KCPL GREATER MISSOURI OPERATING COMPANY

REVISED INTEGRATED ANALYSIS

STAKEHOLDER PROCESS

EO 2009-0237

INTERIM REPORT

KCP&L energizing life

DATE: 22-OCT-2010

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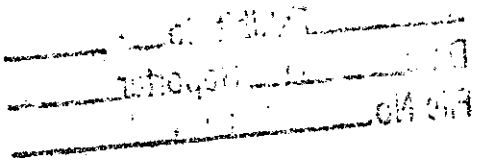

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SECTION 1: GENERAL PROVISIONS OF INTEGRATED ANALYSIS

1.1 ITEMS OF STUDY

The settlement agreement of Case EO-2209-0237 stipulated that the Company will file a revised IRP on or before December 17, 2010. A portion of this filing will be a revised integrated analysis.

The scope of the revised integrated analysis is contained in paragraphs 5, 8, 9, 11-13, 20-26, 29, 33 & 42 of the Stipulation and Agreement. The particular issues raised in these paragraphs are detailed in Section 3: of this document.

SECTION 2: REVISED INTEGRATED ANALYSIS

2.1 BASIS OF ANALYSIS

The analysis shall use most of the data and input assumptions of the 2009 GMO IRP with modifications and updates as detailed by the Stipulation and Agreement and the ongoing Stakeholder Process. These analytical modifications are discussed in more detail in Section 3: of this document.

2.2 GMO IRP INTEGRATED ANALYSIS

The GMO IRP Integrated Analysis was presented in Volume 6 of the GMO IRP. It commenced after tests were conducted to determine if the sensitivity factors listed in 4 CSR 240-22.070 (2) of the rule were critical to the selection of an optimal plan. The results of the risk analysis from the GMO IRP is fully utilized with the revised integrated analysis.

The risk analysis resulted in the risk tree [See Figure 1, Volume 6 of the GMO IRP] that will be re-utilized for the revised integrated analysis.

2.3 MODIFIED ANALYTICAL DRIVERS

The revised analysis has the following drivers that have been updated from the original IRP.

2.3.1 LOAD GROWTH

The load growth mid-case has been updated to reflect the GMO 2010 Corporate Budget Forecast. This forecast was not developed in strict conformity with Rule 4 CSR240-22.030. However, the Stakeholder group felt that the case needed to be updated to reflect current economic conditions. For more discussion of this driver, please refer to Section 3.1 in the portion of this document that details the Stipulation and Agreement and Stakeholder Process.

2.3.2 WIND CONSTRUCTION COSTS

The cost of future wind generation construction was modified to reflect the results of the Wind RFP issued by the Company in 2009. The results of this RFP are marked Highly Confidential. However the results were shared and discussed with the Stake holder group at the May, 2010 GMO IRP Stakeholder Meeting. It was agreed that the updated wind construction costs be utilized in the revised integrated analysis. For more discussion of the driver, please refer to Section 3.3 in the portion of this document that details the Stipulation and Agreement and Stakeholder Process.

2.3.3 NOX CREDIT PRICES

The regulatory and legal uncertainty surrounding the NOx markets throughout the development of the GMO IRP has caused some concern among the Stakeholder group. With the advent of the CATR rule and the subsequent collapse in NOx credit prices, there is no strong indication that NOx credit prices will return to their former levels. In light of these findings, the stakeholder group recommended that the original NOx forecast will be re-utilized. For more discussion of the driver, please refer to Section 3.4 in the portion of this document that details the Stipulation and Agreement and Stakeholder Process.

2.3.4 INCREASED DSM IMPACTS IN THE ALL DSM OPTION

The levels of DSM used in the GMO IRP included all identified programs. Since the development of this option in 2009, additional measures and impacts are being included. For more discussion of the driver, please refer to Section 3.5 in the portion of this document that details the Stipulation and Agreement and Stakeholder Process.

2.4 PLANS TO BE ANALYZED FROM GMO IRP

The GMO IRP identified six plans which had the potential of achieving lowest cost under an individual analytical endpoint of the risk tree. The process by which these plans were selected was described in Volume 7A of the GMO IRP filing. The plans and the probability of being the least-cost are given in Table 1 below.

Table 1: Least Cost Plans

Plan	Probability
Plan06	3.93%
Plan07	4.09%
Plan21	2.63%
Plan22	77.43%
Plan23	5.26%
Plan24	6.66%
Total	100.00%

Plan 22 demonstrated the highest probability of achieving the least-cost and was selected to be the Preferred Plan. The other alternatives listed in this table had the potential of out-performing the Preferred Plan and therefore should be included in the revised integrated analysis. A detail of each of these plans is given in Table 2 through Table 7. These tables are taken directly from Volume 6 of the GMO IRP original filing. Modified versions of these plans that have incorporated the revised levels of DSM are shown in the tables in Section 4: Alternative Resource Plans.

