MISSOURI PUBLIC SERVICE COMMISSION

STAFF REPORT ON

KANSAS CITY POWER & LIGHT COMPANY

ELECTRIC UTILITY RESOURCE PLANNING COMPLIANCE FILING

FILE NO. EO-2012-0323

September 2012

JEFFERSON CITY, MISSOURI

**** <u>Denotes Highly Confidential Information</u> ****

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Summary of Staff's Review and Recommendations

On April 9, 2012,[1] Kansas City Power & Light Company ("KCPL") made its Chapter 22 triennial compliance filing ("Filing") in Case No. EO-2012-0323 as required by the Commission's revised Chapter 22 Electric Utility Resource Planning Rules, which became effective on June 30, 2011.[2] Thus, KCPL had only about nine (9) months following the effective date of the revised Chapter 22 Rules to prepare and to file its first triennial compliance filing under the revised Chapter 22 Rules. Staff recognizes and appreciates the Company's significant effort to make its first triennial compliance filing under the Commission's revised Chapter 22 Rules in such a short period of time.

KCPL performed its electric utility resource planning for the Filing: a) for KCPL as a stand-alone electric utility as it has in its past Chapter 22 triennial compliance filings, and b) for KCPL and KCP&L Greater Missouri Operations Company ("GMO") operating as if it is a combined company. KCPL's adopted preferred resource plan, Plan AGEK9, represents KCPL's "allocated" portion of a "combined company" candidate resource plan, Plan AJDC2. Plan AGEK9 includes the demand-side management ("DSM") programs contained in the Company's "withdrawn" MEEIA application[3] but starting in 2014 (DSM A),[4] and includes the following supply-side capacity additions or retirements: addition of 20 MW of new solar, 400 MW of new wind, 150 MW of new combined cycle and the retirement of 170 MW of coal (Montrose Unit 1). The 20-year risk adjusted present value of revenue requirements ("PVRR") of KCPL's adopted preferred resource plan is $20.83 billion. In the Filing, KCPL

[1] Under Rule 4 CSR 240-22.080(1)(A), KCPL's first triennial compliance filing was due on April 1, 2012. On March 28, 2012, KCPL filed its *Motion for Extension of Time* to extend the filing date to April 9, 2012; and on March 30, 2012, the Commission issued its order *Granting Extension to File Resource Plan*.

[2] The Commission's Chapter 22 Rules were first effective on May 6, 1993, and remained unchanged until they were revised on June 30, 2011.

[3] Volume 6, page 6, of this Filing states: "On February 17, 2012, KCP&L filed to withdraw the MEEIA filing, Case [No.] EO-2012-0008, made on December 22, 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."

[4] Plan AGEK9 also includes DSM programs in 2012 and 2013, which are a continuation of the programs implemented by KCPL in 2007 as part of the KCPL Experimental Regulatory Plan approved by the Commission in Case No. EO-2005-0329.

requests that the Commission: 1) acknowledge[5] that it is reasonable for KCPL and GMO to plan on a joint company basis, and 2) find that KCPL's preferred resource plan is reasonable as of this filing.[6]

As a result of its limited review of the Filing, Staff finds that the methodologies and models used by the Company are generally well established and can produce technically correct calculations for the numerous analyses which are *described and documented*[7] in the Filing. However, as discussed in more detail in this Staff Report, Staff finds that the Filing does not achieve the "fundamental objective"[8] of the Commission's Chapter 22 Rules as a result of the following significant deficiencies and concerns:

1. The KCPL and KCP&L Greater Missouri Operations Company ("GMO") electric utility resource planning on a joint company basis complies with relatively few of the requirements of 4 CSR 240-22.060 Integrated Resource Plan and Risk Analysis and 4 CSR 240-22.070 Resource Acquisition Strategy Selection and, likewise *describes and documents* relatively few of the Chapter 22 filing requirements for each of the fourteen (14) combined/joint candidate resource plans;
2. The stand-alone KCPL electric utility resource planning does not comply with many of the requirements of 4 CSR 240-22.060 Integrated Resource Plan and

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[5] Rule 4 CSR 240-22.020(1): "Acknowledgment is an action the commission may take with respect to the officially adopted resource acquisition strategy or any element of the resource acquisition strategy including the preferred resource plan. Acknowledgement means that the *commission finds the preferred resource plan, resource acquisition strategy, or the specified element of the resource acquisition strategy to be reasonable at a specific date*, typically the date of the filing of the utility's Chapter 22 compliance filing or the date that acknowledgment is given. Acknowledgment may be given in whole, in part, or not at all. Acknowledgment shall not be construed to mean or constitute a finding as to the prudence, pre-approval, or prior commission authorization of any specific project or group of projects." (Emphasis added)

[6] Volume 8, page 25 of the Filing, and cover letter of Roger W. Steiner dated April 9, 2012 for the Filing in File No. EO-2012-0323.

[7] Rule 4 CSR 240-22.020(14): "Described and documented refers to the demonstration of compliance with each provision of this chapter. Describe means the provision of information in the technical volume(s) of the triennial compliance filing, *in sufficient detail to inform the stakeholders how the utility complied with each applicable requirement of Chapter 22, why that approach was chosen, and the results of its approach*. The description in the technical volume(s), including narrative text, graphs, tables, and other pertinent information shall be written in a manner that would allow a stakeholder to thoroughly assess the utility's resource acquisition strategy and each of its components. Document means the provision of *all of the supporting information relating to the filed resource acquisition strategy pursuant to 4 CSR 240-22.080(11)*." (Emphasis added)

[8] Rule 4 CSR 240-22.010(2): "The fundamental objective of the resource planning process at electric utilities shall be to provide the public with energy services that are safe, reliable, and efficient, at just and reasonable rates, in compliance with all legal mandates, and in a manner that *serves the public interest and is consistent with state energy and environmental policies*." (Emphasis added)

Risk Analysis and 4 CSR 240-22.070 Resource Acquisition Strategy Selection and, likewise fails to *describe and document* many of the Chapter 22 filing requirements for each of the twenty-two (22) KCPL candidate resource plans;

3. None of the KCPL candidate resource plans or the combined/joint company candidate resource plans satisfy at least the objectives and priorities identified in Rule 4 CSR 240-22.010(2),[9] since these candidate resource plans do not include demand-side resources over the 20-year planning horizon[10] which are *consistent with the state energy policy* contained in the Missouri Energy Efficiency Investment Act of 2009[11] ("MEEIA") goal of achieving all cost-effective demand-side savings;
4. The Company did not comply with the Commission's special contemporary issue "h"[12] which required KCPL to analyze and document aggressive DSM portfolios without constraints and to analyze and document the investment mechanisms necessary to implement each DSM portfolio when analyzing any of its KCPL candidate resource plans or its combined/joint company candidate resource plans: and
5. KCPL and GMO are separate subsidiaries of Great Plains Energy, Inc. and do not have operating agreements and/or contracts in place to permit the joint operations assumed by the joint company planning.[13] Also there is the matter of the separate rates / rate designs of KCPL and GMO, let alone the matter of the separate rates / rate designs of the Missouri Public Service and Light & Power Divisions of GMO. The appropriateness of joint KCPL / GMO electric

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[9] Staff contends that compliance with Rule 4 CSR 240-22.010(2) requires that electric utility resource planning analyze and describe and document: 1) demand-side resources that can achieve a goal of all cost–effective demand-side savings for the entire 20-year planning horizon, and 2) investment mechanisms necessary for the electric utility to implement demand-side resources that can achieve a goal of all cost–effective demand-side savings for the entire 20-year planning horizon.

[10] Rule 4 CSR 240-20.094(2)(A): "Planning horizon means a future time period of at least twenty (20) years duration over which the costs and benefits of alternative resource plans are evaluated."

[11] Section 393.1075, RSMo, Supp. 2010

[12] See Commission order dated October 19, 2011, in File No. EO-2012-0041 which includes special contemporary issue "h": "Analyze and document aggressive DSM portfolios without constraints. Include analysis and documentation of demand-side investment mechanisms necessary to implement each DSM portfolio."

[13] The Joint Operating Agreement mad and entered into on October 10, 2008, by and between KCPL and GMO states at the top of its page 12: "KCP&L and KCP&L GMO will be operated, and planned for as separate control areas with wholesale transactions governed by applicable FERC tariffs and rules, until and unless otherwise determined by the parties and approved by all applicable regulatory bodies."

resource planning minus a merger of those two entities is a question for the Commission.

All of Staff's identified deficiencies and concerns are listed in the next two sections of this Staff Report, respectively.

However, KCPL has a number of studies which are planned or ongoing related to its demand-side resources and supply-side resources which could significantly alter its future electric utility resource planning and change its adopted preferred resource plan. Most important among these studies are: 1) the DSM market potential study being performed by Navigant Consulting, Inc. and expected to be completed in January 2013, and 2) the "Mega Study," what KCPL calls "a suite of studies" evaluating supply-side resources including engineering studies of KCPL's coal generating plants (in particular, the Montrose plant) concerning upgrades necessary to comply with anticipated changes to environmental regulations. The final report for the Mega Study is expected in October 2012. The results of these studies could change the Company's adopted preferred resource plan and, in particular, affect the Company's specific plans to retire some of its coal generating plants in the near future.

As a result of its limited review of the Filing, Staff recommends that the Commission:

1. Not acknowledge that it is reasonable for KCPL and GMO to plan on a joint company basis.
2. Not find that KCPL's preferred resource plan is reasonable as of its filing.
3. Direct KCPL and GMO to file either a) a detailed proposal for allocating capacity and energy between KCPL and GMO, and if GMO's MPS and L&P rate districts are not eliminated, between GMO's MPS and L&P rate districts; or b) a plan for merging KCPL and GMO into one electrical corporation[14] prior to or at the time of any future Chapter 22 electric utility resource planning filing for which KCPL requests Commission acknowledgement that it is reasonable for KCPL and GMO to plan on a joint company basis.[15]
4. Order KCPL to complete the following projects and studies for consideration and inclusion in its April 1, 2013 annual update filing:

[14] The plan to merge should include a certain date by which the companies will file their merger case.

[15] However, until there is a completed legal merger of KCPL and GMO, KCPL and GMO are required to perform and file separate Chapter 22 triennial compliance and annual update filings unless a waiver is received from the Commission for the requirements in Rule 4 CSR 240-22.080(1)(A) and Rule 4 CSR 240-22.080(3).

- Current/ongoing DSM market potential study by the scheduled completion date of January 2013;
- Mega Study by the scheduled completion date of October 2012; and
- LED lighting pilot program scheduled completion date of summer 2012.

5. Order KCPL to comply with the following special contemporary issues for its April 1, 2013 annual update filing:[16]
   - Update on Smart Grid Demonstration Project; and
   - Analyze and document aggressive DSM portfolios - including demand-side programs and demand-side rates - without constraints. Include analysis and documentation of demand-side investment mechanisms necessary to implement each aggressive DSM portfolio.
6. Order KCPL to comply as a stand-alone utility with all of the requirements of Rule 4 CSR 240-22.060 Integrated Resource Plan and Risk Analysis and Rule 4 CSR 240-22.070 Resource Acquisition Strategy Selection for its April 1, 2013 annual update.

List of Staff's Identified Deficiencies

A *deficiency* as defined in Rule 4 CSR 240-22.020(9) means deficiencies in the electric utility's compliance with the provisions of Chapter 22, any major deficiencies in the methodologies or analyses required to be performed by Chapter 22, and anything that would cause the electric utility's resource acquisition strategy to fail to meet the requirements identified in Chapter 22. As a result of its limited review, Staff finds the following deficiencies with the Company's Chapter 22 triennial compliance filing:

Deficiency 1 - KCPL did not include the nuclear powered small modular reactor (SMR) as a potential supply-side resource option and did not provide its assessments of the SMR technology as required by Rule 4 CSR 240-22.040(1).

Deficiency 2 - KCPL did not provide its assessments of the RTO expansion plans as required by Rule 4 CSR 240-22.045(3)(C).

Deficiency 3 - KCPL did not assess the RTO expansion plans as required by Rule 4 CSR 240-22.045(3)(B).

[16] Staff will file a complete list of its suggested special contemporary issues for KCPL by September 15, 2012, in accordance with Rule 4 CSR 240-22.080(4)(A).

Deficiency 4 - KCPL did not identify and describe all affiliates as required by Rule 4 CSR 240-22.045(5).

Deficiency 5 - The Company has no current market research study that identifies the MAP, technical potential and RAP of potential demand- side resource options as required by Rule 4 CSR 240-22.050(2).

Deficiency 6 - The Company has not provided all information required by Rule 4 CSR 240-22.050. Specifically, the Company has repeatedly referenced the future results of: a) the Navigant Demand-Side Management Potential study, not available until January 15, 2013, in response to satisfying specific requirements of Rule 4 CSR 240-22.050 (1)(A)3., 1(D), 1(E), (2), (3)(G)3., (3)(G)5., (3)(I), (4)(D),4(E), 4(G) and 6(C); b) the Smart Grid Residential TOU Pilot Tariff that will not be available until after the summer of 2012 in response to satisfying the specific requirements of Rule 4 CSR 240-22.050(4)(D)1. and (4)(D)4.

Deficiency 7 - KCPL has failed to design alternative resource plans to satisfy at least the objectives and priorities identified in Rule 4 CSR 240-22.060(1) over the entire 20-year planning horizon required by Chapter 22. In particular, candidate resource plans with DSM A demand-side resources do not satisfy the objective and priorities identified in Rule 4 CSR 240-22.060(1) over the entire 20-year planning horizon and are not consistent with the state energy policy in MEEIA of achieving all cost-effective demand-side savings.

Deficiency 8 – The only requirements of Rule 4 CSR 240-22.060 Integrated Resource Plan and Risk Analysis that are satisfied and described and documented[17] for each of the Filing's fourteen (14) combined/joint candidate resource plans are for integrated resource analysis and the calculation of PVRR for each plan.[18]

Deficiency 9 – The filing requirements of Rule 4 CSR 240-22.070(2) and Rule 4 CSR 240-22.070(3) were not described and documented for any of the twenty-two (22) KCPL candidate resource plans.

