VOLUME 7:

RISK ANALYSIS AND STRATEGIC SELECTION

KCP&L GREATER MISSOURI OPERATIONS COMPANY (GMOC)

INTEGRATED RESOURCE PLAN

CASE NO. EE-2009-0237

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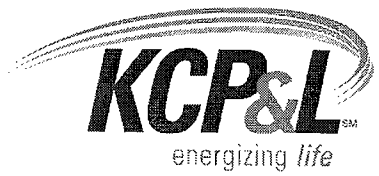
4 CSR 240-22.070

** PUBLIC **



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VOLUME 7: RISK ANALYSIS AND STRATEGIC SELECTION

PURPOSE: This rule requires the utility to identify the critical uncertain factors that affect the performance of resource plans, establishes minimum standards for the methods used to assess the risks associated with these uncertainties and requires the utility to specify and officially adopt a resource acquisition strategy.

SECTION 1: FORMAL DECISION ANALYSIS

(1) The utility shall use the methods of formal decision analysis to assess the impacts of critical uncertain factors on the expected performance of each of the alternative resource plans developed pursuant to 4 CSR 240-22.060(3), to analyze the risks associated with alternative resource plans, to quantify the value of better information concerning the critical uncertain factors and to explicitly state and document the subjective probabilities that utility decision-makers assign to each of these uncertain factors. This assessment shall include a decision-tree representation of the key decisions and uncertainties associated with each alternative resource plan.

GMO utilized third-party software programs to study the risks associated with its various alternatives. These models make use of decision tree risk analysis to calculate output.

These models and associated processes allowed GMO to quantify these risks and evaluate critical uncertain factors. These models also provide results that allow GMO to quantify the value of better information.

A decision tree of the risks each plan is evaluated under is included in detail in Section 3 of this Volume.

SECTION 2: PRELIMINARY SENSITIVITY ANALYSIS

(2) Before developing a detailed decision-tree representation of each resource plan, the utility shall conduct a preliminary sensitivity analysis to identify the uncertain factors that are critical to the performance of the resource plan. This analysis shall assess at least the following uncertain factors:

GMO compiled information concerning the risks listed in 22.070 (2) from subject matter experts within the company. The experts were requested to provide mid, high and low scenario forecasts for their particular risk. The mid, high and low scenarios were also assigned a subjective probability by the subject matter experts.

This information was collected and presented to management in a series of meetings to solicit management input into the drivers of the eventual model process.

GMO utilized Ventyx's System Optimizer Model TM [CapEx] to provide a preliminary test of each sensitivity listed in 22.070 (2) along with additional sensitivities chosen by the Company to complete its risk assessment.

CapEx is a linear program based model that chooses a lowest-cost expansion plan given a known load growth and other fixed market factors. Once a load growth forecast and market is defined, the model is allowed to pick from among all supply, DSM and retirement options available to arrive at the lowest possible cost expansion plan.

GMO executed test runs for each sensitivity to determine if the resulting lowest cost expansion plan constituted different choices of DSM, supply or retirements. If the model did not materially change its expansion plan by changing sensitivity, that factor was not deemed to be a Critical Uncertain Factor. However, if the model chose different options, such as different technologies or foregoing DSM programs, then that factor would be deemed a Critical Uncertain Factor and was incorporated within the Risk Analysis Decision Tree.

The results of the CapEx studies are included in detail in the working papers attached to this filing.

2.1 LOAD GROWTH

(A) The range of future load growth represented by the low-case and high-case load forecasts;

The high, mid and low load growth cases compliant with and described in Rule 22.030 (7) were used in the CapEx model. The CapEx results demonstrated that load growth is a critical uncertain factor. Load growth sensitivity was passed onto the integrated analysis.

2.2 INTEREST RATE LEVELS

(B) Future interest rate levels and other credit market conditions that can affect the utility's cost of capital;

GMO compiled a family of interest rate impacted model determinants, such as cost of capital, AFUDC, etc. Three scenarios of these determinants were calculated assuming a high and low long term interest rate risk. These determinants are detailed in Table 1 below.

Table 1: Financial Risk Measures **Highly Confidential**

Measure	
Inflation	[redacted]
Short-term Rate	
Long-term Rate	
Return on Equity	
Debt Ratio	
Short-term debt / CWIP	
Pre-tax Return on Ratebase	
After-tax Return on Ratebase (t=39%)	
AFUDC Equity Rate	
AFUDC Debt Rate	
AFUDC Rate	

This information was used to model the sensitivity of CapEx plan to changes in these factors. GMO discovered that the plans were sensitive to the high case but

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insensitive to the low case. Therefore only a high interest rate risk was forwarded to the integrated analysis.

2.3 CHANGES IN ENVIRONMENTAL LAWS

(C) Future changes in environmental laws, regulations or standards;

Since the promulgation of this rule in the State of Missouri the only major regulatory rule change in the environmental area was the Clear Air Interstate Rule (CAIR). Due to the uncertain nature of the implementation of CAIR, GMO made a few assumptions on how the rule would progress. GMO assumes that the credit trading market will continue and that compliance will not be mandated on an individual plant basis. Therefore the risk associated with CAIR is confined to the expectation of NO_x and SO_2 credit prices. Since SO_2 credit risk is detailed later in this section of the rule, only NO_x credit risk is model for rule 22.070 (2) (C). NOx credit forecast development is detailed in Volume 4, Supply-Side Analysis.

High and low NO_x credit scenarios were developed and input into CapEx. Due to the small changes in optimal plans from CapEx, GMO determined that future NO_x credit prices do not constitute a critical uncertain factor and therefore are not included in the integrated analysis.

2.4 REAL FUEL PRICES

(D) Relative real fuel prices;

See each individual fuel price discussion below.

2.4.1 NATURAL GAS

High and low natural gas price forecast scenarios were developed as inputs into the CapEx model. The optimized expansion plans for the high and low cases are sufficiently different to require adding natural gas price risk as a critical uncertain factor. Natural gas price forecast development is detailed in Volume 4, Supply-Side Analysis.

2.4.2 COAL

High and low delivered coal price forecast scenario was modeled in CapEx. The resulting optimal expansion plans were changed as a response to changes in the forecasted price of coal. Therefore coal price sensitivity was included in the integrated analysis. Coal price forecast development is detailed in Volume 4, Supply-Side Analysis.

2.5 SITING AND PERMITTING COSTS

(E) Siting and permitting costs and schedules for new generation and generation-related transmission facilities;

Siting and permitting costs are incorporated into the cost of construction risk detailed in 22.070 (2) (F).

2.6 CONSTRUCTION COSTS

(F) Construction costs and schedules for new generation and transmission facilities;

GMO determined high and low construction cost estimates for each supply technology evaluated. The supply options forwarded from the preliminary screen conducted in compliance with Rule 22.040 (2). High and low construction costs scenarios were modeled in CapEx. The resulting optimal expansion plans displayed material changes over the range of construction costs. Therefore, construction cost risk was incorporated as a critical uncertain factor in the integrated analysis.

Construction costs risks vary by technology. Detailed information for each of the resource options identified can be viewed in Volume 4, Appendix 4E.

2.7 PURCHASE POWER AVAILABILITY

(G) Purchased power availability, terms and cost;

High and low purchased power availability was simulated with a high and low cost for the capacity terms of the contracts. High and low purchased power availability scenarios were modeled in CapEx. No material changes were identified in the model's optimal expansion plans. Purchased power availability was not identified as a critical uncertain factor. This risk was not included in the integrated analysis.

2.8 SULFUR DIOXIDE

(H) Sulfur dioxide emission allowance prices;

SO_2 credit price forecast development is detailed in Volume 4, Supply-Side Analysis. High and low SO_2 credit price forecasts were simulated in the CapEx model. Resulting optimal expansion plans did not change as this cost was varied. SO_2 credit prices are not considered a critical resource factor and were not used as part of the integrated analysis.

2.9 FIXED O&M COSTS

(I) Fixed operation and maintenance costs for existing generation facilities;

High and low Fixed O&M costs were simulated in the CapEx model. Resulting optimal expansion plans did not change as this cost was varied. Therefore, fixed O&M costs were not considered a critical resource factor and were not used as part of the integrated analysis.

2.10 EQUIVALENT FORCED OUTAGE RATES

(J) Equivalent or full- and partial-forced outage rates for new and existing generation facilities;

High and low equivalent forced outage rates were simulated in the CapEx model. Resulting optimal expansion plans did not change as this factor was varied. Therefore, equivalent forced outage rates were not considered a critical resource factor and were not used as part of the integrated analysis.

2.11 LOAD IMPACT OF DSM

(K) Future load impacts of demand-side programs; and

High and low load impacts of DSM were simulated in the CapEx model. Resulting optimal expansion plans did not change as this factor was varied. Therefore, load impacts of DSM were not considered a critical resource factor and were not used as part of the integrated analysis.

2.12 MARKETING COSTS OF DSM

(L) Utility marketing and delivery costs for demand-side programs.

High and low marketing costs of DSM were simulated in the CapEx model. Resulting optimal expansion plans did not change as this factor was varied. Therefore, marketing costs of DSM were not considered a critical resource factor and were not used as part of the integrated analysis.

2.13 ADDITIONAL RISK MEASURES REVIEWED

GMO considered three other risks not specifically listed in 22.070 (2).

2.13.1 CO_2 CREDIT PRICES

GMO assumed a market for CO_2 emission credits will form. The costs of this market were not planned to be included as a part of the integrated analysis probable environmental costs but instead handled as a sensitivity which may of may not become a critical uncertain factor.

High, mid and low CO_2 credit price forecasts were developed, and their effects modeled in CapEx. The resulting optimal expansion plans showed sensitivity to CO_2 prices. Therefore, CO_2 credit prices were included in the integrated analysis as a critical uncertain factor. CO_2 credit price forecast development is detailed in Volume 4, Supply-Side Analysis.

2.13.2 PRODUCTION TAX CREDIT

The extension of the Production Tax Credit associated with the emergency funding bill and the stimulus package pushed the time frame of the risk associated with the potential loss of renewable PTC well past the time frame of either the implementation plan or the resource acquisition time frame. When the remaining years of the test period were simulated with and without continuing the PTC, the resulting expansion plans did not change. Therefore the PTC is not a critical uncertain factor for the IRP and was not included in the integrated analysis.