Other alternative plans have been developed to investigate the retirement of Sibley 3. These plans are detailed in Section 3.2 of this document.

Table 2: GMO IRP Plan 06

	Plan 6: Install Prop C Wind and Solar, CT's, All DSM, and Sibley 1&2 converted to using 10% biomass				
Date	Install CT's	Install Solar	Install Prop C Wind	Install Other Wind	All DSM
2009	0				5.9
2010	0				31.8
2011	0	1.79			64.1
2012	0	0.03			89.4
2013	0	0.02			109.4
2014	0	2.80			122.9
2015	0	0.05			127.3
2016	0	0.11	100		131.7
2017	0	0.08			134.9
2018	0	5.02	100		138.6
2019	0	0.15			142.0
2020	0	0.20			143.4
2021	0	5.33	100		144.3
2022	154	0.24			144.4
2023	0	0.24	100		144.2
2024	0	0.32			143.8
2025	0	0.26			141.1
2026	0	0.32			138.3
2027	154	0.32			135.3
2028	0	0.35			131.2
2029	0	0.25			126.7

Table 3: GMO IRP Plan 07

	Plan 7: Retire Sibley 1&2, Install Prop C Wind and Solar, CT's, and All DSM				
Date	Install CT's	Install Solar	Install Prop C Wind	Install Other Wind	All DSM
2009	0				5.9
2010	0				31.8
2011	0	1.79			64.1
2012	0	0.03			89.4
2013	0	0.02			109.4
2014	0	2.80			122.9
2015	154	0.05			127.3
2016	0	0.11	100		131.7
2017	0	0.08			134.9
2018	0	5.02	100		138.6
2019	0	0.15			142.0
2020	0	0.20			143.4
2021	0	5.33	100		144.3
2022	0	0.24			144.4
2023	0	0.24	100		144.2
2024	154	0.32			143.8
2025	0	0.26			141.1
2026	0	0.32			138.3
2027	0	0.32			135.3
2028	154	0.35			131.2
2029	0	0.25			126.7

Table 4: GMO IRP Plan 21

	Plan 21: Install Prop C Wind and Solar, CT's, Additional 500 MW Wind Above Prop C beginning in 2010, All DSM, Coal w/CCS, and Sibley 1&2 converted to 10% biomass usage					
Date	Install CT's	Install Solar	Install Prop C Wind	Install Other Wind	Coal with CCS	All DSM
2009	0					5.9
2010	0			100		31.8
2011	0	1.79				64.1
2012	0	0.03				89.4
2013	0	0.02				109.4
2014	0	2.80				122.9
2015	0	0.05				127.3
2016	0	0.11	100	100		131.7
2017	0	0.08		200		134.9
2018	0	5.02	100			138.6
2019	0	0.15				142.0
2020	0	0.20			150	143.4
2021	0	5.33	100			144.3
2022	0	0.24				144.4
2023	0	0.24	100			144.2
2024	0	0.32		100		143.8
2025	0	0.26				141.1
2026	0	0.32				138.3
2027	0	0.32				135.3
2028	154	0.35				131.2
2029	0	0.25				126.7

Table 5: GMO IRP Plan 22 - Preferred Plan

	Plan 22: Install Prop C Wind and Solar, CT's, Additional 500 MW Wind Above Prop C beginning in 2012, All DSM, and Sibley 1&2 converted to 10% biomass usage				
Date	Install CT's	Install Solar	Install Prop C Wind	Install Other Wind	All DSM
2009	0				5.9
2010	0				31.8
2011	0	1.79			64.1
2012	0	0.03		100	89.4
2013	0	0.02			109.4
2014	0	2.80			122.9
2015	0	0.05			127.3
2016	0	0.11	100	100	131.7
2017	0	0.08		200	134.9
2018	0	5.02	100		138.6
2019	0	0.15			142.0
2020	0	0.20			143.4
2021	0	5.33	100		144.3
2022	0	0.24			144.4
2023	0	0.24	100		144.2
2024	0	0.32		100	143.8
2025	154	0.26			141.1
2026	0	0.32			138.3
2027	0	0.32			135.3
2028	154	0.35			131.2
2029	0	0.25			126.7