Deficiency 10 – The only requirements of Rule 4 CSR 240-22.070 Resource Acquisition Strategy Selection that were satisfied and described and documented for each of the fourteen (14) combined/joint candidate resource plans are: 1) analysis and specification of ranges for critical uncertain factors,[19] and 2) the

[17] Rule 4 CSR 240-22.020(14): "Described and documented refers to the demonstration of compliance with each provision of this chapter. Describe means the provision of information in the technical volume(s) of the triennial compliance filing, in sufficient detail to inform the stakeholders how the utility complied with each applicable requirement of Chapter 22, why that approach was chosen, and the results of its approach. The description in the technical volume(s), including narrative text, graphs, tables, and other pertinent information shall be written in a manner that would allow a stakeholder to thoroughly assess the utility's resource acquisition strategy and each of its components. Document means the provision of all of the supporting information relating to the filed resource acquisition strategy pursuant to 4 CSR 240-22.080(11)."
[18] Volume 6, page 17 of the Filing.
[19] Volume 6, pages 9 – 12 of the Filing.

expected value of better information related to the critical uncertain factors (CO_2, load forecast and natural gas prices).[20]

Deficiency 11 – The Filing failed to comply with the Commission's special contemporary issue "h" by not analyzing and documenting aggressive DSM portfolios without constraints and by not including analysis and documentation of demand-side investment mechanisms to implement each DSM portfolio.

List of Staff's Identified Concerns

A *concern* as defined by Rule 4 CSR 240-22.020(6) means concerns with the electric utility's compliance with the provisions of Chapter 22, any major concerns with the methodologies or analyses required to be performed by Chapter 22, and anything that, while not rising to the level of a deficiency, may prevent the electric utility's resource acquisition strategy from effectively fulfilling the objectives of Chapter 22. As a result of its limited review, Staff finds the following concerns with the Company's Chapter 22 triennial compliance filing:

Concern A - KCPL submitted energy and peak growth rates that are arithmetic averages.

Concern B - The Filing does not describe and document the analysis performed by the utility to determine whether such affiliate-built transmission is in the interest of the utility's Missouri customers.

Concern C - KCPL is constraining both the Energy Optimizer and MPower programs.

Concern D - The TRC value of 0.43 for the Energy Star New Homes program indicates that this program is not cost effective.

Concern E – All capacity balance sheets filed to comply with Rule 4 CSR 240-22.060(4)(B)9. include solar resources at 100% of name plate capacity, while it is Staff's understanding that SPP policies require that solar capacity credit be 10% of name plate capacity.

Concern F – KCPL and GMO do not have the proper operating agreements and/or contracts in place to correctly analyze joint company planning. In the absence of proper operating agreements and/or contracts, joint company planning must be performed in the context of a comprehensive plan to merge KCPL and GMO, and no such plan to merge the two companies exists at this time.

[20] Volume 7, pages 17 – 19 of the Filing.

KCPL's Chapter 22 Filing

On April 9, 2012, KCPL filed its triennial compliance filing in File No. EO-2012-0323, as required by the Commission's Rules in 4 CSR 240-22 Electric Utility Resource Planning. KCPL requested no variances or waivers from the Commission's Chapter 22 Rules for the Filing. This is KCPL's first triennial compliance filing under the Commission's revised Chapter 22 Rules, which became effective on June 30, 2011.

On December 20, 2011, KCPL filed its *Application for Authority to Establish A Demand-Side Programs Investment Mechanism* in File No. EO-2012-0008. This application requested Commission approval of demand-side programs and a demand-side programs investment mechanism ("DSIM") under the MEEIA and the Commission's MEEIA Rules.[21] However, on February 17, 2012, KCPL filed its *Notice of Dismissal of its December 20, 2011 Application*, in which KCPL provided no explanation for the dismissal of its MEEIA application.[22]

As part of its electric utility resource planning process, KCPL gave its decision-makers a set of twenty-two (22) KCPL candidate resource plans, and risk analyses for each candidate resource plan, for use during the decision-makers' strategy selection process. KCPL also conducted resource planning for the combined operation of KCPL and GMO. KCPL's allocated portion of the two (2) combined company candidate resource plans with the lowest PVRR over the 20-year planning horizon resulting from the integrated resource analysis for the fourteen (14) combined/joint resource plans were included among the twenty-two (22) KCPL candidate resource plans. Plan AAAK9[23] is KCPL's allocated portion of combined company Plan AGDC2,[24] and Plan AGEK9, KCPL's adopted preferred resource plan, is KCPL's allocated portion of combined company Plan AJDC2. All of the Company's candidate resource plans include renewable energy resources which can supply energy to or purchase renewable energy credits ("RECs") for use by KCPL necessary to comply with the

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[21] Section 393.1075, RSMo, Supp. 2010, and Rules 4 CSR 240-3.163, 4 CSR 240-3.164, 4 CSR 240-20.093 and 4 CSR 240-20.094.

[22] Volume 6, page 6, of this Filing provides the following explanation for KCPL's decision to withdraw its MEEIA filing: "On February 17, 2012, KCP&L filed to withdraw the MEEIA filing, Case EO-2012-0008, made on December 22, 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."

[23] See Volume 1, page 15, for the naming convention for the KCPL alternative resource plans.

[24] See Volume 6, page 14, for the naming convention for the alternative resource plans on a combined company basis.

minimum requirements contained in Rule 4 CSR 240-20.100 Electric Utility Renewable Energy Standard Requirements in each year of the 20-year planning horizon.

The following table contains a summary of all twenty-two (22) KCPL candidate resource plans and the risk adjusted 20-year PVRR of each plan. The risk adjusted PVRR is calculated using the MIDAS® model accounting for the high, base and low case impacts of three critical uncertain factors[25] (load forecast, natural gas prices and CO_2 prices). The Company chose to not include any uncertain factors in its decision tree in the MIDAS® model other than the three (3) critical uncertain factors. Thus, the Company's decision tree has just 27 branches.

PLAN	NPVRR ($ Millions)	DELTA	Rank (L-H)	Plan Description	Resource Addition	DSM Level
DCEK1	20,722	-	1	Retire M1, M2, M3 by Jan 2016	CT	Aggressive
DBEK1	20,774	52	2	Retire M1, M2 by Jan 2016	CT	Aggressive
AGEK9	20,830	108	3	Retire M1, based on Combined Co. - Preferred Plan	CC	A
AGEK1	20,839	116	4	Retire M1 by Jan 2016	CT	A
AIEK9	20,843	121	5	Retire M1 , M2 and M3 Biomass usage, based on Combined Co.	CC	A
ABEK1	20,869	146	6	Retire M1, M2 by Jan 2016	CT	A
ABEK2	20,877	155	7	Retire M1, M2 by Jan 2016	CC	A
AAAK9	20,896	174	8	No Retirements based on Preferred Plan	NA	A
AEDK1	20,909	187	9	Retire L2 by Jun 2015	CT	A
AAAK1	20,910	188	10	No Retirements	CT	A
BBEK1	20,916	193	11	Retire M1, M2 by Jan 2016	CT	A - EE Only
ADDK1	20,920	197	12	Retire L1 by Jun 2015	CT	A
ABEK4	20,950	228	13	Retire M1, M2 by Jan 2016	Coal	A
EBEK1	20,975	253	14	Retire M1, M2 by Jan 2016	CT	Very Aggressive
ABEK6	21,000	278	15	Retire M1, M2 by Jan 2016	Dbl Wind & CT	A
ACEK1	21,013	291	16	Retire M1, M2, M3 by Jan 2016	CT	A
ACEK2	21,056	334	17	Retire M1, M2, M3 by Jan 2016	CC	A
ABEK7	21,081	358	18	Retire M1, M2 by Jan 2016	Dogwood	A
ABEK5	21,100	378	19	Retire M1, M2 by Jan 2016	Nuclear	A
CBEK1	21,222	500	20	Retire M1, M2 by Jan 2016	CT	A - DR Only
XBEK1	21,263	540	21	Retire M1, M2 by Jan 2016	CT	Persistance Only
AFDK1	21,307	585	22	Retire L1, L2 by Jun 2015	CT	A

Two KCPL candidate resource plans, shown above as plans that begin with the letter "D", included an aggressive DSM portfolio ("DSM D") designed to comply with the Commission's special contemporary issue "h." Both of these candidate resource plans (Plan DCEK1 and Plan DBEK1) had a lower PVRR than Plan AGEK9, with Plan DCEK1 having a PVRR which is $108 million less than the KCPL adopted preferred resource plan, Plan AGEK9. KCPL's decision-makers decided that "[t]his "Aggressive D-level DSM is not

[25] Rule 4 CSR 240-22.020(8): "Critical uncertain factor is any uncertain factor that is likely to materially affect the outcome of the resource planning decision."

considered to be realistically achievable."[26] Thus, candidate resource plans with DSM D resources were eliminated by KCPL's decision-makers from the preferred resource plan selection process without further analysis or explanation in the Filing, and the candidate resource plan with the next lowest PVRR was chosen as the Company's adopted preferred resource plan, Plan AGEK9.

Plan AGEK9 includes the DSM programs contained in the Company's "withdrawn" MEEIA application but starting in 2014 ("DSM A")[27], and the following supply-side capacity additions or retirements: additions of 20 MW of new solar, 400 MW of new wind, 150 MW of new combined cycle and retirement of 170 MW of coal (Montrose Unit 1). The PVRR of KCPL's adopted preferred resource plan is $20.83 billion.

Following are the KCPL adopted resource acquisition plan (with wind and solar additions based on installed capacity) and the capacity balance sheet[28] (with wind additions based on 8% capacity credit by the Southwest Power Pool) for KCPL's adopted preferred resource plan, Plan AGEK9.

[26] See Volume 1, page 20, of the Filing.
[27] Plan AGEK9 also includes DSM programs in 2012 and 2013 which are a continuation of the programs implemented by KCPL in 2007, as part of the KCPL's Experimental Regulatory Plan approved by the Commission in Case No. EO-2005-0329.
[28] Volume 6, Table 49, on page 129, of the Filing.

Year	CC (MW)	Solar (MW)	Wind (MW)	DSM A (MW)	Retire (MW)	Existing Capacity (MW)
2012	-			89		4,492
2013	-			89		4,553
2014	-			169		4,609
2015	-			185		4,602
2016	-		100	195	170	4,397
2017	-			213		4,397
2018	-	11		201		4,397
2019	-			223		4,397
2020	-		200	242		4,397
2021	-	6		215		4,397
2022	-			279		4,397
2023	-	3	100	295		4,397
2024	-			312		4,341
2025	-			328		4,341
2026	-			346		4,341
2027	-			363		4,341
2028	150			380		4,341
2029	-			397		4,341
2030	-			415		4,341
2031	-			433		4,341

This Capacity Balance Sheet

Is Deemed

Highly Confidential

In Its Entirety

The following capacity balance sheet is for Plan AJDC2, which is the adopted preferred resource plan for the combined company electric utility resource planning. Plan AGEK9 is KCPL's allocated portion of Plan AJDC2. Addendum A contains the fourteen (14) capacity balance sheets for each of the fourteen (14) combined company candidate resource plans.[29]

[29] On August 28, 2012, Staff received from KCPL an Excel file with fourteen (14) capacity balance sheets for each of the fourteen (14) combined company candidate resource plans. These capacity balance sheets were not included in the Filing for the combined company candidate resource plans as required by Rule 4 CSR 240-22.060(4)(B)9.

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This Capacity Balance Sheet

Is Deemed

Highly Confidential

In Its Entirety

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As part of its Filing, KCPL requested that the "Commission acknowledge,[30] under 4 CSR [240]-22.080(17), that it is reasonable for KCP&L to plan on a joint company basis (KCP&L and KCP&L Greater Missouri Operations Company) as evidenced by the significant savings to retail customers from joint planning."[31] The Filing indicates that the 20-year PVRR "savings" is $9 million[32] for KCPL's customer as a result of the Company's joint planning. KCPL also requested in the Filing that the Commission find that KCPL's preferred resource plan is reasonable as of its filing

<u>Linkage between Chapter 22 Rules, the MEEIA and MEEIA Rules</u>

Staff performed its review of the Filing in the context of the Commission's revised Chapter 22 Rules, the MEEIA and the Commission's MEEIA Rules. Staff performed its review of the Filing in this way, because the policy objectives of Chapter 22 and of MEEIA are inseparable for electric utilities, since Rule 4 CSR 240-22.010(2) states:

> The fundamental objective of the resource planning process at electric utilities *shall* be to provide the public with energy services that are safe, reliable, and efficient, at just and reasonable rates, in compliance with all legal mandates, and *in a manner that serves the public interest and is consistent with state energy and environmental policies*. …
> (Emphasis added)

And MEEIA establishes the following state energy policy for valuing demand-side resources and supply-side resources and for the cost recovery of these resources for Missouri's electrical corporations[33] in Section 393.1075.3 and .4:

> 3. It shall be the policy of the state to value demand-side investments equal to traditional investments in supply and delivery infrastructure and allow recovery

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[30] Rule 4 CSR 240-22.020(1): "Acknowledgment is an action the commission may take with respect to the officially adopted resource acquisition strategy or any element of the resource acquisition strategy including the preferred resource plan. Acknowledgement means that the *commission finds the preferred resource plan, resource acquisition strategy, or the specified element of the resource acquisition strategy to be reasonable at a specific date*, typically the date of the filing of the utility's Chapter 22 compliance filing or the date that acknowledgment is given. Acknowledgment may be given in whole, in part, or not at all. Acknowledgment shall not be construed to mean or constitute a finding as to the prudence, pre-approval, or prior commission authorization of any specific project or group of projects." (Emphasis added)

[31] Cover letter of Roger W. Steiner, dated April 9, 2012, for the Filing in File No. EO-2012-0323, and Volume 8, page 25 of the Filing.

[32] $9 million is the 20-year PVRR difference between Plan AGEK1 (PVRR of $20,839 million) and Plan AGEK9 (PVRR of $20,830 million).

[33] Rule 4 CSR 240-22.020(16): "Electric utility or utility mean any electrical corporation as defined in section 386.020, RSMo, which is subject to the jurisdiction of the commission."

> of all reasonable and prudent costs of delivering cost-effective demand-side programs. In support of this policy, the commission shall:
>
> (1) Provide timely cost recovery for utilities;
>
> (2) Ensure that utility financial incentives are aligned with helping customers use energy more efficiently and in a manner that sustains or enhances utility customers' incentives to use energy more efficiently; and
>
> (3) Provide timely earnings opportunities associated with cost-effective measurable and verifiable efficiency savings.
>
> 4. The commission shall permit electric corporations to implement commission-approved demand-side programs proposed pursuant to this section with a goal of achieving all cost-effective demand-side savings.

