PUBLIC VERSION
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BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of the Resource Plan of	)	
Kansas City Power & Light Company	)	File No. EO-2012-0323

COMMENTS OF SIERRA CLUB

The Sierra Club hereby files its comments regarding Kansas City Power and Light's ("KCP&L" or "Company") 2012 Integrated Resource Plan ("IRP") filing.[1] As described below, KCP&L's IRP is fatally flawed because it does not minimize net present value revenue requirements ("NPVRR") and it fails to satisfy numerous fundamental resource planning standards set forth in Missouri's IRP rules. As such, KCP&L's IRP should be rejected and the Company should file a revised IRP that addresses the points below and selects a resource plan that truly minimizes NPVRR.

I. Introduction

In February 2012, KCP&L withdrew its Missouri Energy Efficiency Investment Act ("MEEIA") filing, thereby delaying or cancelling the implementation of cost-effective demand-side management ("DSM") programs. KCP&L contends that it withdrew its filing "due to the lagging economic environment, declines in weather-normalized retail demand, softness in the wholesale energy market due to low natural gas prices, and no current need for capacity." (IRP at Vol. 6, p. 6). In short, the company used fundamental changes and uncertainties in energy markets as an excuse to kick down the road the best resource option for minimizing the impacts of those changes and uncertainties on Missouri ratepayers.

Yet less than two months later, KCP&L filed in the present docket an IRP that largely ignores these fundamental changes and uncertainties. In particular, the IRP delays additional DSM until at least 2014, relies on outdated natural gas prices, and appears to gamble on the ability to generate significant off-system sales revenues in an attempt to justify proceeding with well over $1.5 billion of expenditures on its aging coal-fired electric generating units. At a time when utilities throughout the country are retiring their coal plants and aggressively pursuing DSM, renewable energy resources, and cleaner natural gas combined cycle capacity, KCP&L is proposing to continue relying on aging coal infrastructure and to pursue only minimal amounts of DSM and renewable energy for the next two decades.

KCP&L's outdated approach will likely cost Missouri ratepayers significantly. KCP&L acknowledges that the two-year delay in DSM programs alone will increase the NPVRR of its resource plan by $23 million. Resource plans that include DSM scenarios that KCP&L identifies as achieving 1% energy savings per year would reduce NPVRR by at least $108 million for

[1] These comments were prepared with the assistance of Bruce Biewald, Thomas Vitolo, and Patrick Luckow at Synapse Energy Economics.

KCP&L and $205 million for KCP&L's Greater Missouri Operations Company ("GMO") in comparison to the resource plans with less DSM that KCP&L and GMO have selected as their preferred plans. And by proceeding with $1.23 billion in retrofits to the LaCygne plant, and planning to spend hundreds of millions of more dollars on Montrose Units 2 and 3 and Sibley Unit 3, without re-evaluating those projects in light of reduced wholesale market demand and lower natural gas and market prices, KCP&L is making costly investments that are likely not prudent.

KCP&L's IRP is fundamentally flawed because it does not minimize NPVRR or provide any defensible justification for pursuing a route that will be unnecessarily costly for Missouri customers. As described in more detail below, the IRP also does not satisfy the basic resource planning and transparency requirements of Missouri's IRP rules, as it relies on outdated price projections, ignores cost effectively achievable DSM, underestimates costs facing its coal units, engages in flawed analysis of uncertainties, and presents information in ways that hinders public review. As such, the Commission should reject KCP&L's filing and require the company to submit a new resource plan that addresses the errors discussed below and protects ratepayers by pursuing all cost effective means for reducing NPVRR.

II. KCP&L Failed to Select the Lowest NPVRR Resource Plan, or Justify Selecting a More Costly Plan

Missouri's IRP rules establish as the "fundamental objective" of the IRP process the provision of "energy services that are safe, reliable, and efficient, at just and reasonable rates. . . .". 4 CSR 240-22.010(2). In order to achieve that "fundamental objective," the IRP rules require that KCP&L "use minimization of the present worth of long-run utility costs as the primary selection criterion in choosing the preferred resource plan." 4 CSR 240-22.010(2)(B). The only exception to this requirement to minimize NPVRR is if the company can demonstrate that "other considerations," such as risk, justify selecting a resource plan that does not minimize NPVRR. 4 CSR 240-22.010(2)(C). If a utility seeks to select a resource plan that is not the lowest cost, it must:

> Explicitly identify and, where possible, quantitatively analyze any other considerations which are critical to meeting the fundamental objective of the resource planning process, but which may constrain or limit the minimization of the present worth of expected utility costs. The utility shall describe and document the process and rationale used by decision-makers to assess the tradeoffs and determine the appropriate balance between minimization of expected utility costs and these other considerations in selecting the preferred resource plan and developing the resource acquisition strategy.

Id. Here, KCP&L neither selected a resource plan that minimizes NPVRR, nor did it "describe and document" a rationale for identifying a more expensive plan as its preferred resource plan.

A. KCP&L acknowledges that its preferred resource plan does not minimize NPVRR

That KCP&L did not satisfy its duty to use minimization of NPVRR as its "primary selection criteria" is readily evident from even a cursory review of the IRP. In particular, KCP&L identifies plan AGEK9 – which involves DSM A, retirement of Montrose Unit 1, and addition of 150MW of combined cycle capacity in 2028 – as its preferred resource plan. (IRP at Vol. 7, p. 2). AGEK9 has a NPVRR of $20.830 billion. (*Id*. at Vol. 6, p. 32). By contrast, resource plan DCEK1 – which involves DSM D, retirement of all three Montrose units, and addition of 154MW of combustion turbines in 2031 – has an NPVRR of $20.722 billion, which is a savings of $108 million over KCP&L's preferred plan. (*Id*.)