Table 6: GMO IRP Plan 23

	Plan 23: Install Prop C Wind and Solar, CT's, Additional 500 MW Wind Above Prop C beginning in 2012, All DSM, and Coal w/CCS					
Date	Install CT's	Install Solar	Install Prop C Wind	Install Other Wind	Coal with CCS	All DSM
2009	0					5.9
2010	0					31.8
2011	0	1.79				64.1
2012	0	0.03		100		89.4
2013	0	0.02				109.4
2014	0	2.80				122.9
2015	0	0.05				127.3
2016	0	0.11	100	100		131.7
2017	0	0.08		200		134.9
2018	0	5.02	100			138.6
2019	0	0.15				142.0
2020	0	0.20			150	143.4
2021	0	5.33	100			144.3
2022	0	0.24				144.4
2023	0	0.24	100			144.2
2024	0	0.32		100		143.8
2025	0	0.26				141.1
2026	0	0.32				138.3
2027	0	0.32				135.3
2028	154	0.35				131.2
2029	0	0.25				126.7

Table 7: GMO IRP Plan 24

	Plan 24: Install Prop C Wind and Solar, CT's, Additional 500 MW Wind Above Prop C beginning in 2012, All DSM, Coal w/CCS, and Sibley 1&2 converted to 10% biomass usage					
Date	Install CT's	Install Solar	Install Prop C Wind	Install Other Wind	Coal with CCS	All DSM
2009	0					5.9
2010	0					31.8
2011	0	1.79				64.1
2012	0	0.03		100		89.4
2013	0	0.02				109.4
2014	0	2.80				122.9
2015	0	0.05				127.3
2016	0	0.11	100	100		131.7
2017	0	0.08		200		134.9
2018	0	5.02	100			138.6
2019	0	0.15				142.0
2020	0	0.20			150	143.4
2021	0	5.33	100			144.3
2022	0	0.24				144.4
2023	0	0.24	100			144.2
2024	0	0.32		100		143.8
2025	0	0.26				141.1
2026	0	0.32				138.3
2027	0	0.32				135.3
2028	154	0.35				131.2
2029	0	0.25				126.7

SECTION 3: STIPULATION AND AGREEMENT

3.1 PARAGRAPH 5: LOAD FORECASTS

Staff's Concern A states: GMO's energy and demand forecasts do not properly account for changing economic conditions – 4 CSR240-22.030(5). This concern is resolved in the agreement to a stakeholder process and revised filing contained in Appendix 1 which by this reference is incorporated herein. It is addressed in the "Load Analysis and Forecasting" section of Appendix 1.

At the April Stakeholder Meeting, the Company proposed using the 2010 Corporate Budget Load Forecast for the Revised Integrated Analysis.

3.2 PARAGRAPH 8: SIBLEY 3 RETIREMENT ALTERNATIVES

In what MDNR labels as "MDNR Deficiency #2," MDNR, citing 4 CSR 240-22.040(1), states that "the Company fails to identify and analyze retirement of Sibley 3 and/or Lake Road 4-6 as supply-side options." This issue is resolved by the agreement to a stakeholder process and revised filing contained in Appendix 1, paragraphs 9 through 12.

The company has proposed a set of additional alternative expansion plans to address the issues listed in Appendix 1, paragraphs 9 through 12. These alternative plans were discussed with stakeholders in the July 12 conference call. Plans S1 through S6 will be included in the listing of alternative plans to be reviewed along with the alternatives given in Section 2.4 of this document.

Table 8: Sibley 3 Original Retirement Alternative Plans

	Plan S0	Plan S1	Plan S2	Plan S3	Plan S4	Plan S5	Plan S6
DSM	All DSM	All DSM	2% Target	All DSM	2% Target	All DSM	2% Target
Solar Begin: 2011	Mo. Prop C	Mo. Prop C	Mo. Prop C	Mo. Prop C	Mo. Prop C	Mo. Prop C	Mo. Prop C
Total Wind (MW)	900	900	900	1600	1600	1600	1600
Combined Cycle (MW)	308	771	514	771	257	514	0
CT's (MW)						154	308
Coal Retirement (MW)	None	466	466	466	466	466	466

In these alternatives proposed, S0 represents the GMO IRP Preferred Plan and it provides a reference with which to compare the other plans. Plans S1 through S6 allow the company to test the impact of replacing 70% of GMO's base load capacity with renewable generation and DSM.

In meetings of the Stakeholder Group subsequent to the development of the plans in Table 8, the stakeholders asked that the company not include alternative plans with unidentified DSM programs. The stakeholders wanted the company to only include alternatives that could be adopted as an executable plan. The requirement would preclude any alternative that utilized the 2% DSM target. Therefore Plans S2, S4 and S6 are not to be included in the revised integrated analysis.

The final retirement plans that will be included in the revised integrated analysis are given in Table 9: Final Sibley Retirement Alternatives below.

