BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of	)	
Kansas City Power & Light Company's	)	File No. ER-2014-0370
Request for Authority to Implement	)	
a General Rate Increase for Electric Service	)	

SIERRA CLUB INITIAL POST-HEARING BRIEF

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I. Introduction

Pursuant to the Commission's December 12, 2014 Order setting a procedural schedule and other requirements, Sierra Club, by and through counsel, hereby submits its initial post-hearing brief. For the reasons explained in further detail below, Sierra Club respectfully requests that the Commission issue an order in accordance with the following positions regarding Kansas City Power & Light Company's ("KCP&L" or the "Company") rate case application:

> VII. La Cygne Environmental Retrofit project—What level of KCPL's investment in the La Cygne Environmental Retrofit project should be included in KCPL's Missouri rate base?

The Commission should deny rate recovery for some or all of the capital costs associated with the environmental retrofit projects at La Cygne Units 1 and 2 because the Company's decision to proceed with construction of the retrofits based on its original Net Present Value Revenue Requirement ("PVRR") analysis submitted in Kansas Docket No. 11-KCPE-581-PRE in February 2011 was not prudent.

XVIII(A) Clean Charge Network—Should all issues associated with KCPL's Clean Charge Network be considered in a separate case, and not considered in this case?

Yes. Although the Sierra Club is generally supportive of the Company's proposed transportation electrification goals and commends the Company's vision, the details of this foundational program are consequential. Accordingly, the Commission should establish a separate docket to fully investigate the Clean Charge Network, thereby allowing the Company, Commission, and stakeholders to carefully consider the many important issues surrounding transportation electrification design.

XXV(B)(d)(1)—Rate design – Residential – Customer charge – at what level should the Commission set KCPL's residential customer charge?

The Commission should reject the Company's proposed residential fixed customer charge increase and direct the Company to instead maintain the customer charge at its current level. Preserving the existing customer charge is appropriate because it: (1) will maintain price signals that encourage conservation, (2) more closely comports with widely accepted rate design principles, and (3) will facilitate the state of Missouri to more easily meet its obligations under the Clean Power Plan. If the Commission determines that an increase in the residential customer charge is warranted, such an increase should be limited to the percentage increase applied to other residential rate elements.

XXXVIII. Decoupling (Sierra Club proposal) – should the Commission consider, in File No. AW-2015-0282 or a similar proceeding, decoupling of KCPL's revenues from customer usage?

Yes. Relative to current ratemaking practices, revenue decoupling allows for a better alignment of utility costs and revenues. Decoupling is a much better option for achieving revenue stability and sufficiency than increased customer charges, and it can also help align the Company's financial incentives with the goals of promoting energy efficiency under the

Missouri Energy Efficiency Investment Act ("MEEIA"). Any such investigation should consider revenue decoupling options that adhere to fundamental ratemaking principles and are generally in customers' best interest.

II. Argument

A. KCP&L's Determination to Move Forward with Retrofitting La Cygne Units 1 & 2 Was Not Prudent.

As part of this rate case, KCP&L seeks recovery for its share of a $1.23 billion retrofit project at the La Cygne Generating Station ("La Cygne").[1] La Cygne comprises two coal-fired units ("Units 1 & 2" or "the Plant"), which were placed in service during 1973 and 1977, respectively.[2] The retrofits to La Cygne Units 1 & 2 include the replacement and/or installation of numerous pollution control devices designed to bring the aging Plant into compliance with a series of environmental regulations: the Regional Haze Rule, the Mercury and Air Toxics Standards, the Cross-State Air Pollution Rule, certain National Ambient Air Quality Standards, and the Acid Rain Program.[3] KCP&L owns 50% of La Cygne and is subsequently responsible for 50% of the total retrofit costs (the other 50% is owned by a subsidiary of Westar Energy, Inc.).[4]

Aware of these environmental compliance obligations, KCP&L conducted an analysis of whether to retrofit or retire La Cygne Units 1 & 2. That analysis, undertaken in 2010,[5] was submitted to the Kansas Corporation Commission ("KCC") as part of a Petition for Predetermination of Rate-Making Principles and Treatment filed on February 23, 2011[6] and

[1] Exhibit 402, Direct Testimony of Rachel S. Wilson at 5:12-13.
[2] Exhibit 102, Direct Testimony of Robert N. Bell at 7:9-13.
[3] Exhibit 402, Direct Testimony of Rachel S. Wilson at 5:13-17; Exhibit 127, Direct Testimony of Paul M. Ling at 3:3-10.
[4] Exhibit 102, Direct Testimony of Robert N. Bell at 7:13-15; Exhibit 109, Direct Testimony of Burton L. Crawford at 16:8-9.
[5] Exhibit 109, Direct Testimony of Burton L. Crawford at 20:2-3.
[6] Kansas Corporation Commission Dkt. No. 11-KCPE-581-PRE.

seeking authorization to recover expenditures on the La Cygne retrofits.[7] The KCC granted KCP&L's Predetermination Petition on August 19, 2011,[8] and KCP&L began to spend money on the retrofits in **_____ **.[9]

As KCP&L's predetermination petition was pending, the U.S. natural gas market was undergoing significant structural changes due to the development of hydraulic fracturing technologies, causing natural gas price forecasts to drop significantly in 2011 and in the years that followed.[10] KCP&L's retrofit analysis relied on a composite fuel price forecast prepared in October 2010,[11] which itself incorporated individual fuel price forecasts—including EIA's Annual Energy Outlook ("AEO") 2010—dating as far back as April 2010.[12] EIA's AEO 2011 forecast, released in April 2011 during the pendency of KCP&L's predetermination petition and of which KCP&L was well aware,[13] showed a marked decrease in natural gas prices significant enough to eliminate the Company's projected benefits from retrofitting the Plant.[14] The KCC's August 2011 Order in the predetermination proceeding firmly established that KCP&L had an ongoing obligation to examine the prudence of the retrofit project—specifically referencing the volatility of natural gas prices.[15] Yet at no point before beginning to spend money on the retrofit

[7] Exhibit 402, Direct Testimony of Rachel S. Wilson at 6:5-10; *see also* Tr. at 772:8-20.
[8] Exhibit 402, Direct Testimony of Rachel S. Wilson at 27:18-21; Tr. at 772:21-23.
[9] Exhibit 402, Direct Testimony of Rachel S. Wilson at 27:22-26.
[10] Exhibit 403, Surrebuttal Testimony of Rachel S. Wilson at 2:8-12; Exhibit 402, Direct Testimony of Rachel S. Wilson at 21:10 – 22:6; *see also* Exhibit 403, Surrebuttal Testimony of Rachel S. Wilson at 4:14-17, 5:9-14 – 6:3 (**_____ **).
[11] Tr. at 772:8-15.
[12] Exhibit 402, Direct Testimony of Rachel S. Wilson at 16:18-19; *see also* Tr. at 772:24 – 773:7, 774:17-20.
[13] *See* Tr. at 773:3-20, 774:21 – 775:7.
[14] Exhibit 402, Direct Testimony of Rachel S. Wilson at 4:20-27; 21:10-18, 35:10-14; Tr. at 774:21 – 775:7. As discussed below, Sierra Club witness Rachel Wilson did a new analysis that found that the 2011 decrease in natural gas price projections dropped projected prices below the breakeven point at which it became more cost-effective to retire La Cygne Units 1 & 2 rather than retrofit them. *See infra* at p. 8-9.
[15] Kansas Corporation Commission. Order Granting KCP&L Petition for Predetermination of Rate-Making Principles and Treatment. Dkt. No. 11-KCPE-581-PRE at 35 (Aug. 19, 2011).

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project did KCP&L re-evaluate whether it was prudent to retrofit La Cygne Units 1 & 2 in light of the continued and significant decrease in natural gas prices.[16]

Sierra Club has introduced evidence demonstrating significant defects in KCP&L's retrofit analysis and creating a serious doubt as to the prudency of the La Cygne retrofits—the cost of which underlies a significant portion of KCP&L's proposed rate increase. These defects should have been apparent to KCP&L in 2011, and timely action to correct and update the retrofit analysis likely would have led KCP&L to the conclusion that it was economically expedient to retire rather than retrofit La Cygne Units 1 & 2. KCP&L has not justified its failure to do so and should be barred from recovering the cost of the retrofits as a result. Ratepayers would be harmed if KCP&L were allowed rate recovery for the imprudent costs of retrofitting rather than retiring La Cygne Units 1 & 2.