2.13.3 FEDERAL RENEWABLE PORTFOLIO STANDARD

The risk associated a potential Federal Renewable Portfolio Standard. The Federal Renewable Standard was modeled using the Bingaman bill. The requirements of the proposed bill were similar to the Missouri standard requirements except that they were on a national level and not on a state only level. The Federal standard would not require GMO to acquire additional renewable resources beyond the requirements of the Missouri rules. However, the entire country will be required to acquire additional renewable resources causing an adjustment to power market prices. When adjusted market prices were input into the CapEx model, no change to the optimal expansion plan occurred. Therefore the Federal renewable standard was not deemed to be a critical uncertain factor and not included in the integrated analysis.

SECTION 3: DECISION TREE DIAGRAM

(3) For each alternative resource plan, the utility shall construct a decision-tree diagram that appropriately represents the key resource decisions and critical uncertain factors that affect the performance of the resource plan.

Using the results of the preliminary sensitivity analysis, the critical uncertain factors were incorporated into a decision tree representation of the risks that will impact the performance of the alternative resource plans. A preliminary tree of 486 scenarios was developed using every possible combination of risks factors weighted by their conditional probability. To limit the number of scenarios to use in the final risk decision tree, all scenarios whose conditional probability was less than 0.5% were excluded. The number of scenarios was reduced to 62 with two additional scenarios for extreme conditions retained, for a total of 64.

A graphical representation of the decision tree risks is given in Figure 1: Decision Tree with Conditional Probabilities below:

Figure 1: Decision Tree with Conditional Probabilities

Scenario	Load Growth	Construction Costs	Interest/ Finances	CO2	Natural Gas	Coal	Conditional Probability	Cummulative Probability
1	High	High	High	High	High	High	0.081%	0.081%
2	High	High	Mid	Mid	Mid	Mid	1.316%	1.397%
3	High	Mid	Mid	High	Mid	Mid	1.316%	2.712%
4	High	Mid	Mid	Mid	High	Mid	1.316%	4.028%
5	High	Mid	Mid	Mid	Mid	High	1.316%	5.344%
6	High	Mid	High	Mid	Mid	Mid	1.296%	6.640%
7	High	Mid	Mid	Mid	Mid	Mid	2.631%	9.271%
8	High	Mid	Mid	Mid	Mid	Low	1.316%	10.587%
9	High	Mid	Mid	Mid	Low	Mid	1.316%	11.902%
10	High	Mid	Mid	Low	Mid	Mid	1.316%	13.218%
11	High	Low	Mid	Mid	Mid	Mid	1.316%	14.534%
12	Mid	High	Mid	High	Mid	Mid	1.316%	15.849%
13	Mid	High	Mid	Mid	High	Mid	1.316%	17.165%
14	Mid	High	Mid	Mid	Mid	High	1.316%	18.481%
15	Mid	High	High	Mid	Mid	Mid	1.296%	19.777%
16	Mid	High	Mid	Mid	Mid	Mid	2.631%	22.408%
17	Mid	High	Mid	Mid	Mid	Low	1.316%	23.724%
18	Mid	High	Mid	Mid	Low	Mid	1.316%	25.039%
19	Mid	High	Mid	Low	Mid	Mid	1.316%	26.355%
20	Mid	Mid	Mid	High	High	Mid	1.316%	27.671%
21	Mid	Mid	Mid	High	Mid	High	1.316%	28.986%
22	Mid	Mid	High	High	Mid	Mid	1.296%	30.282%
23	Mid	Mid	Mid	High	Mid	Mid	2.631%	32.914%
24	Mid	Mid	Mid	High	Mid	Low	1.316%	34.229%
25	Mid	Mid	Mid	High	Low	Mid	1.316%	35.545%
26	Mid	Mid	Mid	Mid	High	High	1.316%	36.861%
27	Mid	Mid	High	Mid	High	Mid	1.296%	38.157%
28	Mid	Mid	Mid	Mid	High	Mid	2.631%	40.788%
29	Mid	Mid	Mid	Mid	High	Low	1.316%	42.104%
30	Mid	Mid	High	Mid	Mid	High	1.296%	43.400%
31	Mid	Mid	Mid	Mid	Mid	High	2.631%	46.031%
32	Mid	Mid	High	Mid	Mid	Mid	2.592%	48.623%
33	Mid	Mid	Mid	Mid	Mid	Mid	5.263%	53.886%
34	Mid	Mid	High	Mid	Mid	Low	1.296%	55.182%
35	Mid	Mid	Mid	Mid	Mid	Low	2.631%	57.813%
36	Mid	Mid	Mid	Mid	Low	High	1.316%	59.129%
37	Mid	Mid	High	Mid	Low	Mid	1.296%	60.425%
38	Mid	Mid	Mid	Mid	Low	Mid	2.631%	63.056%
39	Mid	Mid	Mid	Mid	Low	Low	1.316%	64.372%
40	Mid	Mid	Mid	Low	High	Mid	1.316%	65.687%
41	Mid	Mid	Mid	Low	Mid	High	1.316%	67.003%
42	Mid	Mid	High	Low	Mid	Mid	1.296%	68.299%
43	Mid	Mid	Mid	Low	Mid	Mid	2.631%	70.930%
44	Mid	Mid	Mid	Low	Mid	Low	1.316%	72.246%
45	Mid	Mid	Mid	Low	Low	Mid	1.316%	73.562%
46	Mid	Low	Mid	High	Mid	Mid	1.316%	74.877%
47	Mid	Low	Mid	Mid	High	Mid	1.316%	76.193%
48	Mid	Low	Mid	Mid	Mid	High	1.316%	77.509%
49	Mid	Low	High	Mid	Mid	Mid	1.296%	78.805%
50	Mid	Low	Mid	Mid	Mid	Mid	2.631%	81.436%
51	Mid	Low	Mid	Mid	Mid	Low	1.316%	82.752%
52	Mid	Low	Mid	Mid	Low	Mid	1.316%	84.067%
53	Mid	Low	Mid	Low	Mid	Mid	1.316%	85.383%
54	Low	High	Mid	Mid	Mid	Mid	1.316%	86.699%
55	Low	Mid	Mid	High	Mid	Mid	1.316%	88.014%
56	Low	Mid	Mid	Mid	High	Mid	1.316%	89.330%
57	Low	Mid	Mid	Mid	Mid	High	1.316%	90.646%
58	Low	Mid	High	Mid	Mid	Mid	1.296%	91.942%
59	Low	Mid	Mid	Mid	Mid	Mid	2.631%	94.573%
60	Low	Mid	Mid	Mid	Mid	Low	1.316%	95.889%
61	Low	Mid	Mid	Mid	Low	Mid	1.316%	97.204%
62	Low	Mid	Mid	Low	Mid	Mid	1.316%	98.520%
63	Low	Low	Mid	Mid	Mid	Mid	1.316%	99.836%
64	Low	Low	Mid	Low	Low	Low	0.164%	100.000%

SECTION 4: CHANCE NODES OVER CONSECUTIVE SUBINTERVALS

(4) The decision-tree diagram for all alternative resource plans shall include at least two (2) chance nodes for load growth uncertainty over consecutive subintervals of the planning horizon. The first of these subintervals shall be not more than ten (10) years long.

KCPL requested and received a full waiver of this section of the Rule.

SECTION 5: DISTRIBUTION OF PERFORMANCE MEASURES

(5) The utility shall use the decision-tree formulation to compute the cumulative probability distribution of the values of each performance measure specified pursuant to 4 CSR 240-22.060(2), contingent upon the identified uncertain factors and associated subjective probabilities assigned by utility decision makers pursuant to section (1) of this rule. Both the expected performance and the risks of each alternative resource plan shall be quantified.

GMO used the decision tree risks to compute probabilistic and expected values of each of the performance measures. The results of this analysis are detailed in this section.

5.1 EXPECTED VALUES

(A) The expected performance of each resource plan shall be measured by the statistical expectation of the value of each performance measure.

GMO calculated the expected value of the five performance measures listed in Rule 22.060 (2) for each alternative expansion plan. These results are shown in Table 2 below:

Table 2: Performance Measures

Plan	NPVRR ($MM)	Probable Environmental Costs ($MM)	DSM Costs ($MM)	Levelized Annual Rates (¢/kw-hr)	Maximum Rate Increase
Plan01	15,028	365	132	0.1605	19.68%
Plan02	15,177	366	-	0.1590	19.37%
Plan03	15,012	360	132	0.1600	19.68%
Plan04	15,156	361	-	0.1585	19.37%
Plan05	15,120	364	132	0.1617	19.67%
Plan06	15,007	328	132	0.1602	19.68%
Plan07	15,070	329	132	0.1609	19.68%
Plan08	15,204	330	-	0.1624	19.93%
Plan09	15,038	324	132	0.1602	19.68%
Plan10	15,170	326	-	0.1586	19.37%
Plan11	15,140	328	132	0.1619	19.64%
Plan12	14,960	355	132	0.1590	19.68%
Plan13	15,033	394	132	0.1603	19.68%
Plan14	14,915	353	132	0.1583	19.68%
Plan15	15,086	357	5	0.1577	19.39%
Plan16	14,539	344	261	0.1630	19.90%
Plan17	14,825	348	132	0.1570	21.15%
Plan18	14,840	347	132	0.1571	18.69%
Plan19	14,819	314	132	0.1568	18.69%
Plan20	14,888	379	132	0.1576	18.69%
Plan21	14,891	347	132	0.1577	18.69%
Plan22	14,804	314	132	0.1567	21.15%
Plan23	14,880	379	132	0.1576	21.15%
Plan24	14,883	347	132	0.1577	21.15%

5.2 PROBABILITY DISTRIBUTIONS

(B) The risk associated with each resource plan shall be characterized by some measure of the dispersion of the probability distribution for each performance measure, such as the standard deviation or the values associated with specified percentiles of the distribution.

GMO calculated the standard deviation of each performance measure for each alternative resource plan. The result of these calculations is detailed in Table 3 below. DSM expenses have no risk dispersion as they are a fixed assumption input within the integrated analysis.