Table 9: Final Sibley Retirement Alternatives

	Plan S0	Plan S1	Plan S3	Plan S5
DSM	All DSM	All DSM	All DSM	All DSM
Solar Begin: 2011	Mo. Prop C	Mo. Prop C	Mo. Prop C	Mo. Prop C
Total Wind (MW)	900	900	1600	1600
Combined Cycle (MW)	308	771	771	514
CT's (MW)				154
Coal Retirement (MW)	None	466	466	466

Plan S0 is the Preferred Plan [IRP Plan 22] and is detailed in Table 5. Plans S1, S3 and S5 are detailed in Table 10, Table 11 and Table 12, respectively.

These plans are shown again in Section 4: Alternative Resource Plans

Table 10: Resource Plan S1

	Plan S1: Retire Sibley Station, Install Prop C Wind, Solar, CC's, Additional 500 MW Wind Above Prop C, and All DSM						
Date	Sell PPA	Buy PPA	Install CC's	Install Prop C Wind	Install Other Wind	Install Solar	All DSM
2010	75	0	0				31.8
2011	25	0	0			1.79	64.1
2012	25	0	0			0.03	89.4
2013	-	0	0		100	0.02	109.4
2014	0	100	0			2.80	122.9
2015	0	300	257			0.05	127.3
2016	0	100	257	100		0.11	131.7
2017	0	100	0		100	0.08	134.9
2018	0	100	0	100	200	5.02	138.6
2019	0	150	0			0.15	142.0
2020	0	175	0			0.20	143.4
2021	0	175	0	100		5.33	144.3
2022	0	225	0			0.24	144.4
2023	0	225	0	100		0.24	144.2
2024	0	250	0			0.32	143.8
2025	0	25	257		100	0.26	141.1
2026	0	50	0			0.32	138.3
2027	0	75	0			0.32	135.3
2028	0	100	0			0.35	131.2
2029	0	125	0			0.25	126.7

Table 11: Resource Plan S3

	Plan S3: Retire Sibley Station, Install Prop C Wind and Solar, CC's, Additional 1200 MW Wind Above Prop C, and All DSM						
Date	Sell PPA	Buy PPA	Install CC's	Install Prop C Wind	Install Other Wind	Install Solar	All DSM
2010	75	0	0				31.8
2011	50	0	0		200	1.79	64.1
2012	50	0	0		200	0.03	89.4
2013	75	0	0		300	0.02	109.4
2014	0	0	0		300	2.80	122.9
2015	0	175	257		200	0.05	127.3
2016	0	200	0	100		0.11	131.7
2017	0	225	0			0.08	134.9
2018	0	250	0	100		5.02	138.6
2019	0	25	257			0.15	142.0
2020	0	50	0			0.20	143.4
2021	0	75	0	100		5.33	144.3
2022	0	100	0			0.24	144.4
2023	0	100	0	100		0.24	144.2
2024	0	150	0			0.32	143.8
2025	0	175	0			0.26	141.1
2026	0	200	0			0.32	138.3
2027	0	225	0			0.32	135.3
2028	0	0	257			0.35	131.2
2029	0	25	0			0.25	126.7

Table 12: Resource Plan S5

	Plan S5: Retire Sibley Station, Install Prop C Wind and Solar, CC's, CT's, Additional 1200 MW Wind Above Prop C, and All DSM							
Date	Sell PPA	Buy PPA	Install CC's	Install CT's	Install Prop C Wind	Install Other Wind	Install Solar	All DSM
2010	75	0	0					31.8
2011	50	0	0			200	1.79	64.1
2012	50	0	0			200	0.03	89.4
2013	75	0	0			300	0.02	109.4
2014	25	0	0			300	2.80	122.9
2015	0	175	257			200	0.05	127.3
2016	0	50	0	154	100		0.11	131.7
2017	0	75	0				0.08	134.9
2018	0	100	0		100		5.02	138.6
2019	0	125	0				0.15	142.0
2020	0	150	0				0.20	143.4
2021	0	175	0		100		5.33	144.3
2022	0	200	0				0.24	144.4
2023	0	225	0		100		0.24	144.2
2024	0	250	0				0.32	143.8
2025	0	25	257				0.26	141.1
2026	0	50	0				0.32	138.3
2027	0	75	0				0.32	135.3
2028	0	100	0				0.35	131.2
2029	0	125	0				0.25	126.7

3.3 PARAGRAPH 9: COST OF WIND CONSTRUCTION

In what MDNR labels as "MDNR Deficiency #3," MDNR, citing 4 CSR 240-22.040(1)(E), states that "GMO's analysis relies on capital costs for the wind resource options that were out of date at the time the IRP filing was made, makes no accommodation for the effect of fundamental economic supply/demand forces on the prices for a wind resource, and fails to account for predicted declines in real cost trends for wind resources." This issue is resolved by the agreement to a stakeholder process and revised filing contained in Appendix 1, paragraph 13.

The company proposes to adjust its wind construction option costs in the integrated analysis to reflect the results of the latest Wind RFP. The HC results of this RFP were presented to the stakeholders at the May Stakeholder Meeting.