Although electric utilities are not required to request Commission approval of demand-side programs and a DSIM under MEEIA and the Commission's MEEIA rules, electric utilities are required to comply with the Commission's Chapter 22 Rules which establish that the fundamental objective of the electric utility resource planning process at each electric utility shall be to provide the public with energy services that are safe, reliable, and efficient, at just and reasonable rates, in compliance with all legal mandates, and in a manner that serves the public interest and is consistent with state energy and environmental policies. Because MEEIA establishes state energy policy, each electric utility is required – as part of its electric utility resource planning - to develop candidate resource plans and to analyze and document DSIM's which can allow the electric utility to make reasonable progress toward an expectation that the electric utility can achieve a goal of all cost-effective demand-side savings.[34]

It is important to also note the linkages between MEEIA Rules and Chapter 22 Rules included in Rule 4 CSR 240-20.094(3)(A):

> (A) For demand-side programs and program plan that have a total resource cost test ratio greater than one (1), the commission shall approve demand-side programs or program plans, and annual demand and energy savings targets for each demand-side program it approves, provided it finds that the utility has met the filing and submission requirements of 4 CSR 240-3.164(2) and the demand-side programs and program plans-
>
> 1. Are consistent with a goal of achieving all cost-effective demand-side savings;
> 2. Have reliable evaluation, measurement, and verification plans; and
> 3. Are included in the electric utility's preferred plan or have been analyzed through the integration process required by 4 CSR 240-22.060 to

[34] *See* Rule 4 CSR 240-20.094(2) "Guideline to Review Progress Toward an Expectation that the Electric Utility's Demand-Side Programs Can Achieve a Goal of All Cost-Effective Demand-Side Savings."

determine the impact of the demand-side programs and program plans on the net present value of revenue requirements of the electric utility.

Of less significance - but still important - is the linkage between Chapter 22 Rules and MEEIA Rules in Rule 4 CSR 240-22.070(8):

> Evaluation of Demand-Side Programs and Demand-Side Rates. The utility shall describe and document its evaluation plans for all demand-side programs and demand-side rates that are included in the preferred resource plan selected pursuant to 4 CSR 240-22.070(1). Evaluation plans required by this section are for planning purposes and are separate and distinct from the evaluation, measurement, and verification reports required by 4 CSR 240-3.163(7) and 4 CSR 240-20.093(7); nonetheless, the evaluation plan should, in addition to the requirements of this section, include the proposed evaluation schedule and the proposed approach to achieving the evaluation goals pursuant to 4 CSR 240-3.163(7) and 4 CSR 240-20.093(7). The evaluation plans for each program and rate shall be developed before the program or rate is implemented and shall be filed when the utility files for approval of demand-side programs or demand-side program plans with the tariff application for the program or rate as described in 4 CSR 240-20.094(3).

In addition, on October 19, 2011, the Commission ordered KCPL[35] and GMO to comply with the following "special contemporary issue" in each electric utility's April 1, 2012 triennial compliance filing or annual update filing:

> Analyze and document aggressive DSM portfolios without constraints. Include analysis and documentation of demand-side investment mechanisms necessary to implement each DSM portfolio.

Request for Acknowledgement of Joint Company Planning

Staff recommends that the Commission not acknowledge that it is reasonable for KCPL and GMO to plan on a joint company basis as requested by KCPL in this case for the following four reasons. First, Staff finds that the "stated" $9 million of PVRR "savings" over the 20-year planning horizon from joint company planning for Plan AGEK9 vs. Plan AGEK1 can hardly be considered "significant." This amount is only 0.043 percent of the PVRR of $20,830 million for the Company's adopted preferred resource plan.

Secondly, while the 20-year PVRR was calculated for each of the fourteen (14) combined/joint candidate resource plans does indicate that some savings may be possible

[35] Commission October 19, 2011 Order in *Matter of a Determination of Special Contemporary Resource Planning Issues to be Addressed by Kansas City Power & Light in its Next Triennial Compliance Filing or Next Annual Update Report* in File No. EO-2012-0041.

through joint planning, Staff finds the only requirements of Rule 4 CSR 240-22.060 Integrated Resource Plan and Risk Analysis and Rule 4 CSR 240-22.070 Resource Acquisition Strategy Selection that were satisfied and described and documented for each of the fourteen (14) combined/joint candidate resource plans are: 1) integrated resource analysis and the calculation of PVRR for each plan[36], 2) analysis and specification of ranges for critical uncertain factors,[37] and 3) the expected value of better information related to the critical uncertain factors (CO_2, load forecast and natural gas prices).[38] Staff notes that although the Company performed the analysis and specification of ranges of critical uncertain factors required by Rule 4 CSR 240-22.070(2) and the analysis required by Rule 4 CSR 240-22.070(3) related to the expected value of better information for the fourteen (14) combined/joint candidate resource plans, it did not comply with the requirements of Rule 4 CSR 240-22.070(2) regarding the identification and documentation of ranges of critical uncertain factors and Rule 4 CSR 240-22.070(3) regarding the documentation and quantification of expected value of better information for any of the twenty-two (22) KCPL candidate resource plans.

Thirdly – and very importantly - Staff finds that none of the fourteen (14) combined/joint candidate resource plans comply with the Commission-ordered special contemporary issue “h”:

> Analyze and document aggressive DSM portfolios without constraints. Include analysis and documentation of demand-side investment mechanisms necessary to implement each DSM portfolio.

The Commission ordered KCPL to comply with special contemporary issue “h” so that the Filing would contain information and analyses to inform the Commission on KCPL’s DSM programs and investment mechanisms which could be consistent with the state energy policy of MEEIA. Staff finds no evidence in the Filing that KCPL included any “aggressive DSM portfolios without constraints” among the fourteen (14) combined/joint candidate resource plans and no evidence of any “analysis and documentation of demand-side investment mechanisms necessary to implement each DSM portfolio.”

[36] Volume 6, page 17 of the Filing.
[37] Volume 7, pages 9 – 12 of the Filing.
[38] Volume 7, pages 17 – 19 of the Filing.

The Company asserts that it has performed joint electric utility resource planning, but it clearly has not.

Fourthly and lastly, because KCPL is a legally separate company from GMO. Great Plains Energy, Inc., KCPL, and GMO do not have in place the operating agreements and/or contracts to permit the joint operations assumed by the joint company planning which is required by Commission rules to perform electric utility resource planning proposed by the Filing[39]. Performing combined/joint company electric utility resource planning can have significant value for KCPL and GMO, if it is performed correctly.

Staff recently filed testimony in GMO's current general rate proceeding (Case No. ER-2012-0175) presenting its concerns regarding the capacity planning for KCPL and GMO. First, Staff witness Lena M. Mantle discusses her concerns with the joint (KCPL and GMO) resource planning of capacity and resources in Staff's Revenue Requirement Cost-of-Service Report in Case No. ER-2012-0175 and makes the following recommendation to the Commission: [40]

> Staff recommends that the Commission not allow GMO and KCPL to conduct joint resource planning of capacity and resources. If the Commission considers allowing joint resource planning, before the Commission allows KCPL and GMO to share capacity resources or engage in capacity resource planning together, it should require: 1) GMO and KCPL to file a detailed proposal for allocating capacity and energy between KCPL and GMO, and if GMO's MOS and L&P rate districts are not eliminated, between GMO's MPS and L&P rate districts; and 2) KCPL and GMO to file a definitive plan for merging KCPL and GMO into one electrical corporation.

When concluding her testimony, Ms. Mantle offers: [41]

> An alternative available to KCPL and GMO may involve KCPL and GMO entering into a long-term contract for KCPL to supply capacity and energy to GMO after GMO issues a Request for Proposal ("RFP") for a long term PPA and evaluates the responses it receives. If KCPL's bid would be the low cost solution, a contract between KCPL and GMO would have to meet the requirements of 4 CSR 240-20.015 Affiliate Transaction rule.

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[39] *See* Rule 4 CSR 240-22.080(1) and (1)(A).
[40] *See* page 246, lines 14 – 21, of Staff's Revenue Requirement Cost-of-Service Report filed on August 9, 2012, in Case No. ER-2012-0175.
[41] *See* page 248, lines 4 – 8, of Staff's Revenue Requirement Cost-of-Service Report filed on August 9, 2012, in Case No. ER-2012-0175.

The need for specific processes and procedures for "combined utility planning" is pointed out in Staff's concerns discussed by Staff witness Matthew J. Barnes regarding the joint operation of the KCPL and GMO systems by KCPL with respect to ** ____________

____

____

______________________________ ** due to the Missouri River flood. ** ______________

____

______________________ ** Staff's analysis of information in GMO's monthly reports as required by Rule 4 CSR 240-3.190(1)(E) concluded that much of the energy KCPL purchased through the ** _____ ** contracts was sold to GMO at SPP market prices. Staff's analysis concludes that if GMO had entered into the ** ______ ** contracts itself instead of KCPL, then GMO would have saved $3.9 million[42] in energy costs. Similarly, had KCPL and GMO entered into a long-term contract for KCPL to supply capacity and energy to GMO as a result of a competitive bidding process, then GMO may have saved in energy costs.

Thus, Staff has many reasons to recommend that the Commission not acknowledge that it is reasonable for KCPL and GMO to plan on a joint company basis as requested by KCPL.

Failure to Comply With the Commission's Special Contemporary Issue "h"

Two KCPL candidate resource plans, Plan DBEK1 and Plan DCEK1, among the twenty-two (22) KCPL candidate resource plans included "aggressive DSM portfolio" (DSM D) developed to satisfy the requirements of the Commission-ordered special contemporary issue "h." However, the Filing contains no "analysis or documentation of demand-side investment mechanisms necessary to implement the aggressive DSM portfolio" as required by special contemporary issue "h" other than KCPL's statement of "[t]he necessary demand-side investment mechanism is described in case number EO-2012-0009 for Kansas City Power & Light's Greater Missouri Operations."[43] Staff notes that the investment mechanism in File No. EO-2012-0009 is for GMO's demand-side programs investment mechanism and is a "rider" or single-issue mechanism. However, KCPL is not allowed to have any new single-issue rate mechanisms prior to June 1, 2015, as a condition in its Experimental Regulatory

[42] *See* page 275, line 23, of Staff's Rate Design Cost-of-Service Report filed on August 9, 2012, in Case No. ER-2012-0175.
[43] Volume 8, page 12, of the Filing.

Plan approved by the Commission in Case No. EO-2005-0329.[44] Therefore the mechanism that GMO has requested in File No. EO-2012-0009 is not applicable to KCPL. Further, KCPL filed a request for MEEIA treatment in File No. EO-2012-0008 but filed a notice to withdraw its application in that case on February 17, 2012.

Compliance with the Commission's special contemporary issue "h" would have provided valuable insight to the Commission, parties to this case and the Company regarding demand-side programs and demand-side investment mechanisms which may be included in a future KCPL MEEIA application.

The Company's failure to analyze and document demand-side investment mechanisms necessary to implement the aggressive DSM D portfolio is a significant deficiency in the Filing.

Failure to Design Alternative Resource Plans Which Are Consistent with State Energy Policy

Rule 4 CSR 240-22.060(1) states the resource planning objective as:

> The utility shall design alternative resource plans to satisfy at least the objectives and priorities identified in 4 CSR 240-22.010(2). The fundamental objective of the resource planning process at electric utilities shall be to provide the public with energy services that are safe, reliable, and efficient, at just and reasonable rates, in compliance with all legal mandates, and in a manner that serves the public interest and is *consistent with state energy and environmental policies*.[45]
> (Emphasis added)

Because MEEIA established *state energy policy* of the State of Missouri, each electric utility is required – as part of its electric utility resource planning - to develop candidate resource plans and to analyze and document DSIM's which are *consistent with state energy policy* and, therefore, can allow the electric utility to make reasonable progress toward an expectation that the electric utility can achieve MEEIA's goal of all cost-effective demand-side savings.[46]

[44] *See* III. B. 1. c., on page 7, of the Stipulation and Agreement included in the Commission's July 28, 2005 *Order Approving Amendments to Experimental Regulatory Plan* in Case No. EO-2005-0329.
[45] Rule 4 CSR 240-22.010(2)
[46] *See* Rule 4 CSR 240-20.094(2) "Guideline to Review Progress Toward an Expectation that the Electric Utility's Demand-Side Programs Can Achieve a Goal of All Cost-Effective Demand-Side Savings."

Chapter 22 requires that electric utility resource planning be performed for a planning horizon of at least twenty (20) years.[47] KCPL's demand-side resource portfolio DSM A is comprised of demand-side programs in the Company's withdrawn MEEIA filing but with the programs starting in 2014. However, KCPL's program plan – in its withdrawn MEEIA filing - is for only a three- (3-)year period. DSM A does not add any new DSM programs after 2014 and does not "ramp up" the incremental annual energy savings after the first three years for DSM A program plan.