KCP&L states that it made its resource plan selection based in part on its contemporaneous evaluation of resource plans for the GMO. In particular, KCP&L apparently merged the analysis in the KCP&L IRP with that of the GMO IRP to develop a Combined Company resource plan, and then selected the combined plan with purportedly the lowest NPVRR as its overall preferred resource plan. (IRP Vol. 6, p. 17). The GMO IRP, which is filed in Missouri PSC Case No. 2012-0324, also improperly fails to minimize NPVRR. In its IRP, the GMO selected resource plan ACCG9 as its preferred plan. (GMO IRP at Vol. 7, p. 2). But that plan has a higher NPVRR, $12.485 billion, than does resource plan DCCG1 at $12.229 billion. (GMO IRP at Vol. 6, p. 30). Once again, the primary difference that leads to the $256 million lower cost of plan DCCG1 than for the GMO preferred resource plan is that the former includes DSM D, while the latter has only DSM A.

REMEDY: KCP&L should select the resource plan with the lowest NPVRR as its preferred resource plan, and select a Combined Company preferred resource plan that is based on the lowest NPVRR resource plans in both the KCP&L and GMO IRP proceedings.

B. KCP&L has not attempted to justify its rejection of the lowest-NPVRR resource plan.

KCP&L rejected the lowest-NPVRR plan on the ground that DSM D is purportedly "not considered to be realistically achievable." (IRP Vol. 7, p. 3). According to KCP&L, DSM D consists of 1% energy savings per year (KCP&L Resp. to MDNR DR #2a, attached as Ex. 1), which is a level of savings that is cost-effectively achievable, as discussed in Section IV below. KCP&L's assertion to the contrary is baseless and should be rejected.

KCP&L acknowledges that it has not actually evaluated whether DSM D is achievable. In response to a data request seeking an explanation for why KCP&L considers DSM D "not realistically achievable," the company responded, in total:

> KCP&L considers the A-level of DSM to be an aggressive plan. However, we consider it to be realistically achievable. The D-level of DSM was created to comply with an arbitrary level of DSM that we were required to evaluate because the stakeholders requested it and the commission ordered it. The D-level of DSM

> is an additional amount of DSM that is equal to the sum of all of the DSM programs from the A-level of DSM. That is we doubled the DSM from the A-level plan. Since the D-level of DSM does not actually exist as a known list of programs or measures, KCP&L does not consider it to be a realistically achievable plan.

(KCP&L Resp. to SC DR #18a, attached as Ex. 2). In response to a request for any documentation supporting the contention that DSM D is "not realistically achievable," KCP&L responded only that "No documentation exists beyond the explanation above." (*Id*. at #18b). KCP&L also made clear that DSM D was developed solely by doubling the 0.5% energy savings from DSM A and assuming a set cost per kilowatt hour of energy saved. (KPC&L Resp. to MDNR DR #2h). In other words, KCP&L never assessed what programs could be used to achieve a DSM D level of energy savings and never evaluated whether such level of savings is realistically achievable. Instead, the company simply sought to placate stakeholders and the Commission by going through the motions of analyzing a level of DSM that the Company had no intention of pursuing.

Such cursory dismissal of DSM D does not satisfy the standard set in the IRP rules for pursuing a plan that would cost ratepayers at least $108 million more than the lowest-NPVRR plan. As noted above, a utility wishing to pursue a plan that is not least cost is required to "describe and document the process and rationale used" in selecting a plan that does not minimize NPVRR. 4 CSR 240-22.010(2)(C). But here there was neither a process nor rationale used to conclude that DSM D is "not realistically achievable," nor has KCP&L described or documented that conclusion. Instead, the Company has simply declared by fiat that it does not wish to achieve DSM D levels of energy savings or to even evaluate whether it could do so. Such approach is inconsistent with 4 CSR 240-22.010 and should be rejected by the Commission.

REMEDY: KCP&L should develop a plan for achieving DSM D and include it in its preferred resource plan or, at a minimum, describe and document any conclusion that such level of savings is not achievable.

C. KCP&L's two-year delay of additional DSM programs increases NPVRR

Following withdrawal of its MEEIA filing, KCP&L assumes in the IRP that it will not start additional DSM programs until at least 2014. (IRP at Vol. 6, p. 6). Such a two-year delay in additional DSM leads to a $23 million increase in NPVRR for the resource plans evaluated in the IRP. (KCP&L Resp. to SC DR #17d, attached as Ex. 3). KCP&L offers no justification for the failure to minimize NPVRR by starting additional DSM programs sooner, except to claim that the delay results in a reduction in revenue requirements "during the first few years." (*Id*.). That cursory claim, however, does not justify the increased NPVRR for the resource plans at issue here.

For one thing, the Company has not described or documented its claim that delaying cost-effective DSM programs would reduce revenue requirements for even the first few years. It is

true that delay would avoid the need to spend money now to start new programs. But all of the DSM programs being considered are cost-effective in that they provide more benefit from energy savings than they cost to implement. In addition, by starting DSM programs now, rather than delaying, KCP&L may be able to avoid the need to install expensive pollution controls on one or more of its aging coal units that could instead be retired. And, regardless, the proper frame of reference for evaluating an IRP is NPVRR over the planning period, not just the first few years.

REMEDY: KCP&L should pursue a resource plan that begins implementation of all cost effective DSM as expeditiously as possible, rather than waiting until at least 2014 to do so.