3.4 PARAGRAPHS 11-13: NOX CREDIT PRICES

NOx credit prices will not be adjusted to reflect the input presented at the May Stakeholder Meeting.

11. In what MDNR labels as "MDNR Deficiency #5," MDNR, citing 4 CSR 240-22.040(2)(B)1-2, states that "GMO failed to identify and analyze the potential impact of two levels of NOx and SO2 mitigation requirements. GMO is inconsistent in its assessment of potential NOx and SO2 regulatory regimes that would affect the cost of compliance." MDNR notes that the issues of regulatory uncertainty raised in its December comments will probably be rendered moot if, as expected, USEPA announces a proposed replacement for the Clean Air Interstate Rule (CAIR) in April or May 2010. This issue is resolved by the agreement to a stakeholder process and revised filing contained in Appendix 1, paragraph 14.

12. In what MDNR labels as "MDNR Deficiency #6," MDNR, citing 4 CSR 240-22.040(8)(D)2, states that "GMO's methodology for estimating the probability distribution for NOx allowance prices appears to be substantively deficient as well as divergent from rule requirements. The divergence from rule requirements is not supported by the language in Waiver #11." This issue is resolved by the agreement to a stakeholder process and revised filing contained in Appendix 1, paragraphs 15 and 16.

13. In what MDNR labels as "MDNR Deficiency #7," MDNR, citing 4 CSR 240-22.040(8), states that "GMO failed to consider uncertainties inherent in the Company's proposed program of emission retrofits and

refurbishment at these facilities." MDNR now considers this a concern rather than a deficiency. This issue is resolved by the agreement to a stakeholder process and revised filing contained in Appendix 1, paragraph 11.

3.5 PRAGRAPHS 20-26 & 29: ALL DSM OPTION

The All DSM option is adapted from the GMO IRP to include all identified end use measures and programs. These new measures will address some of the issues raised in paragraphs 20 through 26 of the Stipulation and Agreement.

20. Staff's Concern E states: GMO does not discuss the MPower and Energy Optimizer moratoria, program designs or delivery processes – 4 CSR 240-22.050(6). GMO agrees to include a discussion of MPower and Energy Optimizer in conjunction with the agreement to a Stakeholder process and revised filing contained in Appendix 1. This agreement resolves this concern.

21. Staff's Concern F states: The Change-A-Light program in GMO's preferred resource plan is not the same program as the revised Change-A-Light program discussed by the Customer Program Advisory Group – 4 CSR 240-22(6)(D). GMO agrees to provide Change-A-Light information as part of agreement to a stakeholder process and revised filing contained in Appendix 1. This agreement resolves this concern.

22. Staff's Deficiency 1 states: Insufficient and untimely analysis of 'rate structures,' 'demand response research,' multifamily research, and 'energy efficient street lighting' within end-use measure menu creation – 4 CSR 240-22.050(1); 22.020(17) and (18); 22.050(5). GMO agrees to analyze and report to the stakeholder group as described in Appendix 1 whether this deficiency will be corrected in the revised filing or in the next Chapter 22 compliance filing.

23. Staff's Deficiency 2 states: No identification of, development of or screening, of the technical potential of end-use measures for the Energy Optimizer program or for the MPower program – 4 CSR 240-22.050(1), 22.050(3), 22.050(6)(C), and 22.050(4). GMO agrees to identify, develop or screen the technical potential of end-use measures for the Energy Optimizer program and for the MPower program and to report to the stakeholder group as described in Appendix 1 whether this deficiency will be corrected in the revised filing or in the next Chapter 22 compliance filing.

24. Staff's Deficiency 3 states: Lack of analysis of residential 'plug load' items – 4 CSR22.050(1) and 22.050(5). GMO agrees to analyze and

report to the stakeholder group as described in Appendix 1 whether this deficiency will be corrected in the revised filing or in the next Chapter 22 compliance filing.

25. Staff's Deficiency 4 states: DSM programs only last for the first five years of the twenty year planning horizon –4 CSR 240-22.050(11). GMO agrees to provide the DSM twenty-year information in the revised filing.

26. OPC's Deficiency 1 4 CSR 240-22.050 (3) and (7) – GMO failed to analyze street lighting (and other outdoor lighting) retrofits, alternative rate structures and combined heat and power (CH&P) on the customer side of the meter as end use measures and as Demand-Side programs. GMO agrees to analyze street lighting and CH&P as potential demand-side resources in its the next full compliance filing. GMO agrees to include alternative rate structures, including, but not limited to, time-of-use (TOU) and peak pricing (critical peak pricing and/or peak time rebates) rates for small and medium sized customers, as demand-side resources in the revised filing.