Table 3: Performance Measure Standard Deviations

Plan	NPVRR ($MM)	Probable Environmental Costs ($MM)	DSM Costs ($MM)	Levelized Annual Rates ($/kw-hr)	Maximum Rate Increase
Plan01	1,198	35	-	0.0126	5.19%
Plan02	1,216	36	-	0.0126	5.24%
Plan03	1,155	37	-	0.0120	5.19%
Plan04	1,184	38	-	0.0122	5.24%
Plan05	1,195	36	-	0.0126	5.19%
Plan06	1,195	29	-	0.0126	5.19%
Plan07	1,203	28	-	0.0126	5.19%
Plan08	1,223	28	-	0.0129	5.24%
Plan09	1,171	30	-	0.0122	5.19%
Plan10	1,191	30	-	0.0122	5.24%
Plan11	1,200	28	-	0.0126	5.19%
Plan12	1,109	39	-	0.0113	5.19%
Plan13	1,130	38	-	0.0116	5.19%
Plan14	1,101	40	-	0.0112	5.19%
Plan15	1,127	39	-	0.0114	5.24%
Plan16	1,030	44	-	0.0111	5.14%
Plan17	1,071	43	-	0.0108	4.97%
Plan18	1,073	43	-	0.0108	5.00%
Plan19	1,069	36	-	0.0108	5.00%
Plan20	1,017	45	-	0.0101	5.00%
Plan21	1,015	38	-	0.0101	5.00%
Plan22	1,068	36	-	0.0108	4.97%
Plan23	1,014	45	-	0.0101	4.97%
Plan24	1,011	38	-	0.0100	4.97%

GMO analyzed the risks on each of these plans by ranking their individual performance under each of the 64 endpoint scenarios listed in Figure 1. Table 4 through Table 14 given below are risk tables summarizing these results. For these tables Plan 16 was removed, as it modeled a hypothetical DSM scenario. The scenarios are grouped by individual critical risk factors.

Table 4: High CO_2 Risk Table

High CO2 Scenarios

Endpoint	1	Endpoint	3	Endpoint	12	Endpoint	20	Endpoint	21	Endpoint	22
Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR
Plan24	18,106	Plan24	16,839	Plan22	16,060	Plan24	15,209	Plan24	16,106	Plan22	16,613
Plan23	18,114	Plan23	16,842	Plan19	16,083	Plan21	15,211	Plan22	16,110	Plan19	16,631
Plan21	18,127	Plan21	16,843	Plan24	16,107	Plan23	15,217	Plan21	16,110	Plan18	16,659
Plan20	18,135	Plan20	16,845	Plan23	16,108	Plan20	15,218	Plan23	16,113	Plan24	16,667
Plan22	18,337	Plan22	16,866	Plan18	16,111	Plan22	15,471	Plan20	16,115	Plan23	16,669
Plan19	18,369	Plan19	16,879	Plan21	16,120	Plan19	15,481	Plan19	16,122	Plan21	16,693
Plan17	18,373	Plan18	16,905	Plan20	16,127	Plan18	15,508	Plan17	16,141	Plan20	16,695
Plan18	18,406	Plan14	17,041	Plan14	16,189	Plan14	15,733	Plan18	16,154	Plan14	16,760
Plan14	18,581	Plan12	17,099	Plan12	16,232	Plan17	15,781	Plan14	16,285	Plan12	16,815
Plan12	18,654	Plan17	17,141	Plan13	16,310	Plan12	15,813	Plan12	16,346	Plan17	16,869
Plan15	18,792	Plan13	17,212	Plan09	16,310	Plan15	15,973	Plan09	16,436	Plan09	16,912
Plan13	18,859	Plan03	17,233	Plan17	16,316	Plan13	16,000	Plan13	16,454	Plan03	16,917
Plan03	18,887	Plan09	17,241	Plan03	16,316	Plan03	16,064	Plan03	16,464	Plan13	16,917
Plan09	19,055	Plan15	17,250	Plan06	16,321	Plan09	16,220	Plan15	16,496	Plan06	16,937
Plan06	19,075	Plan06	17,297	Plan07	16,334	Plan06	16,257	Plan06	16,507	Plan15	16,963
Plan04	19,095	Plan01	17,319	Plan01	16,348	Plan04	16,285	Plan07	16,521	Plan01	16,964
Plan01	19,114	Plan07	17,333	Plan15	16,393	Plan01	16,290	Plan01	16,538	Plan07	16,975
Plan05	19,161	Plan11	17,399	Plan11	16,394	Plan05	16,361	Plan11	16,588	Plan11	17,026
Plan07	19,189	Plan10	17,401	Plan05	16,413	Plan07	16,397	Plan10	16,596	Plan10	17,069
Plan10	19,191	Plan05	17,414	Plan10	16,466	Plan10	16,400	Plan05	16,631	Plan05	17,071
Plan02	19,245	Plan04	17,418	Plan04	16,495	Plan02	16,435	Plan04	16,640	Plan04	17,091
Plan11	19,291	Plan08	17,495	Plan08	16,525	Plan11	16,495	Plan08	16,678	Plan08	17,120
Plan08	19,339	Plan02	17,499	Plan02	16,531	Plan08	16,548	Plan02	16,713	Plan02	17,137

Endpoint	23	Endpoint	24	Endpoint	25	Endpoint	46	Endpoint	55
Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR
Plan22	15,869	Plan22	15,621	Plan22	15,429	Plan21	15,642	Plan22	15,087
Plan24	15,878	Plan19	15,635	Plan19	15,444	Plan24	15,642	Plan19	15,100
Plan23	15,882	Plan24	15,643	Plan18	15,469	Plan20	15,650	Plan24	15,117
Plan21	15,882	Plan23	15,643	Plan24	15,527	Plan23	15,651	Plan23	15,120
Plan19	15,882	Plan17	15,645	Plan23	15,528	Plan22	15,677	Plan21	15,121
Plan20	15,886	Plan20	15,647	Plan20	15,533	Plan19	15,691	Plan20	15,124
Plan18	15,911	Plan21	15,648	Plan21	15,533	Plan18	15,720	Plan18	15,126
Plan14	16,033	Plan18	15,659	Plan14	15,557	Plan14	15,874	Plan14	15,240
Plan12	16,088	Plan14	15,770	Plan09	15,580	Plan17	15,934	Plan12	15,292
Plan17	16,125	Plan12	15,821	Plan12	15,604	Plan12	15,953	Plan17	15,322
Plan09	16,189	Plan03	15,921	Plan07	15,623	Plan15	16,072	Plan09	15,362
Plan13	16,194	Plan13	15,924	Plan17	15,639	Plan09	16,073	Plan03	15,387
Plan03	16,200	Plan09	15,928	Plan06	15,657	Plan03	16,076	Plan13	15,395
Plan15	16,234	Plan06	15,952	Plan03	15,663	Plan13	16,076	Plan06	15,408
Plan06	16,239	Plan15	15,962	Plan01	15,682	Plan07	16,176	Plan07	15,428
Plan07	16,265	Plan01	15,976	Plan10	15,691	Plan06	16,180	Plan01	15,435
Plan01	16,267	Plan07	15,996	Plan11	15,698	Plan01	16,209	Plan15	15,436
Plan11	16,332	Plan11	16,063	Plan15	15,704	Plan10	16,213	Plan11	15,497
Plan10	16,345	Plan05	16,070	Plan13	15,712	Plan11	16,248	Plan10	15,516
Plan05	16,360	Plan10	16,080	Plan08	15,724	Plan04	16,269	Plan05	15,532
Plan04	16,373	Plan04	16,090	Plan04	15,767	Plan05	16,282	Plan04	15,553
Plan08	16,421	Plan02	16,143	Plan05	15,777	Plan08	16,328	Plan08	15,581
Plan02	16,437	Plan08	16,148	Plan02	15,795	Plan02	16,366	Plan02	15,604

Table 5: High Natural Gas Price Risk Table

High Gas Scenarios

Endpoint	1	Endpoint	4	Endpoint	13	Endpoint	20	Endpoint	26	Endpoint	27
Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR
Plan24	18,106	Plan23	16,044	Plan22	15,286	Plan24	15,209	Plan24	15,371	Plan22	15,839
Plan23	18,114	Plan20	16,045	Plan23	15,303	Plan21	15,211	Plan21	15,372	Plan19	15,854
Plan21	18,127	Plan24	16,047	Plan19	15,306	Plan23	15,217	Plan23	15,374	Plan23	15,863
Plan20	18,135	Plan21	16,049	Plan24	15,309	Plan20	15,218	Plan20	15,375	Plan24	15,869
Plan22	18,337	Plan22	16,099	Plan21	15,319	Plan22	15,471	Plan22	15,397	Plan18	15,876
Plan19	18,369	Plan19	16,109	Plan20	15,319	Plan19	15,481	Plan19	15,407	Plan20	15,887
Plan17	18,373	Plan18	16,130	Plan18	15,328	Plan18	15,508	Plan17	15,424	Plan21	15,892
Plan18	18,406	Plan14	16,266	Plan14	15,408	Plan14	15,733	Plan18	15,435	Plan14	15,979
Plan14	18,581	Plan12	16,326	Plan12	15,454	Plan17	15,781	Plan14	15,565	Plan12	16,037
Plan12	18,654	Plan13	16,407	Plan13	15,501	Plan12	15,813	Plan12	15,625	Plan13	16,108
Plan15	18,792	Plan17	16,422	Plan03	15,531	Plan15	15,973	Plan13	15,704	Plan03	16,131
Plan13	18,859	Plan03	16,463	Plan06	15,535	Plan13	16,000	Plan03	15,736	Plan06	16,150
Plan03	18,887	Plan15	16,499	Plan01	15,556	Plan03	16,064	Plan06	15,777	Plan17	16,154
Plan09	19,055	Plan06	16,538	Plan17	15,601	Plan09	16,220	Plan15	15,790	Plan01	16,172
Plan06	19,075	Plan01	16,556	Plan05	15,619	Plan06	16,257	Plan01	15,802	Plan15	16,202
Plan04	19,095	Plan09	16,622	Plan15	15,631	Plan04	16,285	Plan09	15,822	Plan09	16,249
Plan01	19,114	Plan05	16,646	Plan09	15,647	Plan01	16,290	Plan05	15,893	Plan05	16,277
Plan05	19,161	Plan04	16,674	Plan07	15,675	Plan05	16,361	Plan07	15,907	Plan07	16,316
Plan07	19,189	Plan07	16,728	Plan04	15,728	Plan07	16,397	Plan04	15,931	Plan04	16,323
Plan10	19,191	Plan02	16,759	Plan11	15,729	Plan10	16,400	Plan11	15,970	Plan11	16,362
Plan02	19,245	Plan11	16,785	Plan02	15,763	Plan02	16,435	Plan02	16,000	Plan02	16,368
Plan11	19,291	Plan10	16,809	Plan10	15,824	Plan11	16,495	Plan10	16,004	Plan10	16,428
Plan08	19,339	Plan08	16,915	Plan08	15,886	Plan08	16,548	Plan08	16,089	Plan08	16,481

