MISSOURI PUBLIC SERVICE COMMISSION

NATURAL RESOURCES DEFENSE COUNCIL'S COMMENTS AND REQUEST FOR HEARING

on

KANSAS CITY POWER & LIGHT
GREATER MISSOURI OPERATIONS COMPANY

CHAPTER 22
ELECTRIC UTILITY RESOURCE PLANNING
2013 ANNUAL UPDATE FILING

FILE NO. EO-2013-0538

August 21, 2013

**** Denotes Highly Confidential Information ****

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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	)	File No. EO-2013-0538
Greater Missouri Operations Company	)	

NATURAL RESOURCES DEFENSE COUNCIL'S COMMENTS AND REQUEST FOR HEARING

SUMMARY

NRDC writes these comments to express our disappointment in the quality of KCP&L's 2013 update filing to its 2012 IRP submission. The Commission gave KCP&L the opportunity to improve its 2012 IRP in this update process, but KCP&L has failed to put forth an IRP much less an update that meets the requirements of Chapter 22, the Commission's final order in the 2012 IRP proceedings, and the stipulated terms of the parties' Joint Filing in that case. For this reason, NRDC encourages the Commission to use its authority under 4 CSR 240-22.080(16)[1] to establish a schedule for proceedings and hearings to address the deficiencies in both the 2012 IRP and the 2013 Update outlined in these comments.

On June 24, 2013, KCP&L and KCP&L GMO (collectively "KCP&L" or "Utility") filed an Annual Update to its 2012 IRP submission in separate filings (EO-2013-0357 & 0358, respectively; collectively, "Update"). NRDC had previously provided the Commission with comments in response to KCP&L's 2012 IRP submission, identifying six key deficiencies in the IRP. (EO-2012-0323, filing number 28). None of these six deficiencies were resolved in the stipulations contained in the November 19, 2012 Joint Filing (EO-2012-0323, filing number 32) and remain open issues in this proceeding.

The deficiencies NRDC had identified resulted from KCP&L's failure to provide the requisite solid foundation of knowledge as a basis for its plans.[2] The Commission ordered KCP&L "to address these unresolved deficiencies and concerns in its 2013 annual update report" and to fulfill the stipulated resolutions contained in the Joint filing.[3] In order to comply with these orders KCP&L was required to complete and use the results of a demand side potential study in

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[1] 4 CSR 240-22.080(16) ("The commission will issue an order which contains its findings regarding at least one (1) of the following options: . . . (D) That the commission establishes a procedural schedule for filings and a hearing(s), if necessary, to remedy deficiencies or concerns as specified by the commission.").

[2] See 4 CSR 240-22.050(2) ("The utility shall conduct, describe, and document . . . activities as necessary to estimate the maximum achievable potential, technical potential, and realistic achievable potential of potential demand-side resource options . . . . These research activities shall be designed to provide a solid foundation of information applicable to the utilities about how and by whom energy-related decisions are made . . . ").

[3] See Final Order in Case EO-2012-0323.

its 2013 Update to the IRP. The potential study is needed both to address NRDC's concerns and to fulfill KCP&L's stipulated obligations under the terms of the Joint Filing.[4]

Based in part on the likelihood that the new potential study would address some of the unresolved deficiencies and concerns, the Commission postponed establishing a procedure for addressing the unresolved issues until after the 2013 Update was filed. Unfortunately, the Update does not address the unresolved deficiencies NRDC identified, and it fails to resolve other deficiencies from the Joint Filing.

Not only did KCP&L fail to produce the potential study in time for its 2012 IRP, once the Utility secured authorization from the Commission and agreement from the parties to delay its IRP by a full year to complete and use the study in its next filing, it failed to do so. KCP&L finally released the completed potential study at 9:40 a.m. on August 21, 2013 – the day comments on the 2013 Update were due. KCP&L did not rely on this finalized study in its Update.[5] Instead, KCP&L appears to have selected its preferred scenario for DSM without regard to the results of the potential study or the IRP analysis. It justifies this decision on the basis of short term rate impact, rather than developing a "solid foundation of information" and using the "minimization of the present worth of long-run utility costs as the primary selection criteria," as required by Chapter 22.[6] As a result, the proposed scenario will not come close to capturing the full-cost effective potential of DSM rates and programs, and will therefore result in comparatively higher bills over the long term.