29. In what MDNR labels as "MDNR Deficiency #8," MDNR, citing 4 CSR 240-22.050(1)C, (1)D and (6)C, states that "GMO failed to include combined heat and power (CHP) and a variety of end-use measures in the menu of demand-side measures that were screened." This issue is resolved by the agreement to a stakeholder process and revised filing contained in Appendix 1, paragraph 18.

3.6 PARAGRAPH 33 AND 42: 2% DSM OPTION

In order to satisfy the targets of 1% and 2% energy efficiency, the Company will rely on Technology X to arrive at the levels of DSM required by these targets. This Technology X-enhanced option is labeled the "2% Target" and is included in the original Sibley 3 retirement alternatives.

33. Staff's Deficiency 5 states: GMO did not meet the requirements of 4 CSR240-22.060(1), because GMO did not design its alternative resource plans to satisfy at least the objectives and priorities identified in 4 CSR 240-22.010(2). Specifically, the requirement of 4 CSR 240-22.010(2)(A) to consider and analyze demand-side efficiency and energy management measures on an equivalent basis with supply-side alternatives in the resource planning process is not satisfied – 4 CSR 240-22.060(1). This deficiency is resolved with GMO's agreement to work within the stakeholder process as described in Appendix 1, to expand the DSM portfolio in incremental steps to account for the development of new technologies not currently known or defined.

42. Staff's Deficiency 6 states: GMO has failed to meet the requirements of 4 CSR 240-22.070(6)(A) in that the preferred resource plan does not "strike an appropriate balance between the various planning objectives specified in 4 CSR 240-22.010(2), more specifically 4 CSR 240-22.010(2)(A). This deficiency is resolved by GMO's agreement to work within the stakeholder process as described in Appendix 1, to expand the DSM portfolio in incremental steps to account for the development of new technologies not currently known or defined.

However in subsequent discussions with stakeholders, it was decided that the company to only include alternatives that could be adopted as an executable plan. The requirement would preclude any alternative that utilized the 2% DSM target.

SECTION 4: ALTERNATIVE RESOURCE PLANS

4.1 REVISED INTEGRATED ANALYSIS

The final list of all plans to be included in the revised integrated analysis are drawn from two sources discussed earlier in this report. The first source is the original IRP filing and the set of plans that could be optimal for any given risk tree outcome [Section 2.4] and the list of Sibley Retirement Plans [Section 3.2]. In total, nine plans will be included in the revised integrated analysis. They are summarized in Table 13.

Table 13: Revised IRP Alternative Plans

Revised IRP Plan Number	Description
Plan 01	IRP Plan 22 - Preferrred Plan
Plan 02	IRP Plan 6
Plan 03	IRP Plan 7
Plan 04	IRP Plan 21
Plan 05	IRP Plan 23
Plan 06	IRP Plan 24
Plan 07	Retirement Plan S1
Plan 08	Retirement Plan S3
Plan 09	Retirement Plan S5

The final version of each of these nine plans are detailed below in Table 14 through Table 22.

Table 14: Revised Integrated Analysis Plan 1

	Plan 1: Install Prop C Wind and Solar, CT's, Additional 500 MW Wind Above Prop C beginning in 2012, All DSM, and Sibley 1&2 converted to 10% biomass usage					
Date	Sell PPA	Buy PPA	Install CT's	Install Solar	Install Wind	July 21st DSM
2009	-	25	0			5.9
2010	75	0	0			31.8
2011	-	25	0	1.79		36.4
2012	-	0	0	0.03	100	80.0
2013	-	0	0	0.02		120.3
2014	-	100	0	2.80		149.1
2015	-	100	0	0.05		172.6
2016	-	75	0	0.11	200	189.5
2017	-	75	0	0.08	200	206.8
2018	-	75	0	5.02	100	223.6
2019	-	75	0	0.15		243.7
2020	-	100	0	0.20		263.9
2021	-	100	0	5.33	100	280.2
2022	-	125	0	0.24		296.6
2023	-	100	0	0.24	100	313.2
2024	-	100	0	0.32	100	330.0
2025	-	125	0	0.26		347.3
2026	-	125	0	0.32		356.4
2027	-	150	0	0.32		363.9
2028	-	25	154	0.35		371.5
2029	-	25	0	0.25		379.1

