ATTACHMENT D:

RESOURCE ACQUISITION STRATEGY

CASE NO. EE-2008-0034

** PUBLIC **

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ATTACHMENT D – RESOURCE ACQUISITION STRATEGY

According to Rule 4 CSR 240-22.070 (10), the resource acquisition strategy is to include:

1. The Preferred Resource Plan
2. An implementation plan (major milestones and schedules)
3. An analysis of critical uncertainties (when is the Preferred Resource Plan viable)
4. Contingencies (responses to extreme changes in uncertainties), and
5. A monitoring and reporting process of critical uncertain factors (to inform executive management of extreme changes in uncertainties).

The required five items listed above are summarized in the following pages. It should be noted that the acquisition strategy for many of the major components of the Comprehensive Energy Plan (CEP) including the 5-year DSM pilot programs, the Iatan-1 and LaCygne-1 environmental retrofits and completion of Iatan-2 are included in the modeling, but were not considered a variable part of the Preferred Resource Plan for this IRP filing. Those items and the associated acquisition strategies are included under existing regulatory processes and were therefore not considered to be part of the acquisition strategy for this post-CEP IRP filing.

SECTION 1: PREFERRED RESOURCE PLAN

The Preferred Resource Plan includes new Residential and C&I Energy Efficiency programs in addition to the existing demand-side programs established under the Comprehensive Energy Plan (CEP) included in Case Number EO-2005-0329, 100 MW of wind generation annually for a total of 400 MW and 154 MW of Combustion Turbine generation in 2029. Table 1 illustrates the resource additions included in the Preferred Resource Plan.

Table 1: Preferred Resource Plan

BASE CASE	Plan 19: Install Wind with PTC, Residential and Aggressive C&I EE and CT's					
	Sell PPA (MW)	Buy PPA (MW)	Install CT's (MW)	Install Wind (MW)		Install Residential and Aggressive C&I EE (MW)
2008	50	0	0			0
2009	75	0	0	100		0
2010	200	0	0	100		17
2011	200	0	0	100		40
2012	200	0	0	100		66
2013	200	0	0			89
2014	200	0	0			114
2015	200	0	0			109
2016	200	0	0			103
2017	200	0	0			95
2018	200	0	0			94
2019	175	0	0			92
2020	150	0	0			90
2021	125	0	0			89
2022	100	0	0			90
2023	75	0	0			90
2024	25	0	0			90
2025	0	25	0			89
2026	0	50	0			90
2027	0	100	0			90
2028	0	150	0			90
2029	0	50	154			89
2030	0	75	0			89
2031	0	100	0			89
2032	0	150	0			89

SECTION 2: IMPLEMENTATION PLANS

2.1 IMPLEMENTATION PLAN FOR WIND

The implementation for wind will follow the timeline and processes pursued to complete the Spearville-1 wind farm. The anticipated schedule and key milestones are described in Table 2. Progress toward completion of the proposed 2009 wind farm is currently in Step 5 shown in Table 2 below. Based on planning at the time of the IRP filing, the 2009 wind farm was on-schedule for completion as planned. Per Rule 4 CSR 240-22.080 (10), if circumstances have changed so that the 2009 in-service date for the first 100 MW of wind or any other resource additions included in the Preferred Resource Plan have changed, KCP&L will notify the Commission within 60-days of the utility's determination.

Table 2: Wind Implementation Plan

Process/Step Number	Year-1 of Project Development
1	1st Quarter – Assemble Wind Resource Team
2	2nd Quarter – Develop and issue an RFP for a nominal 100 MW or greater, as determined by a supply side analysis, of wind generation resources
3	3rd Quarter – Receive proposals, screen proposals, select finalists for contract negotiations, exercise due diligence, seek regulatory approval, begin engineering and procurement activities, begin Firm Transmission Service request process, begin contract negotiations
4	4th Quarter –Negotiate contract terms with developer - PPA or Build Transfer. Finalize and sign contract with developer, complete engineering and procurement for substation construction, community outreach, develop Operations and Maintenance plan – in-house or external contractor secured, project transferred from Wind Resource Team to Construction Management Team
	Year-2 of Project Development
5	1st Quarter – Equipment delivery begins, contractor mobilization
6	2nd Quarter – Construction begins on wind farm, substation and interconnection, begin commissioning of wind turbines
7	3rd Quarter – Last wind turbine commissioned, begin demobilization
8	4th Quarter – Final clean-up and land restoration as required, Contractor demobilized

Table 3 below shows the project timelines and budget-level spending for the wind projects as they are modeled in the Preferred Resource Plan of the 2008 IRP filing. Costs are based on the capital cost of wind provided in Volume 4 (Section 11, Page 86) and the project spending schedule and capital escalations shown in Appendix 6.A.1. These figures are representative of the costs modeled in the IRP, but have been updated for current budgeting based on more recent market data.

Table 3: Wind Spending Schedule **HIGHLY CONFIDENTIAL**

Capital Budget Supply Side Additions (Nominal $)					
	2008	2009	2010	2011	2012
[redacted]					

2.1.1 CHANGE IN WIND IMPLEMENTATION PLAN

Regarding the 2009 wind addition, on January 4, 2008, the Company submitted an Application and Status Report on Wind Investments, which initiated Case No. EO-2008-0224. KCP&L has made three status reports in this case, the most recent being made on February 13, 2009.