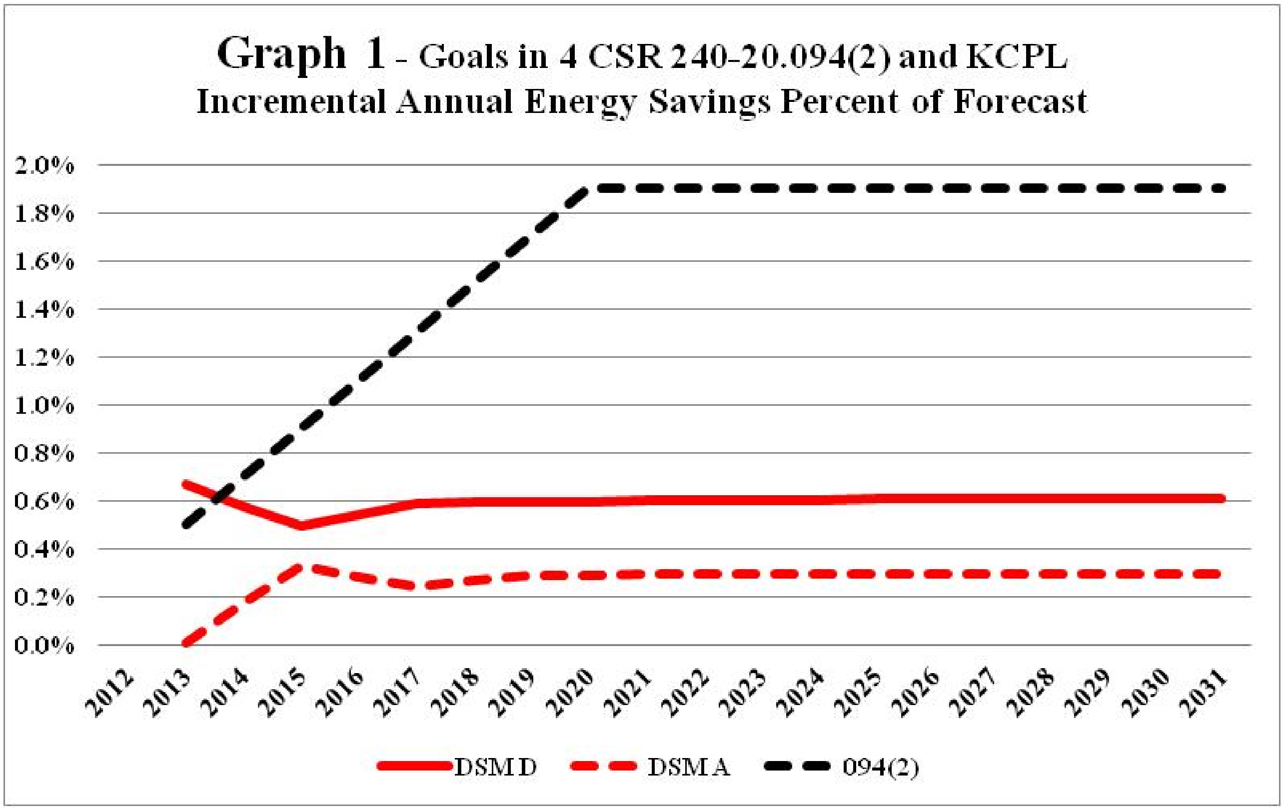
Staff contends that compliance with Chapter 22 requires that electric utility resource planning analyze, and describe and document: 1) demand-side resources that can achieve a goal of all cost–effective demand-side savings for the entire 20-year planning horizon, and 2) investment mechanisms necessary for the electric utility to implement cost-effective demand-side resources that can achieve a goal of all cost–effective demand-side savings.

Graph 1 and Graph 2 below illustrate that for KCPL's DSM A and DSM D portfolios the incremental annual energy savings as a percent of its energy load forecast and the cumulative annual energy savings as a percent of its energy load forecast are significantly less than the corresponding "soft goals"[48] in Rule 4 CSR 240-20.094(2). The "soft goals" in Rule 4 CSR 240-20.094(2) are representative of the incremental annual energy savings and the cumulative annual energy savings contained in the energy efficiency resource standards that electric utilities of many other states are required to meet. The "soft goals" for annual energy and demand savings in Rule 4 CSR 240-20.094(2) and the annual realistic achievable potential energy and demand savings as determined through the utility's DSM market potential study are used by the Commission "as a guideline to review progress toward an

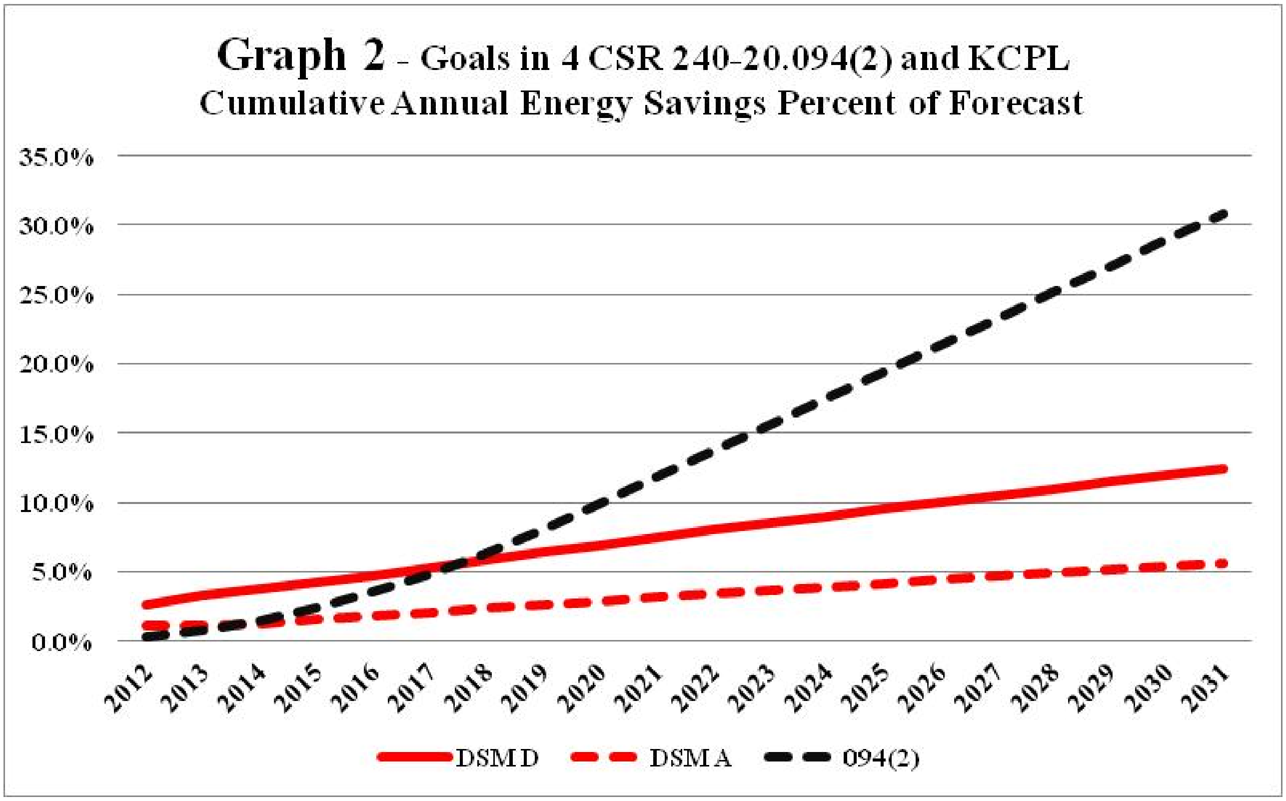
[47] 4 CSR 240-22.020(43) "Planning horizon means a future time period of at least twenty (20) years duration over which the cost and benefits of alternative resource plans are evaluated."

[48] In its response to Comment # 7 in its February 9, 2011 *Order of Rulemaking* in which the Commission adopted Rule 4 CSR 240-20.094, the Commission provided: "Rulemaking is an exercise of the Commission's quasi-legislative power. Interim goals are well within the rulemaking authority granted to the commission in §393.1075.11. An administrative agency has reasonable latitude regarding what methods and procedures to adopt in carrying out its statutory duties. The legislative delegation of powers and duties includes by implication everything necessary to carry out the power or duty and make it effectual or complete. "Where the grant of power is clear, the detail for its exercise need be given only within practical limits. The rest may be left to the administrative agency delegated the duty to accomplish the legislative purpose." AT&T v. Wallemann, 827 S.W.2d 217, 224-225 (Mo. App. WD 1992). Moreover, the "soft-goals" at issue are guidelines to review progress and not mandatory."

expectation that the electric utility's demand-side programs can achieve a goal of all cost-effective demand-side saving."[49]

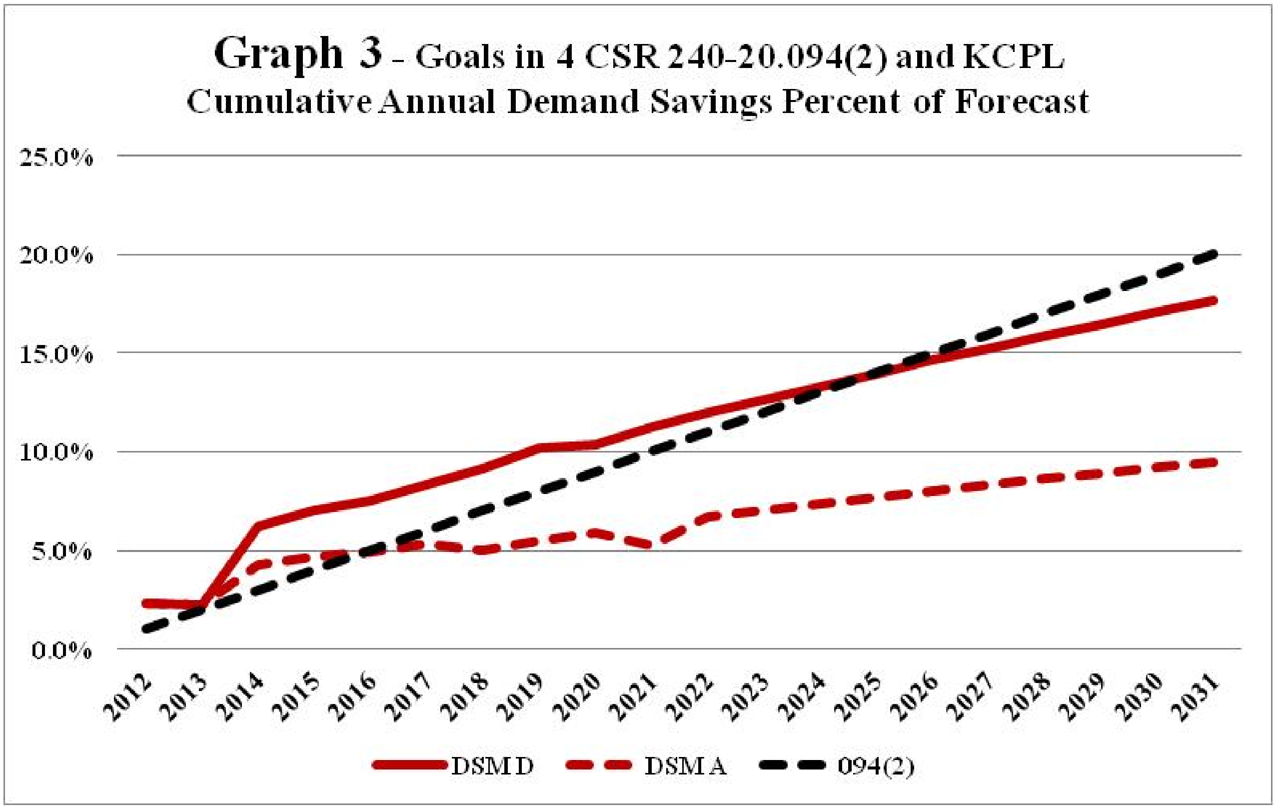


[49] Rule 4 CSR 240-20.094(2)(A).