1. Legal Standard.

Utilities are obliged under Missouri law to provide electric service that is "safe and adequate and in all respects just and reasonable," including the provision of just and reasonable rates.[17] Further, "[a]t any hearing involving a rate sought to be increased, the burden of proof to show that the increased rate or proposed increased rate is just and reasonable shall be upon the [utility] . . . ."[18] Although the Commission employs a presumption of prudence in determining whether particular costs and expenses can be passed through to customers as part of just and reasonable rates, this presumption affects only the burden of proceeding.[19] The presumption "does not change the burden of proof, which by statute must remain on the utility."[20]

[16] Tr. at 775:8-22, 784:11 – 785:1.
[17] Mo. Rev. Stat. § 393.130.1.
[18] Mo. Rev. Stat. § 393.150.2.
[19] *Office of Pub. Counsel v. Mo. Pub. Serv. Comm'n*, 409 S.W.3d 371, 376, 379 (Mo. 2013).
[20] *Id.* at 379.

Under this standard, a utility's actual costs of providing service are presumed to be prudently incurred unless a party provides evidence that creates a "serious doubt as to the prudence of an expenditure."[21] Once this showing of serious doubt is made, however, the burden of proceeding shifts to the utility to prove the expenditure's prudence.[22] In evaluating the prudence of a utility's expenditures, the Commission reviews "whether the utility's conduct was reasonable at the time, under all of the circumstances."[23] A disallowance is appropriate if the Commission finds that the utility acted imprudently and that its imprudence harmed ratepayers.[24]

2. Sierra Club Set Forth Evidence Creating a Serious Doubt as to the Prudency of the La Cygne Retrofits.

Sierra Club set forth evidence on several points demonstrating, at a minimum, a serious doubt as to the prudence of KCP&L's expenditures on the $1.23 billion La Cygne retrofit project.

Most significantly, KCP&L's failure to timely re-evaluate its retrofit determination in light of changed circumstances—and before beginning to spend money on the retrofits—was imprudent. As Sierra Club has demonstrated, KCP&L 1) knew that the outcome of its retrofit analysis was heavily dependent on natural gas projections;[25] 2) knew that retrofitting the La Cygne Units was not the least-cost option under low gas scenarios;[26] 3) knew that natural gas price projections had decreased significantly between the time of the 2010 natural gas forecasts

[21] *Id.* at 376.
[22] *Id*. at 376, 379.
[23] *State ex rel. GS Technologies Operating Co., Inc. v. Pub. Serv. Comm'n of State of Mo.*, 116 S.W.3d 680, 694 (Mo. App. W.D. 2003).
[24] *State ex rel. Associated Natural Gas Co. v. Pub. Serv. Comm'n of State of Mo.*, 954 S.W.2d 520, 529-30 (Mo. App. W.D. 1997).
[25] Exhibit 402, Direct Testimony of Rachel S. Wilson at 20:13-23 (evaluating data from KCP&L's early 2011 retrofit analysis); *see also id.* at 19:8-9, 24:12 – 25:1.
[26] Exhibit 402, Direct Testimony of Rachel S. Wilson at 8:3-8; Exhibit 109, Direct Testimony of Burton L. Crawford at 24:15-18; Tr. at 781:18-21, 782:15 – 783:3.

used in the retrofit analysis and Spring 2011;[27] and yet 4) failed to timely re-evaluate its retrofit analysis in mid- to late 2011, while KCP&L's Kansas predetermination application was pending and before KCP&L began to spend money on the retrofit project.[28]

Indeed, EIA's AEO 2011 forecast, released in April 2011, showed a drop in natural gas prices below the breakeven point at which it became more cost-effective to retire La Cygne Units 1 & 2 rather than retrofit them.[29] Sierra Club witness Rachel Wilson determined that the PVRR of **_____ _____ ** fell below the PVRR of KCP&L's preferred plan to retrofit La Cygne Units 1 & 2 when the levelized price of natural gas was $**___ **/MMBtu or less—just $ *___ **/MMBtu less than KCP&L's mid gas case.[30] The AEO 2011 forecast showed gas prices equal to $6.16/MMBtu on a levelized basis, which is $**___ **/MMBtu lower than the $**___ **/MMBtu breakeven point.[31] Had KCP&L reevaluated its retrofit plan during mid- to late 2011 using then-current and available natural gas price forecasts, KCP&L could have changed course before spending a single dollar on the costly retrofits. KCP&L has not justified its failure to do so.

KCP&L's initial retrofit analysis was deficient for other reasons as well. It unreasonably restricted the range of alternatives considered,[32] and in particular failed to consider adequate

[27] Exhibit 402, Direct Testimony of Rachel S. Wilson at 4:20-24 ("Natural gas prices declined significantly in 2011 and 2012 . . . ."), 16:18 – 17:4 (KCP&L composite natural gas price forecast created in part from April 2010 forecast); *see also* Exhibit 103, Direct Testimony of Wm. Edward Blunk at 34:14-16 (composite natural gas price forecast used in retrofit analysis prepared in October 2010); Exhibit 104, Rebuttal Testimony of Wm. Edward Blunk at 3:20-21(October 2010 composite incorporated AEO 2010); Tr. at 772:8 – 773:20, 774:21 – 775:3 (KCP&L receives Energy Ventures Analysis, PIRA, CERA, and EIA natural gas price forecasts as they are released, including EIA's AEO 2011 released in April 2011); *see also* Tr. at 774:13-16 (acknowledging that the oldest forecasts used in the October 2010 composite projected the highest natural gas prices).
[28] Tr. at 772:8-23, 774:21 – 775:25, 784:11 – 785:1.
[29] Exhibit 402, Direct Testimony of Rachel S. Wilson at 20:4 – 21:18.
[30] Exhibit 402, Direct Testimony of Rachel S. Wilson at 21:1-7.
[31] Exhibit 402, Direct Testimony of Rachel S. Wilson at 21:12-14.
[32] Exhibit 402, Direct Testimony of Rachel S. Wilson at 30:15 – 31:3.

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levels of energy efficiency and renewable energy.[33] Had KCP&L considered a greater range of resource types, it may have discovered a less-costly mix of resources sufficient to meet the Company's energy and capacity needs and avoid the $1.23 billion retrofit project.[34] KCP&L also failed to account for the full costs of compliance with then-impending regulations affecting coal-fired power plants.[35] Inclusion of these costs in the retrofit analysis would have negatively affected the economics of retrofitting La Cygne Units 1 & 2 relative to retirement and replacement with natural gas-fired generation.[36] Although these and other concerns were repeatedly raised with the Company in 2011, KCP&L took no action to correct these deficiencies and reassess its retrofit determination before commencing construction of the retrofit projects.[37]

In short, KCP&L's decision to proceed with retrofitting La Cygne Units 1 & 2 in **_____ ** was not "reasonable at the time, under all of the circumstances."[38]

3. KCP&L Has Failed to Justify the Prudence of Its Retrofit Determination.

In light of the falling natural gas prices, KCP&L was obligated to update its retrofit analysis with current natural gas forecasts before moving forward with the La Cygne retrofits. KCP&L failed to do so, and the Company's attempts to justify this failure are unavailing.

Although it may be true that resource planning processes require a significant amount of time from start to finish,[39] that does not excuse KCP&L's failure to do *any* analysis in mid- to late 2011 to determine whether the La Cygne retrofits were a lower-cost option than retirement

[33] Exhibit 402, Direct Testimony of Rachel S. Wilson at 31:20 – 32:4, 33:4-5, 18-20; *see also* Tr. 826:22 – 827:3 (noting the effectiveness of wind power as part of a resource portfolio including natural gas).
[34] Exhibit 402, Direct Testimony of Rachel S. Wilson at 35:21-27.
[35] Exhibit 402, Direct Testimony of Rachel S. Wilson at 34:1-13 (coal combustion residuals and wastewater effluent compliance obligations require an additional $22.3 million capital expenditure, of which KCP&L's share would be 50%, and raise fixed operation and maintenance costs by $0.60/kW in 2012 dollars); Exhibit 110, Rebuttal Testimony of Burton L. Crawford at 6:1-5.
[36] Exhibit 402, Direct Testimony of Rachel S. Wilson at 34:6-8.
[37] Exhibit 402, Direct Testimony of Rachel S. Wilson at 35:18-27.
[38] *State ex rel. GS Technologies Operating Co., Inc. v. Pub. Serv. Comm'n of State of Mo.*, 116 S.W.3d 680, 694 (Mo. App. W.D. 2003).
[39] Exhibit 402, Direct Testimony of Rachel S. Wilson at 15:3-7; Tr. at 784:1-3.

