren

Missouri's Application for Approval of Tariff Authorizing Electric Vehicle Charging

Station Pilot Program

From: Byron M. Murray, Regulatory Economist III

Michael Stahlman, Regulatory Economist III John Cassidy, Utility Regulatory Auditor V

/s/ Robin Kliethermes/Sept. 28, 2016 /s/ Nathan Williams/Sept. 28, 2016

Utility Regulatory Manager/Date Staff Counsel's Office/Date

/s/ Mark Oligschlaeger/Sept. 28, 2016 Utility Regulatory Manager/Date

Subject: Staff Recommendation regarding Ameren Missouri's Application for Approval of

Tariff Authorizing Electric Vehicle Charging Station Pilot Program

Date: September 28, 2016

Executive Summary

On August 15, 2016, Ameren Missouri filed in this case an application for the approval of a tariff authorizing a three (3) year pilot program for electric vehicle (EV) charging stations. The pilot program would make charging stations (or "islands") available at up to six (6) locations in Ameren Missouri's service territory - five along Interstate 70 between the City of St. Louis and Boonville and one along Highway 54 in Jefferson City. Each charging island would be equipped with a DC fast-charging station and a standard Level 2 AC charging station. Although, the stations are located in Ameren Missouri's service territory any person owning or operating an electric vehicle can use the charging stations. Ameren Missouri proposes to establish rates based on the amount of time the car is connected to the charging station. The proposed rates do not include any provisions to encourage charging in off-peak time periods. Additionally, the proposed tariff sheets are not applicable to private charging stations in homes and businesses; Ameren Missouri has not proposed tariff sheets for customers with private charging stations.

Staff recommends that the Commission only approve Ameren Missouri's proposed tariff sheets as they are currently filed on the condition that all revenues, expenses and investment associated with the program be recorded below-the-line in order to hold ratepayers harmless. Further, as part of its pilot program, Staff recommends Ameren Missouri be required to gather data and report annually to the Commission and interested stakeholders on the impact of electric vehicle charging stations on grid reliability.

Ratemaking Treatment for Ameren Missouri's Proposed Electric Vehicle Charging Stations

Ameren Missouri proposes to include all revenues collected from transactions conducted at the electric vehicle charging islands in the cost of service calculation and to seek recovery of all capital investment related to installation of the charging islands, including a return of and return on investment, as well as all related operation and maintenance expense, advertising expense, and property taxes in its current and future rate cases. Ameren Missouri has timed the filing of this tariff with the intention of recovering costs associated with one charging island in the current pending Ameren Missouri rate case, Case No. ER-2016-0179 (the "2016 Rate Case"), if completed by the December 31, 2016 true-up cutoff. Ameren Missouri indicates it will seek recovery of all costs, and include all revenues associated with the other five charging islands in its next rate case.

Ameren Missouri indicates that the installation cost of each charging island is approximately \$95,000, including all related distribution lines and service facilities, and before including applicable federal and state tax credits. The cost of each charging island consists of: (a) an average of \$15,000 for line extension and transformation cost; (b) an average of \$60,000 hardware cost for charging equipment and an electric panel, and (c) an average of \$20,000 cost for civil construction, hardware installation, and site commissioning. On page 15 of his direct testimony, Ameren Missouri witness, Mr. Mark J. Nealon, indicates that if all six of the charging islands are completed by December 31, 2017, the capital investment will total approximately \$570,000. Mr. Nealon estimates an approximate \$40,000 annual ongoing expense for all six stations in total pertaining to hardware operation and maintenance and for access to the vendor's managing charging station network. Finally, Ameren Missouri anticipates marketing and education expenses of \$10,000 annually for each of the first three years after the charging islands are completed. Mr. Nealon provides no specific estimates for the annual depreciation, return on investment, and property taxes associated with the charging islands in his direct testimony.

On page 21 of Mr. Nealon's direct testimony, he indicates that at the calendar year ending 2015, there were 2,480 electric vehicles registered in Missouri and 1,686 of those were registered within Ameren Missouri's service territory. Ameren Missouri provides electric service to approximately 1.2 million customers. The number of electric vehicles registered within Ameren Missouri's service territory represents approximately 0.14 percent of Ameren Missouri's total customer count, assuming each vehicle is owned by a different customer.²

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Ameren Corporation implemented ** _	

¹ Ameren Missouri has indicated that it is eligible for a 30% federal tax credit, up to a maximum of \$30,000 for each charging island installed prior to December 31, 2016 and a state tax credit of 20%, up to a maximum of \$20,000 per year through December 31, 2017.

² 1,686 electric vehicles registered in Ameren Missouri's service territory divided by approximately 1,200,000 ratepayers equals 0.001405.