D. Other resource plans that KCP&L apparently did not model would likely have lower NPVRRs

The inflated NPVRR of KCP&L's preferred resource plan is masked by the fact that the Company did not model a number of plans that would likely have even lower NPVRRs. While the IRP reports the NPVRR for 16 different resource plans that include DSM A, it includes only two resource plans with DSM D. Presumably many of the plans with DSM A would end up with a lower NPVRR if DSM D had been assumed. While the IRP does not provide such scenarios, one may be able to roughly approximate the impact of DSM D on those other plans by looking at how the NPVRR of DCEK1 changes if DSM A is assumed. The IRP states that such plan, ACEK1, has an NPVRR of $21.013 billion (IRP at Vol. 6, p. 32), which is $291 million higher than the NPVRR of DCEK1. Applying that same $291 million reduction to the other DSM A resource plans would cause almost all of them to have a lower NPVRR than KCP&L's preferred resource plan.

The limited consideration of DSM D is especially problematic in two areas. First, none of the plans that include the retirement of one or both of the LaCygne units assume a DSM D level, even though a higher level of DSM could be especially important in those plans because it would help to offset the generation that would be lost from retiring one or both of those units. Second, none of the Combined Company plans include DSM D, even though such inclusion would likely reduce their NPVRR by hundreds of millions of dollars.

REMEDY: KCP&L should model the impact of DSM D on NPVRR for each of its resource plans, including each of the Combined Company plans.

III. KCP&L Failed to Evaluate the Reasonableness of Continued Investment in Its Aging Coal Units

The IRP assumes that KCP&L will spend well over $1.5 billion in the next three to eight years installing pollution controls needed to keep a number of aging coal-fired generating units operating for twenty or more years into the future. Under the preferred resource plan, KCP&L would continue with a $1.23 billion retrofit of LaCygne Units 1 and 2, which were built in 1973 and 1977, respectively. The company would also spend ** HC ** on retrofitting Montrose Units 2 and 3 (IRP at Vol. 4, p. 44), which are from 1960 and 1964, respectively, while

proposing to retire only the oldest Montrose Unit 1, which dates from 1958. Adding in the Combined Company preferred resource plan, KCP&L proposes to also retire the small Sibley Units 1 and 2, which are of 1960 and 1962 vintage, while retrofitting the much larger Sibley Unit 3, which dates from 1969. In total, KCP&L's preferred Combined Company resource plan includes the retrofit of approximately 2,337MW of coal capacity and the retirement of only 275MW.

KCP&L purports to have evaluated as part of this planning process whether to retrofit or retire the LaCygne, Montrose, and Sibley coal units. In reality, the question of whether to retrofit or retire those units is obscured behind analyses that rely on an inflated natural gas price projection, unreasonable and unexamined assumptions regarding off-system sales, and an underestimation of the costs of continuing to operate the coal units. The available evidence, however, strongly suggests that retirement would be the lower NPVRR option for most or all of LaCygne Units 1 and 2, Montrose Units 2 and 3, and Sibley Unit 3 (hereinafter referred to collectively as the "Aging Coal Units").

A. Past Analyses and Changed Market Conditions Demonstrate that Retirement is Likely the Lowest NPVRR Option for the Aging Coal Units.

KCP&L's conclusion that the Aging Coal Units should be retrofit appears to conflict with the fact that recent changes in market conditions militate in favor of retiring, rather than retrofitting, coal units that require significant investment to continue operating. As explained in the testimony of Bruce Biewald which was filed in KCP&L's rate increase proceeding, Case No. ER-2012-0174, and is attached as Ex. 4 and incorporated herein, declines in natural gas and market energy prices, among other factors, are leading to a growing number of decisions by utilities to retire decades old coal units that would need significant pollution control investments to continue long term operations. (Biewald Test. at pp. 6-8). These same factors counsel in favor of a careful evaluation of whether the Aging Coal Units should be retired rather than retrofit.

Past analyses of the Aging Coal Units have already shown that the changes to market conditions that have been experienced over the past year or two would likely make retirement of those units the lower cost option. For example, in February 2011, KCP&L filed with the Kansas Corporation Commission for pre-determination to recover costs related to the proposed $1.23 billion retrofit of LaCygne. As Mr. Biewald explains, while KCP&L's analysis found that the retrofit had an NPVRR benefit of $196 million under a base-case natural gas price projection, under a low natural gas price scenario the retirement of LaCygne would have a $368 million lower NPVRR than retrofitting that plant. (Biewald Test. at pp. 11-12). While the actual natural gas prices used in the Kansas predetermination docket cannot be revealed here due to KCP&L's confidentiality claims, publicly reported natural gas prices have dropped significantly since the Kansas proceeding. (*Id*. at pp. 9-12).

With regards to Montrose Units 2 and 3, ** HC

HC** And in the 2011 Kansas predetermination docket, KCP&L's own modeling revealed that replacing Montrose with an NGCC facility rather than retrofitting the plant would have a $53 million lower NPVRR under base case natural gas price projections, and a $408 million lower NPVRR under a low natural gas price scenario. (Biewald Test. at pp. 17-18). Since that Kansas predetermination docket, natural gas and market energy prices have fallen, which again demonstrates that the economics are most likely even more strongly against retrofitting of Montrose Units 2 and 3 now than they were during the 2011 predetermination proceeding.