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in the face of falling natural gas prices. KCP&L could have easily dropped an up-to-date natural gas forecast into its pre-existing retrofit modeling as a test case to determine if further analysis was warranted.[40] As KCP&L witness Wm. Edward Blunk testified, the Company receives updates to each of the forecasts it relies on "as each of those forecasts are released.'"[41] It would therefore have been a simple task to input a newly-released forecast—such as the AEO 2011 in April 2011—into KCP&L's production simulation model and generate new PVRR values for resource portfolios that had already been modeled.[42] The Company has offered no explanation for its failure to do this simple analysis in mid- to late 2011.

Neither do KCP&L's subsequent IRP analyses in 2012-2015 compensate for KCP&L's failure to reevaluate the retrofit decision in 2011 before moving forward with the retrofits. As a threshold matter, KCP&L's 2012 IRP was released in April 2012,[43] months after KCP&L had begun to spend money on the retrofit project and far too late to avoid stranded costs.[44] Moreover, KCP&L's April 2012 IRP was subject to the same major criticisms as the initial retrofit analysis. It also relied on outdated natural gas price forecasts—at least six months and as many as 17 months out-of-date.[45] In fact, the April 2012 IRP relied in part on a natural gas price forecast from December 2010 and therefore predating both KCP&L's initial retrofit analysis submitted as part of the Kansas 2011 predetermination proceeding and the subsequent

[40] Exhibit 402, Direct Testimony of Rachel S. Wilson at 15:6-15. As KCP&L was well aware, of the forecasts forming the October 2010 composite, it was the oldest forecasts that projected the highest natural gas prices. Tr. at 774:13-16.
[41] Tr. at 773:14-20.
[42] Exhibit 402, Direct Testimony of Rachel S. Wilson at 15:17-21.
[43] Exhibit 402, Direct Testimony of Rachel S. Wilson at 14:24; Tr. at 783:24-25.
[44] Exhibit 402, Direct Testimony of Rachel S. Wilson at 27:24-26 (indicating that KCP&L began to spend money on the retrofits in **_____ **). KCP&L's IRP Updates in 2013-2015 are simply too far removed in time to compensate for or have any bearing on the prudence of KCP&L's retrofit actions in 2010-2012.
[45] Exhibit 402, Direct Testimony of Rachel S. Wilson at 14:18 – 15:2.

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precipitous drop in natural gas price projections.[46] The April 2012 IRP likewise failed to properly consider demand side management ("DSM")[47]—at that time, KCP&L was still more than a year away from completing its DSM potential study and making its first MEEIA filing.[48] These flaws in KCP&L's April 2012 IRP make it an inadequate substitute for the reanalysis it should have done in 2011, prior to beginning to spend money on the retrofit project.[49]

Nor is the KCC's 2011 grant of the Company's Predetermination Petition proof of the prudence of KCP&L's actions. The Kansas Corporation Commission does not speak for Missouri. There is currently no predetermination process in Missouri or requirement that utilities apply for a certificate of public convenience and necessity for major environmental retrofits such as the La Cygne projects.[50] This rate case is this Commission's sole opportunity to evaluate the prudence of KCP&L's actions to retrofit rather than retire La Cygne Units 1 & 2—even though the Company's key decisions on that project took place in 2010 and 2011. As this Commission

[46] Exhibit 402, Direct Testimony of Rachel S. Wilson at 14:22 – 15:1. Sierra Club also raised this deficiency in the comments that it filed with the Commission on KCP&L's 2012 IRP. *See* MPSC Case No. EO-2012-0323. In the Matter of the Resource Plan of KCP&L. Doc. 29. Comments of Sierra Club at 8-9 (Sept. 6, 2012) (raising as a deficiency that KCP&L's reliance on outdated natural gas price forecasts as well as an outlier forecast inflated the Company's natural gas price projections and concluding that KCP&L's use of unreasonably high natural gas price projects skewed its analysis in favor of retrofitting rather than retiring La Cygne Units 1 & 2).

[47] Exhibit 402, Direct Testimony of Rachel S. Wilson at 32:5-19 (April 2012 IRP predated KCP&L's 2013 DSM potential study and included a sensitivity analysis including increased levels of DSM but rejected those portfolios as not realistically achievable without any meaningful analysis); *see also id.* at 32:21 – 33:2 (April 2012 IRP failed to evaluate Combined Heat and Power resources).

[48] *See* MPSC Case No. EO-2014-0095. In the Matter of KCP&L's Filing for Approval of Demand-Side Programs and for Authority to Establish Demand-Side Programs Investment Mechanism. Doc. 4. Application of KCP&L (Jan. 7, 2014); *see also* MPSC Case No. EO-2012-0323. In the Matter of the Resource Plan of KCP&L. Doc. 29. Comments of Sierra Club at 13-15 (Sept. 6, 2012) (addressing KCP&L's failure to thoroughly evaluate DSM as required by Missouri's IRP rules). Other parties to the 2012 IRP proceeding also raised numerous deficiencies concerning KCP&L's DSM analysis. *See* Case No. EO-2012-0323, Doc. 27, App'x A at 43-44 (Sept. 6, 2012) (MPSC Staff Report); Case No. EO-2012-0323, Doc. 24 at 11-17 (Sept. 6, 2012) (MDNR Comments); Case No. EO-2012-0323, Doc. 28 (Sept. 6, 2012) (NRDC Comments).

[49] *See* Tr. at 777:11-12.

[50] An amendment to 4 CSR 240-3.105 has been drafted by Staff through workshops with stakeholders that would, *inter alia*, require utilities to apply for a certificate of public convenience and necessity for major environmental retrofits at existing generating facilities, but the draft regulation has not yet been formally proposed by the Commission. *See* MPSC Case Nos. EX-2014-0205, EW-2014-0239, and EX-2015-0225 (regarding proposal to amend Commission Rule 4 CSR 240-3.105).

acknowledged in KCP&L's last rate case, several factors may militate in favor of retiring aging coal-fired plants:

> When running a power plant costs more than the revenue it generates, it is time to consider retiring the plant. Retirement of coal-fired plants is common for several reasons. The cost of complying with environmental regulations are rising. Market prices for natural gas and wholesale electricity are declining. The availability of alternative resources like renewable energy and energy efficiency are growing. Those trends make sales of electricity off-system less profitable.[51]

KCP&L should have taken care to reassess the merits of retrofitting the La Cygne Units as natural gas prices continued to fall—and in particular, *before* beginning to spend any money on the retrofit projects.

Indeed, the KCC's August 2011 Predetermination Order itself made clear that the Company had an ongoing obligation to examine the prudence of the retrofit project:

> [T]he issue of prudence does not end with a finding by this Commission that, at the time its determination was made, KCP&L made a prudent decision that the La Cygne Project was the least cost option. While implementing the La Cygne Project, KCP&L will need to continue to be careful, use caution, be attentive, and use good judgment in addressing ongoing changes that arise and in making decisions regarding the La Cygne Project to be sure its decision remains prudent.[52]

In so doing, the KCC also made specific reference to volatility of natural gas prices.[53]

KCP&L has not offered any evidence to justify its failure to update its retrofit analysis with current natural gas price forecasts in 2011 before it began to spend money on the retrofit projects. KCP&L may not excuse its failure to do so via reference to a predetermination order in a different state that itself exhorted KCP&L to continue assessing whether its decision to retrofit the La Cygne Units remained prudent in the face of changing circumstances.

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[51] MPSC Case Nos. ER-2012-0174 and ER-2012-0175. Doc. 703. Report and Order at 49-50 (Jan. 9, 2013).
[52] Kansas Corporation Commission. Order Granting KCP&L Petition for Predetermination of Rate-Making Principles and Treatment. Dkt. No. 11-KCPE-581-PRE at 35 (Aug. 19, 2011).
[53] *Id.* ("[T]he Commission cautions that it recognizes events change. . . . For example, witnesses discussed the historical volatility of the cost of natural gas as well as changing requirements related to protecting the environment.").