From that status report,

> "Although the PTC was ultimately renewed for projects to be completed in 2009, KCP&L concluded that the challenging conditions in financial markets that the Company first described in its January 4, 2008 submission had not shown sufficient signs of improvement for the Company to definitively commit to a wind generation project to be in service in 2009.
>
> Through two recently-completed agreements, however, KCP&L has preserved the flexibility to pursue wind generation projects in 2009 and 2010. Specifically, the Company has entered into agreements to acquire thirty-two wind turbines each with a generating capacity of 1.5 megawatts ("MW"), transmission interconnection rights, as well as the land development rights for a site that could accommodate up to sixty-seven wind turbines. The Company continues to evaluate when and how best to proceed with these options.

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> The Company has also entered into an Engineering, Procurement, and Construction ("EPC") contract that contemplates the installation of a thirty-five wind turbine project, having an aggregate generation capacity of 52.5 MW, to be completed by May 31, 2010. Under the terms of the EPC contract, KCP&L has until September 30, 2009 to notify the developer whether KCP&L will proceed with the project."

The Company continues to monitor market conditions and will continue to update the Commission as to wind additions in Case No. EO-2008-0244. These changes are consistent with the contingency plans described below and serve as an indication that KCP&L's monitoring and reporting processes function successfully.

2.2 IMPLEMENTATION PLAN FOR COMBUSTION TURBINES (CT'S)

Implementation plan details were not completed for the proposed 2029 installation of CT's because they fall outside the implementation period required by 4 CSR 240-22.070(9) and defined in 4 CSR 240-22.020(22).

2.2.1 PPA IMPLEMENTATION PLAN

In Table 1 above, "PPA" refers to Power Purchase Agreements. The PPA values are based on a capacity cost of ** [redacted]r** with associated energy priced at the forecasted market price when energy is called upon. Additionally, for modeling purposes and to quantify the impact of PPA's on alternative resource plans, the level of available sales or purchases was limited to 200 MW each year. This assumption was chosen as a proxy of regional transmission limitations and limited regional demand/supply of capacity. Additional discussion regarding PPA valuation was provided in Volume 4, Section 10.2 of the IRP submittal.

For sales or purchases of PPA's, KCP&L plans phone surveys of regional utilities during the late winter/early spring timeline to determine market demand and availability as well as price levels for PPA's. For years with higher levels of

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sales/purchases, KCP&L would issue Requests for Proposals (RFP's) six to nine months prior to peak season (June) to further document market potentials. Resulting proposals will be presented to executives with the authority to approve the transaction and contracts will be executed prior to the associated peak season.

2.3 IMPLEMENTATION PLAN FOR LACYGNE STATION ENVIRONMENTAL RETROFITS

LaCygne Station environmental retrofits were included as part of the Preferred Resource Plan. The construction team is established and the Owner's Engineer has been selected for this project. The current construction timeline is shown in Table 4 below:

Table 4: LaCygne Station Retrofit Schedule ** HIGHLY CONFIDENTIAL **

LaCygne Station Environmental Retrofits Proposed Timeline		
Milestone	**Start Date**	**Finish Date**
[redacted]		

2.4 IMPLEMENTATION PLAN FOR MONTROSE ENVIRONMENTAL RETROFITS

Montrose Station environmental retrofits were assumed as part of the Preferred Resource Plan. The start of funding for the retrofits fall outside the implementation period required by 4 CSR 240-22.070(9) and defined in 4 CSR 240-22.020(22). Therefore the implementation plans for the Montrose environmental retrofits are not required as part of this Resource Acquisition

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Strategy. KCP&L continues to monitor potential environmental regulation to further refine the anticipated environmental compliance timelines. Evaluation of alternative retrofit technologies and their associated costs are on-going in advance of meeting future environmental regulations.

2.5 IMPLEMENTATION PLAN FOR DEMAND-SIDE MANAGEMENT PROGRAMS

The Preferred Resource Plan included both existing Demand-Side programs and proposed Energy Efficiency Programs. The expected demand and energy reductions from the existing Demand-Side programs were provided in the Supplemental Filing, Volume 1-S, Section 3.2,2.1 page 21 and are provided below in Table 5:

Table 5: Existing Energy Affordability, Efficiency, and Demand Response Program Demand and Energy Reductions

Projected Demand and Energy Reductions					
ENERGY (MWh)	**2008**	**2009**	**2010**	**2011**	**2012**
Affordable New Homes	25	76	127	178	228
Weatherization	391	827	1,310	1,837	2,410
Change a Light	1,274	2,547	3,821	5,095	6,368
Cool Homes Program	1,948	4,855	7,762	10,669	13,576
Energy Star Homes	0	1,304	3,911	6,518	9,125
New and Retrofit Audits, Incentives, and Rebates	8,800	15,980	23,160	30,340	30,340
Building Operator Certification	0	1,250	2,500	3,750	5,000
Mpower	0	0	0	0	0
Energy Optimizer	0	0	0	0	0
Total	**12,438**	**26,839**	**42,590**	**58,386**	**67,047**
DEMAND (MW)	**2008**	**2009**	**2010**	**2011**	**2012**
Affordable New Homes	0.0	0.0	0.1	0.1	0.1
Weatherization	0.1	0.2	0.3	0.4	0.5
Change a Light	3.4	4.5	5.6	5.6	5.6
Cool Homes Program	1.7	4.2	6.6	9.1	11.6
Energy Star Homes	0.0	0.5	1.4	2.3	3.3
New and Retrofit Audits, Incentives, and Rebates	2.9	5.2	7.6	9.9	9.9
Building Operator Certification	0.0	0.5	1.0	1.5	2.0
Mpower	54.0	66.0	66.0	66.0	66.0
Energy Optimizer	20.0	26.0	26.0	26.0	26.0
Total	**82.0**	**107.1**	**114.6**	**121.0**	**125.1**