As noted previously, KCP&L has acknowledged these changed market conditions, explaining that the Company withdrew its MEEIA filing in February 2012 "due to the lagging economic environment, declines in weather-normalized retail demand, softness in the wholesale energy market due to low natural gas prices, and no current need for capacity." (IRP at Vol. 6, p. 6). Yet while these changed conditions have led KCP&L to erroneously curtail or delay pursuit of cost-effective DSM, the Company admits that they have not led to a re-evaluation of the more than $1.5 billion in proposed retrofits to the Aging Coal Units. (KCP&L Resp. to SC DR #17b). In fact, KCP&L's resource modeling in the IRP inexplicably suggests that the retrofits of LaCygne and Montrose are more, rather than less, economically beneficial than was concluded in the Kansas predetermination proceeding. Below we identify some of the flaws in the IRP analysis that led to such a counter-intuitive result. But the bottom line is that KCP&L should reconcile the differences between the economic modeling of retrofitting the LaCygne and Montrose units in the IRP proceeding versus the Kansas predetermination docket and ensure that the IRP analysis is based on data that fully reflects the changed market conditions that utilities and ratepayers are facing today.

REMEDY: KCP&L should evaluate the NPVRR impacts of retrofitting versus retiring each of the Aging Coal Units based on up-to-date information and data that fully reflects changed market conditions, and that explains any differences between the modeling in this proceeding and that used in the Kansas predetermination proceeding.

B. KCP&L's Use of Unreasonably High Natural Gas Price Projections Skewed Its Analysis in Favor of Retrofitting Versus Retiring the Aging Coal Units.

KCP&L uses an unreasonably high natural gas price projection in its IRP analyses, which skews the results in favor of the retrofit and continued operation of the Aging Coal Units and against natural gas-fired supply-side options such as conversion of coal units to natural gas combined cycle ("NGCC") facilities or purchase of existing underutilized NGCC capacity. As the Commission recently recognized, "if all other factors are held constant, lower natural gas prices would tend to result in lower electric power prices, which would diminish the value of continuing to operate" coal generating units. *In re Union Electric Company's 2011 Utility Resource Filing*, File No. EO-2011-0271, Report and Order (Mar. 28, 2012), at 16. Similarly, use of an inflated natural gas price would make purchase or conversion to NGCC erroneously appear more expensive in comparison to the cost of retrofitting the Aging Coal Units. As such, using an accurate and up-to-date natural gas price projection is critical to identifying a resource plan that is just and reasonable for ratepayers.

[2] ** HC ** Ex. 5.

KCP&L's natural gas price projection is a composite based on forecasts from
* HC

** As shown in Table 1 below, KCP&L's natural gas prices appear to be out of date and inflated, with prices about** HC ** higher than is projected in the EIA's 2012 Annual Energy Outlook ("AEO").[3] In addition, NYMEX near-term natural gas prices in the next three years are below the AEO 2012 forecast, and substantially below KCP&L's near-term prices.

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KCP&L's natural gas price sensitivities are similarly out of line with more up-to-date projections. As shown in Figure 2 below, ** HC
** than the EIA high price in AEO 2012. In fact, ** HC
** In addition, ** HC
** than the corresponding cases from AEO which, combined with the very low sample size used by KCP&L, raises questions about the statistical methods used by the Company to develop its sensitivities.

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There appears to be two reasons why KCP&L's natural gas price projections are unreasonably high. First, they are based on outdated information. In particular, the four

[3] The 2012 AEO is publicly available online at http://www.eia.gov/forecasts/aeo/ .

forecasts that KCP&L averaged to develop its projection are from ** HC ** Yet, both current and projected natural gas prices have declined significantly over the past year or two and especially in the second half of 2011. (Biewald Test. at pp. 9-12). For example, as shown in Figure 3 below, which is a chart filed with the Michigan Public Service Commission by a witness for Consumers Energy in February 2012, projected January 1, 2012 NYMEX Henry Hub natural gas prices fell from approximately $4.70/mmBtu on July 27, 2011 to just above $3.00/mmBtu on December 28, 2011. The projected price for January 1, 2016 similarly fell from approximately $6.25/mmBtu on July 27, 2011 to around $5.10/mmBtu on December 28, 2011. Given such significant changes in natural gas prices, it was unreasonable for KCP&L to continue to rely in its April 2012 IRP on projections from December 2010 and mid-to-late 2011.

It is important to note that KCP&L was certainly aware of changing natural gas prices and acted upon those changes when it wanted to. In particular, after proposing additional DSM programs in its December 2011 MEEIA filing, KCP&L then withdrew that filing in February 2012 in part because of "low natural gas prices." (IRP at Vol. 6, p. 6). KCP&L could have and should have incorporated those "low natural gas prices" into its April 2012 IRP filing, rather than continuing to rely on inflated price projections from 2010 and 2011.