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Ameren Missouri indicates in its application that the revenues collected from the propose electric vehicle tariff that it is seeking approval for in this case will not cover all costs related to the program; i.e., a subsidy from the general body of Ameren Missouri ratepayers will be required to allow Ameren Missouri to fully recover its costs associated with this initiative Ameren Missouri indicated that it intends to install only one charging island prior to the true-up cutoff established in Case No. ER-2016-0179. Only a small amount of investment related to the project might be added to rate base through the true-up process in Ameren Missouri's pending 2016 rate case. A small investment would create the need for a small subsidy to cover the particular portion of the overall project, relative to Ameren Missouri's overall cost of services However, in a future rate case additional subsidies will be required to cover the cost of the other five charging stations (or any future additional charging stations that Ameren Missouri may propose for recovery at a later time above the level that is proposed in its current application) ***

Ameren Missouri has not demonstrated an adequate demand for the charging stations as part of its application in this case. Only a very small subset of Ameren Missouri current customers, approximately 1,686, would even be capable of utilizing the proposed charging islands. Some portion of the Ameren Missouri customers that own an electric vehicle may not even travel on Interstate 70 or travel to Jefferson City.

Ameren Missouri's proposed electric vehicle charging tariff is not designed in a manner that assigns the costs of the proposed electric vehicle charging islands properly to the cost causers.

³ Ameren Missouri has committed to investing at least \$1 million towards the purchase of electric buses and charging stations for the St. Louis public transit as part of a settlement reached with the Sierra Club pertaining to a lawsuit regarding the company's alleged violations of the Clean Air Act.

⁴ Depending upon the timing of the construction of the other five proposed charging islands, Ameren Missouri could carry the costs of those stations until new rates are established in its next rate case following Case No. ER-2016-0179.

The tariff is designed in a manner that requires a subsidy from the approximate 1.198 million customers that do not own electric vehicles and cannot benefit from this service. Those Ameren Missouri customers that drive vehicles fueled by gasoline and even natural gas would continue to pay all costs for those particular vehicle fuel distribution networks. In addition, Ameren Missouri customers that do not own any type of vehicles, for example those with low incomes, fixed incomes and the elderly, would also be required to subsidize the electric vehicle charging islands. Ameren Missouri customers that do not own electric vehicles should not be required to subsidize a program for which they receive no direct benefit, regardless of the program's size. Furthermore, if emerging technologies render this service useless prior to the end of the useful life of the charging islands, then Ameren Missouri would have stranded costs ratepayers will be required to cover. Therefore, Staff recommends that all revenues, expense and investment related to the proposed electric vehicle charging islands be recorded below-the-line.

Staff Recommendation

Staff recommends that the Commission only approve Ameren Missouri's proposed tariff sheets as they are currently filed on the condition that all revenues, expenses and investment associated with the program are recorded below-the-line in order to hold ratepayers harmless. Further, consistent with its recommendations in File No. EW-2016-0123, Staff recommends Ameren Missouri be required to gather data and report annually to the Commission and interested stakeholders on the impact of electric vehicle charging stations on grid reliability.

BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

In the Matter of the Applicat Company d/b/a Ameren Mis Of a Tariff Setting a Rate for Charging Stations	souri for Approval) <u>Case No. I</u>)	<u>CT-2016-0246</u>			
AFFIDAVIT OF JOHN P. CASSIDY						
STATE OF MISSOURI)) ss					
COUNTY OF ST. LOUIS)					
COMES NOW John lawful age; that he contribute and that the same is true and	ed to the foregoing S	taff Recommendation	he is of sound mind and on in Memorandum form; nd belief.			
Further the Affiant sa		P. Gassidy	Carridy			
	JURA	T				
Subscribed and sworr for the County of St. Louis of September, 2016.			ized Notary Public, in and . Louis, on this 27 th day			
LISA M. FERGUSON Notary Public - Notary Seal State of Missouri Commissioned for St. Louis County My Commission Expires: June 08, 20 Commission Number: 16631502	20	, 2 110110				

BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

In the Matter of the Application of Union Electric Company d/b/a Ameren Missouri for Approval Of a Tariff Setting a Rate for Electric Vehicle Charging Stations)))	<u>Case No. ET-2016-0246</u>
•	AFFIDAVIT OF BYR	ON M	. MURRAY
STATE OF MISSOURI)		
COUNTY OF COLE) ss)		

COMES NOW Byron M. Murray and on his oath states that he is of sound mind and lawful age; that he contributed to the foregoing Staff Recommendation in Memorandum form; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

Byron M. Murray

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 27th day of September, 2016.

Notary Public

DIANNA L. VAUGHT Notary Public - Notary Seal State of Missouri Commissioned for Cole County My Commission Expires: June 28, 2019 Commission Number: 15207377

BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

In the Matter of the Application of Union Electric Company d/b/a Ameren Missouri for Approval Of a Tariff Setting a Rate for Electric Vehicle Charging Stations) (Case No. ET-2016-0246)
AFFIDAVIT OF MICHA	AEL L. STAHLMAN
STATE OF MISSOURI)	

COMES NOW Michael L. Stahlman and on his oath states that he is of sound mind and lawful age; that he contributed to the foregoing Staff Recommendation in Memorandum form; and that the same is true and correct according to his best knowledge and belief.

Further the Affiant sayeth not.

COUNTY OF COLE

) ss

Michael L. Stahlman

JURAT

Subscribed and sworn before me, a duly constituted and authorized Notary Public, in and for the County of Cole, State of Missouri, at my office in Jefferson City, on this 27th day of September, 2016.

Notary Public (

DIANNA L. VAUGHT Notary Public - Notary Seal State of Missouri Commissioned for Cole County My Commission Expires: June 28, 2019 Commission Number: 15207377