The projected demand and energy reductions from the Proposed Residential Energy Efficiency programs as modeled in the Preferred Resource Plan were

provided in the Supplemental Filing, Volume 1-S, Section 3.2,2.2 page 22 and are provided below in Table 6:

Table 6: Proposed Residential Energy Efficiency Program Demand and Energy Reductions

Projected Demand and Energy Reductions - Residential					
ENERGY (MWh)	**2010**	**2011**	**2012**	**2013**	**2014**
Cool Homes Program	2,342	8,420	14,498	20,577	26,655
Energy Use Monitor - Blue Line	9,505	19,010	28,514	28,514	28,514
Home Performance with Energy Star	9,672	24,180	43,524	62,868	82,212
On-Line Energy Audit with Energy Kits	6,356	12,712	19,067	25,423	31,779
Appliance Turn-In	8,008	16,816	26,505	29,156	32,071
Total	**35,882**	**81,138**	**132,109**	**166,538**	**201,231**
DEMAND (MW)	**2010**	**2011**	**2012**	**2013**	**2014**
Cool Homes Program	1	5	9	12	16
Energy Use Monitor - Blue Line	2	5	7	7	7
Home Performance with Energy Star	2	6	11	16	20
On-Line Energy Audit with Energy Kits	2	3	5	7	8
Appliance Turn-In	3	5	8	9	10
Total	**10**	**25**	**40**	**51**	**62**

The projected demand and energy reductions from the Proposed Commercial and Industrial Energy Efficiency programs as modeled in the Preferred Resource Plan were provided in the Supplemental Filing, Volume 1-S, Section 3.2.2.2 page 24 and are provided below in Table 7:

Table 7: Proposed C&I "Aggressive" Energy Efficiency Program Demand and Energy Reductions

Projected Demand and Energy Reductions - C&I					
ENERGY (MWh)	**2010**	**2011**	**2012**	**2013**	**2014**
Prescriptive Lighting	14,048	30,715	47,554	67,552	91,330
Prescriptive Motors	400	820	1,261	1,723	2,210
Prescriptive Refrigeration	399	818	1,259	1,721	2,206
Prescriptive HVAC	2,400	4,920	7,565	10,343	13,260
Prescriptive Process	169	346	531	727	932
Prescriptive Washer	9	18	27	37	48
Prescriptive Computer	7,157	14,672	22,563	30,849	32,440
Custom Incentives, RFP, & New Construction	3,595	10,786	25,166	46,738	73,702
Total	**28,176**	**63,094**	**105,928**	**159,690**	**216,126**
DEMAND (MW)	**2010**	**2011**	**2012**	**2013**	**2014**
Prescriptive Lighting	4	8	13	18	25
Prescriptive Motors	0	0	0	0	0
Prescriptive Refrigeration	0	0	0	0	0
Prescriptive HVAC	1	2	3	4	5
Prescriptive Process	0	0	0	0	0
Prescriptive Washer	0	0	0	0	0
Prescriptive Computer	2	3	5	7	7
Custom Incentives, RFP, & New Construction	1	2	5	10	16
Total	**7**	**16**	**26**	**39**	**53**

The existing Energy Efficiency program spending schedules were provided in the Supplemental Filing, Volume 1-S, Section 3.2,1.2 page 19 and are provided below in Table 8, Table 9, and Table 10:

Table 8: Existing Program Spending Levels – Affordability **HIGHLY CONFIDENTIAL**

Existing Program Spending Levels - Affordability						
	2008	2009	2010	2011	2012	2013
Affordable New Homes	[redacted]					
Weatherization						
Total						

Table 9: Existing Program Spending Levels – Energy Efficiency **HIGHLY CONFIDENTIAL**

Existing Program Spending Levels - Energy Efficiency						
	2008	2009	2010	2011	2012	2013
Change A Light	[redacted]					
Cool Homes Program						
Energy Star Homes						
New and Retrofit Audits, Incentives, and Rebates						
Building Operator Certification						
Total						

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Table 10: Existing Program Spending Levels – Demand Response
****HIGHLY CONFIDENTIAL****

	2008	2009	2010	2011	2012	2013
Air Conditioning Cycling - Energy Optimizer	[redacted]					
MPower						
Total						

The proposed Energy Efficiency program spending as modeled in the Preferred Resource Plan was provided in Volume 7, Table 12, page 27. The proposed Energy Efficiency program spending schedules for Residential and C&I Energy Efficiency based on a per-program basis were provided in the Supplemental Filing, Volume 1-S, Section 3.2,1.2 page 20 and are provided below in Table 11:

Table 11: Projected Spending Levels – Residential EE and Aggressive C&I
****HIGHLY CONFIDENTIAL****

	[redacted]
Cool Homes Program	
Blue Line - Energy Monitor	
Home Performance with Energy Star	
On-Line Energy Audit with Energy Kits	
Appliance Turn-In	
Total	

	2010	2011	2012	2013	2014
Prescriptive Lighting	[redacted]				
Prescriptive Motors, Pumps & VFDs					
Prescriptive Food Service & Refrigeration					
Prescriptive HVAC					
Prescriptive Process					
Prescriptive Commercial Appliances					
Prescriptive Computers					
Custom, RFP, & Construction					
Total					
Grand Total					