Endpoint	28	Endpoint	29	Endpoint	40	Endpoint	47	Endpoint	56
Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR
Plan23	15,077	Plan23	14,772	Plan22	13,627	Plan21	14,841	Plan24	14,297
Plan20	15,078	Plan20	14,774	Plan19	13,637	Plan20	14,842	Plan23	14,297
Plan24	15,079	Plan24	14,779	Plan18	13,656	Plan24	14,843	Plan20	14,299
Plan21	15,081	Plan21	14,782	Plan14	13,718	Plan23	14,846	Plan21	14,299
Plan22	15,095	Plan22	14,788	Plan23	13,728	Plan22	14,903	Plan22	14,303
Plan19	15,106	Plan19	14,799	Plan20	13,729	Plan19	14,914	Plan19	14,314
Plan18	15,128	Plan17	14,805	Plan24	13,734	Plan18	14,937	Plan18	14,337
Plan14	15,252	Plan18	14,816	Plan21	13,736	Plan14	15,094	Plan14	14,455
Plan12	15,309	Plan14	14,935	Plan06	13,749	Plan12	15,174	Plan12	14,510
Plan13	15,385	Plan12	14,991	Plan12	13,759	Plan17	15,220	Plan13	14,584
Plan17	15,410	Plan13	15,066	Plan01	13,763	Plan13	15,267	Plan03	14,605
Plan03	15,415	Plan03	15,092	Plan03	13,777	Plan03	15,290	Plan17	14,612
Plan06	15,452	Plan06	15,130	Plan13	13,797	Plan15	15,310	Plan06	14,628
Plan15	15,473	Plan01	15,147	Plan05	13,853	Plan06	15,394	Plan01	14,649
Plan01	15,474	Plan15	15,152	Plan09	13,889	Plan09	15,410	Plan15	14,666
Plan09	15,526	Plan09	15,230	Plan15	13,892	Plan01	15,416	Plan09	14,687
Plan05	15,566	Plan05	15,239	Plan07	13,915	Plan05	15,488	Plan05	14,739
Plan04	15,606	Plan04	15,280	Plan04	13,917	Plan04	15,502	Plan07	14,754
Plan07	15,606	Plan07	15,306	Plan02	13,925	Plan07	15,517	Plan04	14,781
Plan11	15,668	Plan02	15,339	Plan17	13,942	Plan10	15,572	Plan11	14,817
Plan02	15,668	Plan11	15,370	Plan11	13,980	Plan11	15,583	Plan02	14,832
Plan10	15,704	Plan10	15,406	Plan10	14,034	Plan02	15,598	Plan10	14,858
Plan08	15,783	Plan08	15,482	Plan08	14,060	Plan08	15,689	Plan08	14,923

Table 6: High Load Growth Risk Table

High Load Scenarios

Endpoint	1	Endpoint	2	Endpoint	3	Endpoint	4	Endpoint	5	Endpoint	6
Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR
Plan24	18,106	Plan22	15,762	Plan24	16,839	Plan23	16,044	Plan22	15,843	Plan22	16,315
Plan23	18,114	Plan19	15,785	Plan23	16,842	Plan20	16,045	Plan19	15,856	Plan19	16,333
Plan21	18,127	Plan18	15,804	Plan21	16,843	Plan24	16,047	Plan17	15,866	Plan18	16,353
Plan20	18,135	Plan23	15,845	Plan20	16,845	Plan21	16,049	Plan18	15,879	Plan23	16,405
Plan22	18,337	Plan14	15,847	Plan22	16,866	Plan22	16,099	Plan23	15,884	Plan24	16,412
Plan19	18,369	Plan24	15,852	Plan19	16,879	Plan19	16,109	Plan24	15,886	Plan14	16,418
Plan17	18,373	Plan20	15,863	Plan18	16,905	Plan18	16,130	Plan20	15,888	Plan20	16,431
Plan18	18,406	Plan21	15,865	Plan14	17,041	Plan14	16,266	Plan21	15,890	Plan21	16,438
Plan14	18,581	Plan12	15,881	Plan12	17,099	Plan12	16,326	Plan14	15,974	Plan12	16,464
Plan12	18,654	Plan06	15,904	Plan17	17,141	Plan13	16,407	Plan12	16,023	Plan06	16,520
Plan15	18,792	Plan01	15,922	Plan13	17,212	Plan17	16,422	Plan03	16,102	Plan03	16,526
Plan13	18,859	Plan03	15,925	Plan03	17,233	Plan03	16,463	Plan13	16,103	Plan13	16,537
Plan03	18,887	Plan13	15,930	Plan09	17,241	Plan15	16,499	Plan06	16,118	Plan01	16,538
Plan09	19,055	Plan07	15,971	Plan15	17,250	Plan06	16,538	Plan09	16,121	Plan09	16,575
Plan06	19,075	Plan09	15,973	Plan06	17,297	Plan01	16,556	Plan01	16,140	Plan15	16,599
Plan04	19,095	Plan05	15,992	Plan01	17,319	Plan09	16,622	Plan15	16,159	Plan17	16,603
Plan01	19,114	Plan15	16,029	Plan07	17,333	Plan05	16,646	Plan07	16,178	Plan07	16,612
Plan05	19,161	Plan11	16,034	Plan11	17,399	Plan04	16,674	Plan05	16,236	Plan05	16,651
Plan07	19,189	Plan17	16,049	Plan10	17,401	Plan07	16,728	Plan11	16,247	Plan11	16,667
Plan10	19,191	Plan04	16,083	Plan05	17,414	Plan02	16,759	Plan04	16,257	Plan04	16,679
Plan02	19,245	Plan02	16,090	Plan04	17,418	Plan11	16,785	Plan10	16,264	Plan02	16,695
Plan11	19,291	Plan10	16,111	Plan08	17,495	Plan10	16,809	Plan02	16,296	Plan10	16,715
Plan08	19,339	Plan08	16,142	Plan02	17,499	Plan08	16,915	Plan08	16,318	Plan08	16,737

Endpoint	7	Endpoint	8	Endpoint	9	Endpoint	10	Endpoint	11
Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR
Plan22	15,571	Plan22	15,284	Plan22	14,858	Plan22	14,076	Plan22	15,379
Plan19	15,584	Plan19	15,298	Plan19	14,873	Plan19	14,089	Plan20	15,386
Plan18	15,604	Plan17	15,301	Plan18	14,892	Plan18	14,103	Plan21	15,387
Plan23	15,618	Plan18	15,315	Plan07	14,899	Plan14	14,146	Plan24	15,387
Plan20	15,622	Plan23	15,336	Plan09	14,900	Plan06	14,161	Plan23	15,387
Plan24	15,623	Plan20	15,340	Plan06	14,918	Plan01	14,175	Plan19	15,393
Plan21	15,627	Plan24	15,342	Plan14	14,932	Plan12	14,179	Plan18	15,413
Plan14	15,691	Plan21	15,347	Plan01	14,936	Plan23	14,190	Plan14	15,533
Plan12	15,737	Plan14	15,396	Plan12	14,965	Plan20	14,194	Plan12	15,602
Plan03	15,810	Plan12	15,439	Plan03	14,966	Plan03	14,195	Plan17	15,668
Plan13	15,814	Plan03	15,506	Plan11	14,986	Plan24	14,201	Plan03	15,685
Plan06	15,822	Plan13	15,513	Plan08	14,986	Plan21	14,205	Plan13	15,696
Plan01	15,841	Plan06	15,516	Plan10	14,991	Plan13	14,225	Plan15	15,708
Plan09	15,852	Plan01	15,532	Plan23	15,022	Plan09	14,274	Plan09	15,736
Plan17	15,859	Plan15	15,569	Plan24	15,027	Plan05	14,276	Plan06	15,764
Plan15	15,870	Plan09	15,573	Plan20	15,028	Plan07	14,285	Plan01	15,783
Plan07	15,902	Plan07	15,619	Plan21	15,033	Plan15	14,292	Plan07	15,813
Plan05	15,939	Plan05	15,631	Plan02	15,038	Plan02	14,307	Plan04	15,857
Plan04	15,962	Plan04	15,654	Plan13	15,043	Plan04	14,313	Plan10	15,859
Plan11	15,973	Plan02	15,683	Plan05	15,044	Plan11	14,359	Plan05	15,861
Plan10	15,991	Plan11	15,689	Plan04	15,052	Plan17	14,388	Plan11	15,888
Plan02	15,996	Plan10	15,709	Plan15	15,055	Plan10	14,389	Plan02	15,925
Plan08	16,039	Plan08	15,752	Plan17	15,099	Plan08	14,398	Plan08	15,946