Among the most significant deficiencies in the Update, we find that:

1. The Update relies on a draft form of the potential study. The finalized study results were only released to the public on the day comments on the 2013 update were due, and it was not used in the IRP update.
2. Neither the draft potential study nor the IRP analysis fully considers the impacts of energy efficiency technologies that are reasonably expected to be available during the planning horizon relevant to the IRP.
3. KCP&L relies on analysis that contains patent inconsistencies and errors.
4. KCP&L has failed to assess DSM on an equal basis with other resources because it has heavily weighted the alternative resource plans in its analysis to those with relatively low levels of DSM, with only a few higher DSM scenarios alternative resource plans modeled.
5. Neither the draft potential study nor the IRP analysis considers the impacts of rate design on energy use.

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[4] See Joint Filing, pp. 12 – 15, 24 – 25, 27.

[5] As KCP&L staff stated at the July 11, 2013 stakeholder meeting. For this reason, these Comments are based on the earlier draft potential study that KCP&L relied upon and made available to stakeholders in time to inform the commenting process for the 2013 Update.

[6] 4 CSR 240-22.050(2); 4 CSR 240-22.010(2)(B).

6. Despite the limitations in KCP&L's analysis, even this underestimation of DSM's potential shows that the alternative resource plan with the lowest net present value of revenue requirement (NPVRR) contains higher levels of DSM than the Utility's "preferred plan."

KCP&L's failure to resolve these deficiencies renders both the IRP and the 2013 Update inadequate, and it places KCP&L in direct violation of the terms of the Joint Filing and of the Commission's Final Order in Case EO-2012-0323. For this reason, NRDC encourages the Commission to use its authority under 4 CSR 240-22.080(16) to establish a schedule for proceedings and hearings to address these and other unresolved deficiencies in both the 2012 IRP and the 2013 Update.

I. KCP&L'S 2012 IRP AND 2013 UPDATE TO ITS IRP ARE NOT IN COMPLIANCE WITH THE COMMISSION'S ORDER, THE JOINT FILING, AND CHAPTER 22 OF THE COMMISSION RULES.

The Commission's final order in case EO-2012-0323 requires KCP&L to carry out the proposed remedies in the Joint Filing and to "address the twenty-five (25) alleged deficiencies and concerns identified as unresolved in the *Joint Filing* in its 2013 annual update report." KCP&L has failed to follow the Commission's order as its 2013 Update is severely flawed and does not address the deficiencies in the 2012 IRP. The flaws NRDC emphasizes are (1) The Update relies on a draft form of the potential study that itself was quite flawed; (2) KCP&L has failed to consider energy efficiency technologies that are reasonably expected to be available during the planning horizon in its analysis; (3) KCP&L's analysis contains patent inconsistencies and errors; (4) KCP&L does not assess DSM on an equal basis with other resources and is therefore not in compliance with Chapter 22 regulations;[7] (5) KCP&L has not considered the DSM impacts of rate design; (6) even with all these issues, KCP&L's own analysis shows that that the alternative resource plan with the lowest net present value of revenue requirement (NPVRR) contains higher levels of DSM than the Utility's preferred plan.

1. The Update relies on flawed preliminary potential study results.

KCP&L's original 2012 IRP filing did not provide critical information for evaluating its demand-side resource rates and programs, citing the pending (and overdue) potential study it had commissioned from Navigant. The Commission's decision to delay reaching a final determination of the Plan's compliance or non-compliance was in part based upon the promise that this potential study would be completed in January of 2013, and that its results would be incorporated into the 2013 IRP updates. This finalized potential study was not used in the IRP update filings submitted on June 20, 2013. **____.** The study, which

[7] 4 CSR 240-22.010(2)(A).

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should have been completed and used in the original 2012 IRP filing, let alone the 2013 update a year later, was finally released to stakeholders on August 21, 2013 – the day comments on the 2013 Update were due.