A schedule for implementation of the proposed new programs and research activities is shown below in Table 12:

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Table 12: Schedule of Proposed Programs and Research Activities

	CEP Programs Revised	Programs In IRP	Budgets approved and tariffs filed	Program Launch	Program Report Due	EM&V Report Due
Proposed enhancements to existing programs - Residential						
Cool Homes	1/1/2008	8/5/2008	4th Qtr 2009	1/1/2010	1/1/2012	7/1/2012
Home Performance with Energy Star	1/1/2008	8/5/2008	4th Qtr 2009	1/1/2010	1/1/2012	7/1/2012
Online Energy Information And Analysis Program	1/1/2008	8/5/2008	4th Qtr 2009	1/1/2010	1/1/2012	7/1/2012
Proposed enhancements to existing programs - Commercial						
Custom C&I Incentive Program		8/5/2008	4th Qtr 2009	1/1/2010	1/1/2012	7/1/2012
C&I New Construction Program		8/5/2008	4th Qtr 2009	1/1/2010	1/1/2012	7/1/2012
Proposed new programs - Commercial & Industrial						
C&I Prescriptive program	1/1/2008	8/5/2008	4th Qtr 2009	1/1/2010	1/1/2012	7/1/2012
C&I RFP Program	1/1/2008	8/5/2008	4th Qtr 2009	1/1/2010	1/1/2012	7/1/2012
Proposed new programs - Residential						
Appliance Turn In		8/5/2008	4th Qtr 2009	1/1/2010	1/1/2012	7/1/2012
Energy Use Monitor		8/5/2008	4th Qtr 2009	1/1/2010	1/1/2012	7/1/2012
Research Activities						
Evaluation of Financing Efficiency Programs					10/1/2009	
Evaluation of Street Lighting and Other Outdoor Lighting Programs					10/1/2009	
Multi-family Dwelling Energy Efficiency Study					12/1/2009	
Time of Use, Peak Pricing and Demand Response Tariff Evaluation					10/1/2009	

2.5.1 CHANGE IN DSM IMPLEMENTATION PLAN

During the 2009-2013 budgeting process, KCP&L concluded that the challenging conditions in financial markets have not shown sufficient signs of improvement for the Company to definitively commit to the proposed new Demand-Side Management programs included in the Preferred Resource Plan. As cited below in Section 4.3, Financial Market Contingency Plans, deferral of DSM expenditures is the proposed response to continued tight financial markets. Table 13 through Table 15 below show the deferred roll-out of the DSM Programs included in current budgets.

Table 13: Proposed as of February, 2009 Residential Energy Efficiency Program Demand and Energy Reductions

Projected Demand and Energy Reductions - Residential					
ENERGY (MWh)	**2010**	**2011**	**2012**	**2013**	**2014**
Cool Homes Program		3,093	11,118	19,144	27,170
Energy Use Monitor - Blue Line		10,561	21,122	31,683	31,683
Home Performance with Energy Star		12,417	31,044	55,879	80,714
On-Line Energy Audit with Energy Kits		6,356	12,712	19,067	25,423
Appliance Turn-In		16,015	33,632	53,010	58,311
Total	**-**	**48,442**	**109,627**	**178,783**	**223,300**
DEMAND (MW)	**2010**	**2011**	**2012**	**2013**	**2014**
Cool Homes Program		1	5	9	13
Energy Use Monitor - Blue Line		3	7	10	10
Home Performance with Energy Star		5	12	21	31
On-Line Energy Audit with Energy Kits		2	4	6	8
Appliance Turn-In		5	11	17	19
Total	**-**	**17**	**39**	**63**	**80**

Table 14: Proposed as of February, 2009 C&I "Aggressive" Energy Efficiency Program Demand and Energy Reductions

Projected Demand and Energy Reductions					
ENERGY (MWh)	**2010**	**2011**	**2012**	**2013**	**2014**
Prescriptive Lighting		19,273	42,158	66,074	94,504
Prescriptive Motors		571	1,171	1,801	2,462
Prescriptive Refrigeration		555	1,137	1,749	2,391
Prescriptive HVAC		3,019	6,189	9,517	13,012
Prescriptive Process		236	484	744	1,017
Prescriptive Washer		14	29	45	62
Prescriptive Computer		7,885	16,164	24,857	33,985
Custom Incentives, RFP, & New Construction		5,136	15,408	35,952	66,768
Total	**-**	**36,690**	**82,741**	**140,739**	**214,202**
DEMAND (MW)	**2010**	**2011**	**2012**	**2013**	**2014**
Prescriptive Lighting		4	9	15	21
Prescriptive Motors		0	0	0	1
Prescriptive Refrigeration		0	0	0	0
Prescriptive HVAC		1	2	4	5
Prescriptive Process		0	0	0	0
Prescriptive Washer		0	0	0	0
Prescriptive Computer		2	4	6	8
Custom Incentives, RFP, & New Construction		1	4	9	17
Total	**-**	**9**	**20**	**34**	**52**

Table 15: Projected Spending Levels as of February, 2009– Residential EE and Aggressive C&I **HIGHLY CONFIDENTIAL**

Projected Spending Levels (millions)					
	2010	2011	2012	2013	2014
Cool Homes Program	[redacted]				
Blue Line - Energy Monitor					
Home Performance with Energy Star					
On-Line Energy Audit with Energy Kits					
Appliance Turn-In					
Total					
Projected Spending Levels (millions)					
	[redacted]				
Prescriptive Lighting					
Prescriptive Motors, Pumps & VFDs					
Prescriptive Food Service & Refrigeration					
Prescriptive HVAC					
Prescriptive Process					
Prescriptive Commercial Appliances					
Prescriptive Computers					
Custom, RFP, & Construction					
Total					
Grand Total					

Differences in DSM penetration and spending levels between the Preferred Resource Plan and the current budget are listed in Table 16 and Table 17 below.