4. The Commission Should Deny Rate Recovery for Some or All of the La Cygne Retrofit Costs.

KCPL's initial analysis of the La Cygne retrofit decision and its subsequent failure to timely re-evaluate that decision in light of changed circumstances—and before beginning to spend money on the retrofits—was imprudent. As such, the Commission should deny rate recovery for some or all of the capital costs associated with the environmental retrofits at La Cygne Units 1 and 2. Although it would be appropriate for the Commission to deny the costs of the retrofits in their entirety, the Commission should at minimum deny rate recovery for the difference between the cost of the retrofits and the cost to retire the plant—a value of $68 million in present-value terms.[54]

B. All Issues Associated with the Clean Charge Network Should Be Considered in a Separate Case.

To date, Sierra Club has not offered any views in this proceeding on the electric vehicle-related issues raised by KCP&L's proposed Clean Charge Network ("CCN").[55] In pre-filed testimony and at the hearing, however, parties with both supporting and opposing views of KCP&L's proposal invoked Sierra Club statements and online materials to support their positions.[56] Consequently, Sierra Club takes this opportunity to clarify its position on electric vehicle ("EV") programs generally and to offer its recommendations for evaluation of the Clean Charge Network. In short, as discussed below, Sierra Club is encouraged by KCP&L's interest in EVs and EV-support infrastructure. Sierra Club is hopeful that a successful program can be established and over time expanded in KCP&L's territory, and Sierra Club looks forward to supporting the PSC's approval of such a program in the future. At the same time, to maximize

[54] Tr. at 824:13-21.
[55] Sierra Club reserved the right to take additional positions not specifically outlined in its Statement of Position presented to the Commission prior to the evidentiary hearing. Dkt. No. 267, Sierra Club Statement of Position at 1.
[56] Exhibit 121, Surrebuttal Testimony of Darrin R. Ives at 48:19–49:8; *id.* at Schedule DRI-11; *see also* Tr. at 580:12-20, Tr. at 688:7-13, Tr. at 715:6-17, and Tr. at 716:15-18.

grid benefits to all of KCP&L's customers and to the Kansas City region, the CCN must be properly designed to structure EV load in the best possible manner. To this end, Sierra Club supports a separate docket to review the issues raised by KCP&L's program. To the extent that parties are concerned that a separate docket will unduly delay the benefits that an EV program can deliver, the docket could be expedited.

1. Utility Supported Electric Vehicle Programs Can Deliver Numerous Benefits If Effectively Designed.

Widespread transportation electrification has the potential to improve welfare in many ways, particularly where EVs are efficiently integrated into the electric grid. Strong vehicle-grid integration can unlock economic benefits for all utility customers, as well as facilitate the increased use of clean energy. A positive interaction between EVs and the grid, therefore, can maximize the public health and energy security benefits of transportation electrification. At the same time, poor vehicle-grid integration risks compromising the benefits of EVs and creating new challenges for utilities and ratepayers. For this reason, EV-related utility programs and investments, particularly rate-based investments, should be designed to leverage electric utilities' ability to address market gaps, and to maximize benefits for ratepayers and the grid.

a. Widespread Transportation Electrification Can Lower Electricity Rates, Reduce Dependence on Oil, Cut Greenhouse Gas and Criteria Pollutant Emissions, and Support Higher Penetration of Renewable Energy.

Widespread electrification and the growth of clean transportation can provide benefits both to EV drivers and community members who do not own EVs. The California Transportation Electrification Assessment ("CalTEA"), on which KCP&L partially relied in creating the Clean Charge Network, details many of these advantages.[57]

[57] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives at 4:4-7.

The report found that both the private and societal benefits of EVs outweigh associated costs into the future.[58] EV charging rates can be structured to recover the costs of the investments needed to support them and provide net revenues. In fact, if properly designed, EV charging rates can ultimately reduce average electricity rates even for non-EV owners. By displacing internal combustion engine cars that run on gasoline, EVs can also reduce our dependence on oil, cut emissions of criteria pollutants, and decrease greenhouse gases.[59] EVs provide further climate benefits by supporting higher penetration of renewable generation on the electric grid.[60] These are among the reasons why, as a general matter, Sierra Club supports the widespread electrification of vehicles.[61]

i. Efficient Integration of EVs Onto the Grid Can Reduce Rates, Improve Reliability, and Smooth Integration of Renewable Energy.

If properly integrated, EVs can provide many benefits to the electric grid and its users. EV proliferation will increase load. If charging is managed so that it occurs during off-peak periods, this new load can be served by existing and often underutilized infrastructure, including renewable energy. In so doing, off-peak charging can produce minimal detrimental impacts to the grid and significant benefits.[62] Furthermore, by increasing utilization of existing assets, EV charging has the potential to lower electricity rates for all ratepayers.[63] If EV charging is efficiently incorporated into the electricity system, building new power plants can be minimized or avoided altogether as existing, underutilized off-peak and nighttime capacity provides the

[58] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-2 at 28.
[59] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-2 at 2, 14, 75.
[60] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-3 at 20.
[61] Exhibit 121, Surrebuttal Testimony of Darrin R. Ives at Schedule DRI-11.
[62] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-2 at 38.
[63] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-2 at 3.

electricity needed for EVs.[64] If managed correctly, therefore, EV loads can benefit, rather than burden, the electric grid.

ii. Poor Integration of Added Load from Charging EVs Could Slow Decarbonization and Emission Reductions, Worsen Grid Reliability, and Increase Electricity Bills.

An increase in electricity demand, if not properly managed, could undermine the potential benefits of EVs and present new challenges. Some challenges lie at the distribution level: according to the CalTEA study, if several clustered EV owners all charge their cars during peak electricity use, demand could exceed the rated capacity of installed equipment, requiring upgrades.[65] Other challenges are system-wide: for instance, increased load could drive a need for new investment in generation, transmission, and distribution capacity, potentially raising rather than lowering electricity rates for consumers.[66] Especially where the primary fuel is a heavily emitting source, such as a coal plant, improperly managed EV integration could result in greater pollution as well. Thus, while EV charging can provide great benefits, it also presents risks and must be thoughtfully managed.

b. To Achieve and Maximize Benefits That Can Flow From Utility Investment in EV Charging, Programs Must Be Properly Designed and Include Certain Design Elements.

Utility-managed EV programs should include certain program design elements and reflect certain guiding principles if they are to maximize the benefits that they provide. These principles are outlined below.

[64] Exhibit 121, Surrebuttal Testimony of Darrin R. Ives at Schedule DRI-11.
[65] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-3 at 35.
[66] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-2 at 38.

i. Mechanisms for efficient integration of new EV load onto the grid.

Proper vehicle-to-grid integration is essential to maximizing the potential benefits that EVs can provide and avoiding the creation of new challenges for utilities and utility customers. Effective integration through the use of the tools outlined below is very important to ensuring that new EV load is managed effectively.

a) Time-variant pricing.

Time-variant pricing is crucial to incentivizing EV owners to charge their vehicles when demand is low, ensuring that the new EV load will neither overburden the grid, nor require the unnecessary expansion of new energy infrastructure, while also facilitating the integration of renewable energy to provide an ever increasing amount of the nation's energy generation. Utilities must provide incentives to charge during off-peak times, such as at night, and when renewable energy generation is high.[67] The CalTEA report found that shifting EV charging to off-peak periods significantly increases net benefits, including by decreasing energy generation costs and avoiding or delaying investment in generation, transmission, and distribution capacity.[68]

There are different types of time-variant pricing. Time of use ("TOU") pricing provides a lower price during typically off-peak times. The CalTEA report found significant benefits to using TOU pricing for EV drivers; the use of a TOU rate as opposed to a traditionally structured price was projected to increase both private and societal benefits of EVs.[69] In comparing TOU rates to three other pricing scenarios, the CalTEA study found that TOU resulted in the lowest

[67] Exhibit 121, Surrebuttal Testimony of Darrin R. Ives at Schedule DRI-11.
[68] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-3 at 19.
[69] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-2 at 28.

net revenues, but also the lowest costs for both the utility and EV owners.[70] By reducing costs and raising net benefits for EV owners as compared to flat rate pricing, TOU rates also encourage EV adoption, which serves to increasingly maximize all of the advantages created by vehicle-grid integration.[71]

Dynamic pricing is a more precise instrument than TOU pricing, setting electricity rates based on real market demand. Dynamic pricing rates are usually provided one day ahead, whereas TOU rates are consistent for any given time every day. The CalTEA study found even higher benefits associated with dynamic pricing than with TOU rates. TOU rates incentivize charging at night and during other off-peak periods, but do not actively encourage charging to absorb overgeneration, as dynamic pricing can.[72] Furthermore, while TOU and dynamic pricing both successfully discourage charging during peak times, because the TOU rate is consistent across the seasons—unlike dynamic pricing—it does not account for the changes in renewable energy generation throughout the year.[73] Dynamic pricing is therefore a superior mechanism for leveraging EV electricity demand to integrate new renewable energy onto the grid. The CalTEA study found that a dynamic pricing scenario could reduce the charging costs by hundreds of dollars per vehicle over a TOU rate.[74]

Time-variant pricing is extremely valuable to ensuring successful integration of EVs into the grid. TOU pricing is one useful mechanism, but dynamic pricing is a more precise instrument and therefore would be a superior method of providing price incentives to EV users.