Table 15: Revised Integrated Analysis Plan 2

Plan 2: Install Prop C Wind and Solar, CT's, All DSM, and Sibley 1&2 converted to using 10% biomass						
Date	Sell PPA	Buy PPA	Install CT's	Install Solar	Install Wind	July 21st DSM
2009	-	25	0			5.9
2010	75	0	0			31.8
2011	-	25	0	1.79		36.4
2012	-	0	0	0.03		80.0
2013	-	0	0	0.02		120.3
2014	-	100	0	2.80		149.1
2015	-	100	0	0.05		172.6
2016	-	125	0	0.11	100	189.5
2017	-	125	0	0.08		206.8
2018	-	125	0	5.02	100	223.6
2019	-	150	0	0.15		243.7
2020	-	0	154	0.20		263.9
2021	-	0	0	5.33	100	280.2
2022	-	25	0	0.24		296.6
2023	-	25	0	0.24	100	313.2
2024	-	25	0	0.32		330.0
2025	-	50	0	0.26		347.3
2026	-	50	0	0.32		356.4
2027	-	75	0	0.32		363.9
2028	-	100	0	0.35		371.5
2029	-	100	0	0.25		379.1

Table 16: Revised Integrated Analysis Plan 3

Plan 3: Retire Sibley 1&2, Install Prop C Wind and Solar, CT's, and July 21st DSM						
Date	Sell PPA	Buy PPA	Install CT's	Install Solar	Install Wind	July 21st DSM
2009						5.9
2010	75	0	0			31.8
2011	-	25	0	1.79		36.4
2012	-	0	0	0.03		80.0
2013	-	0	0	0.02		120.3
2014	0	100	0	2.80		149.1
2015	0	300	154	0.05		172.6
2016	0	200	154	0.11	100	189.5
2017	0	50	154	0.08		206.8
2018	25	0	0	5.02	100	223.6
2019	0	0	0	0.15		243.7
2020	0	0	0	0.20		263.9
2021	75	0	0	5.33	100	280.2
2022	75	0	0	0.24		296.6
2023	150	0	0	0.24	100	313.2
2024	150	0	0	0.32		330.0
2025	125	0	0	0.26		347.3
2026	125	0	0	0.32		356.4
2027	100	0	0	0.32		363.9
2028	75	0	0	0.35		371.5
2029	50	0	0	0.25		379.1

Table 17: Revised Integrated Analysis Plan 4

	Plan 4: Install Prop C Wind and Solar, CT's, Additional 500 MW Wind Above Prop C beginning in 2010, July 21st DSM, Coal w/CCS, and Sibley 1&2 converted to 10%						
Date	Sell PPA	Buy PPA	Install CT's	Install Solar	Install Wind	Coal with CCS	July 21st DSM
2009	-	25	0				5.9
2010	100	0	0		100		31.8
2011	-	0	0	1.79			36.4
2012	-	0	0	0.03			80.0
2013	-	0	0	0.02			120.3
2014	-	75	0	2.80			149.1
2015	-	100	0	0.05			172.6
2016	-	75	0	0.11	200		189.5
2017	-	75	0	0.08	200		206.8
2018	-	75	0	5.02	100		223.6
2019	-	75	0	0.15			243.7
2020	50	0	0	0.20		150	263.9
2021	50	0	0	5.33	100		280.2
2022	25	0	0	0.24			296.6
2023	50	0	0	0.24	100		313.2
2024	50	0	0	0.32	100		330.0
2025	25	0	0	0.26			347.3
2026	25	0	0	0.32			356.4
2027	-	0	0	0.32			363.9
2028	-	25	0	0.35			371.5
2029	-	50	0	0.25			379.1

Table 18: Revised Integrated Analysis Plan 5

	Plan 5: Install Prop C Wind and Solar, CT's, Additional 500 MW Wind Above Prop C beginning in 2010, July 21st DSM, and Coal w/CCS						
Date	Sell PPA	Buy PPA	Install CT's	Install Solar	Install Wind	Coal with CCS	July 21st DSM
2009	-	25	0				5.9
2010	75	0	0				31.8
2011	-	25	0	1.79			36.4
2012	-	0	0	0.03	100		80.0
2013	-	0	0	0.02			120.3
2014	-	75	0	2.80			149.1
2015	-	100	0	0.05			172.6
2016	-	75	0	0.11	200		189.5
2017	-	75	0	0.08	200		206.8
2018	-	75	0	5.02	100		223.6
2019	-	75	0	0.15			243.7
2020	50	0	0	0.20		150	263.9
2021	50	0	0	5.33	100		280.2
2022	25	0	0	0.24			296.6
2023	50	0	0	0.24	100		313.2
2024	50	0	0	0.32	100		330.0
2025	25	0	0	0.26			347.3
2026	25	0	0	0.32			356.4
2027	-	0	0	0.32			363.9
2028	-	25	0	0.35			371.5
2029	-	50	0	0.25			379.1