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Table 16: Difference between February, 2009 and Preferred Resource Plan

Projected Demand and Energy Reductions - Residential					
ENERGY (MWh)	**2010**	**2011**	**2012**	**2013**	**2014**
Cool Homes Program	(2,342)	(5,328)	(3,380)	(1,433)	515
Energy Use Monitor - Blue Line	(9,505)	(8,449)	(7,393)	3,168	3,168
Home Performance with Energy Star	(9,672)	(11,763)	(12,480)	(6,989)	(1,499)
On-Line Energy Audit with Energy Kits	(6,356)	(6,356)	(6,356)	(6,356)	(6,356)
Appliance Turn-In	(8,008)	(801)	7,127	23,855	26,240
Total	**(35,882)**	**(32,695)**	**(22,482)**	**12,245**	**22,069**
DEMAND (MW)	**2010**	**2011**	**2012**	**2013**	**2014**
Cool Homes Program	(1)	(4)	(4)	(3)	(3)
Energy Use Monitor - Blue Line	(2)	(2)	(1)	3	3
Home Performance with Energy Star	(2)	(1)	1	6	10
On-Line Energy Audit with Energy Kits	(2)	(1)	(1)	(1)	(0)
Appliance Turn-In	(3)	(0)	3	8	9
Total	**(10)**	**(8)**	**(2)**	**12**	**18**

Table 17: Difference between February, 2009 and Preferred Resource Plan

Projected Demand and Energy Reductions - C&I					
ENERGY (MWh)	**2010**	**2011**	**2012**	**2013**	**2014**
Prescriptive Lighting	(14,048)	(11,442)	(5,396)	(1,479)	3,174
Prescriptive Motors	(400)	(248)	(90)	77	253
Prescriptive Refrigeration	(399)	(264)	(122)	28	185
Prescriptive HVAC	(2,400)	(1,901)	(1,376)	(826)	(248)
Prescriptive Process	(169)	(110)	(48)	18	86
Prescriptive Washer	(9)	(3)	2	8	14
Prescriptive Computer	(7,157)	(6,788)	(6,399)	(5,992)	1,545
Custom Incentives, RFP, & New Construction	(3,595)	(5,650)	(9,758)	(10,786)	(6,934)
Total	**(28,176)**	**(26,405)**	**(23,186)**	**(18,951)**	**(1,925)**
DEMAND (MW)	**2010**	**2011**	**2012**	**2013**	**2014**
Prescriptive Lighting	(4)	(4)	(4)	(4)	(4)
Prescriptive Motors	(0)	0	0	0	0
Prescriptive Refrigeration	(0)	(0)	(0)	(0)	0
Prescriptive HVAC	(1)	(1)	(0)	0	1
Prescriptive Process	(0)	0	0	0	0
Prescriptive Washer	(0)	(0)	(0)	(0)	(0)
Prescriptive Computer	(2)	(1)	(1)	(1)	1
Custom Incentives, RFP, & New Construction	(1)	(1)	(1)	(1)	1
Total	**(7)**	**(7)**	**(6)**	**(5)**	**(1)**

SECTION 3: ANALYSIS OF CRITICAL UNCERTAINTIES

The review of critical uncertainties discussed below is also included in KCP&L's Response to Staff deficiency #12.

The Rule requires either ranges or combinations of outcomes. KCP&L provided combinations of outcomes under which individual plans were optimal in Volume 7, Table 4, page 24, which is shown as follows:

Scenario	Least NPVRR Plan	Conditional Probability
BBBBB	Plan26	6.250%
BBBBH	Plan11	3.125%
BBBBL	Plan15	3.125%
BBHBB	Plan26	3.125%
BBHBH	Plan7	1.563%
BBHBL	Plan15	1.563%
BBLBB	Plan26	3.125%
BBLBH	Plan7	1.563%
BBLBL	Plan20	1.563%
BHBBB	Plan26	4.188%
BHBBH	Plan11	2.063%
BHHBB	Plan26	2.094%
BHHBH	Plan11	1.031%
BHLBB	Plan26	2.094%
BHLBH	Plan7	1.031%
BLBBB	Plan26	4.188%
BLBBL	Plan15	2.063%
BLHBB	Plan26	2.094%
BLHBL	Plan15	1.031%
BLLBB	Plan15	2.094%
BLLBL	Plan20	1.031%
HBBBB	Plan26	5.611%
HBBBH	Plan7	2.764%
HBHBB	Plan26	2.806%
HBHBH	Plan11	1.382%
HBLBB	Plan26	2.806%
HBLBH	Plan7	1.382%
HHBBH	Plan7	4.125%
HHHBH	Plan11	2.063%
HHLBH	Plan7	2.063%
LBBBB	Plan26	5.611%
LBBBL	Plan15	2.764%
LBHBB	Plan26	2.806%
LBHBL	Plan15	1.382%
LBLBB	Plan26	2.806%
LBLBL	Plan20	1.382%
LLBBL	Plan15	4.125%
LLHBL	Plan15	2.063%
LLLBL	Plan20	2.063%

This table lists all the combinations of outcomes that were tested within the integrated analysis. The integrated analysis evaluated each of the 26 alternatives plans to the listed combination of critical uncertainty values by scenario. KCP&L will for future IRP's, submit ranges of critical uncertain factors within which the Preferred Resource Plan is optimal.