[70] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-3at 17.
[71] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-3 at 62.
[72] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-3 at 69.
[73] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-3 at 70-71.
[74] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-3 at 20.

b) Managed charging.

Another tool that is extremely valuable to effectively integrate EVs onto the grid is managed charging, or the technical capability to modulate electric charging of a vehicle in real time by providing either more or less electricity, or switching the load off completely. Managed charging allows electricity providers to prevent EV charging from taking place during peak distribution loads.[75] The CalTEA report emphasizes that utilities funding EV charging infrastructure must include incentives for EV owners, site hosts and third-party charging station operators to utilize managed charging in order to respond to the grid's needs.[76] New EV load can reduce average rates for customers who do not own EVs while in both default and managed charging scenarios, but, utilities can only actively reduce the fixed capacity, variable, and environmental costs of the increased load when they have the capability to engage in managed charging.[77] Managed charging is therefore another highly valuable tool for bringing EVs into the grid.

c) Infrastructure to meet current and future needs.

Finally, successful grid integration requires technology that can fulfill both current and future needs associated with EVs. For example, charging stations should be equipped with meters to collect, store and manage charging data that can be used to design smart pricing schemes that are based on demand. The CalTEA report identifies a potential need for "complex arrangements" in order to meter the EV load, particularly if it is not feasible to connect to the premises or tenant meter.[78] In fact, according to the report, there is a risk that consumers will decline to install EV charging infrastructure due to the additional cost of a separately metered

[75] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-3 at 45.
[76] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-3 at 75.
[77] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-3 at 79-80.
[78] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-2 at 46.

time-variant rate.[79] It is therefore important that utility-managed EV programs provide the infrastructure needed for effective vehicle-to-grid integration.

Current infrastructure should also anticipate future needs, such as bidirectional or vehicle-to-grid charging, which will be a critical component of widespread EV use in the years to come. According to the CalTEA report, investment in technology and infrastructure that will facilitate EV adoption is essential in the near-term.[80] Installing charging stations that anticipate technological innovation and necessity should take place now.

i. Strategic Siting of EV Infrastructure is Necessary to Address Market Gaps and Serve Disadvantaged Communities.

Sierra Club supports the siting of EV infrastructure and charging stations in locations that will provide for long charge times and access for underserved communities. Strategic deployment of EV charging stations will also include siting that draws attention to and raises awareness about the benefits of EVs.

The CalTEA report also identifies the need for greater access to EV charging at multi-unit dwellings, public places, and workplaces, recognizing that success in this arena is critical to achieving significant EV penetration.[81] The study found that "make ready" costs for multi-family, public, and workplace charging are relatively high, and pose a barrier to widespread EV adoption.[82] While multi-unit dwellings represent a commonly identified gap in charging infrastructure, workplace charging is also crucial because of the long dwell times that it provides.[83] These locations can be ideal for charging because vehicles are parked there for long periods of time, in addition to the convenience of charging at home or work during off-peak

[79] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-2 at 46.
[80] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-3 at 75.
[81] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-3 at 46.
[82] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-3 at 74.
[83] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-3 at 4.

periods. By contrast, supermarkets, for example, are typically not worthwhile locations at which to install EV charging infrastructure because drivers are not parked very long while grocery shopping.[84] Successful EV programs must deploy charging stations strategically to ensure their utilization, maximize charge times, and address market gaps and inequalities.

ii. Data Transparency and Opportunity is Essential for Meaningful Stakeholder Review.

Given the nascent nature of the EV industry, data collection and review is critical to developing effective programs. According to CalTEA, little data is currently available to understand consumer willingness to pay for charging away from home.[85] Such information is essential to designing smart systems that employ time variant pricing to properly incentivize EV drivers to charge during periods that will best serve the grid and its users. Furthermore, it is important that data be widely available to encourage the development of a competitive market of EV and charger providers. Sierra Club therefore supports both the collection of such data, and updates to stakeholders, the Commission, and the public at regular intervals in order to help inform future EV policy.

iii. Opportunities for EV Drivers to Maximize Cost Savings.

EV drivers can enjoy significant cost savings because they do not need to buy gasoline, and a successful EV program should aim to provide opportunities for drivers to maximize those benefits. The CalTEA study projects net benefits for EV drivers per vehicle at $2500 by 2023, rising to $5200 by 2030, even without the federal tax credit.[86] The net benefits of EVs increase with time-variant pricing. Net total resource cost benefits under a TOU scenario, for example,

[84] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-3 at 48.
[85] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-2 at 54.
[86] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-3 at 58.

were 28% higher per vehicle than for other scenarios.[87] By employing the vehicle-to-grid mechanisms outlined above, utilities can raise cost savings for EV drivers and encourage greater market penetration, in addition to providing benefits to utility customers and the grid.

iv. Support for a Competitive, Self-Sustaining and Inclusive Market for the EV Supply Equipment and Services Industry.

Because the EV market is still emerging, it is important to promote competition and sustainability to ensure that the industry will thrive. As the CalTEA report explains, utilities possess the unique opportunity to develop awareness about charging options and remove perceived barriers to EV ownership.[88] Data sharing, as discussed above, is critical to enabling new vehicle and charging station providers to enter into the market. Competition will ensure that vehicles, charging infrastructure, and charging itself are not prohibitively expensive. Sierra Club believes that efforts to create a robust and sustainable market are therefore a crucial component of any effective EV program. In this regard, programs in California are being developed in a way to ensure a market for third-party providers of EV charging infrastructure and services alongside utility involvement.

v. Utilities Should Prioritize Market Education and Outreach When Designing EV Programs.

Achieving widespread electrification of the fleet will require a concerted effort to raise awareness about the availability and benefits of EVs. The CalTEA report highlights the importance of communicating with consumers about the financial and non-monetary advantages of driving EVs. These include cost savings associated with fueling from the grid rather than a gas station, and the superior driving experience provided by features such as the quiet vehicle

[87] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-3 at 19.
[88] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-2 at 49.

operation of an EV as compared to a car with an internal combustion engine,[89] reduced maintenance, and frequently quicker acceleration.

The CalTEA study emphasizes the role that utilities must play in raising awareness and distributing information about EVs. Customers frequently consider utilities trusted advisors. This provides utilities with the opportunity to inform consumers about the welfare-improving capacity of EVs. In fact, the Electric Power Research Institute reports that there is a strong belief among potential EV drivers that utilities bear the responsibility of educating consumers.[90] Utilities are uniquely positioned to undertake the outreach that is essential to achieving widespread EV adoption.

2. A Separate Proceeding Would Allow the Commission to More Fully Evaluate KCP&L's Proposed Clean Charge Network to Ensure that It and Future Programs in Missouri are Designed to Maximize Benefits to the Grid, the Company's Customers, and the Broader Welfare of the Community from Emission Reductions and Increasing Renewable Energy Integration.

The Clean Charge Network is a first-of-its-kind program for the state of Missouri. If approved for rate recovery, it will be a novel undertaking for the Commission and will set a benchmark for future EV-related programs. As such, it is precedent setting, and the Commission should ensure that it incorporates the necessary program design elements to achieve its stated policy goals. Because a decision on the CCN will result in important and far-reaching effects for the future of the EV market in at least two states, and because the CCN raises foundational questions of Missouri utility law and policy regarding utilities and EV charging, the Commission and stakeholders would likely benefit from the consideration of the issues raised by the CCN in a dedicated proceeding. Such a proceeding could be conducted in an expedited fashion to ensure it does not unduly delay the important benefits that EV programs can deliver.

[89] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-2 at 59.
[90] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives, Schedule DRI-2 at 61.

c. It Is Not Clear Whether the Clean Charge Network's Proposed Program Design Will Achieve or Maximize the Potential Benefits of Utility Supported EV Charging.