Table 19: Revised Integrated Analysis Plan 6

	Plan 6: Install Prop C Wind and Solar, CT's, Additional 500 MW Wind Above Prop C beginning in 2012, All DSM, Coal w/CCS, and Sibley 1&2 converted to 10%						
Date	Sell PPA	Buy PPA	Install CT's	Install Solar	Install Wind	Coal with CCS	July 21st DSM
2009	-	25	0				5.9
2010	75	0	0				31.8
2011	-	25	0	1.79			36.4
2012	-	0	0	0.03	100		80.0
2013	-	0	0	0.02			120.3
2014	-	75	0	2.80			149.1
2015	-	100	0	0.05			172.6
2016	-	75	0	0.11	200		189.5
2017	-	75	0	0.08	200		206.8
2018	-	75	0	5.02	100		223.6
2019	-	75	0	0.15			243.7
2020	50	0	0	0.20		150	263.9
2021	50	0	0	5.33	100		280.2
2022	25	0	0	0.24			296.6
2023	50	0	0	0.24	100		313.2
2024	50	0	0	0.32	100		330.0
2025	25	0	0	0.26			347.3
2026	25	0	0	0.32			356.4
2027	-	0	0	0.32			363.9
2028	-	25	0	0.35			371.5
2029	-	50	0	0.25			379.1

Table 20: Revised Integrated Analysis Plan 7

Plan 7: Retire Sibley Station, Install Prop C Wind, Solar, CC's, Additional 500 MW Wind Above Prop C, and All DSM						
Date	Sell PPA	Buy PPA	Install CC's	Install Wind	Install Solar	July 21st DSM
2009	-	25	0			5.9
2010	75	0	0			31.8
2011	-	25	0		1.79	36.4
2012	-	0	0	100	0.03	80.0
2013	-	0	0		0.02	120.3
2014	0	75	0		2.80	149.1
2015	0	300	257		0.05	172.6
2016	0	25	257	200	0.11	189.5
2017	0	25	0	200	0.08	206.8
2018	0	25	0	100	5.02	223.6
2019	0	50	0		0.15	243.7
2020	0	50	0		0.20	263.9
2021	0	50	0	100	5.33	280.2
2022	0	75	0		0.24	296.6
2023	0	75	0	100	0.24	313.2
2024	0	50	0	100	0.32	330.0
2025	0	75	0		0.26	347.3
2026	0	75	0		0.32	356.4
2027	0	100	0		0.32	363.9
2028	0	125	0		0.35	371.5
2029	0	150	0		0.25	379.1

Table 21: Revised Integrated Analysis Plan 8

Plan 8: Retire Sibley Station, Install Prop C Wind, Solar, CC's, Additional 1200 MW Wind Above Prop C, and All DSM						
Date	Sell PPA	Buy PPA	Install CC's	Install Wind	Install Solar	July 21st DSM
2009	-	25	0			5.9
2010	75	0	0			31.8
2011	25	0	0	200	1.79	36.4
2012	50	0	0	200	0.03	80.0
2013	100	0	0	300	0.02	120.3
2014	0	0	0	300	2.80	149.1
2015	0	125	257	200	0.05	172.6
2016	0	150	0	100	0.11	189.5
2017	0	150	0		0.08	206.8
2018	0	150	0	100	5.02	223.6
2019	0	175	0		0.15	243.7
2020	0	200	0		0.20	263.9
2021	0	175	0	100	5.33	280.2
2022	0	200	0		0.24	296.6
2023	0	200	0	100	0.24	313.2
2024	0	200	0		0.32	330.0
2025	0	225	0		0.26	347.3
2026	0	225	0		0.32	356.4
2027	0	0	257		0.32	363.9
2028	0	25	0		0.35	371.5
2029	0	25	0		0.25	379.1

Table 22: Revised Integrated Analysis Plan 9

	Plan 9: Retire Sibley Station, Install Prop C Wind and Solar, CC's, CT's, Additional 1200 MW Wind Above Prop C, and All DSM						
Date	Sell PPA	Buy PPA	Install CC's	Install CT's	Install Wind	Install Solar	July 21st DSM
2009	-	25	0				5.9
2010	75	0	0				31.8
2011	25	0	0		200	1.79	36.4
2012	50	0	0		200	0.03	80.0
2013	100	0	0		300	0.02	120.3
2014	50	0	0		300	2.80	149.1
2015	0	125	257		200	0.05	172.6
2016	0	0	0	154	100	0.11	189.5
2017	0	0	0			0.08	206.8
2018	0	0	0		100	5.02	223.6
2019	0	25	0			0.15	243.7
2020	0	25	0			0.20	263.9
2021	0	25	0		100	5.33	280.2
2022	0	50	0			0.24	296.6
2023	0	50	0		100	0.24	313.2
2024	0	50	0			0.32	330.0
2025	0	75	0			0.26	347.3
2026	0	75	0			0.32	356.4
2027	0	100	0			0.32	363.9
2028	0	125	0			0.35	371.5
2029	0	150	0			0.25	379.1