Table 7: High Construction Cost Risk Table

High Construction Scenarios

Endpoint	1	Endpoint	2	Endpoint	12	Endpoint	13	Endpoint	14	Endpoint	15
Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR
Plan24	18,106	Plan22	15,762	Plan22	16,060	Plan22	15,286	Plan22	15,179	Plan22	15,686
Plan23	18,114	Plan19	15,785	Plan19	16,083	Plan23	15,303	Plan17	15,201	Plan19	15,723
Plan21	18,127	Plan18	15,804	Plan24	16,107	Plan19	15,306	Plan19	15,201	Plan06	15,723
Plan20	18,135	Plan23	15,845	Plan23	16,108	Plan24	15,309	Plan18	15,223	Plan18	15,743
Plan22	18,337	Plan14	15,847	Plan18	16,111	Plan21	15,319	Plan14	15,266	Plan01	15,743
Plan19	18,369	Plan24	15,852	Plan21	16,120	Plan20	15,319	Plan23	15,279	Plan14	15,744
Plan17	18,373	Plan20	15,863	Plan20	16,127	Plan18	15,328	Plan24	15,284	Plan07	15,770
Plan18	18,406	Plan21	15,865	Plan14	16,189	Plan14	15,408	Plan06	15,294	Plan12	15,775
Plan14	18,581	Plan12	15,881	Plan12	16,232	Plan12	15,454	Plan21	15,296	Plan03	15,788
Plan12	18,654	Plan06	15,904	Plan13	16,310	Plan13	15,501	Plan20	15,297	Plan09	15,814
Plan15	18,792	Plan01	15,922	Plan09	16,310	Plan03	15,531	Plan12	15,300	Plan05	15,819
Plan13	18,859	Plan03	15,925	Plan17	16,316	Plan06	15,535	Plan01	15,318	Plan13	15,821
Plan03	18,887	Plan13	15,930	Plan03	16,316	Plan01	15,556	Plan07	15,326	Plan23	15,830
Plan09	19,055	Plan07	15,971	Plan06	16,321	Plan17	15,601	Plan03	15,333	Plan24	15,834
Plan06	19,075	Plan09	15,973	Plan07	16,334	Plan05	15,619	Plan09	15,336	Plan11	15,843
Plan04	19,095	Plan05	15,992	Plan01	16,348	Plan15	15,631	Plan13	15,349	Plan20	15,855
Plan01	19,114	Plan15	16,029	Plan15	16,393	Plan09	15,647	Plan05	15,385	Plan21	15,858
Plan05	19,161	Plan11	16,034	Plan11	16,394	Plan07	15,675	Plan11	15,390	Plan02	15,911
Plan07	19,189	Plan17	16,049	Plan05	16,413	Plan04	15,728	Plan15	15,448	Plan15	15,917
Plan10	19,191	Plan04	16,083	Plan10	16,466	Plan11	15,729	Plan10	15,475	Plan04	15,931
Plan02	19,245	Plan02	16,090	Plan04	16,495	Plan02	15,763	Plan04	15,484	Plan10	15,936
Plan11	19,291	Plan10	16,111	Plan08	16,525	Plan10	15,824	Plan02	15,485	Plan08	15,949
Plan08	19,339	Plan08	16,142	Plan02	16,531	Plan08	15,886	Plan08	15,497	Plan17	15,954

Endpoint	16	Endpoint	17	Endpoint	18	Endpoint	19	Endpoint	54
Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR
Plan22	14,926	Plan22	14,654	Plan07	14,276	Plan06	13,505	Plan22	14,257
Plan19	14,949	Plan17	14,672	Plan06	14,302	Plan01	13,519	Plan19	14,280
Plan18	14,970	Plan19	14,677	Plan01	14,320	Plan22	13,572	Plan18	14,300
Plan14	15,003	Plan18	14,696	Plan09	14,336	Plan05	13,591	Plan06	14,324
Plan06	15,018	Plan14	14,723	Plan11	14,354	Plan03	13,592	Plan14	14,330
Plan23	15,033	Plan06	14,729	Plan22	14,379	Plan19	13,595	Plan01	14,344
Plan12	15,035	Plan01	14,747	Plan03	14,396	Plan07	13,597	Plan12	14,359
Plan24	15,039	Plan12	14,752	Plan08	14,396	Plan14	13,601	Plan07	14,365
Plan01	15,039	Plan23	14,762	Plan05	14,398	Plan18	13,610	Plan23	14,371
Plan21	15,051	Plan24	14,770	Plan19	14,404	Plan12	13,620	Plan03	14,377
Plan20	15,051	Plan03	14,774	Plan14	14,414	Plan13	13,635	Plan24	14,378
Plan03	15,061	Plan20	14,781	Plan18	14,424	Plan09	13,652	Plan20	14,390
Plan07	15,069	Plan21	14,784	Plan10	14,426	Plan02	13,662	Plan21	14,390
Plan13	15,080	Plan13	14,796	Plan12	14,434	Plan11	13,665	Plan09	14,391
Plan09	15,086	Plan07	14,801	Plan02	14,436	Plan04	13,707	Plan13	14,404
Plan05	15,108	Plan05	14,816	Plan13	14,474	Plan23	13,741	Plan05	14,414
Plan11	15,134	Plan09	14,822	Plan04	14,483	Plan08	13,741	Plan11	14,431
Plan15	15,179	Plan11	14,866	Plan15	14,536	Plan15	13,743	Plan15	14,499
Plan17	15,195	Plan15	14,894	Plan23	14,594	Plan24	13,754	Plan02	14,506
Plan02	15,205	Plan02	14,908	Plan17	14,601	Plan20	13,759	Plan17	14,512
Plan04	15,211	Plan04	14,919	Plan24	14,603	Plan10	13,764	Plan04	14,519
Plan10	15,220	Plan10	14,954	Plan20	14,614	Plan21	13,766	Plan10	14,521
Plan08	15,236	Plan08	14,965	Plan21	14,617	Plan17	13,875	Plan08	14,528

Table 8: High Coal Price Risk Table

High Coal Scenarios

Endpoint	1	Endpoint	5	Endpoint	14	Endpoint	21	Endpoint	26	Endpoint	30
Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR
Plan24	18,106	Plan22	15,843	Plan22	15,179	Plan24	16,106	Plan24	15,371	Plan22	15,732
Plan23	18,114	Plan19	15,856	Plan17	15,201	Plan22	16,110	Plan21	15,372	Plan19	15,749
Plan21	18,127	Plan17	15,866	Plan19	15,201	Plan21	16,110	Plan23	15,374	Plan17	15,754
Plan20	18,135	Plan18	15,879	Plan18	15,223	Plan23	16,113	Plan20	15,375	Plan18	15,772
Plan22	18,337	Plan23	15,884	Plan14	15,266	Plan20	16,115	Plan22	15,397	Plan14	15,837
Plan19	18,369	Plan24	15,886	Plan23	15,279	Plan19	16,122	Plan19	15,407	Plan23	15,839
Plan17	18,373	Plan20	15,888	Plan24	15,284	Plan17	16,141	Plan17	15,424	Plan24	15,844
Plan18	18,406	Plan21	15,890	Plan06	15,294	Plan18	16,154	Plan18	15,435	Plan20	15,865
Plan14	18,581	Plan14	15,974	Plan21	15,296	Plan14	16,285	Plan14	15,565	Plan21	15,869
Plan12	18,654	Plan12	16,023	Plan20	15,297	Plan12	16,346	Plan12	15,625	Plan12	15,883
Plan15	18,792	Plan03	16,102	Plan12	15,300	Plan09	16,436	Plan13	15,704	Plan06	15,910
Plan13	18,859	Plan13	16,103	Plan01	15,318	Plan13	16,454	Plan03	15,736	Plan01	15,934
Plan03	18,887	Plan06	16,118	Plan07	15,326	Plan03	16,464	Plan06	15,777	Plan03	15,934
Plan09	19,055	Plan09	16,121	Plan03	15,333	Plan15	16,496	Plan15	15,790	Plan09	15,938
Plan06	19,075	Plan01	16,140	Plan09	15,336	Plan06	16,507	Plan01	15,802	Plan13	15,956
Plan04	19,095	Plan15	16,159	Plan13	15,349	Plan07	16,521	Plan09	15,822	Plan07	15,967
Plan01	19,114	Plan07	16,178	Plan05	15,385	Plan01	16,538	Plan05	15,893	Plan15	16,018
Plan05	19,161	Plan05	16,236	Plan11	15,390	Plan11	16,588	Plan07	15,907	Plan11	16,023
Plan07	19,189	Plan11	16,247	Plan15	15,448	Plan10	16,596	Plan04	15,931	Plan05	16,044
Plan10	19,191	Plan04	16,257	Plan10	15,475	Plan05	16,631	Plan11	15,970	Plan10	16,078
Plan02	19,245	Plan10	16,264	Plan04	15,484	Plan04	16,640	Plan02	16,000	Plan04	16,080
Plan11	19,291	Plan02	16,296	Plan02	15,485	Plan08	16,678	Plan10	16,004	Plan08	16,086
Plan08	19,339	Plan08	16,318	Plan08	15,497	Plan02	16,713	Plan08	16,089	Plan02	16,090

Endpoint	31	Endpoint	36	Endpoint	41	Endpoint	48	Endpoint	57
Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR
Plan22	14,988	Plan22	14,403	Plan22	13,672	Plan22	14,796	Plan22	14,305
Plan19	15,000	Plan19	14,418	Plan19	13,685	Plan19	14,809	Plan19	14,318
Plan17	15,010	Plan17	14,426	Plan17	13,691	Plan21	14,818	Plan17	14,326
Plan18	15,023	Plan09	14,432	Plan18	13,704	Plan24	14,819	Plan18	14,339
Plan23	15,053	Plan07	14,433	Plan06	13,732	Plan17	14,819	Plan23	14,379
Plan24	15,054	Plan18	14,440	Plan14	13,746	Plan20	14,820	Plan24	14,382
Plan20	15,056	Plan06	14,460	Plan01	13,751	Plan23	14,822	Plan20	14,382
Plan21	15,059	Plan01	14,481	Plan12	13,779	Plan18	14,832	Plan21	14,386
Plan14	15,110	Plan14	14,484	Plan03	13,784	Plan14	14,952	Plan14	14,419
Plan12	15,156	Plan11	14,516	Plan23	13,803	Plan12	15,021	Plan12	14,463
Plan06	15,212	Plan03	14,517	Plan20	13,806	Plan03	15,093	Plan06	14,499
Plan09	15,215	Plan08	14,517	Plan24	13,807	Plan09	15,099	Plan09	14,504
Plan03	15,218	Plan12	14,519	Plan21	13,811	Plan13	15,115	Plan03	14,515
Plan13	15,233	Plan10	14,524	Plan09	13,814	Plan15	15,127	Plan01	14,522
Plan01	15,236	Plan23	14,579	Plan07	13,815	Plan06	15,154	Plan07	14,536
Plan07	15,257	Plan02	14,580	Plan13	13,824	Plan07	15,168	Plan13	14,539
Plan15	15,289	Plan24	14,580	Plan05	13,851	Plan01	15,178	Plan15	14,592
Plan11	15,329	Plan20	14,583	Plan02	13,882	Plan10	15,222	Plan11	14,611
Plan05	15,332	Plan05	14,584	Plan15	13,889	Plan11	15,244	Plan05	14,620
Plan10	15,354	Plan21	14,585	Plan11	13,891	Plan05	15,254	Plan10	14,640
Plan04	15,362	Plan13	14,592	Plan04	13,895	Plan04	15,258	Plan04	14,654
Plan02	15,391	Plan04	14,593	Plan08	13,927	Plan08	15,300	Plan08	14,670
Plan08	15,393	Plan15	14,604	Plan10	13,928	Plan02	15,320	Plan02	14,674