As described above, Sierra Club identifies several benefits of utility supported EV charging and outlines strategies for achieving those benefits. In doing so, Sierra Club relies on the same studies used by KCP&L to create the CCN. KCP&L shares several of these policy objectives and champions the CCN in reliance on some of the same benefits, which include off-peak charging, downward rate pressure, and opportunities for managed charging and solar integration.[91] Sierra Club is pleased that KCP&L shares its basic view of EV benefits, and commends the utility's efforts. However, it is not clear whether the current design of the CCN will maximize its stated benefits or fully leverage KCP&L's unique capacities.

To take one example, KCP&L plans to leverage the added load from the CCN to improve grid efficiency and benefit ratepayers through "valley-filling."[92] In testimony, KCP&L explained how "valley-filling" improves grid efficiency by adding demand at off-peak hours (the "load-shape valleys"), thereby reducing the overall system load factor, increasing electricity sales, spreading fixed generation costs across more kilowatt hours, and ultimately putting downward pressure on rates.[93] To realize these benefits, of course, EV charging must occur during off-peak hours. These objectives are commendable, but the CCN does not currently incorporate any particular driver for off-peak EV charging.

As noted above, there are two key methods for driving off-peak demand: time-variant pricing and managed charging. The CCN does not embrace either approach.[94] Under the

[91] Exhibit 121, Surrebuttal Testimony of Darrin R. Ives at 56-57; *see also* Tr. at 571:16-22.
[92] Exhibit 120, Rebuttal Testimony of Darren R. Ives at 43:12.
[93] Exhibit 120, Rebuttal Testimony of Darren R. Ives at 43:10-16.
[94] KCP&L suggests that it may seek approval for time-of-use rates to encourage off-peak charging in the future, but does not provide any concrete plan for this eventuality in its CCN proposal. Exhibit 120, Rebuttal Testimony of Darren Ives at 43:20-22.

program, charging will be provided for free to EV drivers,[95] and site hosts will pay for electricity at KCP&L's standard tariff rates.[96] EV drivers, charging their vehicles for free, will be indifferent to their time-of-use. Likewise, the site hosts will have no price-based incentive under the standard rates to limit charging to off-peak hours. In defense of its position, KCP&L suggests that off-peak charging will be driven through the siting of its charging stations, which will be deployed in locations that will "accommodate charging" at times "generally earlier in the day prior to the on-peak period."[97] This load management method finds minimal support in the record and raises concerns that the CCN may ultimately burden the electric grid rather than benefit it.

A separate proceeding would provide an opportunity for KCP&L to clarify its plan to achieve the benefits of off-peak charging, as well as flesh out its additional plans for the integration of EV loads. For instance, KCP&L has stated that the CCN charging stations will be demand response capable,[98] but provides few details on the type of demand response program it plans to implement, or a timeline for its development.[99] The same is true for the broad strokes in the utilities' testimony regarding future development of time-of-use rates and data collection to facilitate additional solar integration: both lack specificity with regard to timeframes and substance.[100] These issues have important ramifications for the electric grid as well as for the benefits that might, or might not, flow to the utility's customers. As such, they merit upfront consideration in the CCN's program design and should be stated with sufficient specificity to allow for close review by the Commission.

[95] Exhibit 120, Rebuttal Testimony of Darren Ives at 41: 5-7; *see also id.* at 45:12-14.
[96] Exhibit 120, Rebuttal Testimony of Darren Ives at 41:10-15.
[97] Exhibit 120, Rebuttal Testimony of Darren Ives at 44:7-10; *see also* Tr. at 569:12-22.
[98] Exhibit 120, Rebuttal Testimony of Darren Ives at 44: 20-21.
[99] Exhibit 120, Rebuttal Testimony of Darren Ives at 44: 20-21.
[100] Exhibit 120, Rebuttal Testimony of Darren Ives at 57: 7-20.

Lastly, consideration of the CCN in a new docket would allow KCP&L to add program components that leverage its unique position as a utility. On this front, the CCN appears to have two key areas for improvement: market education and outreach and infrastructure siting. First, lack of knowledge among consumers can be a serious barrier to widespread EV adoption, even in the San Francisco Bay Area which generally has a more advanced EV market.[101] In the Kansas City area, where EVs are significantly less prevalent, outreach and education could be crucial. Second, utilities, with access to ratepayer capital, are uniquely situated to address market gaps and equity issues in EV charging availability—such as multi-unit dwellings, workplaces and disadvantaged communities—as well as to target deployment in disadvantaged communities. Sierra Club urges KCP&L to consider these opportunities as the utility continues to develop the CCN.

d. More Information and Time Would Facilitate a More Meaningful Evaluation of the Clean Charge Network.

KCP&L first introduced the CCN to the Commission and stakeholders in supplemental direct testimony that was filed on February 6, 2015.[102] That testimony was filed three months and seven days after the opening of this proceeding and contained just six pages of original KCP&L content regarding the nature of the CCN.[103] Although the initial CCN testimony has been supplemented, the parties and Commission are still left with only limited detail on key elements of the CCN program. A proper evaluation of the CCN, therefore, requires more information and time.

[101] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives at Schedule DRI-2 at 60.
[102] Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives at 1-6.
[103] KCP&L Request for Authority to Implement A General Rate Increase for Electric Service. Case No. ER-2014-0370 (Oct. 30, 2014); *see also* Exhibit 119, Supplemental Direct Testimony of Darrin R. Ives at 1-6.

i. The Commission and Stakeholders Would Benefit from Additional Detail on the Design of the Clean Charge Network.

KCP&L has provided few details to stakeholders regarding several areas of its CCN application. In addition to the issues noted above, the program lacks clarity regarding the process for infrastructure site selection, site host selection, and data collection and stakeholder review. The Commission and stakeholders would be better positioned to review the program with the benefit of additional detail on these issues.

First, on infrastructure site selection, KCP&L has not explicitly identified its target market segments or its planned levels of deployment across segments (e.g., workplace, apartment, fleet, or destination center). These are core terms of the program. Moreover, it is not clear whether KCP&L has processes in place for prioritization among sites or for making site-specific technology determinations to meet facility constraints and end users' needs (e.g., number of chargers, or DC Fast Charging versus Levels 1 and 2). Similarly, the utility has revealed little about its site host selection process. If and how potential hosts are vetted to maximize utilization remains an open question. As these questions bear directly on whether CCN charging stations will be used and useful, information on their operation should be provided to stakeholders.

Second, KCP&L has described the CCN as a pilot program, with a goal of collecting data for stakeholder review and future program development. Sierra Club supports this general approach, but urges that KCP&L provide a fuller accounting of its focus areas for data collection, its intended method for reporting that data to the Commission and stakeholders, and its vision for stakeholder engagement. At present, the CCN offers too few details on these attributes to allow for a true understanding of its operation.

ii. Review of the Clean Charge Network was Limited by Its Late Addition to the Proceeding.

As noted above, KCP&L introduced the issue of rate recovery for the CCN late in this proceeding. The utility urges the Commission that time is of the essence, and supports this view by citing generally to the pressing need for transportation electrification and the advancement of similar utility bids for EV-related programs in California. Sierra Club generally agrees that fleet electrification is an urgent issue. However, the Commission and stakeholders should take the time to supplement the record and evaluate the merits of the CCN given that (1) the program was introduced late in this proceeding, (2) there are important issues that merit careful evaluation, and (3) KCP&L has announced its intention to go forward with the project regardless of approval before the Commission.

C. The Commission Should Reject KCP&L's Proposal to Increase the Residential Fixed Customer Charge and, Instead, Open a Docket to Investigate Full Revenue Decoupling.

Through this rate case, KCP&L has proposed to increase its fixed customer charge for residential customers from $9 to $25.[104] Sierra Club supports the rejection of this increase as contemplated by the June 16, 2015 Non-Unanimous Stipulation governing class cost of service ("CCOS") and rate design.[105] Sierra Club urges the Commission to deny the Company's request to nearly triple its fixed residential customer charge for three primary reasons. First, an increase in the fixed customer charge reduces the incentive for customers to consume energy efficiently. Second, KCP&L's rate design proposal contravenes the well-established rate design principles of maintaining customer equity and promoting rate stability. Finally, an increase in the fixed customer charge would reduce the state of Missouri's ability to utilize energy efficiency to

[104] Exhibit 134, Direct Testimony of Tim Rush at 43:19-21.
[105] *See* Dkt. No. 293, Non-Unanimous Stipulation and Agreement on Certain Issues (between and among Staff of the Commission, Office of the Public Counsel, Missouri Industrial Energy Consumers, Midwest Energy Consumers' Group, Consumers Council of Missouri, Missouri Division of Energy, and the United States Department of Energy).

comply with the Clean Power Plan. The Commission should instead direct the Company to maintain the customer charge at its current level. If, however, the Commission determines that an increase in the residential customer charge is warranted, such an increase should be limited to the percentage increase applied to other residential rate elements.