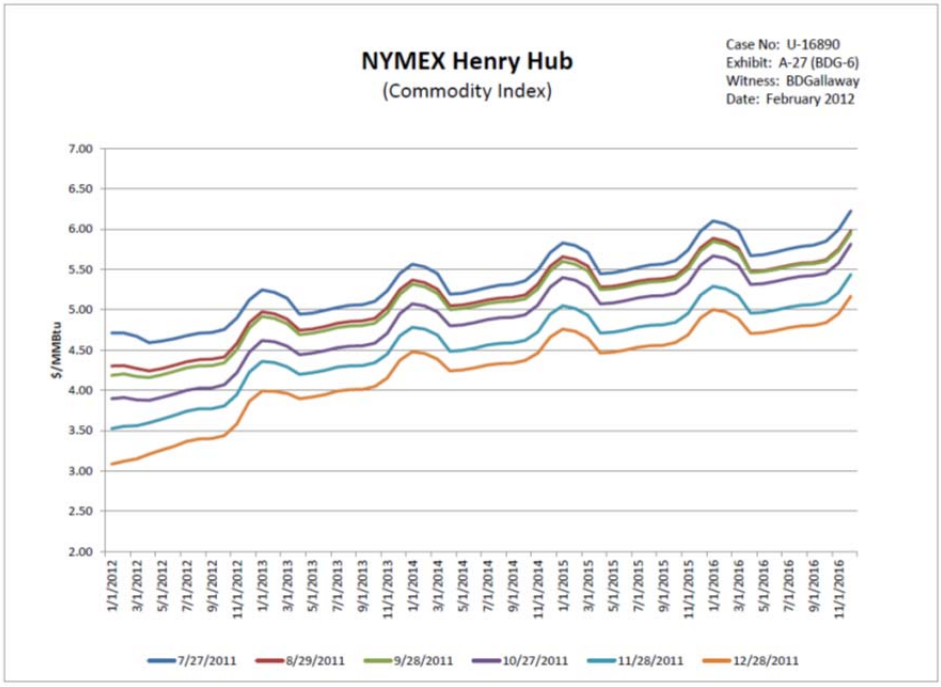

Figure 3: NYMEX Henry Hub Natural Gas Prices – July 27, 2011 to December 28, 2011

The second apparent reason that KCP&L's natural gas price projections are inflated is the use of a forecast credited to** HC ** that appears to be an outlier. As shown in Figure 4 below, which is from KCP&L's response to Sierra Club DR #10, ** HC

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REMEDY: KCP&L should rerun its economic modeling with up-to-date natural gas price projections, such as those from the EIA AEO 2012. At a minimum, KCP&L should exclude the ** HC ** from its natural gas price projections.

C. KCP&L Has Apparently Unreasonably Assumed That All Excess Power From the Aging Coal Units Would Generate Significant Off-System Sales Revenue

The IRP's conclusion that retrofitting each of the Aging Coal Units continues to be the least cost option appears to be based in part on unreasonable assumptions regarding the ability of KCP&L to continue generating significant off-system sales revenue. Off-system sales revenue is not substantially discussed in the IRP as a factor impacting KCP&L's analysis. However, as explained in the attached memo from Synapse Energy Economics (attached as Ex. 6), KCP&L is projecting that it will generate approximately 20% to 30% more energy than it needs to satisfy its load requirements, and that much of that excess energy comes from the continued operation of LaCygne and the other Aging Coal Units. It further appears that the Company is assuming that it can generate revenue by selling all or most of the excess energy it generates into the wholesale market at a profit. Such assumption would help explain the surprising result in KCP&L's modeling that a higher natural gas price would lead to a lower NPVRR for the preferred resource plan, while a lower natural gas price would barely impact NPVRR for that plan. (IRP at Vol. 7, p. 19). A likely explanation for such modeling results is that KCP&L is assuming that higher natural gas prices will drive up market prices and, therefore, increase the price at which the Company can sell the excess energy it generates. Conversely, a lower natural gas price would reduce the price at which KCP&L could sell excess energy and the resulting reduction in sales revenue would largely offset the NPVRR benefit that we would otherwise expect to see from declining natural gas prices.

An assumption that KCP&L can sell all or most excess energy it generates into the wholesale market at a profit would favor the retrofitting and continued operation of the Aging Coal Units, as those units could generate more energy that the Company could sell into the market. Such assumption would also disfavor alternative resource plans that involve retiring some generating units or relying more on power purchase agreements or market purchases. Such assumption, however, is unexplored in the IRP and tenuous, as downward pressure on market energy prices continues to be exerted by lower natural gas prices and increasing DSM. In fact, as KCP&L's own witness in the Company's rate increasing filing explained:

> Changes in the wholesale energy market including a challenging economy and low natural gas prices, have significantly impacted KCP&L's ability to sell power outside its service territory. In addition to a reduction in off-system sales margins, in recent months KCP&L has also lost several long term wholesale contracts once they expired.

(Terry Bassham Test. at p. 7 lines 2-6, attached as Ex. 7). An assumption that the Aging Coal Units should be retrofit in part because the excess energy they generate can be sold into the market at a profit represents a significant gamble. At a minimum, such gamble should be carefully explained and evaluated in an open and transparent way, not simply baked into complex modeling analyses.

REMEDY: KCP&L should clarify the extent to which it relies on off-system sales revenue in its resource plans, should explain its bases for its assumptions regarding off-system sales, and perform modeling that evaluates the impact of likely declines in off-system sales revenue on the comparative NPVRR of the resource plans evaluated in the IRP.

D. KCP&L Underestimated Likely Future CO2 Costs

KCP&L's evaluation of resource plans is also flawed because the Company fails to fully account for likely future CO2 costs. Given that coal-fired units are the most carbon intensive form of power generation, failing to fully account for likely future CO2 costs skews the analysis in favor of continued operation of coal plants and against pursuit of lower-carbon alternatives.

Figure 5 below shows the CO2 prices assumed by KCP&L. ** HC

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** HC **

Figure 6 below shows that KCP&L's ** HC
** publicly available "mid" level forecasts from utilities that are KCP&L's peers from all across the country.

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REMEDY: KCP&L should rerun its resource plan models with an assumed CO2 price that is more in line with that used by other utilities throughout the country.