Table 9: High Interest/Financing Cost Risk Table

High Interest Scenarios

Endpoint	1	Endpoint	6	Endpoint	15	Endpoint	22	Endpoint	27	Endpoint	30
Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR
Plan24	18,106	Plan22	16,315	Plan22	15,686	Plan22	16,613	Plan22	15,839	Plan22	15,732
Plan23	18,114	Plan19	16,333	Plan19	15,723	Plan19	16,631	Plan19	15,854	Plan19	15,749
Plan21	18,127	Plan18	16,353	Plan06	15,723	Plan18	16,659	Plan23	15,863	Plan17	15,754
Plan20	18,135	Plan23	16,405	Plan18	15,743	Plan24	16,667	Plan24	15,869	Plan18	15,772
Plan22	18,337	Plan24	16,412	Plan01	15,743	Plan23	16,669	Plan18	15,876	Plan14	15,837
Plan19	18,369	Plan14	16,418	Plan14	15,744	Plan21	16,693	Plan20	15,887	Plan23	15,839
Plan17	18,373	Plan20	16,431	Plan07	15,770	Plan20	16,695	Plan21	15,892	Plan24	15,844
Plan18	18,406	Plan21	16,438	Plan12	15,775	Plan14	16,760	Plan14	15,979	Plan20	15,865
Plan14	18,581	Plan12	16,464	Plan03	15,788	Plan12	16,815	Plan12	16,037	Plan21	15,869
Plan12	18,654	Plan06	16,520	Plan09	15,814	Plan17	16,869	Plan13	16,108	Plan12	15,883
Plan15	18,792	Plan03	16,526	Plan05	15,819	Plan09	16,912	Plan03	16,131	Plan06	15,910
Plan13	18,859	Plan13	16,537	Plan13	15,821	Plan03	16,917	Plan06	16,150	Plan01	15,934
Plan03	18,887	Plan01	16,538	Plan23	15,830	Plan13	16,917	Plan17	16,154	Plan03	15,934
Plan09	19,055	Plan09	16,575	Plan24	15,834	Plan06	16,937	Plan01	16,172	Plan09	15,938
Plan06	19,075	Plan15	16,599	Plan11	15,843	Plan15	16,963	Plan15	16,202	Plan13	15,956
Plan04	19,095	Plan17	16,603	Plan20	15,855	Plan01	16,964	Plan09	16,249	Plan07	15,967
Plan01	19,114	Plan07	16,612	Plan21	15,858	Plan07	16,975	Plan05	16,277	Plan15	16,018
Plan05	19,161	Plan05	16,651	Plan02	15,911	Plan11	17,026	Plan07	16,316	Plan11	16,023
Plan07	19,189	Plan11	16,667	Plan15	15,917	Plan10	17,069	Plan04	16,323	Plan05	16,044
Plan10	19,191	Plan04	16,679	Plan04	15,931	Plan05	17,071	Plan11	16,362	Plan10	16,078
Plan02	19,245	Plan02	16,695	Plan10	15,936	Plan04	17,091	Plan02	16,368	Plan04	16,080
Plan11	19,291	Plan10	16,715	Plan08	15,949	Plan08	17,120	Plan10	16,428	Plan08	16,086
Plan08	19,339	Plan08	16,737	Plan17	15,954	Plan02	17,137	Plan08	16,481	Plan02	16,090

Endpoint	32	Endpoint	34	Endpoint	37	Endpoint	42	Endpoint	49	Endpoint	58
Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR
Plan22	15,479	Plan22	15,207	Plan07	14,917	Plan06	14,121	Plan22	15,273	Plan22	14,810
Plan19	15,497	Plan19	15,225	Plan06	14,918	Plan22	14,125	Plan19	15,290	Plan19	14,828
Plan18	15,518	Plan17	15,225	Plan22	14,932	Plan01	14,135	Plan18	15,304	Plan18	14,849
Plan14	15,575	Plan18	15,244	Plan01	14,936	Plan19	14,143	Plan23	15,340	Plan14	14,901
Plan23	15,593	Plan14	15,295	Plan09	14,937	Plan18	14,158	Plan24	15,341	Plan23	14,931
Plan24	15,598	Plan23	15,322	Plan19	14,952	Plan14	14,172	Plan20	15,342	Plan24	14,938
Plan12	15,618	Plan24	15,330	Plan18	14,972	Plan03	14,192	Plan21	15,343	Plan06	14,940
Plan20	15,620	Plan12	15,335	Plan14	14,985	Plan12	14,203	Plan14	15,401	Plan12	14,942
Plan21	15,624	Plan06	15,345	Plan11	14,987	Plan07	14,238	Plan12	15,473	Plan20	14,958
Plan06	15,634	Plan20	15,350	Plan08	14,991	Plan13	14,242	Plan03	15,528	Plan01	14,960
Plan01	15,654	Plan21	15,357	Plan03	14,996	Plan05	14,250	Plan17	15,542	Plan21	14,963
Plan03	15,662	Plan01	15,363	Plan12	15,017	Plan09	14,254	Plan09	15,553	Plan03	14,978
Plan13	15,687	Plan03	15,375	Plan10	15,030	Plan02	14,267	Plan13	15,557	Plan09	14,992
Plan09	15,688	Plan13	15,403	Plan02	15,042	Plan11	14,298	Plan15	15,574	Plan07	15,006
Plan07	15,710	Plan09	15,424	Plan05	15,057	Plan23	14,301	Plan06	15,578	Plan13	15,011
Plan17	15,748	Plan07	15,442	Plan04	15,079	Plan04	14,303	Plan01	15,599	Plan11	15,064
Plan15	15,750	Plan15	15,464	Plan13	15,081	Plan24	14,314	Plan07	15,620	Plan17	15,065
Plan11	15,767	Plan05	15,475	Plan15	15,107	Plan15	14,314	Plan10	15,680	Plan15	15,069
Plan05	15,767	Plan11	15,499	Plan17	15,154	Plan20	14,327	Plan05	15,682	Plan05	15,072
Plan04	15,806	Plan02	15,513	Plan23	15,154	Plan08	14,332	Plan04	15,697	Plan02	15,111
Plan02	15,810	Plan04	15,515	Plan24	15,163	Plan21	14,339	Plan11	15,700	Plan04	15,115
Plan10	15,824	Plan10	15,557	Plan20	15,183	Plan10	14,368	Plan02	15,740	Plan08	15,123
Plan08	15,827	Plan08	15,560	Plan21	15,190	Plan17	14,429	Plan08	15,749	Plan10	15,125

Table 10: Low CO2 Credit Price Risk Table

Low CO2 Scenarios

Endpoint	10	Endpoint	19	Endpoint	40	Endpoint	41	Endpoint	42	Endpoint	43
Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR
Plan22	14,076	Plan06	13,505	Plan22	13,627	Plan22	13,672	Plan06	14,121	Plan22	13,381
Plan19	14,089	Plan01	13,519	Plan19	13,637	Plan19	13,685	Plan22	14,125	Plan19	13,394
Plan18	14,103	Plan22	13,572	Plan18	13,656	Plan17	13,691	Plan01	14,135	Plan18	13,410
Plan14	14,146	Plan05	13,591	Plan14	13,718	Plan18	13,704	Plan19	14,143	Plan06	13,423
Plan06	14,161	Plan03	13,592	Plan23	13,728	Plan06	13,732	Plan18	14,158	Plan01	13,438
Plan01	14,175	Plan19	13,595	Plan20	13,729	Plan14	13,746	Plan14	14,172	Plan14	13,445
Plan12	14,179	Plan07	13,597	Plan24	13,734	Plan01	13,751	Plan03	14,192	Plan12	13,475
Plan23	14,190	Plan14	13,601	Plan21	13,736	Plan12	13,779	Plan12	14,203	Plan03	13,476
Plan20	14,194	Plan18	13,610	Plan06	13,749	Plan03	13,784	Plan07	14,238	Plan23	13,514
Plan03	14,195	Plan12	13,620	Plan12	13,759	Plan23	13,803	Plan13	14,242	Plan20	13,518
Plan24	14,201	Plan13	13,635	Plan01	13,763	Plan20	13,806	Plan05	14,250	Plan13	13,519
Plan21	14,205	Plan09	13,652	Plan03	13,777	Plan24	13,807	Plan09	14,254	Plan24	13,524
Plan13	14,225	Plan02	13,662	Plan13	13,797	Plan21	13,811	Plan02	14,267	Plan07	13,528
Plan09	14,274	Plan11	13,665	Plan05	13,853	Plan09	13,814	Plan11	14,298	Plan21	13,528
Plan05	14,276	Plan04	13,707	Plan09	13,889	Plan07	13,815	Plan23	14,301	Plan09	13,531
Plan07	14,285	Plan23	13,741	Plan15	13,892	Plan13	13,824	Plan04	14,303	Plan05	13,538
Plan15	14,292	Plan08	13,741	Plan07	13,915	Plan05	13,851	Plan24	14,314	Plan02	13,568
Plan02	14,307	Plan15	13,743	Plan04	13,917	Plan02	13,882	Plan15	14,314	Plan15	13,585
Plan04	14,313	Plan24	13,754	Plan02	13,925	Plan15	13,889	Plan20	14,327	Plan04	13,585
Plan11	14,359	Plan20	13,759	Plan17	13,942	Plan11	13,891	Plan08	14,332	Plan11	13,604
Plan17	14,388	Plan10	13,764	Plan11	13,980	Plan04	13,895	Plan21	14,339	Plan08	13,638
Plan10	14,389	Plan21	13,766	Plan10	14,034	Plan08	13,927	Plan10	14,368	Plan10	13,643
Plan08	14,398	Plan17	13,875	Plan08	14,060	Plan10	13,928	Plan17	14,429	Plan17	13,685