Stakeholders were eager to help KCP&L produce an accurate potential study, but KCP&L did not distribute a draft report on the potential study to stakeholders until April 2013. On April 15, 2013, NRDC provided extensive comments to KCP&L and Navigant with concerns regarding some of the methods and assumptions used in the draft study. Because KCP&L used this draft in its analysis, we describe the flaws identified in the draft potential study below.

Among the most significant problems is the global error of failing to select the appropriate metric for modeling program success. The draft potential study models penetration completely as a function of customer payback when, in fact, program data have shown that penetrations can vary by an order of magnitude for the same measures depending on program design (such as upstream incentives vs. downstream programs). The draft potential study does not model for these best practice delivery models that have been shown to increase measure penetration for the same incentive size, nor does the Update account for this omission.

One particularly egregious example of KCP&L's gross underestimation of energy efficiency market potential can be seen in its assessment of a C&I Screw-in LED program. **____
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____.** We also note that Massachusetts is claiming much lower per bulb savings because of assuming CFLs as baseline for most of these bulbs. KCP&L is under no obligation to attempt to reproduce the level of success found in other states, but as a preliminary matter, these programs provide at least one significant source of guidance when attempting to determine the reasonable, maximum, or technical potential for efficiency deployment. The fact that the disparity between the programs is so great indicates that KCP&L's LED potential estimates are so low as to strain credibility.

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Table 1: Screw-in C&I LED Comparison ** highly confidential table removed**

This table is deemed highly confidential in its entirety

In another example of the Utility's apparent willful blindness to the true opportunity for cost-effective energy efficiency in its market, it also significantly underestimates savings from home energy reports compared to savings actually achieved by other utilities. Numerous utilities around the country have delivered similar programs, with generally projected savings in the range of 2% per year.[8] KCP&L's RAP potential estimates for this program range capture only a tiny fraction **________________** of the total savings that could be achieved if KCP&L mailed reports to all residential customers, assuming the average 2% savings applies to all customers.

Because this program requires very little ramp up beyond the initial set up and linking to billing systems, the Utility could easily target more residential customers and capture much higher potential savings for this program, **____.** We note that most behavioral pilot programs have tended to target the highest users, and there is limited data on the robustness of savings impacts for smaller users. However, certainly KCP&L could expand this program to a significantly larger portion of its residential customers even if it turns out that it would not be cost-effective to target the smallest users.

Further, the draft potential study includes a section on the potential for CHP, which also appears to be a significant underestimation. This is likely due to numerous factors, including:

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- **____**
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[8] Savings are not assumed to persist past 1 year life; however, typically the program is simply continued on an annual basis.

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Table 2 below compares the KCP&L RAP CHP results with actual achievement in Massachusetts in 2011 (the second year of CHP promotion). **____
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Table 2: CHP Comparison

This table is deemed highly confidential in its entirety

2. **Neither the Navigant draft potential study nor the IRP analysis fully considers the impacts of energy efficiency technologies that are reasonably expected to be available during the planning horizon relevant to the IRP.**

In addition to the flaws in the analysis of these and other particular programs, KCP&L significantly underestimates the cumulative potential for efficiency by assuming that potential will suddenly and inexplicably begin to dry up in Year Eleven of the program. ** ________
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______________________________.** It is unreasonable to assume that technological advances will not at least keep pace with changes in codes and standards. There

will almost certainly be continued opportunities for efficiency as more stringent codes and standards are imposed. **____. **

As a result, even when KCP&L has modeled the higher levels of cost-effective DSM, the alternative resource plans show most of this savings severely eroded during the second decade and a resulting need to add supply-side turbines. We believe this is a result of a failure to accurately model emerging technologies and general advancements in the industry that history has proven occur. For example, many leading jurisdictions have captured DSM savings for over 20 years at levels well above those being contemplated by KCP&L and yet still find DSM potential in the future remains similar to what it was back in the early 1990s.[9] As baseline efficiencies improve, so does technology, but the market barriers remain, meaning that the potential of new savings continues to exist, and the work of DSM is never complete. This failure to consider the impacts of improved technologies is in direct contradiction of CSR 240-22.050(1)(E) as pertaining to DSM analysis:

> (E) To include the effects of improved technologies expected to—
> 1. Reduce or manage energy use; or
> 2. Improve the delivery of demand-side programs or demand-side rates

The lack of effort to model this likely outcome and sustain DSM impacts throughout the IRP planning horizon is a major flaw in the modeling that unfairly increases the PVRR of the more aggressive DSM alternative resource plans.