The values of each critical uncertain factor by scenario are detailed in the Probable Environmental Cost Decision Tree, Volume 7, Figure 3, page 29, which is shown as follows:

MIDAS MODEL SCENARIOS AND CONDITIONAL PROBABILITIES-PROBABLE ENVIRONMENTAL COSTS														
Natural Gas Prices		Enviromental Allowance Prices		Load Growth		Coal Prices		CO2 Allowance Prices		Cumulative Probability	Scenario
				High	25%	Base	100%	High	100%	2.0625%	HHHBH
		High	33%	Base	50%	Base	100%	High	100%	4.1250%	HHBBH
				Low	25%	Base	100%	High	100%	2.0625%	HHLBH
								High	33%	1.3819%	HBHBH
				High	25%	Base	100%	Base	67%	2.8056%	HBHBB
								High	33%	2.7638%	HBBBH
High	25%	Base	67%	Base	50%	Base	100%	Base	67%	5.6113%	HBBBB
								High	33%	1.3819%	HBLBH
				Low	25%	Base	100%	Base	67%	2.8056%	HBLBB
								High	33%	1.0313%	BHHBH
				High	25%	Base	100%	Base	67%	2.0938%	BHHBB
								High	33%	2.0625%	BHBBH
		High	25%	Base	50%	Base	100%	Base	67%	4.1875%	BHBBB
								High	33%	1.0313%	BHLBH
				Low	25%	Base	100%	Base	67%	2.0938%	BHLBB
								High	25%	1.5625%	BBHBH
				High	25%	Base	100%	Base	50%	3.1250%	BBHBB
								Low	25%	1.5625%	BBHBL
								High	25%	3.1250%	BBBBH
Base	50%	Base	50%	Base	50%	Base	100%	Base	50%	6.2500%	BBBBB
								Low	25%	3.1250%	BBBBL
								High	25%	1.5625%	BBLBH
				Low	25%	Base	100%	Base	50%	3.1250%	BBLBB
								Low	25%	1.5625%	BBLBL
				High	25%	Base	100%	Base	67%	2.0938%	BLHBB
								Low	33%	1.0313%	BLHBL
		Low	25%	Base	50%	Base	100%	Base	67%	4.1875%	BLBBB
								Low	33%	2.0625%	BLBBL
				Low	25%	Base	100%	Base	67%	2.0938%	BLLBB
								Low	33%	1.0313%	BLLBL
				High	25%	Base	100%	Base	67%	2.8056%	LBHBB
								Low	33%	1.3819%	LBHBL
Low	25%	Base	67%	Base	50%	Base	100%	Base	67%	5.6113%	LBBBB
								Low	33%	2.7638%	LBBBL
				Low	25%	Base	100%	Base	67%	2.8056%	LBLBB
								Low	33%	1.3819%	LBLBL
				High	25%	Base	100%	Low	100%	2.0625%	LLHBL
		Low	33%	Base	50%	Base	100%	Low	100%	4.1250%	LLBBL
				Low	25%	Base	100%	Low	100%	2.0625%	LLLBL

An example of how to use this figure might be illuminating. Suppose long-term CO_2 prices are expected to fall into the low price forecast range. If an assumption is made that all other critical uncertain factors remain at the base (mid) level, we would know that they are moving from scenario BBBBB to scenario BBBBL by consulting the figure. To see if our least cost plan has changed, we look at the plans corresponding to scenarios BBBBB and BBBBL in the table above. We see that under BBBBB our least cost plan was Plan 26, but in the low CO_2 case, the new least cost plan is Plan 15.

SECTION 4: CONTINGENCY PLANS

The critical uncertain factors identified by KCP&L in the IRP filing and the subsequent Supplement filing are discussed below along with contingency plans for extreme outcomes. Current load and capacity forecasts show that KCP&L has adequate capacity through the 2016-2020 timeframe. Without the short-term need for new resources, contingency planning is perhaps simplified compared to a situation where new resources are required to maintain reliability margins. The simplified contingencies for the Preferred Resource Plan is to either delay or scale back the implementation of DSM programs and wind installations if extreme outcomes for critical uncertainties significantly change the economics. Acceleration of the proposed new resource implementation is also a contingency if changes in uncertainties indicate that such actions would yield improved economic results.

4.1 LOAD GROWTH

Load growth can impact the Preferred Resource Plan in two ways:

1. Increasing load growth can accelerate the need to new resources
2. Decreasing or slower load growth can delay the need for proposed resource additions

Under increasing load growth, KCP&L notes that current capacity and load forecasts show capacity margins are adequate to absorb significant load growth. Even under the high load forecast, adequate margins are available through 2016 (see Figure 1 on page 8 of Volume 1, Executive Summary). If required, KCP&L's contingency plans for increased load growth would include reducing the level of PPA sales shown in the Preferred Resource Plan, pursuing PPA purchases if required and/or installing combustion turbines on an accelerated basis.