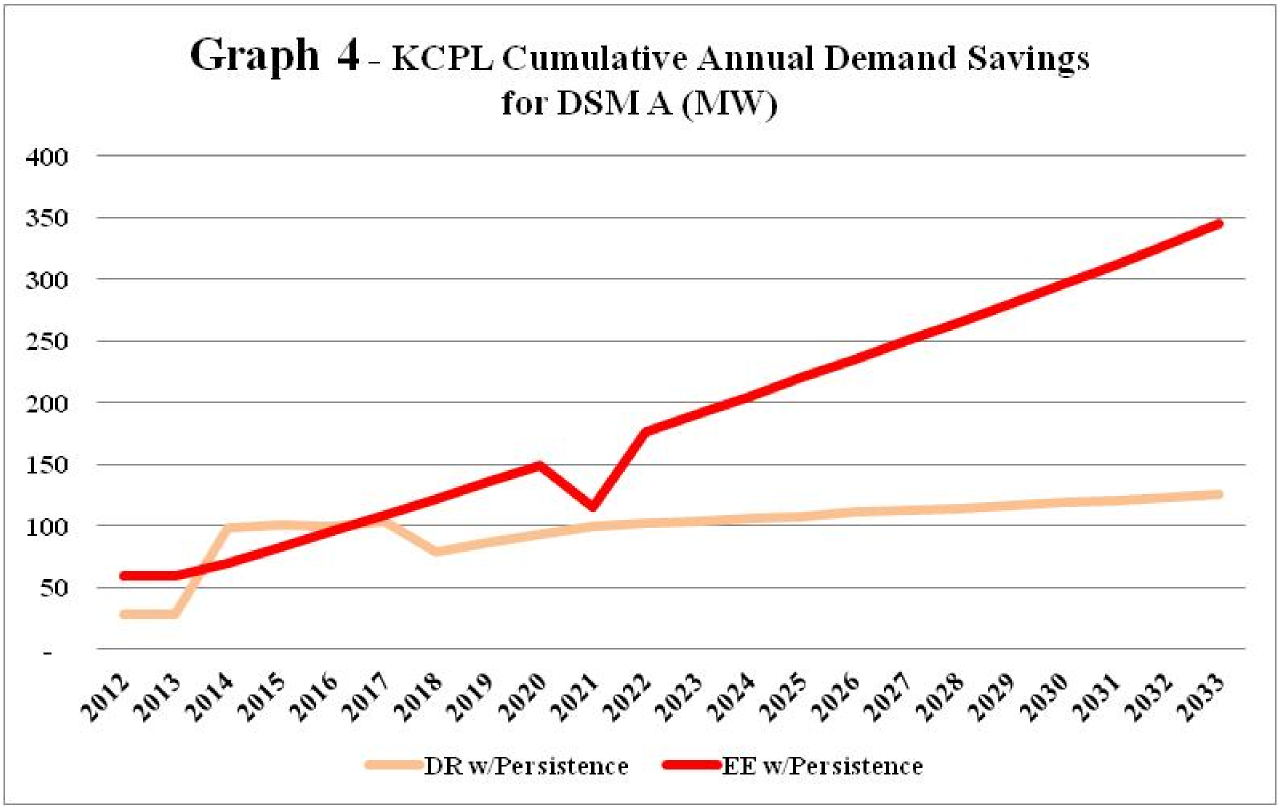


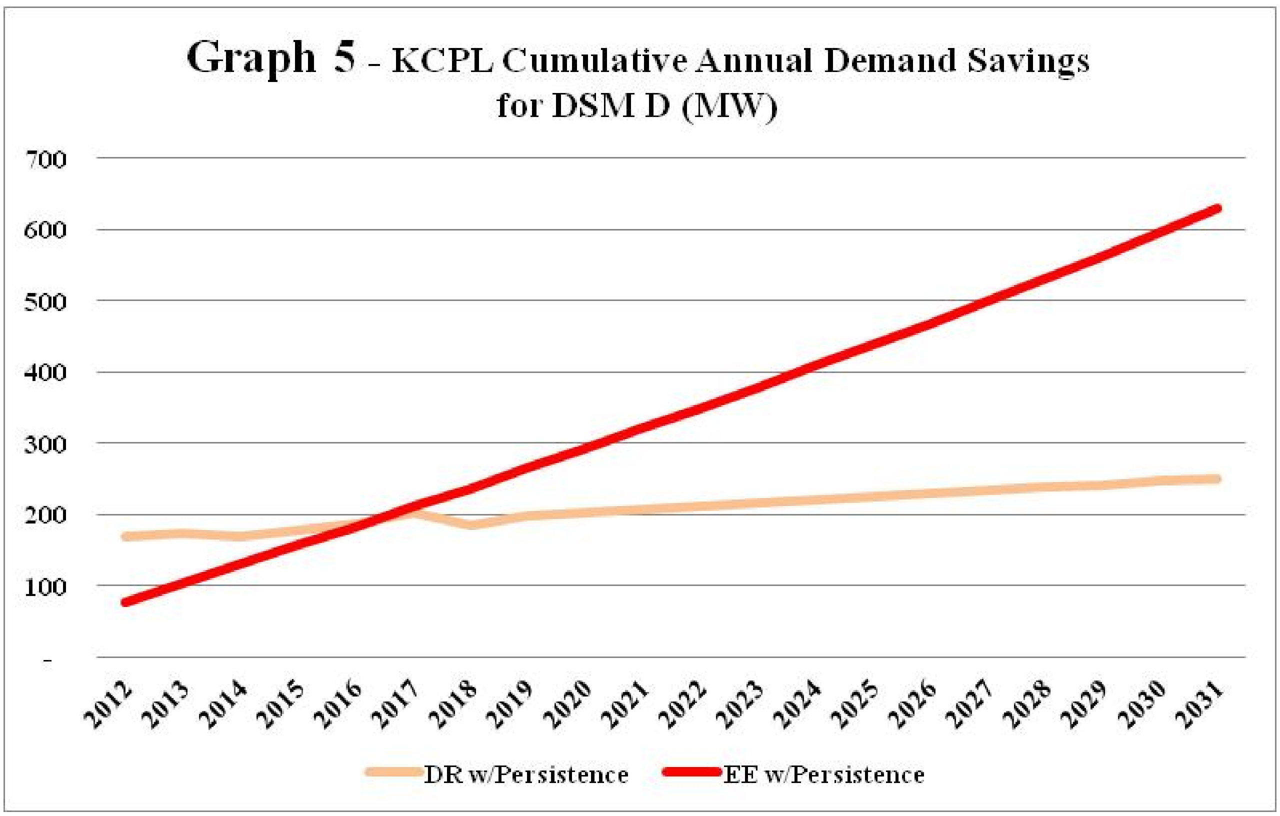
The above graphs illustrate that: 1) incremental annual energy savings for DSM A (0.3%) and DSM D (0.6%) do not increase from year-to-year throughout the 20-year planning horizon while the incremental annual energy savings for the "soft goals" in 4 CSR 240-20.094(2) increase from 0.5% in 2013 to 1.9% in 2020 and are constant at 1.9% for the period 2021 to 2031, and 2) cumulative annual energy savings in 2020 is only 2.9% and 6.9% for DSM A and DSM D, respectively; while the 2020 cumulative annual energy savings in the soft goal in 4 CSR 240-22.094(2) is 9.9%.

Graph 3 below illustrates that for KCPL's DSM A and DSM D portfolios the cumulative annual demand savings as a percent of its peak demand forecast are greater than or similar to the corresponding "soft goals" in Rule 4 CSR 240-20.094(2) from 2013 to about 2018. While DSM D continues to be similar to the corresponding "soft goals" in Rule 4 CSR 240-20.094(2) for the 2019 to 2031 time period, DSM A lags well behind in this comparison.



A more in depth analysis of the cumulative annual demand savings from energy efficiency programs and from demand response programs was performed by Staff and illustrates that KCPL's energy efficiency programs continue to contribute much more of the incremental and cumulative annual demand savings year-by-year over the 20-year planning horizon than do the demand response programs as shown below in Graphs 4 and 5.





These graphs show that KCPL has failed to design alternative resource plans to satisfy at least the objectives and priorities identified in Rule 4 CSR 240-22.060(1) over the entire

20-year planning horizon required by Chapter 22. In particular, candidate resource plans with DSM A demand-side resources do not satisfy the objective and priorities identified in Rule 4 CSR 240-22.060(1) over the entire 20-year planning horizon and are not consistent with the state energy policy in MEEIA to achieve all cost-effective demand-side savings.

This deficiency alone makes it impossible for KCPL to achieve the fundamental objective of Chapter 22 and is a significant deficiency in the Filing.

The Company is in the process of performing a DSM market potential study for its service territory.[50] Staff and other parties are providing comments and suggestions to KCPL and its consultant, Navigant Consulting, Inc., on various aspects of the DSM market potential study which is scheduled to be final in January 2013. The KCPL DSM market potential study will provide valuable information about demand-side programs which can achieve the maximum achievable potential ("MAP") and realistic achievable potential ("RAP") for demand-side resources in the KCPL service territory. The MAP and RAP portfolios should then be used to update the Company's integrated resource analysis for the annual update filing in April 2013.

Importance of April 1, 2013 Annual Update Filing

It is important that the results of the currently ongoing DSM market potential study and the Mega Study be included in the integrated resource analyses for the Company's April 1, 2013 annual update filing.

Information in File Nos. EO-2012-0323 and EO-2012-0324 indicates that reductions in the 20-year PVRR of $108 million and $256 million can be realized for KCPL and GMO, respectively, should the DSM D and "aggressive DSM" - and not DSM A and MEEIA DSM – be included in the adopted preferred resource plans of the respective companies. Should KCPL and GMO develop a comprehensive plan to merge the two companies the total benefits from DSM D and "aggressive DSM" demand-side resources and from planning on a combined/joint company basis is estimated to be $515 million – *assuming* the benefits from combined planning included in the Filing of $9 million for KCPL and $142 million for GMO.

[50] *See* Appendix 5A of the Filing for the Statement of Work for the Navigant contract.

Estimate of PVRR Reduction With Aggressive DSM or Similar RAP Portfolio

Preferred Resource Plans With DSM A - Allocated From Combined Planning

Table 26: Alternative Resource Plan AGEK9

Year	CC's (MW)	Solar (MW)	Wind (MW)	DSM A (MW)	Retire (MW)	Existing Capacity (MW)
2012	-			89		4,492
2013	-			89		4,553
2014	-			169		4,609
2015	-			185		4,602
2016	-		100	195	170	[illegible]
2017	-			213		4,397
2018	-	11		201		4,397
2019	-			223		4,397
2020	-		200	242		4,397
2021	-	6		215		4,397
2022	-			279		4,397
2023	-	3	100	295		4,397
2024	-			312		4,341
2025	-			328		4,341
2026	-			346		4,341
2027	-			363		4,341
2028	150			380		4,341
2029	-			397		4,341
2030	-			415		4,341
2031	-			433		4,341

Table 21: Alternative Resource Plan ACCG9

Year	CC's (MW)	Solar (MW)	Wind (MW)	MEEIA DSM (MW)	Retire (MW)	Existing Capacity (MW)
2012	-			57		2,210
2013	-			76		2,218
2014	-			95		2,143
2015	-			112		2,143
2016	-			131		2,143
2017	-			149	99	2,078
2018	-	10		155		2,078
2019	-		150	172		2,078
2020	-			189		2,078
2021	300	6	100	206		2,078
2022	-			222		2,078
2023	-	3		239		2,078
2024	-		100	255		2,078
2025	-			274		2,078
2026	-			291		2,078
2027	-			309		2,078
2028	150			326		2,078
2029	-			344		2,078
2030	-			363		2,078
2031	-			381		2,078

	(A) NPVRR ($ Millions)
AGEK9	$ 20,830
ACCG9	$ 12,485
Total	$ 33,315

Benefits from Combined Planning Including $9 million for KCPL and $142 million for GMO — $ 151

Lowest Cost Plans With Aggressive DSM Portfolios -NOT Combined Planning

Table 31: Alternative Resource Plan DCEK1

Year	CC's (MW)	Solar (MW)	Wind (MW)	Aggressive DSM (MW)	Retire (MW)	Existing Capacity (MW)
2012	-			89		4,492
2013	-			89		4,553
2014	-			248		4,609
2015	-			280		4,602
2016	[illegible]		100	[illegible]	510	4,057
2017	-			335		4,057
2018	-	11		341		4,057
2019	-			385		4,057
2020	-		200	423		4,057
2021	-	6		464		4,057
2022	-			497		4,057
2023	-	3	100	529		4,057
2024	-			562		4,001
2025	-			596		4,001
2026	-			631		4,001
2027	-			665		4,001
2028	-			698		4,001
2029	-			734		4,001
2030	-			769		4,001
2031	154			805		4,001

Table 28: Alternative Resource Plan DCCG1

Year	CC's (MW)	Solar (MW)	Wind (MW)	Aggressive DSM (MW)	Retire (MW)	Existing Capacity (MW)
2012	-			79		2,210
2013	-			117		2,218
2014	-			156		2,143
2015	-			190		2,143
2016	-			229		2,143
2017	-			263	99	2,078
2018	-	10		290		2,078
2019	-		150	322		2,078
2020	-			358		2,078
2021	-	6	100	392		2,078
2022	-			424		2,078
2023	-	3		459		2,078
2024	-		100	490		2,078
2025	-			527		2,078
2026	-			563		2,078
2027	-			598		2,078
2028	-			631		2,078
2029	-			669		2,078
2030	154			706		2,078
2031	-			742		2,078

	(B) NPVRR ($ Millions)	Beneftis of Aggressive DSM (A) minus (B) NPVRR ($ Millions)
DCEK1	$ 20,722	$ 108
DCCG1	$ 12,229	$ 256
Total	$ 32,951	$ 364
Assumed Benefits from Combined Planning		$ 151

Potential Benefits of Aggressive DSM $ 515

1.5%

The potential benefits of aggressive DSM D of $515 million in the above analysis is equal to the PVRR for the KCPL Plan AGEK1 with DSM A ($20,839 million) minus the PVRR for KCPL Plan DCEK1 with DSM D ($20,722 million) plus the PVRR for GMO Plan ACCG1 with MEEIA DSM ($12,627 million) minus the PVRR for GMO Plan DCCG1 with "aggressive DSM" ($12,229 million) – where all of these candidate resource plans are company specific only and not combined company plans.

It is also very important to recognize the following changes in the supply-side resources of KCPL and GMO should both utilities implement their DSM D and "aggressive DSM" demand-side resources, respectively. Specifically, the KCPL adopted preferred resource plan (with DSM A) includes the retirement of the 170 MW Montrose Unit 1 in 2016 to avoid retrofitting the plant to comply with anticipated environmental regulations.[51] However, should Plan DCEK1 (with DSM D) be the preferred resource plan of KCPL, then the 510 MW Montrose Units 1, 2, and 3 could be retired in 2016. Also the 150 MW natural gas combined cycle plant could be postponed from 2028 to 2031 through implementation of Plan DCEK1.

Similarly, should GMO select its Plan DCCG1 (with "aggressive DSM") as its preferred resource plan, the 300 MW natural gas combined cycle plant in 2021 and the 150 MW natural gas combined cycle plant in 2028 in Plan ACCG9 would not be needed, and, instead, would be replaced by a 154 MW natural gas combined cycle plant in 2030.

The Mega Study - scheduled to be completed in October 2012 – is expected to provide additional important information concerning supply-side resources – especially the existing coal plants - for consideration in the integrated resource analyses for the Company's April 1, 2013 annual update filing.

The impact on coal plants' retirements in future years may be more pronounced should KCPL and GMO file either a) a detailed proposal for allocating capacity and energy between KCPL and GMO, and if GMO's MPS and L&P rate districts are not eliminated, between GMO's MPS and L&P rate districts; or b) a plan for merging KCPL and GMO into one electrical corporation prior to or at the time of any future Chapter 22 electric utility resource

[51] Volume 1, pages 19 – 20: "The environmental drivers that contributed to the Montrose Unit 1 retirement included Mercury and Air Toxics Standards Rule, Ozone National Ambient Air Quality Standards (NAAQS), PM NAAQS, Clean Water Act Section 316(a) and (b), Effluent Guidelines, and Coal Combustion Residuals Rule. These rules are currently not in effect and will be monitored by KCP&L prior to the projected retirement year 2016 to determine if the current decision to retire Montrose Unit 1 continues to be prudent."

planning filing for which KCPL requests Commission acknowledgement that it is reasonable for KCPL and GMO to plan on a joint company basis.

Staff's Recommendations for KCPL's April 1, 2013 Annual Update Filing

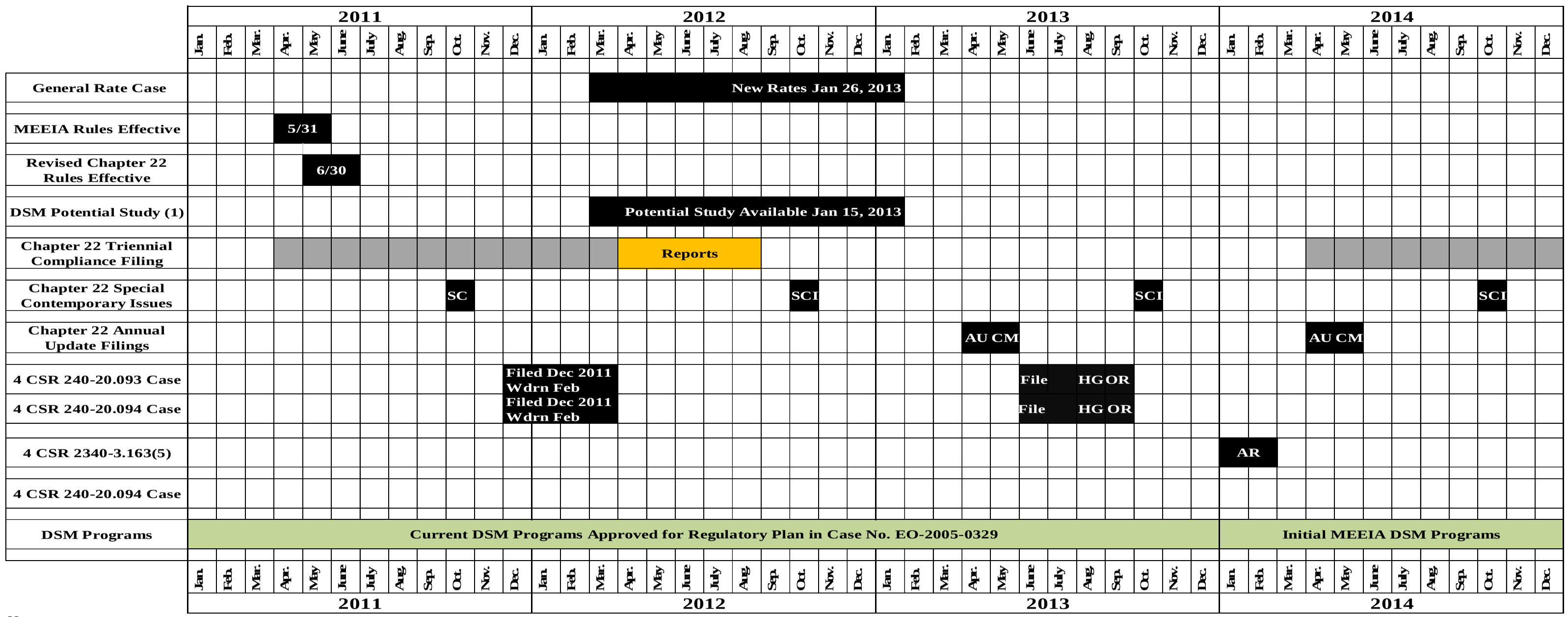
Staff looks forward to working with KCPL and its stakeholder group[52] to improve upon the KCPL planning process, so the Company can soon achieve the fundamental objective of Chapter 22 and comply with the state energy policy of MEEIA. There is a linkage between Chapter 22 and MEEIA and Staff has a recommendation regarding the timing of KCPL's MEEIA filing and resource planning update that is to be filed by KCPL on or around April 1, 2013.