Based on these and numerous other deficiencies in the draft study that KCP&L relies on, the original IRP and Update cannot be said to have reasonably estimated market potential, or to have provided a solid foundation of knowledge for their conclusions. The draft study and the Update are therefore fatally flawed and non-compliant with the requirements of 4 CSR 240-22.050 and other sections of Chapter 22.

3. The Update relies on analysis that contains patent inconsistencies and errors.

In addition to the methodological errors and problematic assumptions contained in the analysis supporting the Update, significant incorrect calculations and inconsistencies exist which render the analysis inadequate for the purposes of Chapter 22. KCP&L has shared numerous work papers with stakeholders under confidentiality agreements. In attempting to understand KCP&L's data and process we have tried to reconcile this information but find that many work papers contradict one another, and in some cases are not even internally consistent.

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[9] See for example the experience of CA, CT, MA, NY, OR, RI and VT.

One important inconsistency has to do with the rate analysis used to determine that RAP would cause a rate increase of ** __ ** and that MAP would cause a rate increase of ** __ **. This analysis appears to be based on the assumption that 2016 electric rates would recover the program costs for years 2014-2016, but only receive the fuel savings benefits from 2016. While rate impacts should not be the primary consideration for determining the amount of efficiency to pursue, it is important to understand that *the rate numbers given by KCP&L in the IRP represent a situation where DSM program costs for three years are only being offset by the benefits of one year*. In a more normal situation, where one year of a DSM program is offset by one year of utility fuel savings, rate impacts would be significantly lower.

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Table 3

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Other inconsistencies exist throughout the analysis. Although the numbers in Table 3 reflecting the inconsistency described above were taken from a single work paper,[10] numerous work papers provide DSM figures that do not match, as shown in Table 4, below. This inconsistency makes it difficult to review the assumptions and numbers used in the analysis, and casts doubt on the accuracy of any conclusions. We have relied on Appendix B work papers for all numbers presented in the comparison tables provided here because we believe they appear most consistent with the main plan document and also offered both MWh and MW figures.

Table 4

This table is deemed highly confidential in its entirety

If KCP&L has any explanation for these apparent inconsistencies or errors, it has not provided it in its Update. In the absence of any supplemental information resolving these deficiencies, KCP&L cannot claim to have provided a reasonable basis for its conclusions, despite the many opportunities it has been given to correct its faulty analysis.

4. The Update fails to adequately model a reasonable range of DSM scenarios.

KCP&L confirmed in the Stipulation that alternative resource plans would be modeled "consistent with the state energy policy in MEEIA of achieving all cost-effective demand-side savings." *Given that by definition achieving all cost-effective DSM is synonymous with pursuing MAP, the single, non-optimized alternative resource plan for MAP cannot be considered a good faith effort to maintain consistency with state energy policy*. ** **

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Further, upon review of the alternative resource plans, the higher DSM scenarios modeled do

[10] Appendix B.

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not appear to optimize the resources by fully taking advantage of the additional DSM resources. **

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____ **. Taken as a whole, it appears the clear emphasis in the IRP was on optimizing a lower level of DSM (MEEIA scenarios) than fairly considering the DSM levels articulated in the Stipulation.

To remedy this failure to optimize appropriate higher DSM scenarios and to identify and consider ways to achieve a minimum PVRR with greater cost-effective DSM, the parties could agree to extend the IRP process and consider the additional scenarios below. Figures 1 and 2, below, show the total KCP&L capacity requirement (including building in required reserve margins) for the RAP and MAP scenarios for KCP&L-MO and GMO, respectively. The bars show the available supply capacity. As can be seen, there is significant opportunity to potentially retire some plants in the 2016 to 2021 time period and still meet reserve requirements.