Endpoint	44	Endpoint	45	Endpoint	53	Endpoint	62	Endpoint	64
Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR
Plan22	13,074	Plan06	12,777	Plan22	13,189	Plan22	12,824	Plan07	12,032
Plan17	13,084	Plan07	12,787	Plan19	13,203	Plan19	12,838	Plan06	12,038
Plan19	13,087	Plan01	12,792	Plan18	13,219	Plan06	12,849	Plan01	12,049
Plan18	13,098	Plan09	12,841	Plan20	13,282	Plan18	12,852	Plan09	12,070
Plan06	13,103	Plan08	12,851	Plan23	13,283	Plan01	12,863	Plan08	12,089
Plan01	13,113	Plan11	12,871	Plan14	13,286	Plan14	12,885	Plan03	12,096
Plan14	13,129	Plan02	12,874	Plan21	13,288	Plan03	12,909	Plan22	12,097
Plan03	13,155	Plan03	12,892	Plan24	13,288	Plan12	12,914	Plan17	12,107
Plan12	13,158	Plan05	12,896	Plan12	13,340	Plan07	12,941	Plan19	12,112
Plan13	13,201	Plan10	12,908	Plan03	13,352	Plan09	12,951	Plan02	12,118
Plan23	13,208	Plan22	12,932	Plan06	13,365	Plan13	12,956	Plan10	12,119
Plan20	13,212	Plan04	12,941	Plan01	13,380	Plan23	12,963	Plan11	12,119
Plan05	13,213	Plan14	12,946	Plan13	13,401	Plan05	12,964	Plan18	12,123
Plan24	13,222	Plan19	12,947	Plan09	13,415	Plan20	12,967	Plan14	12,130
Plan21	13,227	Plan18	12,961	Plan15	13,422	Plan24	12,972	Plan05	12,130
Plan07	13,233	Plan12	12,962	Plan07	13,439	Plan21	12,976	Plan04	12,161
Plan09	13,240	Plan13	12,997	Plan05	13,460	Plan02	12,987	Plan12	12,165
Plan02	13,241	Plan15	13,034	Plan04	13,481	Plan04	13,010	Plan15	12,207
Plan04	13,262	Plan17	13,178	Plan17	13,494	Plan11	13,017	Plan13	12,209
Plan15	13,266	Plan23	13,186	Plan02	13,497	Plan15	13,018	Plan23	12,319
Plan11	13,310	Plan20	13,191	Plan10	13,511	Plan08	13,044	Plan20	12,321
Plan08	13,341	Plan24	13,197	Plan11	13,520	Plan10	13,058	Plan24	12,330
Plan10	13,350	Plan21	13,203	Plan08	13,544	Plan17	13,120	Plan21	12,331

Table 11: Low Natural Gas Price Risk Table

Low Gas Scenarios

Endpoint	9	Endpoint	18	Endpoint	25	Endpoint	36	Endpoint	37	Endpoint	38
Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR
Plan22	14,858	Plan07	14,276	Plan22	15,429	Plan22	14,403	Plan07	14,917	Plan22	14,188
Plan19	14,873	Plan06	14,302	Plan19	15,444	Plan19	14,418	Plan06	14,918	Plan19	14,203
Plan18	14,892	Plan01	14,320	Plan18	15,469	Plan17	14,426	Plan22	14,932	Plan07	14,207
Plan07	14,899	Plan09	14,336	Plan24	15,527	Plan09	14,432	Plan01	14,936	Plan09	14,215
Plan09	14,900	Plan11	14,354	Plan23	15,528	Plan07	14,433	Plan09	14,937	Plan06	14,220
Plan06	14,918	Plan22	14,379	Plan20	15,533	Plan18	14,440	Plan19	14,952	Plan18	14,224
Plan14	14,932	Plan03	14,396	Plan21	15,533	Plan06	14,460	Plan18	14,972	Plan01	14,238
Plan01	14,936	Plan08	14,396	Plan14	15,557	Plan01	14,481	Plan14	14,985	Plan14	14,258
Plan12	14,965	Plan05	14,398	Plan09	15,580	Plan14	14,484	Plan11	14,987	Plan03	14,280
Plan03	14,966	Plan19	14,404	Plan12	15,604	Plan11	14,516	Plan08	14,991	Plan12	14,289
Plan11	14,986	Plan14	14,414	Plan07	15,623	Plan03	14,517	Plan03	14,996	Plan11	14,292
Plan08	14,986	Plan18	14,424	Plan17	15,639	Plan08	14,517	Plan12	15,017	Plan08	14,293
Plan10	14,991	Plan10	14,426	Plan06	15,657	Plan12	14,519	Plan10	15,030	Plan10	14,305
Plan23	15,022	Plan12	14,434	Plan03	15,663	Plan10	14,524	Plan02	15,042	Plan02	14,342
Plan24	15,027	Plan02	14,436	Plan01	15,682	Plan23	14,579	Plan05	15,057	Plan05	14,345
Plan20	15,028	Plan13	14,474	Plan10	15,691	Plan02	14,580	Plan04	15,079	Plan13	14,358
Plan21	15,033	Plan04	14,483	Plan11	15,698	Plan24	14,580	Plan13	15,081	Plan04	14,362
Plan02	15,038	Plan15	14,536	Plan15	15,704	Plan20	14,583	Plan15	15,107	Plan23	14,368
Plan13	15,043	Plan23	14,594	Plan13	15,712	Plan05	14,584	Plan17	15,154	Plan24	14,373
Plan05	15,044	Plan17	14,601	Plan08	15,724	Plan21	14,585	Plan23	15,154	Plan20	14,373
Plan04	15,052	Plan24	14,603	Plan04	15,767	Plan13	14,592	Plan24	15,163	Plan15	14,378
Plan15	15,055	Plan20	14,614	Plan05	15,777	Plan04	14,593	Plan20	15,183	Plan21	14,379
Plan17	15,099	Plan21	14,617	Plan02	15,795	Plan15	14,604	Plan21	15,190	Plan17	14,410

Endpoint	39	Endpoint	45	Endpoint	52	Endpoint	61	Endpoint	64
Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR
Plan22	13,959	Plan06	12,777	Plan22	13,996	Plan07	13,644	Plan07	12,032
Plan06	13,967	Plan07	12,787	Plan19	14,011	Plan22	13,644	Plan06	12,038
Plan07	13,967	Plan01	12,792	Plan18	14,033	Plan06	13,653	Plan01	12,049
Plan19	13,975	Plan09	12,841	Plan09	14,098	Plan09	13,657	Plan09	12,070
Plan17	13,976	Plan08	12,851	Plan14	14,100	Plan19	13,659	Plan08	12,089
Plan09	13,982	Plan11	12,871	Plan07	14,118	Plan01	13,670	Plan03	12,096
Plan01	13,984	Plan02	12,874	Plan23	14,137	Plan18	13,680	Plan22	12,097
Plan18	13,992	Plan03	12,892	Plan24	14,137	Plan14	13,707	Plan17	12,107
Plan14	14,017	Plan05	12,896	Plan20	14,138	Plan03	13,721	Plan19	12,112
Plan03	14,032	Plan10	12,908	Plan21	14,138	Plan11	13,730	Plan02	12,118
Plan12	14,044	Plan22	12,932	Plan12	14,154	Plan08	13,730	Plan10	12,119
Plan08	14,052	Plan04	12,941	Plan03	14,156	Plan12	13,736	Plan11	12,119
Plan11	14,052	Plan14	12,946	Plan06	14,161	Plan10	13,749	Plan18	12,123
Plan10	14,071	Plan19	12,947	Plan10	14,174	Plan02	13,777	Plan14	12,130
Plan02	14,087	Plan18	12,961	Plan01	14,181	Plan05	13,778	Plan05	12,130
Plan05	14,091	Plan12	12,962	Plan08	14,200	Plan04	13,801	Plan04	12,161
Plan13	14,112	Plan13	12,997	Plan11	14,207	Plan13	13,803	Plan12	12,165
Plan04	14,113	Plan15	13,034	Plan15	14,215	Plan15	13,826	Plan15	12,207
Plan15	14,132	Plan17	13,178	Plan17	14,219	Plan23	13,838	Plan13	12,209
Plan23	14,145	Plan23	13,186	Plan13	14,240	Plan24	13,840	Plan23	12,319
Plan20	14,151	Plan20	13,191	Plan04	14,258	Plan20	13,844	Plan20	12,321
Plan24	14,151	Plan24	13,197	Plan05	14,267	Plan21	13,847	Plan24	12,330
Plan21	14,158	Plan21	13,203	Plan02	14,272	Plan17	13,848	Plan21	12,331

Table 12: Low Load Growth Risk Table

Low Load Scenarios

Endpoint	54	Endpoint	55	Endpoint	56	Endpoint	57	Endpoint	58	Endpoint	59
Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR
Plan22	14,257	Plan22	15,087	Plan24	14,297	Plan22	14,305	Plan22	14,810	Plan22	14,066
Plan19	14,280	Plan19	15,100	Plan23	14,297	Plan19	14,318	Plan19	14,828	Plan19	14,079
Plan18	14,300	Plan24	15,117	Plan20	14,299	Plan17	14,326	Plan18	14,849	Plan18	14,100
Plan06	14,324	Plan23	15,120	Plan21	14,299	Plan18	14,339	Plan14	14,901	Plan23	14,145
Plan14	14,330	Plan21	15,121	Plan22	14,303	Plan23	14,379	Plan23	14,931	Plan24	14,148
Plan01	14,344	Plan20	15,124	Plan19	14,314	Plan24	14,382	Plan24	14,938	Plan20	14,149
Plan12	14,359	Plan18	15,126	Plan18	14,337	Plan20	14,382	Plan06	14,940	Plan21	14,153
Plan07	14,365	Plan14	15,240	Plan14	14,455	Plan21	14,386	Plan12	14,942	Plan14	14,174
Plan23	14,371	Plan12	15,292	Plan12	14,510	Plan14	14,419	Plan20	14,958	Plan12	14,214
Plan03	14,377	Plan17	15,322	Plan13	14,584	Plan12	14,463	Plan01	14,960	Plan06	14,242
Plan24	14,378	Plan09	15,362	Plan03	14,605	Plan06	14,499	Plan21	14,963	Plan03	14,261
Plan20	14,390	Plan03	15,387	Plan17	14,612	Plan09	14,504	Plan03	14,978	Plan01	14,263
Plan21	14,390	Plan13	15,395	Plan06	14,628	Plan03	14,515	Plan09	14,992	Plan09	14,270
Plan09	14,391	Plan06	15,408	Plan01	14,649	Plan01	14,522	Plan07	15,006	Plan13	14,288
Plan13	14,404	Plan07	15,428	Plan15	14,666	Plan07	14,536	Plan13	15,011	Plan07	14,296
Plan05	14,414	Plan01	15,435	Plan09	14,687	Plan13	14,539	Plan11	15,064	Plan17	14,321
Plan11	14,431	Plan15	15,436	Plan05	14,739	Plan15	14,592	Plan17	15,065	Plan15	14,340
Plan15	14,499	Plan11	15,497	Plan07	14,754	Plan11	14,611	Plan15	15,069	Plan05	14,361
Plan02	14,506	Plan10	15,516	Plan04	14,781	Plan05	14,620	Plan05	15,072	Plan11	14,369
Plan17	14,512	Plan05	15,532	Plan11	14,817	Plan10	14,640	Plan02	15,111	Plan04	14,397
Plan04	14,519	Plan04	15,553	Plan02	14,832	Plan04	14,654	Plan04	15,115	Plan10	14,400
Plan10	14,521	Plan08	15,581	Plan10	14,858	Plan08	14,670	Plan08	15,123	Plan02	14,412
Plan08	14,528	Plan02	15,604	Plan08	14,923	Plan02	14,674	Plan10	15,125	Plan08	14,425