E. KCP&L has likely underestimated the non-environmental capital costs needed to keep the Montrose Units operating

The IRP sets forth capital plans for each of KCP&L's power generation units through 2031. (IRP at Vol. 4, pp. 49-51). The plans, however, inexplicably include ** HC

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** But as coal units age, their need for capital investments to continue operating likely increases, not decreases. As such, it is **

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**, especially if KCP&L is expecting to continue operating any of those units after 2031. Conversely, if KCP&L expects that it does not need to make capital investments in coal units in the last few years of their operation, then the Company needs to confirm whether they excluded such capital costs in their scenarios modeling retirement of the Montrose units in the 2015-2018 timeframe.

REMEDY: KCP&L should ensure that its economic modeling factored in assumptions regarding capital investments that will need to be made to keep the Montrose units operating that are reasonable in light of the assumed retirement dates for such units.

IV. KCP&L Failed to Thoroughly Evaluate Demand Side Management as Required by Missouri's IRP Rules

Missouri's IRP rules make clear that DSM is an important resource that should be evaluated in the resource planning process on an equal footing with supply-side resources. Despite clear evidence that significantly higher levels of cost-effective DSM would reduce NPVRR, KCP&L punted the issue of additional DSM down the road and cursorily dismissed, without the required analyses, the idea that anything above a minimal increase in DSM energy savings is cost-effectively achievable.

The IRP rules are straightforward in their requirement that utilities carefully evaluate DSM. The rules direct that a utility "shall . . . consider and analyze demand-side resources, renewable energy, and supply-side resources on an equivalent basis," 4 CSR 240-22.010(2)(A), and later detail that:

> The analysis shall treat supply side and demand-side resources on a logically-consistent and economically-equivalent basis, such that the same types or categories of costs, benefits, and risks shall be considered and such that these factors shall be quantified at a similar level of detail and precision for all resource types.

4 CSR 240-22.060(4). The IRP also notes that the utility should be working to "fulfill the goal of achieving all cost-effective demand-side savings," 4 CSR 240-22.050(1)(B), and requires that the utility:

> Conduct, describe, and document market research studies, customer surveys, pilot demand-side programs, pilot demand-side rates, test marketing programs, and other activities as necessary to estimate the maximum achievable potential, technical potential, and realistic achievable potential of potential demand-side resource options for the utility and to develop the information necessary to design and implement cost-effective demand-side programs and demand-side rates.

4 CSR 240-22.050(2). The rules also provide that the utility "shall examine" a case that:

> Utilize[s] only demand-side resources, up to the maximum achievable potential of demand-side resources in each year of the planning horizon, if that results in more demand-side resources than the minimally compliant plan. This constitutes the aggressive demand-side resource plan for planning purposes.

4 CSR 240-22.060(3)(A)3. Finally, in addition to the determination of technical, maximum achievable, and realistic achievable potential levels of DSM, KCP&L stipulated in its 2008 IRP process that it would model at least one resource plan that assumed 1% energy savings from DSM per year, and Special Contemporary Issue C requires evaluation of a "very-aggressive" portfolio involving 1.5% energy savings and 1% demand savings per year through 2020.

In its IRP, KCP&L largely failed to even attempt to comply with these requirements. Instead, the Company put together a DSM portfolio that would purportedly achieve 0.5% energy savings per year, and then went through the motions of assessing a 1% energy savings and 1.5% energy savings DSM program. KCP&L concluded that the 0.5% energy savings portfolio is the "realistic achievable potential" portfolio (KCP&L Resp. to MDNR DR #2), and rejected any resource plan using the 1% energy savings on the grounds that such savings is purportedly "not realistically achievable." Finally, rather than assess its maximum achievable and technical potentials for energy savings, KCP&L notes that it has hired a consultant, Navigant Consulting, to carry out a DSM potential study that is expected to be finished early next year.

KCP&L's contention that a 1% per year energy savings is not realistically achievable is inaccurate. As described in Section II.B above, KCP&L has provided no support for that contention, and the reality is that there are many states across the country that have established long-term aggressive energy efficiency goals that go beyond the 1% level to as much as 2 or 2.5% per year. For example, as shown in the Figure 7 below, at least 15 states have set cumulative savings goals for 2020 in excess of 10%.