Figure 1: KCP&L's Projected Capacity Requirements Based on the Update's DSM Projections

This figure is deemed highly confidential in its entirety

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Figure 2: **GMO's Projected Capacity Requirements Based on the Update's DSM Projections**

This figure is deemed highly confidential in its entirety

Under scenarios that do not rely on KCP&L's unsupported assumption that efficiency potential will decrease in the second decade of the programs, the surplus capacity and consequent opportunities to retire some capacity would be even greater and would come even sooner. Nevertheless, KCP&L has failed to adequately consider scenarios that accurately reflect even its own depressed estimates for what can be achieved through the proposed programs. Based on KCP&L's own estimates reflected in Figure 1, we propose the following additional scenarios, at a minimum, be considered. Similar scenarios should be considered for GMO.

This table is deemed highly confidential in its entirety

5. **Neither the draft potential study nor the IRP analysis considers the impacts of rate design on energy use.**

KCP&L's DSM potential study failed to consider the potential from demand-side rates, despite Chapter 22's clear requirement that it do so. Further, KCP&L does not appear to have considered the DSM resource potential from rates in any scenario. The IRP rules define DSM as

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including rate design. For example, CSR 240-22.050(1)(C) requires inclusion of "demand-side rates for all customer market segments." Subsection D goes on to require KCP&L "[t]o consider and assess multiple designs for demand-side programs and demand-side rates, selecting the optimal designs for implementation, and modifying them as necessary to enhance their performance."

It does not appear that KCP&L has done and documented this. Evidence from other jurisdictions shows that through rate design alone, such as inclining block rates, savings of 4% or more of annual electricity consumption can be achieved and sustained. This single effort could therefore dramatically increase the overall potential assumed and modeled by KCP&L. Further, time of use rates designed to reduce peak loads, such as critical peak pricing, can produce additional peak load reduction of 10% or more, potentially allowing for retirement of plants or reductions of future supply-side plants and better integration of intermittent renewable resources into the grid. KCP&L's complete failure to consider rate design in addition to traditional DSM programs as a resource makes its IRP update clearly deficient.

6. The Update has not relied on minimizing NPVRR as the primary criteria for selecting a plan.

Despite the other shortfalls of KCP&L's IRP analysis, it still shows that a higher level of efficiency would decrease revenue requirements compared to the preferred plan, and thus by definition decrease ratepayer bills. In all likelihood, NPVRR for higher efficiency scenarios would be even lower had KCP&L optimized supply side investments to take advantage of the capacity gained from demand side measures. In fact far from optimizing, KCP&L has not even modeled scenarios with the supply side options shown to have the lowest NPVRR in the RAP/MEEIA scenario.

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____________.[11] ** Although the Utility must use minimization of NPVRR as its primary selection criteria, it may select a less cost-effective plan in order to balance all appropriate planning objectives.[12] But the Rules' recognition that competing policy objectives may prevent the Utility from optimally minimizing costs does not give the Utility license to select a plan first and then tailor its analysis to support that decision, as KCP&L appears to have done here. Indeed, the Utility is required by the Commission's Rules to first consider DSM, renewables, and other capacity "on an equivalent basis,"[13] and then "use minimization of long-run utility costs as the primary selection criterion."[14] KCP&L has done neither.

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[11] See 2013 GMO Update at p. 91.

[12] 4 CSR 240-22.070.

[13] 4 CSR 240-22.010(2)(A).

[14] 4 CSR 240-22.010(2)(B).

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[redacted][15] [redacted] ** given the inadequacy of KCP&L's assessment of DSM potential, in any case, KCP&L's justification for not selecting the plan with the lowest NPVRR is procedurally inadequate.[16]

Rather than follow the process required by Chapter 22, KCP&L appears to have merely paid lip service to the Rule by providing a cursory and inadequate assessment of DSM potential in its service territory. ** [redacted]. **

** [redacted]. ** Numerous jurisdictions are already achieving cost-effective savings at or above MAP levels – proof that significantly higher levels of cost-effective efficiency are both feasible and realistic. In its analysis, KCP&L thus only models limited sub-optimal scenarios with the RAP and MAP levels of efficiency; produces workpapers with conflicting and erroneous numbers and limited transparency; and still does not choose the scenario with the lowest found NPVRR as their preferred scenario.