As with recent rate cases, the Company utilized a CCOS study to determine unit costs as a point of reference for rate design.[106] The 2014 study on which KCP&L relies estimates residential customer-related costs at $25.94,[107] an increase of more than 100% compared to the estimates utilized by the Company in its 2008 and 2012 rate cases.[108] Curiously, the Company does not explain why the 2014 study yields a drastically different result than the 2008 and 2012 studies.[109] Upon close examination of a schedule appended to Mr. Tim Rush's direct testimony, it appears that KCP&L reclassified certain demand-related costs as customer-related—namely, incorporating local distribution facilities into customer costs.[110] Unfortunately, if the Company applied a new methodology to incorporate local facilities into customer costs, it did not clearly explain any such change in its application.[111] OPC witness Dr. David Dismukes presented the issue most cogently—the Company's CCOS study supported a residential customer cost of $13.54, and the addition of a local facilities demand distribution component of $12.40 leads to the Company's recommended $25 per month residential customer charge.[112] Dr. Dismukes notes that this local facilities component was absent in the residential customer charge in the Company's last five rate cases.[113]

[106] *See* Exhibit 400, Direct Testimony of Tim Woolf at 8:8-19.
[107] Exhibit 134, Direct Testimony of Tim Rush at Schedule TMR-8.
[108] Exhibit 400, Direct Testimony of Tim Woolf at 9:3-10; Schedule TW-2.
[109] Exhibit 400, Direct Testimony of Tim Woolf at 10:6-11.
[110] Exhibit 400, Direct Testimony of Tim Woolf at 10:12-11:4; Exhibit 352, Rebuttal Testimony of Martin Hyman at 11:2-4.
[111] Exhibit 400, Direct Testimony of Tim Woolf at 11:5-14.
[112] Exhibit 303, Direct Testimony of David Dismukes at 18:1-12.
[113] Exhibit 303, Direct Testimony of David Dismukes at 19:5-10.

KCP&L's requested fixed charge increase is an outgrowth of Company concerns about aligning its rates with its costs. Relative to traditional ratemaking, revenue decoupling allows for a better alignment of utility costs and revenues. Accordingly, the Commission should investigate full revenue decoupling for electric utilities in PSC docket AW-2015-0282 or a similar, separate docket.

1. Legal Standard.

KCP&L is obliged under Missouri law to provide electric service that is "safe and adequate and in all respects just and reasonable," including just and reasonable rates.[114] Accordingly, the Commission's statutory duty is to set "just and reasonable" rates,[115] where a "just and reasonable" rate is one that considers the Company's financial integrity and the interests of various stakeholders while also protecting the public interest.[116] For the reasons described below, public policy considerations strongly favor maintaining the existing residential fixed customer charge, as advocated by all parties other than the Company who have taken a position on this issue.

2. Increasing the Fixed Customer Charge Reduces a Customer's Incentive to Consume Energy Efficiently.

The 2009 Missouri Energy Efficiency Investment Act sets a statutory goal for electric utilities of "achieving *all* cost-effective demand-side savings."[117] Because customers must pay the fixed customer charge no matter how much electricity is consumed, increasing the fixed

[114] Section 393.130.1 RSMo.
[115] Sections 393.130 and 393.140, RSMo.
[116] *See State ex rel. Union Elec. Co. v. Pub. Serv. Comm'n of State of Mo.*, 765 S.W.2d 618, 625 (Mo. Ct. App. 1988).
[117] Section 393.1075.4, RSMo (emphasis added).

charge signals to customers that actions to reduce their electric bills will be less effective.[118] Accordingly, KCP&L's proposal runs contrary to MEEIA's statutory goal.

KCP&L's purported aim in proposing to sharply increase the residential fixed customer charge is to better align the Company's rates with its costs.[119] The Company claims that a misalignment has occurred due to decreases in energy usage—driven in part by reduced customer growth and energy efficiency—and that this misalignment has resulted in under-recovery of revenues.[120] As a result, the Company claims that its proposal to increase the residential fixed customer charge would send customers "more accurate price signals."[121]

This claim, however, does not appear to consider the relationship between short-term and long-term fixed costs. Although raising the fixed customer charge may address the Company's short-term fixed costs, from a customer perspective, long-term fixed costs are more relevant.[122] This is because energy efficiency investments often involve savings that occur over the long term.[123] It is important, then, to send customers a price signal that will encourage them to avoid certain long-term costs by, for example, investing in efficient appliances. Energy savings from such investments would occur over ten to twenty years, which would save customers money while simultaneously helping the Company avoid generation, transmission, and distribution costs over that same time period.[124] When viewed in this light, the Company's long-term fixed costs are significantly smaller than its short-term fixed costs.[125]

A company seeking to promote energy efficiency—thereby reducing both its and its customers' long-term costs—would logically send a price signal that encourages its customers to

[118] *See* Exhibit 400, Direct Testimony of Tim Woolf at 19:13-20:2.
[119] Exhibit 134, Direct Testimony of Tim Rush at 61:3-11.
[120] Exhibit 134, Direct Testimony of Tim Rush at 63:8-9.
[121] Tr. at 335:7-12.
[122] *See* Tr. at 427:1-10.
[123] Tr. at 427:10-13.
[124] *See* Tr. at 427:10-16.
[125] Tr. at 427:23-428:2.

avoid long-term fixed costs.[126] Even the Company concedes that increasing the customer charge reduces a customer's ability to realize savings from energy efficiency.[127] KCP&L's support for energy efficiency[128] is thus directly at odds with its rate design proposal in this proceeding. Sierra Club agrees with the Commission Staff, OPC, and every other non-company party who has taken a position on this issue that KCP&L's proposed increase in its residential fixed customer charge should be flatly rejected.[129]

3. Increasing the Fixed Customer Charge Does Not Comport with Widely Accepted Rate Design Principles.

CCOS studies—such as those used by the Company, OPC, and Staff in this case—calculate unit costs, which can be used as a point of reference when designing rates. Cost causation, however, is just one of many factors that inform rate design.[130] Other factors, including rate stability, equity, and efficiency, also play a role. Indeed, two recent Commission orders make clear that the PSC is not bound to set the customer charge based solely on CCOS studies, as there are strong public policy considerations in favor of not increasing the fixed customer charge.[131]

Professor James Bonbright's *Principles of Public Utility Rates* sets forth several widely accepted criteria that should be considered when designing rates.[132] Although KCP&L explicitly acknowledges Bonbright's principles,[133] its proposal to nearly triple the residential fixed customer charge does not comport with the principles of gradualism, fairness among customers,

[126] *See* Tr. at 427:17-22.
[127] Tr. at 374:23-375:1.
[128] Tr. at 403:19-23.
[129] *See* Dkt. No. 293, Non-Unanimous Stipulation and Agreement on Certain Issues.
[130] Exhibit 400, Direct Testimony of Tim Woolf at 8:8-12; *see also* Tr. at 338:9-17 ("Staff believes that a class cost-of-service study is not a precise and exact science and should be used as a guide in designing rates, along with other considerations.").
[131] *See* File No. ER-2012-0166, Dkt. No. 553, Report and Order at 110:¶11; File No. ER-2014-0258, Dkt. No. 742, Report and Order at 76:¶7.
[132] *See* Exhibit 400, Direct Testimony of Tim Woolf at 14:11-15:9.
[133] Exhibit 134, Direct Testimony of Tim Rush at 60:6-16.

or efficiency.[134] Bonbright's principle of rate stability (gradualism) provides that rates should not change suddenly, especially if such change would adversely affect customers.[135] The Company's proposal fails to abide by this principle because it would increase the residential fixed customer charge by 177 percent in one fell swoop, causing more than one quarter of the Company's residential customers to experience a rate hike of at least 24 percent.[136]

Second, Bonbright's principle of fairness calls for treating similarly situated customers similarly.[137] Here, however, the Company's proposal would create both inter- and intra-class inequities. The Company's proposal would increase the residential customer charge by 177 percent whereas all other classes would see a 15.75 percent increase in customer charges—a result not supported by the Company's CCOS study.[138] Moreover, within the residential class, half of residential customers would experience bill increases of more than 15.75 percent, while half of residential customers would absorb less of the overall rate increase—by design.[139] Accordingly, while some low-use customers would experience a bill increase of roughly 25 to 45 percent, some high-use customers would experience a bill increase of 5 to 10 percent, if not less.[140] Thus, the Company's proposal would result in inequities within the residential class because low-usage customers would effectively shoulder the majority of the rate increase.[141]