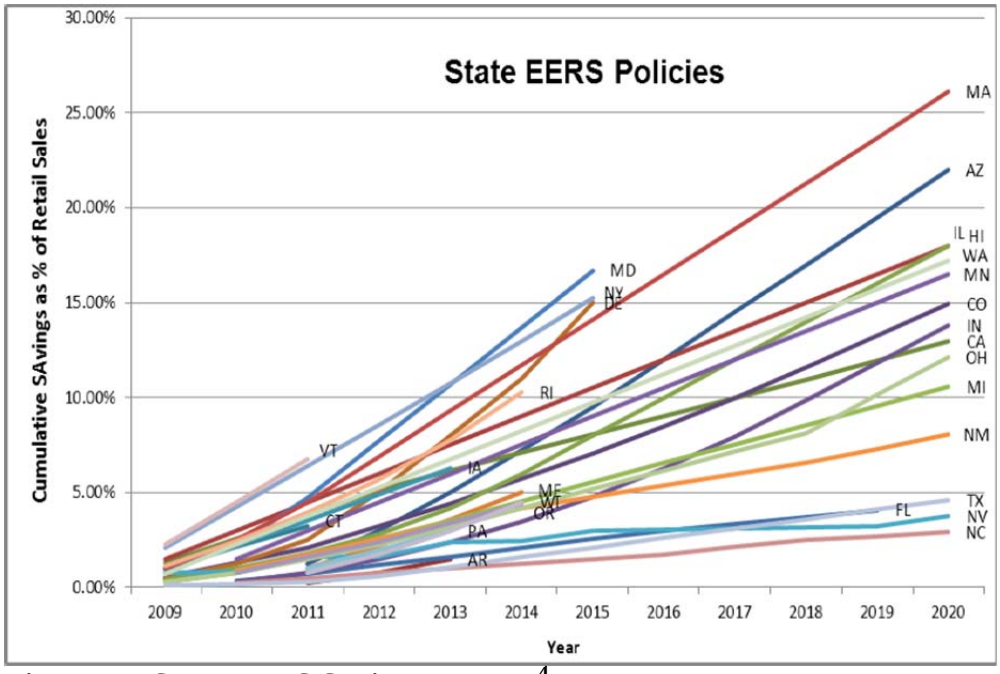

Figure 7 – State EERS Savings Targets[4]

Yet, KCP&L did not even attempt to determine whether it could achieve any level of energy savings over the 0.5% assumed in the DSM A portfolio. Contrary to the plain requirement of 4 CSR 240-22.050(2), 22.060(3)(A)3, KCP&L acknowledges that "a MAP portfolio was not derived, for this filing, nor were technical potentials identified." (KCP&L Resp. to MDNR DR #2). While we are glad that the Company is finally undertaking a DSM potential study to identify RAP, MAP, and technical potential, such study was required to be done before the IRP so that the results could be incorporated into the planning process. KCP&L's failure to do so means that the Company is proposing to go down the road of pursuing a resource plan that likely has a higher NPVRR than is necessary. Such a result is not just and reasonable, nor is it consistent with the requirements of the IRP rules.

KCP&L has also erroneously failed to evaluate combined heat and power ("CHP") as part of a DSM portfolio. Missouri has substantial amounts of untapped CHP potential, as the state's technical potential is approximately 16 times as much as the current 227 MW of total installed CHP capacity.[5] That 227MW is equivalent to 1% of total installed electricity generation capacity in the state, while the national average is 8%. KCP&L states that it considers CHP to be "a demand-side resource" but the Company inexplicably failed to analyze it in developing its proposed DSM portfolio. (KCP&L Resp. to SC DR #27d, attached as Ex. 8).

REMEDY: KCP&L should complete an evaluation of its technical, maximum achievable, and realistic achievable energy savings potential from DSM, including CHP, and incorporate the results of such evaluation into its resource planning as part of the current IRP process.

[4] ACEEE 2011. Energy Efficiency Resource Standards: A Progress Report on State Experience (June 2011), attached as Ex. 9.

[5] James Bradbury and Nate Aden, World Resources Institute, Midwest Manufacturing Snapshot: Missouri (2012), at 2, attached as Ex. 10.

V. KCP&L Failed to Meaningfully Assess the Impact of Critical Uncertain Factors on its Evaluation of Alternative Resource Plans

Missouri's IRP rules establish evaluating alternative resource plans under a variety of possible future conditions as a core requirement of the IRP process. Unfortunately, KCP&L did not carry out such evaluation in any meaningful way.

The relevant standards here are clear. A utility must develop:

> a set of alternative plans based on substantively different mixes of supply-side resources and demand-side resources and variations in the timing of resource acquisition to assess their relative performance under expected future conditions as well as their robustness under a broad range of future conditions.

4 CSR 240-22.060(3) (emphasis added). In order to achieve that goal, the utility is required to consider a list of at least 12 potential uncertain factors, and "describe and document its selection of the uncertain factors that are critical to the performance of the alternative resource plans." 4 CSR 240-22.060(5). The IRP rules then require the utility to "describe and document its assessment of the impacts and interrelationships of critical uncertain factors on the expected performance of each of the alternative resource plans . . . and analyze the risks associated with alternative resource plans." 4 CSR 240-22.060(6).

KCP&L assessed the 12 potential uncertain factors identified in 4 CSR 240-22.060(5) and selected three factors – CO2 prices, natural gas prices, and load growth – as critical uncertain factors. (IRP at Vol. 6, pp. 151-159). Then KCP&L tested the performance of two Combined Company resource plans – the preferred plan and the plan with the next lowest NPVRR – under a limited range of values for these critical uncertain factors. (IRP at Vol. 7, pp. 8-14). This limited evaluation fails to satisfy the requirements of the IRP rules for at least three reasons.

First, KCP&L never evaluated the critical uncertain factors on a meaningful range of alternative resource plans. Instead, the Company evaluated two Combined Company resource plans – AJDC2 and AGDC2 – that are identical with the exception of the retirement of a single 170MW coal unit. But the impact of changes to critical uncertain factors on resource plans that are quite similar is not likely to be significant. Instead, meaningful comparative impacts from critical uncertain factors are likely to arise only if the underlying plans themselves differ with regards to characteristics such as the level of DSM, total coal capacity that is expected to be retired, etc. By restricting the evaluation of critical uncertain factors to two similar plans, rather than considering the impacts to plans that differ widely, KCP&L has rendered the evaluation of a range of future conditions virtually meaningless.

Second, KCP&L erred by not evaluating the impacts of critical uncertain factors on any of the KCP&L or GMO specific resource plans. Instead, KCP&L merged a single plan for each company into a Combined Company plan, and then carried out a limited analysis of critical uncertain factors with regards to the Combined Company plan. As a result, there was never an evaluation of how changed values for critical uncertain factors would impact the comparative

NPVRR of resource plans involving DSM D versus DSM A, or of resource plans involving the retirement of one or both LaCygne units.