Because MEEIA contains state energy policy, each electric utility is required – as part of its electric utility resource planning process - to develop candidate resource plans and to analyze and document DSIM's which can allow the electric utility to make reasonable progress toward an expectation that the electric utility can achieve a goal of all cost-effective demand-side savings.

The following chart provides the flow of activities and filings for KCPL related to Chapter 22 and to MEEIA prior to this triennial filing and Staff's recommended flow of activities and filings that can result in an effective and efficient planning process to meet the policy objectives of both Chapter 22 and the state energy policy of MEEIA.

[52] Rule 4 CSR 240-22.020(56) "Stakeholder group means— (A) Staff, public counsel, and any person or entity granted intervention in a prior Chapter 22 proceeding of the electric utility. Such persons or entities shall be a party to any subsequent related Chapter 22 proceeding of the electric utility without the necessity of applying to the commission for intervention; and (B) Any person or entity granted intervention in a current Chapter 22 proceeding of the electric utility."

Overview of Electric Utility Resource Planning
and Missouri Energy Efficiency Investment Act Filings and Activies for KCPL



Notes:
(1) Final project report date is January 15, 2013 in the *Statement of Work Pursuant to Master Service Agreement By and Between Great Plains Energy Services Incorporated and Navigant Consulting, Inc.* contained in Appendix 5A of KCPL s Chapter 22 triennial compliance filing in Case No. EO-2012-0323

Reports	150 days for Staff and intervenors analyses and reports under 22.080(8)
HG	Hearing
OR	Order
SCI	Special contemporary issues required by 22.080(4)
File	File case
CM	Comments by Staff and parties regarding the annual update reports as allowed by 22.0803)(D)
AR	Annual report required by 20.093(8) to include information required by 3.163(5)
AU	Annual update workshop and report required by 22.080(3)
	Assumed period of twelve (12) months for analysis and preparation prior to Chapter 22 triennial compliance filings

Regarding the Company's April 1, 2013 annual update filing, Staff recommends that the Commission:

3. Order KCPL to complete the following projects and studies for consideration and inclusion in its April 1, 2013 annual update filing:
   - Current/ongoing DSM market potential study by the scheduled completion date of January 2013;
   - Mega Study by the scheduled completion date of October 2012; and
   - LED lighting pilot program scheduled completion date of summer 2012.
4. Order KCPL to comply with the following special contemporary issues for its April 1, 2013 annual update filing:[53]
   - Update on Smart Grid Demonstration Project; and
   - Analyze and document aggressive DSM portfolios - including demand-side programs and demand-side rates - without constraints. Include analysis and documentation of demand-side investment mechanisms necessary to implement each aggressive DSM portfolio.
5. Order KCPL to comply as a stand-alone utility with all of the requirements of Rule 4 CSR 240-22.060 Integrated Resource Plan and Risk Analysis and Rule 4 CSR 240-22.070 Resource Acquisition Strategy Selection for its April 1, 2013 annual update.

4 CSR 240-22.030 Load Analysis and Load Forecasting

Summary

The stated purpose of Rule 4 CSR 240-22.030, Load Analysis and Load Forecasting, is the setting of the "minimum standards for the maintenance and updating of historical data, the level of detail required in analyzing and forecasting loads, and for the documentation of the inputs, components and methods used to derive the load forecasts."

The revised *Load Analysis and Load Forecasting Rule* is less prescriptive than the original rule regarding the analytical methods the utility shall use, allowing multiple methods

[53] Staff will file a complete list of its suggested special contemporary issues for KCPL by September 15, 2012, in accordance with Rule 4 CSR 240-22.080(4)(A).

and leaving more discretion to the utility to choose the methods by which it achieves the stated purpose of the rule.

KCPL did not request any waivers from specific provisions of this rule.

In Staff's review of KCPL's load analysis and energy and demand forecasts, Staff found no deficiencies concerning compliance with this rule, and Staff believes this filing also meets the Load Analysis and Load Forecasting requirements of the Non-Unanimous Stipulation and Agreement in Case No. EE-2008-0034.

However Staff does have the following concern.

<u>Concerns</u>

Concern A- KCPL submitted energy and peak growth rates that are arithmetic averages.

KCPL submitted energy and peak growth rates that are arithmetic averages when compound annual growth rates (CAGR) are the appropriate measure of growth. Compound annual growth rates should be used, because arithmetic averaging of growth rates gives incorrect results. In this filing, KCPL is reporting a higher growth rate than its analysis actually shows. A CAGR is the geometric average growth rate over a period of several years. For a time series beginning with year 0, the formula for the CAGR is:

$$CAGR = (\text{ending value} \div \text{starting value})^{1/(\text{number of years})} - 1$$

The following table summarizes Staff calculated 20-year CAGR and growth rates as provided in KCPL's Chapter 22 filing[54]:

2012 Chapter 22: Growth Rates

	Energy	Demand
Arithmetic Average	** ______ **	** ______ **
CAGR	** ______ **	** ______ **

To remedy this concern, KCPL should use compound annual growth rates, based on a 20-year forecast, in all future Chapter 22 filings when expressing the rate of growth in its annual energy and demand levels in its load forecasts.

Staff Expert Witness: David Roos

[54] KCPL work papers for the Filing: PeakNSI Historical Forecast

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4 CSR 240-22.040 Supply-Side Resource Analysis

Summary

Rule 4 CSR 240-22.040 – the revised *Supply-Side Analysis Rule* clarifies the consideration of transmission and distribution requirements for each supply-side resource to ensure that the full cost of each resource type is factored into the analysis. The revised rule explicitly requires the consideration of transmission constraints in the supply-side resource screening process.

Deficiencies

Deficiency 1 - KCPL did not include the nuclear powered small modular reactor (SMR) as a potential supply-side resource option and did not provide its assessments of the SMR technology as required by Rule 4 CSR 240-22.040(1).

Although KCPL evaluated three nuclear technologies, KCPL did not include SMR as a potential supply-side resource in its April 9, 2012 filing. However, ten (10) days later, on April 19, 2012, KCPL committed to supporting the application of Ameren Missouri and Westinghouse for the Department of Energy's Small Modular Reactor Design Program. KCPL carried one nuclear technology forward to its integrated resource plan and risk analysis, U.S. Evolutionary Power Reactor (U.S. EPR)[55], and analyzed this in 200 MW increments so this analysis may provide some insight into the SMR technology's cost performance, since the Westinghouse SMR's are 225 MW.

Although the rule citation is for the first section of the Supply-Side Resource Analysis Rule, the effect of this deficiency follows through to the remainder of the Supply-Side Resource Analysis Rule as well as the Integrated Resource Plan and Risk Analysis Rule and the Resource Acquisition Strategy Selection Rule including contingency resource plans in Rule 4 CSR 240-22.070(4). Since the three nuclear technologies that were evaluated by KCPL were all highly ranked in the nominal utility cost supply-side rankings performed by KCPL and since nuclear technologies excel in the high cost carbon tax scenarios, the importance of all nuclear technologies, including SMR, cannot be overlooked.

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[55] U.S. ERP technology is for large scale nuclear generating stations, e, g., 1600 MW. This is the technology on which Ameren Missouri's 2008 combined Construction and Operating License Application (COLA) was based.

To resolve this deficiency, KCPL should provide its assessment of the SMR technology in its April 1, 2013 annual update filing.

Staff Expert Witness: Dan Beck

4 CSR 240-22.045 Transmission and Distribution Analysis

Summary

Rule 4 CSR 240-22.045 *Transmission and Distribution Analysis* is a new rule which specifies the minimum standards for the scope and level of detail required for transmission and distribution network analysis and reporting. Rule 4 CSR 240-22.045 is prompted, in part, by the changes in federal law that can affect electric utility resource planning and resource viability (e.g., policies of Regional Transmission Organizations (RTOs), development of regional power markets, and implementation of Smart Grid technologies). The rule does not prescribe how analyses are to be done, but allows a utility to conduct its own analyses or adopt the RTO or Independent Transmission System Operator (ISO) transmission plan. It does require documentation of the RTO/ISO transmission projects and requires the electric utility to review transmission and distribution for the reduction of power losses, interconnection of new generation facilities, facilitation of sales and purchases and incorporation of advance technologies for the optimization of investment in transmission and distribution resources.

The Company did not request any waivers from Rule 4 CSR 240-22.045 as a part of this Chapter 22 filing.

Deficiencies

Deficiency 2 - KCPL did not provide its assessments of the RTO expansion plans as required by Rule 4 CSR 240-22.045(3)(C).

These documents are necessary to determine if KCPL satisfied the conditions required in Rule 4 CSR 240-22.045(3)(B) which permits the company to use the RTO transmission expansion plans for its resource planning.

To resolve this deficiency, KCPL should provide its assessments of the RTO expansion plans in its April 1, 2013 annual update filing.

Deficiency 3 - KCPL did not assess the RTO expansion plans as required by Rule 4 CSR 240-22.045(3)(B).

Rule 4 CSR 240-22.045(3)(B) allows the utility to use the RTO transmission expansion plan under certain conditions including that the utility "assess whether the RTO transmission expansion plans, in the judgment of the utility decision-makers, are in the interests of the utility's decision makers" (Rule 4 CSR 240-22.045(3)(B)2). Staff Data Request 3 asked KCPL for the documents noted as a deficiency above, including how KCPL separates its Missouri customer population from its Kansas customer population. In response, KCPL stated that the benefits and costs have not been broken out by state in a manner that would allow KCPL to conduct separate analysis for its Missouri and Kansas loads. Additionally, the 2009 Balanced Portfolio is a combined analysis of KCPL, not distinguishing between KCPL and GMO.

To resolve this deficiency, since KCPL does not believe it is possible to conduct separate analysis for its Missouri customers, KCPL should request a variance for Rule 4 CSR 240-22.045(3)(B)2 and Rule 4 CSR 240-22.045(3)(B)3.

Deficiency 4 - KCPL did not identify and describe all affiliates as required by Rule 4 CSR 240-22.045(5).

KCPL is affiliated with GMO. Some of the analysis in Volume 4.5 is based on a combination of KCPL and GMO rather than KCPL as a stand-alone company. In particular, the 2009 Balanced Portfolio is a combined analysis of KCPL, not distinguishing between KCPL and GMO.

To resolve this deficiency, KCPL should identify and describe the relationship between the two companies and conduct separate analysis of the RTO expansion plans for each company.

<u>Concerns</u>

Concern B - The Filing does not describe and document the analysis performed by the utility to determine whether such affiliate-built transmission is in the interest of the utility's Missouri customers.

The KCPL Chapter 22 report indicates that Great Plains Energy, the holding company for both KCPL and GMO, intends for Transource Energy, LLC (Transource) "to pursue, develop, construct, and own" any future regional and inter-regional transmission projects subject to regional cost allocation. The Filing does not "describe and document the analysis performed by the utility to determine whether such affiliate-built transmission is in the interest of the utility's Missouri customers" (Rule 4 CSR 240-22.045(3)(B)5.), but indicates that separate filings with the Commission are planned later this year. On August 31, 2012, Transource filed an application and testimony for a certificate of convenience and necessity and request for waiver in File No. EA-2013-0098, and KCPL and GMO filed an application and testimony in File No. EO-2012-0367.

To remedy this concern the Company should provide its analysis of affiliate-built transmission in its April 1, 2013 annual update filing.

Staff Expert Witness: Michael Stahlman

4 CSR 240-22.050 Demand-Side Resource Analysis

Summary

The revised Rule 4 CSR 240-22.050, *Demand-Side Resource Analysis*, "specifies the principles by which potential demand-side resource options shall be developed and analyzed for cost-effectiveness, with the *goal of achieving all cost-effective demand-side savings*." (Emphasis added). The revised Demand-Side Analysis Rule identifies the objectives to be achieved by the demand-side programs and portfolios, and gives each utility the option of developing demand-side programs or portfolios from the top down (starting with a program designs and filling in the cost-effective measures) or from the bottom up (starting with screening a comprehensive menu of measures and ending with program designs). The rule clarifies the distinction between demand-side programs and demand-side rates and places more emphasis on demand-side rates than the previous rule did. It is less prescriptive than the original rule in that it does not specify how the screening analysis is to be conducted or how the avoided costs are to be calculated. It does include the use of the calculation of the Total Resource Cost ("TRC") test which meets the requirement of the MEEIA (Section 393.1075.4 RSMo, Supp. 2010). The rule requires documentation regarding how the potential demand-side resources were analyzed and screened to identify demand-side candidate resource options to advance to the integrated resource analysis. The requirements for the evaluation of demand-side programs are removed from this rule but are included in the revised resource acquisition strategy selection rule.

Finally, Rule 4 CSR 240-22.050 requires the selection of demand-side candidate resource options that are passed on to integrated resource analysis in Rule 4 CSR 240-22.060

and assessment of their technical potentials, maximum achievable potentials ("MAP"), and realistic achievable potentials ("RAP").