This distortion suggests that KCP&L's decision is not guided by Chapter 22's requirement that it seek to minimize present worth of long-run utility costs as the primary selection criteria, but rather by an intentional decision to pursue its preferred plan, regardless of what a valid study would support. KCP&L chose to select below-optimum amounts of efficiency as the preferred plan and not optimize the supply side choices, even as reflected by KCP&L's own inflated assessment of the MAP scenario's NPVRR. This choice further supports the likelihood that KCP&L had *a priori* chosen what levels of DSM to pursue, and is merely going through the motions of attempting to comply with Chapter 22's procedural requirements.

[15] 2013 GMO Update at p. 91.

[16] Chapter 22 requires that the Utility 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 have prevented it from selecting the plan with the lowest NPVRR. The Utility must also "describe and document the process and rationale used by decision-makers to assess the tradeoffs and determine the appropriate balance." 4 CSR 240-22.010(2)(C). KCP&L's one-paragraph explanation of its decision provides no such analysis or discussion of trade-offs.

II. THE COMMISSION SHOULD SCHEDULE PROCEEDINGS AND HEARINGS

NRDC requests that the Commission schedule proceedings and hearings to address the issues outlined in these comments. As part of the stakeholder process for utility integrated resource plan filings, the Commission's regulations on Electric Utility Resource Planning at 4 CSR 240-22.080(16) require the Commission to issue an order finding that the utility's filing "either does or does not demonstrate compliance." Or, when the Commission does not reach a finding of compliance or non-compliance, it may establish procedures for determining the merit of unresolved issues. Under Rule 22.080(9), utilities along with parties who identify deficiencies or concerns must attempt to reach agreement on a plan to remedy the identified issues and submit a joint filing stipulating the terms of the agreement, as the parties in this case did in their Joint Filing.

Where agreement cannot be reached, as was the case for twenty-five (25) of the seventy-six (76) identified deficiencies and concerns in this case, Rules 22.080(10) and (16)(C) provide that the Commission "will issue an order which indicates on what terms, if any, a hearing(s) will be held and which establishes a procedural schedule." Rule 22.080(16)(D) also provides that the Commission may establish "a procedural schedule for filings and a hearing(s), if necessary, to remedy deficiencies or concerns."

Here, the Commission issued an Order approving the stipulated remedies proposed in the Joint Filing and acknowledging the existence of the unresolved deficiencies and concerns. Rather than reach a final determination regarding the sufficiency of the IRP, this Order concluded that "it would be premature to make a determination now on whether the IRP complies with Chapter 22 of the Commission rules or to schedule a hearing at this time on the unresolved deficiencies and concerns alleged by the parties." The Commission has thus provided KCP&L with ample time and opportunity to comply with Chapter 22 and to resolve the deficiencies in its IRP.

Many of the deficiencies that existed in the original filing remain unresolved in this filing, placing KCP&L in non-compliance with both the Chapter 22 rules for filing a triennial IRP and with the Commission's Order. As a result, KCP&L has not satisfactorily complied with the requirement that it seek to "fulfill the goal of achieving all cost-effective demand-side savings." Furthermore, it has not fulfilled the Commission's Order or the stipulated resolution in the Joint Filing requiring the Utility to use the results of the completed potential study in its 2013 Update. Indeed, the Utility has based its analysis only on a draft potential study that it has acknowledged does not accurately reflect the true DSM market potential in its territories. Despite the requirements of the Rule, the Order, and the Joint Filing, KCP&L has stated that it has no plans to re-run any scenarios with the final potential study despite the patent inadequacy of the information it relies on in the Update.

CONCLUSION

For the reasons given, we request that the Commission (1) find the IRP and Update non-compliant with Chapter 22 and with the Commission's Order, (2) order the utility to complete a compliant IRP, and (3) establish a schedule for proceedings and hearings to address the unresolved deficiencies and concerns outline in these comments.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing have been transmitted electronically to all counsel of record this 21st day of August, 2013.

<u>/s/ Kimiko Narita</u>
Kimiko Narita