For decreasing load growth, KCP&L would reevaluate the economics and timing of the early resource additions including wind and DSM programs. The contingencies would include the potential to delay both planned resource additions.

4.2 FUEL, EMISSION ALLOWANCE AND CO_2 PRICES

Decreasing fuel and emission prices could erode the economic benefits of the wind and DSM programs included in the Preferred Resource Plan. Under extreme reductions in these prices, KCP&L would reevaluate the benefits of these resource additions. If results indicated the resources were no longer preferred, the projects would be deferred.

Increasing fuel and emission prices would increase the economic benefits of wind and DSM programs. KCP&L would reevaluate the scope of these resource additions to determine if accelerating these additions is prudent.

4.3 FINANCIAL MARKETS

Low interest rates and abundant availability of capital would not alter the Preferred Resource Plan. High interest rates, the lack of capital availability in the financial markets and/or other financial market conditions could significantly impact KCP&L's ability to pursue the Preferred Resource Plan. Under this uncertainty outcome, KCP&L's contingency plan would include deferral of spending and scaling back the proposed wind and DSM resource additions.

4.4 STAKEHOLDER SUPPORT FOR THE PREFERRED RESOURCE PLAN

As indicated in KCP&L's response to OPC Deficiency #3, KCP&L is not indicating that stakeholder buy-in is a "critical uncertainty" for all utility decisions. KCP&L considers stakeholder buy-in critical for major long-term investments such as the decision whether to build additional generating facilities, add

environmental retrofits or retire a unit, the decision to pursue the installation of nuclear generation, or other similar high impact decisions.

The need for stakeholder buy-in is primarily tied to issues around the financial markets and the uncertainty around potential CO_2 emission limitations. Without some level of regulatory by-in, today's financial markets will penalize large utility projects with higher interest rates to account for the risk of not earning a return on investment. The potential for CO_2 limitations carries significant risks for both the utility and the ratepayer.

For KCP&L's 2008 IRP, the primary resource additions include DSM programs, wind turbines and coal plant environmental retrofits. Contingencies around stakeholder buy-in for these three resource decisions are discussed below.

4.4.1 NON-TRADITIONAL RATE TREATMENT FOR DSM

As indicated in the KCP&L response to Staff deficiency # 14 and OPC deficiency # 12, additional discussions are proposed for treatment of DSM programs. Agreement that additional discussions are merited indicates the importance of Stakeholder buy-in.

4.4.2 WIND TURBINES

Missouri Proposition C requires a minimum level of renewable generation. The Preferred Resource Plan calls for additional wind installations beyond those required to meet Proposition C. Without additional discussions with stakeholders, KCP&L would continue to pursue the installation of wind when evaluations indicate it is prudent. If KCP&L had a clear indication that wind additions beyond required levels was not considered prudent, the contingency would be to delay or cancel the excess wind additions.

4.4.2.1 Coal Plant Environmental Retrofits

The decision to pursue coal plant BACT environmental controls is a decision under which additional analysis and stakeholder buy-in is considered critical. Prior to committing funds for such retrofits, KCP&L would want to conduct additional analysis just prior to when a decision needed to be made to maintain compliance on the unit(s). This would allow for the latest information on environmental regulations as well as market conditions to be factored into the decision making. KCP&L would then, as part of our collaborative decision making process, seek discussions with key stakeholders. Without such discussions, the results of KCP&L's IRP evaluations indicate that BACT retrofits are the preferred strategy. Based on the IRP results KCP&L would expect to pursue these retrofits in the absence of additional analysis updates and stakeholder inputs.

4.5 ADDITIONAL CRITICAL UNCERTAIN FACTOR DISCUSSION

During discussions with Parties, two additional uncertain factors were addressed – Production Tax Credit for wind projects and the potential for Renewable Portfolio Standards enacted after the August, 2008 IRP filing.

4.5.1 PRODUCTION TAX CREDITS (PTC) FOR WIND

The Preferred Resource Plan calls for staging 4 separate wind projects over a 4-year period. Staging the projects provides the opportunity to reevaluate each project prior to committing to the next project. If the PTC value is reduced, future projects can be delayed. If the PTC value increases, future projects can be accelerated as appropriate.

4.5.2 RENEWABLE PORTFOLIO STANDARDS (RPS)

Alternative resource plans evaluated by KCP&L included adequate renewable generation to meet anticipated RPS targets. As described under the PTC discussion above, KCP&L has the ability to accelerate future wind installations if required by an RPS. It should also be noted that the Preferred Resource Plan

provides enough wind to meet the RPS requirements shown in Table 18 below. These targets are based on comparing renewable generation expected from implementing the Preferred Plan to KCP&L's base forecast of Net System Input (NSI) or native energy load. Expected renewable generation was calculated based on the existing Spearville-1 wind farm performance plus additional wind performing at the 38% capacity factor as included in the IRP evaluations. The targets below in Table 18 compare 100% of the wind generation to 100% of KCP&L's NSI, which includes energy for both Kansas and Missouri.

Table 18: Preferred Resource Plan RPS Targets

Year	% of NSI
2008	2.34%
2009	4.29%
2010	6.17%
2011	8.00%
2012	9.74%
2013	9.60%
2014	9.42%

SECTION 5: MONITORING AND REPORTING PROCESSES

Monitoring and reporting processes are also covered in KCP&L's response to Staff's deficiency # 13, which is summarized here for convenience.