Finally, Bonbright's principle of efficiency entails sending customers price signals that encourage efficient energy consumption.[142] As discussed above, the state of Missouri has

[134] Exhibit 400, Direct Testimony of Tim Woolf at 15:13-16.
[135] Exhibit 400, Direct Testimony of Tim Woolf at 16:1-9.
[136] Exhibit 400, Direct Testimony of Tim Woolf at 16:10-14.
[137] Exhibit 400, Direct Testimony of Tim Woolf at 16:15-19.
[138] Exhibit 400, Direct Testimony of Tim Woolf at 17:1-17.
[139] Exhibit 400, Direct Testimony of Tim Woolf at 17:18-18:2.
[140] Exhibit 400, Direct Testimony of Tim Woolf at 18:4-9.
[141] Exhibit 400, Direct Testimony of Tim Woolf at 18:2-3.
[142] Exhibit 400, Direct Testimony of Tim Woolf at 19:1-7.

enacted a similar policy principle through MEEIA, and a higher customer charge reduces the incentive for customers to utilize energy efficiently.[143]

4. Increasing the Fixed Customer Charge Will Make It More Expensive for Missouri to Comply with the Clean Power Plan.

The Environmental Protection Agency ("EPA") is poised to finalize its "Clean Power Plan" later this summer.[144] The Clean Power Plan sets target emissions rates for greenhouse gases as the basis for each state's emission reduction requirements, and then gives states flexibility to use different implementation strategies to meet those standards.[145] EPA bases each state's target emissions rate on "building blocks" that the states can use as components in a possible strategy to meet the standards. One of those building blocks involves bolstering energy efficiency measures.[146] The state of Missouri, through MEEIA, set a target of offsetting 9.9 percent of Missouri's investor-owned electricity sales through energy conservation by 2020.[147] On the other hand, EPA's energy efficiency building block is based on a target of 1.5% annually, leading to a target savings scenario of 9.9 percent by the year 2029.[148] Accordingly, if Missouri investor-owned utilities achieve their MEEIA targets, then Missouri will satisfy the EPA building block target nine years ahead of schedule. KCP&L has estimated, in a separate docket, that its energy efficiency savings will exceed EPA's building block target in 2030.[149] However,

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[143] Exhibit 400, Direct Testimony of Tim Woolf at 19:8-17, 20:1-12.
[144] *See, e.g.*, Environmental Protection Agency, FACT SHEET: Clean Power Plan & Carbon Pollution Standards Key Dates, *available at* http://www2.epa.gov/cleanpowerplan/fact-sheet-clean-power-plan-carbon-pollution-standards-key-dates.
[145] *See, e.g.*, Environmental Protection Agency, FACT SHEET: National Framework for States, Setting State Goals to Cut Carbon Pollution, *available at* http://www2.epa.gov/sites/production/files/2014-05/documents/20140602fs-setting-goals.pdf.
[146] *Id.*
[147] *See* 4 CSR 240-20.094(2)(B)(9).
[148] *Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, Proposed Rule*, Table 7—Demand-Side Energy Efficiency State Goal Development: Cumulative Annual Electricity Savings (Percentage of Annual Sales) Resulting from Best Practices Scenario, 79 Fed. Reg. 34,830, 34873 (June 18, 2014).
[149] File No. EW-2012-0065, Dkt. No. 79, Kansas City Power & Light Company and KCP&L Greater Missouri Operations Company's Response to Commission Orders, Exhibit 1 at 5.

this could change if KCP&L's proposed increase to the fixed residential customer charge is approved. As discussed above, a higher customer charge sends a signal to customers that their efficiency investments will be less effective at reducing their bills. This cause-and-effect scenario tends to diminish the incentive that consumers have to consume energy efficiently. If KCP&L's proposed residential fixed customer charge increase is adopted, the utility will have to rely upon more expensive options to achieve the emission reductions that will be established in the final Clean Power Plan.[150]

5. Revenue Decoupling is a Superior Way to Regulate Revenues.

The Company claims that declining or flat sales is one of the factors that has led to its proposal to increase the fixed customer charge in this case.[151] Revenue collected through a higher fixed customer charge would not be affected by reduced sales, and thus a higher customer charge is one way to slow the decline of revenues between rate cases.[152] However, revenue decoupling offers a far better option for managing revenue sufficiency and volatility, while still adhering to the fundamental principles of efficiency, equity, and gradualism. In lieu of granting the Company's proposal to increase its residential fixed customer charge, the Commission should investigate and later implement revenue decoupling as a means to regulate utility revenues, protect customer interests, and incentivize energy efficiency.

There are differing definitions of decoupling and various ways to design decoupling mechanisms.[153] The Regulatory Assistance Project defines decoupling as "a tool intended to break the link between how much energy a utility delivers and the revenues it collects."[154] Sierra Club witness Tim Woolf offered evidence supporting the notion that, if implemented correctly,

[150] Exhibit 400, Direct Testimony of Tim Woolf at 22: 9-12, 27:19-23.
[151] Tr. at 373:17-21.
[152] Exhibit 400, Direct Testimony of Tim Woolf at 23:20-21.
[153] Tr. at 436:15-21.
[154] Exhibit 400, Direct Testimony of Tim Woolf, Schedule TW-5 at 2.

full revenue decoupling offers a mechanism that more closely aligns a utility's revenues with its costs than does traditional ratemaking.[155] Crucially, through a revenue decoupling mechanism, the impetus for KCP&L's proposed fixed customer charge increase would disappear entirely.[156] Under a decoupling regime, KCP&L could recover its allowed revenues each year, rendering declining sales moot, and eliminating the Company's concerns about revenue sufficiency and volatility.[157]

In addition to eliminating the Company's revenue sufficiency and volatility concerns, revenue decoupling would better align the Company's stated support for energy efficiency with its rate design proposals. As it stands, customers implementing energy efficiency measures detrimentally affects the Company's bottom line, as reduced sales lead directly to reduced revenues and reduced profits.[158] KCP&L is currently entitled to recover a portion of its lost revenues from energy efficiency via the throughput portion of the demand-side incentive mechanism ("DSIM") established through MEEIA.[159] However, as the Commission has learned, this throughput DSIM is highly contentious in its application, and it suffers from several other limitations that a full revenue decoupling mechanism avoids.[160]

As discussed above, a higher fixed customer charge reduces the incentive for customers to consume energy efficiently. Because decoupling would enable the Company to earn its allowed revenues regardless of sales, the Company would be less likely to implement measures, such as higher fixed charges, that directly conflict with energy efficiency gains.[161] Given these facts, we strongly urge the Commission to investigate full revenue decoupling in AW-2015-

[155] Exhibit 400, Direct Testimony of Tim Woolf at 25:5-19.
[156] Exhibit 400, Direct Testimony of Tim Woolf at 27:2-5.
[157] Exhibit 400, Direct Testimony of Tim Woolf at 26:1-20.
[158] Exhibit 400, Direct Testimony of Tim Woolf at 27:9-11.
[159] *See* Exhibit 401, Surrebuttal Testimony of Tim Woolf at 6:19-21.
[160] *See* Exhibit 401, Surrebuttal Testimony of Tim Woolf at 6:21-7:15.
[161] Exhibit 400, Direct Testimony of Tim Woolf at 27:14-19.

0282, or a similar, separate docket. KCP&L testified that revenue decoupling could help address concerns such as flat or declining sales, and the Company also agreed that the mechanism merited further investigation in a separate docket.[162] This separate docket should also investigate how to design decoupling such that customers' interests are protected, incorporating the suggestions to which Mr. Woolf testified in this case.[163]

III. Conclusion

For the aforementioned reasons, Sierra Club requests that the Commission adopt its positions on Issues VII (La Cygne Environmental Retrofit project), XVIII(A) (Clean Charge Network), XXV(B)(d)(1) (Residential customer charge), and XXXVIII (decoupling).

Respectfully submitted,

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[162] Tr. at 373:17--374:2.
[163] *See* Exhibit 400, Direct Testimony of Tim Woolf at 28:1-19.

CERTIFICATE OF SERVICE

I hereby certify that a true and correct PDF version of the foregoing was filed on EFIS and electronically mailed to all counsel of record on this 22nd day of July, 2015.

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