Third, KCP&L's critical uncertain factors analysis was improperly skewed against coal plant retirements and in favor of retrofitting and continued operation of the Aging Coal Units. It is not debatable that, all else being equal, a lower natural gas price would improve the comparative economic performance of natural gas combined cycle options versus coal plant retrofits. Similarly, a higher CO2 price would favor DSM, renewable energy, natural gas combined cycle, and other lower-carbon alternatives to coal plants. And a lower load forecast would help cushion any impact from the loss of generation that would result from a coal plant retirement. Yet KCP&L did not evaluate any of those values for the critical uncertain factors. Instead, KCP&L only considered the impacts of higher natural gas prices, lower CO2 prices, and higher load, each of which would favor keeping the Aging Coal Units operating. (IRP Vol. 7, at pp. 7-10).

REMEDY: KCP&L should fully evaluate the robustness of each of the potential resource plans under a broad range of circumstances by modeling the impacts of both higher and lower natural gas prices, CO2 prices, and load forecasts on each of the KCP&L and GMO specific resource plans, and on each of the Combined Company resource plans.

VI. KCP&L Has Hindered Public Review of Its IRP Through a Failure to Describe Its Resource Plans or to Produce Workpapers With Formulas Intact.

Missouri's IRP rules set forth an open and transparent planning process that is supposed to provide intervenors with the information that is needed to allow for a thorough review of the contents of the IRP and the analyses and assumptions upon which the IRP relies. For example, the utility is required to include in its IRP "technical volume(s) that fully describe and document the utility's analysis and decisions in selecting its preferred resource plan and resource acquisition strategy." 4 CSR 240-22.080(2)(C). In addition, the utility is required to produce all supporting information, as the rules require that:

> All workpapers, documents, reports, data, computer model documentation, analysis, letters, memoranda, notes, test results, studies, recordings, transcriptions, and any other supporting information relating to the filed resource acquisition strategy within the electric utility's or its contractors' possession, custody, or control shall be preserved and submitted within two (2) days of its triennial compliance or annual update filings in accordance with any protective order to the staff and public counsel, and to any intervenor within two (2) days of the intervenor signing and filing a confidentiality agreement, for use in its review of the periodic filings required by this rule. All information shall be labeled to reference the sections of the technical volume(s) to which it is related, and all spreadsheets shall have all formulas intact.

4 CSR 240-22.080(11). KCP&L has fallen short of these two requirements.

First, the IRP provides virtually no explanation for how the Combined Company resource plans were developed. The IRP states only that the KCP&L preferred plan AGEK9 is the allocated portion of the Combined Company preferred resource plan AJDC2. (IRP at Vol. 7, p. 20). The GMO IRP states that the GMO preferred plan ACCG9 is the allocated portion of the Combined Company preferred resource plan AJDC2. (GMO IRP at Vol. 7, p. 20). But the two individual company plans do not add up to the Combined Company plan, at least with regards to coal unit retirements. In particular, the KCP&L preferred plan uses retirement scenario G, which is the retirement of Sibley Units 1 and 2. (IRP at Vol. 6, p. 14). The GMO preferred plan uses retirement scenario C, which is the retirement of Montrose Units 1, 2, and 3, Sibley Units 1 and 2, and Lake Road 4/6. (GMO IRP at Vol. 6, p. 13). Yet the Combined Company plan uses retirement scenario J, which is the retirement of only Montrose Unit 1 and Sibley Units 1 and 2. (IRP at Vol. 6, p. 14). No explanation is provided for why the GMO IRP finds the retirement of all three Montrose units to be the lowest NPVRR resource plan, while the KCP&L IRP preferred plan calls for the retirement of none of the Montrose units and the Combined Company resource plan retires only Montrose Unit 1. Similar inconsistencies exist between the Combined Company contingency plan and the contingency plans for KCP&L and GMO. And no explanation is provided for how the other twelve Combined Company resource plans were developed. Such non-existent or inconsistent information hinders review of the IRP and does not satisfy KCP&L's duty to "fully describe and document the utility's analysis and decisions in selecting its preferred resource plan and resource acquisition strategy." 4 CSR 240-22.080(2)(C).

Second, contrary to the requirement that "all spreadsheets shall have all formulas intact," 4 CSR 240-22.080(11), many of the workpapers and other supporting documentation provided by KCP&L consisted of spreadsheets that were populated with hard-coded numbers. This hinders the ability of intervenors to review KCP&L's analysis, as it prevents a full assessment of how modeling inputs were developed and how modeling outputs were converted into NPVRR and other results reported in the IRP. KCP&L may note that it provided the parties with all of the modeling input and output files in model executable code that can be reviewed by any party that obtains the modeling software and the necessary licensing to use it. But access to the modeling input and output files in model executable code does not explain how KCP&L generated those inputs or converted the outputs into the results reported in the IRP. Instead, spreadsheets with the formulas intact would provide such information. In addition, obtaining modeling software, the license to use it, and experts who are experienced to run the model can cost significant amounts of money. As such, allowing a utility to simply provide files that parties need to have modeling software to run would effectively foreclose the ability of many public interest groups or other entities of limited means to fully engage in the IRP process. Enforcing the requirement that all documentation, including spreadsheets with all formulas intact, be produced would help avoid such a result.

REMEDY: KCP&L should revise its IRP filing to describe and document how the Combined Company resource plans were developed and how those plans interact with the resource plans identified for KCP&L and GMO individually. In addition, KCP&L should produce all workpapers and other supporting documentation involving spreadsheets in documents that have all formulas intact.