The current KCPL 2012 Chapter 22 filing improves and expands KCPL's overall consideration and evaluation of demand-side resources from its previous 2008 Chapter 22 filing. Primary improvements include the knowledge gained from the actual program implementation and evaluation, measurement and verification ("EM&V") experience for the previous and the current demand-side programs, research of previously implemented demand-side programs from other utilities[56] and the Company's MEEIA filing on December 22, 2011, which was subsequently withdrawn on February 17, 2012.[57] The Company is communicating with stakeholders and meeting on a regular basis with significant decision makers[58] and quarterly with its DSM advisory group.

The Company did not request any waivers from Rule 4 CSR 240-22.050 as a part of this Chapter 22 filing.[59]

Demand-Side Management Programs

The Company has included in its demand-side management portfolio "DSM A" nine (9) energy efficiency ("EE") programs, three (3) educational programs, one (1) affordable program for low-income residential customers, and two (2) demand response ("DR") programs that the Company considers will allow it to obtain realistically-achievable capacity and energy reductions.[60] These programs are included in KCPL's adopted preferred resource plan, Plan AGEK9.[61] The "DSM A" portfolio was developed based upon the DSM proposed in KCPL's MEEIA filing and assumes the programs begin in January 2014.[62]

The Company did – for its KCPL stand-alone company analysis - evaluate a more aggressive Demand Side Management portfolio, "DSM D", that was developed to satisfy the requirement of special contemporary issue "h" as stated in the Commission's order dated October 19, 2011, in File No. EO-2012-0041, "Analyze and document aggressive DSM portfolios without constraints" but the Company believes that this level of DSM is not

[56] Volume 5, Demand - Side Resource Analysis", page 48, Section 3.1, "Previously Implemented Demand-Side Programs From Other Utilities"
[57] File No. EO-2012-0008 filed December 22, 2011.
[58] Volume 5, "Demand - Side Resource Analysis", page 1, Section 1.1.2, "Decision-Maker Coverage"
[59] Volume 1, "Executive Summary," page 2, Section 2.2, "Waivers"
[60] Volume 1, "Executive Summary," page 19, Section 5.2, "Selection of Preferred Resource Plans"
[61] Volume 1, "Executive Summary," page 22, Section 6, "Critical Uncertain Factors"
[62] Volume 6: "Integrated Resource Plan and Risk Analysis," page 6, Section 3, "Alternative Resource Plans"

realistically achievable.[63] However, as discussed in the Failure to Comply With the Commission's Special Contemporary Issue "h" section of this Staff Report, KCPL failed to comply with the second part of special contemporary issue "h," specifically: "Include analysis and documentation of demand-side investment mechanisms necessary to implement each DSM portfolio."

The Company has engaged Navigant Consulting, Inc. (Navigant) to conduct a DSM market potential study for its service territory. The results of this study are not expected until January 2013. Without a current service territory market research study that identifies the MAP, technical potential and RAP of potential demand-side resource options as required by 4 CSR 240-22.050(2), the Company cannot utilize the MAP and RAP to design cost-effective demand-side programs. This is a significant deficiency.

A brief description of the Company's demand-side management portfolio "DSM A" programs follows.

1. EE Programs

a. Home Performance with Energy Star®

The Home Performance with Energy Star® ("HPwES") program is intended to encourage residential customers to identify deficiencies and implement energy efficiency measures in their homes. This is achieved by conducting a comprehensive home audit and implementing at least one of the recommended energy efficiency improvements.

This program is available to any customer receiving service under any generally available residential rate schedule offered by the Company. All audits must be requested by the owner of the home, multiplex, or apartment. A tenant agreement is required for rental residences. Program rebates are limited to one rebate per audit. Customer participation is limited to fund availability.

b. Cool Homes

The Cool Homes program is designed to encourage residential customers to have their working, central cooling systems evaluated and, if feasible, brought back to factory specifications (re-commissioned), or to replace less efficient, working central cooling systems with high efficiency central cooling systems.

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[63] Volume 1, "Executive Summary," page 20, Section 5.2, "Selection of Preferred Resource Plans"

This program is available to any current customer with a working, central home cooling system receiving service under any generally available residential rate schedule. Customer participation is limited to fund availability.

c. Energy Star® New Homes

The Energy Star® New Homes program is designed to improve the energy efficiency of homes applying efficient construction techniques and high-performance products (windows, doors, appliances, lighting, and heating and cooling systems) in accordance with guidelines set by the Energy Star® program. Homes built under the Energy Star® guidelines are typically 20–30% more energy efficient than standard homes.

This program is offered in accordance with the training, rating and incentive elements of the program available to builders constructing new homes within the Company's service territory area.

d. Appliance Turn-In (New program)

The Appliance Turn-In program is designed to incent residential customers to remove old, operating, inefficient, secondary appliances (room air conditioners, refrigerators, freezers, and dehumidifiers) by taking the appliances out of the home and recycling them in an environmentally safe manner at no cost to the participating customer. Refrigerators or freezers must be clean, empty, defrosted, and at least 10 cubic feet and no more than 32 cubic feet in size.

The program will also raise awareness of the energy benefits of Energy Star® appliances.

e. Residential Lighting and Appliance (New program)

The Residential Lighting and Appliance ("L&A") program will promote ENERGY STAR® appliances, lighting, and home electronics. The program will use a two-pronged approach: 1) increasing the supply of qualifying products through partnerships with retailers, manufacturers and distributors, and 2) creating demand through consumer awareness and understanding of the ENERGY STAR® label and the benefits of energy efficiency.

Residential customers may participate in this program by purchasing any of the ENERGY STAR® qualified products listed in this tariff from participating program partners. Eligible measures installed and paid incentives under this program are not eligible for an incentive through any of the Company's other demand-side management programs. Customer participation will be limited to fund availability.

f. Residential Energy Report (New program)

This program is a pilot program that will provide residential customers with an energy report that shows a comparison of the customer's household energy usage information with similar type customers or neighbors. The intention of the energy report is to provide information that will influence customers' behaviors in such a way that they reduce their energy usage. This is a behavioral modification program.

The Company will conduct a three-year pilot of the program, selecting 50,000 customers per year for participation. The program will operate as an opt-out only program, meaning the Company will select customers for participation in the program and will allow customers to opt-out if desired. Residential energy reports will be automatically delivered to each target customer five or six times per year.

g. Multi-Family Rebate (New program)

The Multi-family Rebate program will advance comprehensive energy efficiency measures, including: whole house solutions, plug load efficiency, visual monitoring and displays, performance standards, local government opportunities and DSM integration in qualified multi-family residences.

The Multi-family Rebate program will offer prescribed rebates for energy efficient products to motivate multi-family property owners/managers to install energy efficient products in both common and dwelling areas of multi-family complexes and common areas of mobile home parks and condominiums.

h. Commercial and Industrial ("C&I") Rebate Program: Custom Retrofit and New Construction

The Company's C&I Rebate program is designed to encourage more effective utilization of electric energy through energy efficiency improvements in the building shell, installation of efficient electrical equipment in new construction, or the replacement of inefficient electrical equipment with efficient electrical equipment. The program provides rebates for an energy audit and subsequent improvements in the energy efficiency of the building space and/or equipment.

Customer applications are evaluated and the rebates will be distributed on a first-come basis according to the date of the customer's application. Customer participation is limited to fund availability.

i. C&I Prescriptive Rebate Program (New program)

The program is designed to 1) provide incentives to facility owners and operators for the installation of high efficiency equipment and controls; and 2) provide incentives to facility owners and operators for the installation of high efficiency equipment and controls; and 3) provide a marketing mechanism for electrical contractors, mechanical contractors, and their distributors to promote energy efficient equipment to end users.

Customer applications will be evaluated and the rebates will be distributed on a first-come basis according to the date of the customer's application.

2. Educational Programs

a. Building Operator Certification

This voluntary program is designed to establish and encourage Building Operator Certification through the Northwest Energy Efficiency Council's Building Operator Certification Level 1 and Level 2 curriculums. This effort will include certification update and refresh as appropriate. In support of partnerships with the Missouri Department of Natural Resources Energy Center (MDNR) and the Midwest Energy Efficiency Alliance (MEEA), the Company will:

1) Reimburse the annual cost to license the Level 1 and Level 2 curriculums for the Company's Missouri service territory, and
2) Reimburse portions of the tuition costs for building operators of properties in the Company's service area who successfully complete or refresh the certifications.

b. Home Energy Analyzer

This program allows all residential customers with access to the internet to retrieve their billing information, make comparisons of electric usage on a monthly or yearly basis, analyze electric usage on an end-use basis, and research energy savings by end-use through a searchable resource center. Customers can also compare their bills to analyze changes from one month to another. Residential customers can also compare their home to a similar home in terms of average energy usage using the EnergyGuide label[64] concept.

c. Business Energy Analyzer

This program is similar to the Home Energy Analyzer program. It is available to any non-residential and non-lighting customers.

3. Affordable Program – Low-Income Weatherization

The Weatherization Assistance Program enables low-income families to reduce their energy bills by making their homes more energy efficient.

4. DR Programs

a. MPower

MPower is a voluntary load curtailment program for large commercial and industrial customers and provides a payment to customers for reducing load when requested to do so by KCPL.

This program is available to customers who can provide a minimum of 25 kW energy reduction and customers can customize the program for their particular situation. Customers specify the months they are available to participate, a maximum curtailment duration of 2, 4 or 8 hours and the maximum amount of curtailments per year that ranges from 3-250.[65]

b. Energy Optimizer Program

Energy Optimizer is an air conditioning cycling program for residential and small commercial customers that allows the Company to cycle program participants' air conditioners off and on for up to 60 hours a year when the Company provided thermostats receive a paging signal from KCPL to achieve a load reduction.

The avoided demand cost calculation is provided in Table 51 "Avoided Demand Cost **Highly Confidential**" of Volume 5.[66]

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[64] The distinctive yellow and black **EnergyGuide** labels appear on most of the energy-using products that are subject to minimum efficiency standards set by the US Department of Energy. Consumers will find them on refrigerator-freezers and freezers, dishwashers, clothes washers, microwaves, water heaters, pool heaters, room air conditioners, central air-conditioners and heat pumps, furnaces and boilers, and fluorescent lamp ballasts.

[65] Volume 5, Appendix 5d-"mpower2.pdf," slide 4.

[66] Volume 5, "Demand - Side Resource Analysis," page 189, "Demand-Side Programs Cost Effectiveness"

For each program, the number of participants, program costs, avoided costs and demand reduction savings are included in the Work Paper "KCPL Program Cost-Effectiveness_HC 240-22.050." Table 1 summarizes the results of each cost-effectiveness test for KCPL's proposed Programs, except the Home Energy Analyzer and Business Energy Analyzer, which are education programs for which the benefits are very difficult to quantify.

<Table 1>
Cost-Effectiveness Test Summary

Programs	**TRC**	**UCT**
HPwES	0.46	0.50
Cool Homes	1.07	1.29
Energy Star® New Homes	0.43	0.47
Residential L&A	1.92	2.40
Multi-Family Rebate	1.92	2.40
Appliance Turn-In	1.50	1.50
C&I Prescriptive	2.07	3.11
C&I Rebate: Custom	1.57	2.20
C&I Rebate: New Construction	1.42	1.99
Low-Income Weatherization	0.20	0.20
MPower	3.49	3.49
Optimizer	3.90	3.90

Staff has reviewed the Company provided EM&V reports for Energy Star® New Homes, Cool Homes, HPwES, Low-income Weatherization, C&I Rebate, Building Operator Certification, Energy Optimizer and MPower DR programs and finds these programs are successful and cost effective.[67]

KCPL's Demand-Side Resource Analysis filing is deficient in meeting the requirements of Rule 4 CSR 240-22.050. Staff has also identified two concerns for this rule.

Deficiencies

Deficiency 5 - The Company has no current market research study that identifies the MAP, technical potential and RAP of potential demand- side resource options as required by Rule 4 CSR 240-22.050(2).

This is a significant deficiency that the Company indicates will be remedied by having the results of the Navigant Demand-Side Management Potential study on January 15, 2013.

[67] File No. EO-2012-0008 filed December 22, 2011, Schedules ADD-5 and ADD-10.

Without the results of this study, the Company cannot utilize the MAP and RAP from a DSM market potential study to design cost-effective demand-side programs.

To resolve this deficiency, the Company must utilize the results of the Navigant Demand-Side Management Potential study as input in the preparation of its April 1, 2013 annual update filing.

Deficiency 6 - The Company has not provided all information required by Rule 4 CSR 240-22.050. Specifically, the Company has repeatedly referenced the future results of: a) the Navigant Demand-Side Management Potential study, not available until January 15, 2013, in response to satisfying specific requirements of Rule 4 CSR 240-22.050 (1)(A)3., 1(D), 1(E), (2), (3)(G)3., (3)(G)5., (3)(I), (4)(D),4(E), 4(G) and 6(C); b) the Smart Grid Residential TOU Pilot Tariff that will not be available until after the summer of 2012 in response to satisfying the specific requirements of Rule 4 CSR 240-22.050(4)(D)1. and (4)(D)4.

To resolve this deficiency, the Company should utilize the results of the Navigant Demand-Side Management Potential study and the Smart Grid Residential TOU Pilot Tariff when performing analyses for its April 1, 2013 annual update filing.

Concerns

Concern C - KCPL is constraining both the Energy Optimizer and MPower programs.

KCPL has indicated that it is not promoting either the Energy Optimizer or MPower program, and for the MPower program, the Company is not currently accepting and/or processing new program applications. Staff is concerned that these programs cannot perform optimally to help KCPL achieve all cost-effective demand-side savings. Even with an excess of generation capacity, there are times that occur due to unforeseen events, such as when the outage at the Wolf Creek nuclear plant was extended, when it would be beneficial to have additional DR resources available so the Company has the opportunity to choose the most cost effective resource to meet peak energy demand requirements.

To resolve this concern, the Company should utilize the results of the Navigant Demand-Side Management Potential study meeting the requirements of Rule 4 CSR 240-22.050(2) and Rule 4 CSR 240-3.164(2) (A), and should use the same as input in the preparation of its April 1, 2013 annual update filing.

Concern D - The TRC value of 0.43 for the Energy Star New Homes program indicates that this program is not cost effective.

To resolve this concern, the Company should carefully review all TRC values for all DSM programs for consideration in the preparation of its April 1, 2013 annual update filing. If the results of this review indicate some programs are indeed not cost effective and do not meet the requirements of 4 CSR 240-20.094 (3)(B) and (C), they should not be included in the Company's April 1, 2013 Chapter 22 annual update filing.