Monitoring of numerous critical uncertainties is incorporated in the functions and activities of various departments. For example, to list only a few:

a. The Fuels Department monitors forecasts of the price of fuels and emissions allowances
b. Regulatory/Governmental Affairs tracks pending legislation that might impact the industry
c. Resource planning maintains cost and performance data for alternative technologies

Updated forecasts of key uncertainties are modeled and run on a monthly basis to update short-term budget projections. These monthly updates are reviewed by senior management on a monthly basis. Major changes that might impact short-term budgets or longer-term planning can be identified in these monthly updates and reactionary plans can be developed. At a minimum, those uncertainties considered critical to longer-term planning are updated annually and included in the annual budgeting process at which time planning adjustments can be made to take into account key changes.

5.1 LONG-TERM PLANNING

During discussions with Parties on March 6, Staff requested additional discussion around how key uncertainty changes impact long-term plans and how reporting of these impacts is performed. For capital projects, authorizations are required to be approved prior to issuing a Purchase Order for the project. Each project over $1 million requires the approval of the Manager of Energy Resource Planning (ERM). Authorizations include the economic evaluation of the proposed project. Prior to the Manager's approval, ERM staff review the economic evaluations to ensure updated assumptions are included. If changes in key uncertainties indicate that a project is no longer economic, the project is not approved and alternative or contingency plans are pursued.

5.2 LOAD GROWTH

At a minimum, load forecasts are updated annually during budgeting processes. Results of the load forecast are vetted through executives as part of these processes. Changes in load growth will result in changes to the budget, which allows executives to consider the need for implementing contingency plans or to otherwise make changes in proposed budgets.

5.3 INTEREST RATES/CREDIT RATINGS

a) Interest Rates

The Corporate Finance Department receives financial market information from multiple banking institutions daily. This information keeps the company informed of economic conditions that may affect the company's interest rates. Periodically, and on request, the banks send indicative spreads that are specific to the company. During the annual process of completing a five-year financial projection the Corporate Finance Department estimates the five-year interest rate projections based on current debt rates, projected treasury rates, blue chip forecasts, current indicative spreads and historical spreads. The current interest rates for all of the Company's financial instruments are reported to the Treasurer monthly in the Treasury Report.

b) Credit Ratings

Two Financial Analysts in the Corporate Finance Department monitor the company's Standard and Poor's (S&P) and Moody's credit ratings through automated email notifications received from S&P and a Credit Ratings Change Check list that is updated monthly. A history of the company's credit ratings is maintained in the monthly Treasury Report and the current credit ratings, updated quarterly, are available on the company's website. The company is in close contact with the rating agencies on a continual basis. The company hosts a quarterly rating agency update conference call with Moody's and S&P to keep them informed and answer any questions they might have concerning recent earnings releases. After the fiscal year-end close the company calculates a five-year projection of the credit metrics that are monitored by each credit rating agency. These projections and other financial data are communicated to the credit rating agencies at the annual rating agency presentation that is held at each of the rating agencies in New York City.

5.4 CHANGES IN ENVIRONMENTAL REGULATION AND STATE OR FEDERAL LAWS

KCP&L continuously monitors for changes in environmental laws and regulations. KCP&L participates in the Utility Air Regulatory Group, Utility Water

Act Group, and the Utility Solid Waste Activities Group to receive alerts and memos regarding changes in federal environmental laws and regulations regarding air, water, and waste matters, respectively. In addition, KCP&L receives EPA alerts, reviews trade publications, reviews the Federal Register, and has a federal lobbyist reviewing federal activities. Changes in state environmental laws and regulations are monitored through participation in Regform, MDNR alerts, reviewing state registers, attending conferences, participating in training programs, and having a state lobbyist reviewing state activities.

When significant changes in environmental laws or regulations are identified, the appropriate individuals with operational responsibility are informed such that implementation options can be evaluated and eventually put into action.

KCP&L gains awareness of legislative and policy changes through a variety of methods. In Missouri, an employee is located in Jefferson City when the General Assembly is in session. The employee goes through bills as they are introduced and tracks them though the process. KCP&L also utilizes a bill tracking service.

Additionally, bills are brought to the company's attention through communications with other utilities, the Missouri Energy Development Association, chambers of commerce, business groups and various trade associations.

KCP&L also utilizes an employee in Washington D.C. that monitors legislation. Similarly, the Edison Electric Institute and a number of other business and trade organizations share information on bills.

At both the state and federal level, elected officials and government entities keep the company abreast of legislative developments.

Upon knowledge of a proposed bill or policy, the respective government affairs official sends it to internal subject matter experts for analysis. The analysis will determine the financial and operational impact on the company, if any. If a bill is deemed harmful or helpful, government affairs individuals determine an appropriate manner to convey the company's position.

5.5 FUEL AND EMISSION ALLOWANCE PRICE

New forecast data is received from external experts such as Global Insight, Energy Ventures Analysis, Wood Mackenzie, JD Energy, EIA, etc., on a monthly, quarterly, or annual basis. The forecast prices are updated in the fuel price forecasting spreadsheet on a monthly basis with the new forecasts received that month. The manager of Fuels is notified of completion of forecast updates, and the modified forecasts are issued for use by Energy Resource Management for budget updates and other planning needs. As reported in the KCP&L response to Staff's deficiency #13, budget updates are reviewed by senior management on a monthly basis. Any extreme change in uncertainties that would alter existing planning would be demonstrated through budget impacts during these monthly reviews.