Staff Expert Witnesses: Randy Gross for demand response programs and Hojong Kang for energy efficiency programs

4 CSR 240-22.060 Integrated Resource Analysis

Summary

This rule requires the utility to design alternative resource plans to meet the planning objectives identified in Rule 4 CSR 240-22.010(2) and sets minimum standards for the scope and level of detail required in resource plan analysis and for the logically consistent and economically equivalent analysis of alternative resource plans. This rule also requires the utility to identify the critical uncertain factors that affect the performance of alternative resource plans and establishes minimum standards for the methods used to assess the risks associated with these uncertainties.

One major change to the revised *Integrated Resource Analysis and Risk Analysis Rule* is that it contains all of the risk analysis which was previously spread between Rule 4 CSR 240-22.060 Integrated Resource Analysis and Rule 4 CSR 240-22.070 Risk Analysis and Strategy Selection. This rule now requires the utility to develop cases for analysis that maximize reliance on energy efficiency and renewable energy resources and then develop optimal cases. The rule requires the development of alternative resource plans based on normal conditions and also to assess the robustness of each plan under more extreme conditions (high and low cases). The revised rule is less prescriptive and does not specify the analytical methods and does not require the utility to perform a specific decision tree analysis to evaluate risk. However, it does add the requirement to include performances measures of present worth of utility revenue requirements, with and without any financial performance incentives the utility is planning to request. The proposed rule requires analysis of financial parameters and, if required, description of any changes in legal mandates and cost recovery mechanisms necessary for the utility to maintain an investment grade credit rating and documentation of the methods, analyses, judgments and data the utility chooses.

See above sections titled Failure to Design Alternative Resource Plans Which Are Consistent with State Energy Policy and Requested Acknowledgement of Joint Company Planning for Staff's discussion related to this rule.

Deficiencies

> **Deficiency 7 - KCPL has failed to design alternative resource plans to satisfy at least the objectives and priorities identified in Rule 4 CSR 240-22.060(1) over the entire 20-year planning horizon required by Chapter 22. In particular, candidate resource plans with DSM A demand-side resources do not satisfy the objective and priorities identified in Rule 4 CSR 240-22.060(1) over the entire 20-year planning horizon and are not consistent with the state energy policy in MEEIA of achieving all cost-effective demand-side savings.**

To resolve this deficiency, the Company should complete its DSM market potential study by January 2013, and include in its April 1, 2013 annual update filing the RAP portfolio and the MAP portfolio of DSM programs from its DSM market potential study in the design of alternative resource plans that satisfy the objective and priorities identified in Rule 4 CSR 240-22.060(1) over the entire 20-year planning horizon and are consistent with the state energy policy in MEEIA of achieving all cost-effective demand-side savings.

> **Deficiency 8 – The only requirements of Rule 4 CSR 240-22.060 Integrated Resource Plan and Risk Analysis that are satisfied and described and documented[68] for each of the Filing's fourteen (14) combined/joint candidate resource plans are for integrated resource analysis and the calculation of PVRR for each plan.[69]**

To resolve this deficiency, the Company should comply with all requirements of Rule 4 CSR 240-22.060 Integrated Resource Plan and Risk Analysis for its April 1, 2013 annual update filing.

Concerns

> **Concern E – All capacity balance sheets filed to comply with Rule 4 CSR 240-22.060(4)(B)9. include solar resources at 100% of name plate capacity,**

[68] Rule 4 CSR 240-22.020(14): "Described and documented refers to the demonstration of compliance with each provision of this chapter. Describe means the provision of information in the technical volume(s) of the triennial compliance filing, in sufficient detail to inform the stakeholders how the utility complied with each applicable requirement of Chapter 22, why that approach was chosen, and the results of its approach. The description in the technical volume(s), including narrative text, graphs, tables, and other pertinent information shall be written in a manner that would allow a stakeholder to thoroughly assess the utility's resource acquisition strategy and each of its components. Document means the provision of all of the supporting information relating to the filed resource acquisition strategy pursuant to 4 CSR 240-22.080(11)."

[69] Volume 6, page 17 of the Filing.

while it is Staff's understanding that SPP policies require that solar capacity credit be 10% of name plate capacity.

To resolve this concern, KCPL should document the SPP policy for solar capacity credits in its April 1, 2013 annual update. KCPL should follow the then-current SPP policy for solar capacity credits when developing capacity balance sheets when required for all future Chapter 22 filings.

Staff Expert Witness: John Rogers

4 CSR 240-22.070 Risk Analysis and Strategy Selection

Summary

This rule requires the utility to select a preferred resource plan, develop an implementation plan, and officially adopt a resource acquisition strategy. The rule also requires the utility to prepare contingency plans and evaluate the demand-side resources that are included in the resource acquisition strategy.

The revised *Resource Acquisition Strategy Selection Rule* requires an evaluation of demand-side programs, demand-side rates and load building programs in the strategy selection process. It also clarifies the requirement to identify and develop implementation plans and contingency resource plans. The rule provides additional flexibility to exercise judgment when satisfying policy objectives of Chapter 22, but requires the selection of a preferred resource plan that invests in advanced transmission and distribution technologies, includes demand-side programs that meet legal mandates and includes sufficient resources to serve load forecasted under extreme weather conditions. The rule now requires the utility to officially adopt a preferred resource plan, contingency resource plans and resource acquisition strategy, including specific information to describe the implementation plan.

See above sections titled Requested Acknowledgement of Joint Company Planning and Failure to Comply With the Commission's Special Contemporary Issue "h" for Staff's discussion related to this rule.

Deficiencies

Deficiency 9 – The filing requirements of Rule 4 CSR 240-22.070(2) and Rule 4 CSR 240-22.070(3) were not described and documented for any of the twenty-two (22) KCPL candidate resource plans.

To resolve this deficiency, the Company should comply with all requirements of Rule 4 CSR 240-22.070(2) and Rule 4 CSR 240-22.070(3) for its April 1, 2013 annual update filing.

> **Deficiency 10 – The only requirements of Rule 4 CSR 240-22.070 Resource Acquisition Strategy Selection that were satisfied and described and documented for each of the fourteen (14) combined/joint candidate resource plans are: 1) analysis and specification of ranges for critical uncertain factors,[70] and 2) the expected value of better information related to the critical uncertain factors (CO_2, load forecast and natural gas prices).[71]**

To resolve this deficiency, the Company should comply with all requirements of Rule 4 CSR 240-22.070 Resource Acquisition Strategy Selection for its April 1, 2013 annual update filing.

Staff Expert Witness: John Rogers

4 CSR 240-22.080 Filing Schedule and Requirements

Summary

This rule specifies the requirements for electric utility filings to demonstrate compliance with the provisions of Chapter 22. The purpose of the compliance review required by Chapter 22 is not Commission approval of the substantive findings, determinations, or analyses contained in the filing. The purpose of the compliance review required by Chapter 22 is to determine whether the utility's resource acquisition strategy meets the requirements of Chapter 22. However, if the Commission determines that the filing substantially meets these requirements, the Commission may further acknowledge that the preferred resource plan or resource acquisition strategy is reasonable in whole, or in part, at the time of the finding. This rule also establishes a mechanism for the utility to solicit and receive stakeholder input to its resource planning process.

The revised *Filing Schedule, Filing Requirements and Stakeholder Process Rule* establishes a filing by all electric utilities each April 1 with a triennial compliance filing every third year[72] with more informal annual updates filings during the years between the full

[70] Volume 6, pages 9 – 12 of the Filing.
[71] Volume 7, pages 17 – 19 of the Filing.
[72] Rule 4 CSR 240-22.080(1) establishes the following schedule: (A) Kansas City Power & Light Company and KCP&L Greater Missouri Operations Company, or their successors, on April 1 of 2012 and every third year thereafter; (B) The Empire District Electric Company, or its successor, on April 1 of 2013 and every third year

triennial compliance filings. The annual updates are coupled with a stakeholder workshop to communicate changing conditions and utility plans and to seek comments and suggestions from stakeholders during the planning process. Preliminary plans are reviewed with stakeholders to receive input regarding potential concerns and deficiencies. However, once plans are filed, stakeholders again have the opportunity to identify potential concerns and deficiencies. The Commission, with input from stakeholders, will identify special contemporary issues each year for each utility to analyze during its planning process. To make the resource planning process more meaningful, the revised rule requires action from the utility if its business plan or acquisition strategy becomes inconsistent with the latest adopted preferred resource plan filed by the utility. The revised rule also requires certification that any request of action from the Commission is consistent with the utility's adopted preferred resource plan.

See above sections titled Requested Acknowledgement of Joint Company Planning and Failure to Comply With the Commission's Special Contemporary Issue "h" for Staff's discussion related to this rule.

Deficiencies

> **Deficiency 11 – The Filing failed to comply with the Commission's special contemporary issue "h" by not analyzing and documenting aggressive DSM portfolios without constraints and by not including analysis and documentation of demand-side investment mechanisms to implement each DSM portfolio.**

To resolve this deficiency, the Company should comply with all of the special contemporary issues ordered by the Commission for inclusion in its April 1, 2013 annual update filing.

Concerns

> **Concern F – KCPL and GMO do not have the proper operating agreements and/or contracts in place to correctly analyze joint company planning. In the absence of proper operating agreements and/or contracts, joint company planning must be performed in the context of a comprehensive plan to merge KCPL and GMO, and no such plan to merge the two companies exists at this time.**

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thereafter; and (C) Union Electric Company d/b/a AmerenUE, or its successor, on April 1 of 2014 and every third year thereafter.

To resolve this concern, KCPL and GMO should file either 1) detailed proposal for allocating capacity and energy between KCPL and GMO, and if GMO's MPS and L&P rate districts are not eliminated, between GMO's MPS and L&P rate districts; or 2) a definitive plan for merging KCPL and GMO into one electrical corporation prior to any future Chapter 22 electric utility resource planning filing for which KCPL requests Commission acknowledgement that it is reasonable for KCPL and GMO to plan on a joint company basis.

An alternative available to KCPL and GMO may involve KCPL and GMO entering into a long-term contract for KCPL to supply capacity and energy to GMO after GMO issues a RFP for a long-term PPA and evaluates the responses it receives. If KCPL's bid would be the low cost solution, a contract between KCPL and GMO would have to meet the requirements of 4 CSR 240-20.015 Affiliate Transactions rule.

Staff Expert Witness: John Rogers

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

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

AFFIDAVIT OF JOHN A. ROGERS

STATE OF MISSOURI)
) **ss**
COUNTY OF COLE)

John A. Rogers, employee of the Staff of the Missouri Public Service Commission, being of lawful age and after being duly sworn, states that he has participated in the preparation of the accompanying Staff Report on pages 1-30 and 45-52, and the facts therein are true and correct to the best of his knowledge and belief.

John A Rogers
John A. Rogers

Subscribed and sworn to before me this 6th day of September, 2012.

SUSAN L. SUNDERMEYER
Notary Public - Notary Seal
State of Missouri
Commissioned for Callaway County
My Commission Expires: October 03, 2014
Commission Number: 10942086

Susan L Sundermeyer
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

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

AFFIDAVIT OF DAVID C. ROOS

STATE OF MISSOURI)
) **ss**
COUNTY OF COLE)

David C. Roos, employee of the Staff of the Missouri Public Service Commission, being of lawful age and after being duly sworn, states that he has participated in the preparation of the accompanying Staff Report on pages 31 - 32, and the facts therein are true and correct to the best of his knowledge and belief.

David C Roos

David C. Roos

Subscribed and sworn to before me this 6th day of September, 2012.

SUSAN L. SUNDERMEYER
Notary Public - Notary Seal
State of Missouri
Commissioned for Callaway County
My Commission Expires: October 03, 2014
Commission Number: 10942086

Susan L Sundermeyer

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

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

AFFIDAVIT OF DANIEL I. BECK

STATE OF MISSOURI)
) ss
COUNTY OF COLE)

Daniel I. Beck, employee of the Staff of the Missouri Public Service Commission, being of lawful age and after being duly sworn, states that he has participated in the preparation of the accompanying Staff Report on pages 33 - 34, and the facts therein are true and correct to the best of his knowledge and belief.

Daniel I Beck
Daniel I. Beck

Subscribed and sworn to before me this 6th day of September, 2012.

SUSAN L. SUNDERMEYER
Notary Public - Notary Seal
State of Missouri
Commissioned for Callaway County
My Commission Expires: October 03, 2014
Commission Number: 10942086

Susan L Sundermeyer
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

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

AFFIDAVIT OF MICHAEL L. STAHLMAN

STATE OF MISSOURI)
) ss
COUNTY OF COLE)

Michael L. Stahlman, employee of the Staff of the Missouri Public Service Commission, being of lawful age and after being duly sworn, states that he has participated in the preparation of the accompanying Staff Report on pages 34-36, and the facts therein are true and correct to the best of his knowledge and belief.

Michael L. Stahlman

Subscribed and sworn to before me this 6th day of September, 2012.

SUSAN L. SUNDERMEYER
Notary Public - Notary Seal
State of Missouri
Commissioned for Callaway County
My Commission Expires: October 03, 2014
Commission Number: 10942086

Susan L. Sundermeyer
Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

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

AFFIDAVIT OF HOJONG KANG

STATE OF MISSOURI)
) ss
COUNTY OF COLE)

Hojong Kang, employee of the Staff of the Missouri Public Service Commission, being of lawful age and after being duly sworn, states that he has participated in the preparation of the accompanying Staff Report on pages 36-45, and the facts therein are true and correct to the best of his knowledge and belief.

Hojong Kang

Hojong Kang

Subscribed and sworn to before me this 6th day of September, 2012.

SUSAN L. SUNDERMEYER
Notary Public - Notary Seal
State of Missouri
Commissioned for Callaway County
My Commission Expires: October 03, 2014
Commission Number: 10942086

Susan L. Sundermeyer

Notary Public

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

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

AFFIDAVIT OF RANDY S. GROSS

STATE OF MISSOURI)
) ss
COUNTY OF COLE)

Randy S. Gross, employee of the Staff of the Missouri Public Service Commission, being of lawful age and after being duly sworn, states that he has participated in the preparation of the accompanying Staff Report on pages 36 - 45, and the facts therein are true and correct to the best of his knowledge and belief.

Randy S. Gross

Subscribed and sworn to before me this 6th day of September, 2012.

Susan L. Sundermeyer
Notary Public

Addendum A

Is Deemed

Highly Confidential

In Its Entirety