Endpoint	60	Endpoint	61	Endpoint	62	Endpoint	63	Endpoint	64
Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR
Plan22	13,804	Plan07	13,644	Plan22	12,824	Plan22	13,874	Plan07	12,032
Plan19	13,818	Plan22	13,644	Plan19	12,838	Plan19	13,888	Plan06	12,038
Plan17	13,823	Plan06	13,653	Plan06	12,849	Plan18	13,909	Plan01	12,049
Plan18	13,837	Plan09	13,657	Plan18	12,852	Plan24	13,912	Plan09	12,070
Plan23	13,884	Plan19	13,659	Plan01	12,863	Plan21	13,912	Plan08	12,089
Plan20	13,889	Plan01	13,670	Plan14	12,885	Plan20	13,913	Plan03	12,096
Plan24	13,889	Plan18	13,680	Plan03	12,909	Plan23	13,913	Plan22	12,097
Plan21	13,894	Plan14	13,707	Plan12	12,914	Plan14	14,016	Plan17	12,107
Plan14	13,905	Plan03	13,721	Plan07	12,941	Plan12	14,080	Plan19	12,112
Plan12	13,944	Plan11	13,730	Plan09	12,951	Plan17	14,130	Plan02	12,118
Plan06	13,967	Plan08	13,730	Plan13	12,956	Plan03	14,137	Plan10	12,119
Plan01	13,985	Plan12	13,736	Plan23	12,963	Plan09	14,153	Plan11	12,119
Plan03	13,987	Plan10	13,749	Plan05	12,964	Plan13	14,170	Plan18	12,123
Plan13	14,015	Plan02	13,777	Plan20	12,967	Plan15	14,178	Plan14	12,130
Plan09	14,017	Plan05	13,778	Plan24	12,972	Plan06	14,184	Plan05	12,130
Plan07	14,039	Plan04	13,801	Plan21	12,976	Plan01	14,205	Plan04	12,161
Plan15	14,066	Plan13	13,803	Plan02	12,987	Plan07	14,207	Plan12	12,165
Plan05	14,084	Plan15	13,826	Plan04	13,010	Plan10	14,268	Plan15	12,207
Plan11	14,114	Plan23	13,838	Plan11	13,017	Plan05	14,283	Plan13	12,209
Plan04	14,120	Plan24	13,840	Plan15	13,018	Plan11	14,285	Plan23	12,319
Plan02	14,130	Plan20	13,844	Plan08	13,044	Plan04	14,293	Plan20	12,321
Plan10	14,145	Plan21	13,847	Plan10	13,058	Plan08	14,331	Plan24	12,330
Plan08	14,165	Plan17	13,848	Plan17	13,120	Plan02	14,341	Plan21	12,331

Table 13: Low Construction Costs Risk Table

Low Construction Scenarios

Endpoint	11	Endpoint	46	Endpoint	47	Endpoint	48	Endpoint	49	Endpoint	50
Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR
Plan22	15,379	Plan21	15,642	Plan21	14,841	Plan22	14,796	Plan22	15,273	Plan22	14,543
Plan20	15,386	Plan24	15,642	Plan20	14,842	Plan19	14,809	Plan19	15,290	Plan19	14,557
Plan21	15,387	Plan20	15,650	Plan24	14,843	Plan21	14,818	Plan18	15,304	Plan21	14,573
Plan24	15,387	Plan23	15,651	Plan23	14,846	Plan24	14,819	Plan23	15,340	Plan24	14,573
Plan23	15,387	Plan22	15,677	Plan22	14,903	Plan17	14,819	Plan24	15,341	Plan20	14,575
Plan19	15,393	Plan19	15,691	Plan19	14,914	Plan20	14,820	Plan20	15,342	Plan23	14,575
Plan18	15,413	Plan18	15,720	Plan18	14,937	Plan23	14,822	Plan21	15,343	Plan18	14,579
Plan14	15,533	Plan14	15,874	Plan14	15,094	Plan18	14,832	Plan14	15,401	Plan14	14,689
Plan12	15,602	Plan17	15,934	Plan12	15,174	Plan14	14,952	Plan12	15,473	Plan12	14,755
Plan17	15,668	Plan12	15,953	Plan17	15,220	Plan12	15,021	Plan03	15,528	Plan17	14,813
Plan03	15,685	Plan15	16,072	Plan13	15,267	Plan03	15,093	Plan17	15,542	Plan03	14,821
Plan13	15,696	Plan09	16,073	Plan03	15,290	Plan09	15,099	Plan09	15,553	Plan13	14,846
Plan15	15,708	Plan03	16,076	Plan15	15,310	Plan13	15,115	Plan13	15,557	Plan09	14,849
Plan09	15,736	Plan13	16,076	Plan06	15,394	Plan15	15,127	Plan15	15,574	Plan15	14,858
Plan06	15,764	Plan07	16,176	Plan09	15,410	Plan06	15,154	Plan06	15,578	Plan06	14,877
Plan01	15,783	Plan06	16,180	Plan01	15,416	Plan07	15,168	Plan01	15,599	Plan01	14,899
Plan07	15,813	Plan01	16,209	Plan05	15,488	Plan01	15,178	Plan07	15,620	Plan07	14,911
Plan04	15,857	Plan10	16,213	Plan04	15,502	Plan10	15,222	Plan10	15,680	Plan10	14,968
Plan10	15,859	Plan11	16,248	Plan07	15,517	Plan11	15,244	Plan05	15,682	Plan05	14,977
Plan05	15,861	Plan04	16,269	Plan10	15,572	Plan05	15,254	Plan04	15,697	Plan04	14,985
Plan11	15,888	Plan05	16,282	Plan11	15,583	Plan04	15,258	Plan11	15,700	Plan11	14,988
Plan02	15,925	Plan08	16,328	Plan02	15,598	Plan08	15,300	Plan02	15,740	Plan08	15,040
Plan08	15,946	Plan02	16,366	Plan08	15,689	Plan02	15,320	Plan08	15,749	Plan02	15,040

Endpoint	51	Endpoint	52	Endpoint	53	Endpoint	63	Endpoint	64
Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR
Plan22	14,271	Plan22	13,996	Plan22	13,189	Plan22	13,874	Plan07	12,032
Plan19	14,285	Plan19	14,011	Plan19	13,203	Plan19	13,888	Plan06	12,038
Plan17	14,290	Plan18	14,033	Plan18	13,219	Plan18	13,909	Plan01	12,049
Plan23	14,304	Plan09	14,098	Plan20	13,282	Plan24	13,912	Plan09	12,070
Plan18	14,304	Plan14	14,100	Plan23	13,283	Plan21	13,912	Plan08	12,089
Plan20	14,305	Plan07	14,118	Plan14	13,286	Plan20	13,913	Plan03	12,096
Plan24	14,305	Plan23	14,137	Plan21	13,288	Plan23	13,913	Plan22	12,097
Plan21	14,306	Plan24	14,137	Plan24	13,288	Plan14	14,016	Plan17	12,107
Plan14	14,409	Plan20	14,138	Plan12	13,340	Plan12	14,080	Plan19	12,112
Plan12	14,473	Plan21	14,138	Plan03	13,352	Plan17	14,130	Plan02	12,118
Plan03	14,534	Plan12	14,154	Plan06	13,365	Plan03	14,137	Plan10	12,119
Plan13	14,562	Plan03	14,156	Plan01	13,380	Plan09	14,153	Plan11	12,119
Plan15	14,573	Plan06	14,161	Plan13	13,401	Plan13	14,170	Plan18	12,123
Plan09	14,585	Plan10	14,174	Plan09	13,415	Plan15	14,178	Plan14	12,130
Plan06	14,588	Plan01	14,181	Plan15	13,422	Plan06	14,184	Plan05	12,130
Plan01	14,607	Plan08	14,200	Plan07	13,439	Plan01	14,205	Plan04	12,161
Plan07	14,643	Plan11	14,207	Plan05	13,460	Plan07	14,207	Plan12	12,165
Plan05	14,685	Plan15	14,215	Plan04	13,481	Plan10	14,268	Plan15	12,207
Plan04	14,693	Plan17	14,219	Plan17	13,494	Plan05	14,283	Plan13	12,209
Plan10	14,701	Plan13	14,240	Plan02	13,497	Plan11	14,285	Plan23	12,319
Plan11	14,720	Plan04	14,258	Plan10	13,511	Plan04	14,293	Plan20	12,321
Plan02	14,743	Plan05	14,267	Plan11	13,520	Plan08	14,331	Plan24	12,330
Plan08	14,768	Plan02	14,272	Plan08	13,544	Plan02	14,341	Plan21	12,331

Table 14: Low Coal Costs Risk Table

Low Coal Scenarios

Endpoint	8	Endpoint	17	Endpoint	24	Endpoint	29	Endpoint	34	Endpoint	35
Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR
Plan22	15,284	Plan22	14,654	Plan22	15,621	Plan23	14,772	Plan22	15,207	Plan22	14,462
Plan19	15,298	Plan17	14,672	Plan19	15,635	Plan20	14,774	Plan19	15,225	Plan19	14,476
Plan17	15,301	Plan19	14,677	Plan24	15,643	Plan24	14,779	Plan17	15,225	Plan17	14,481
Plan18	15,315	Plan18	14,696	Plan23	15,643	Plan21	14,782	Plan18	15,244	Plan18	14,495
Plan23	15,336	Plan14	14,723	Plan17	15,645	Plan22	14,788	Plan14	15,295	Plan23	14,536
Plan20	15,340	Plan06	14,729	Plan20	15,647	Plan19	14,799	Plan23	15,322	Plan20	14,540
Plan24	15,342	Plan01	14,747	Plan21	15,648	Plan17	14,805	Plan24	15,330	Plan24	14,541
Plan21	15,347	Plan12	14,752	Plan18	15,659	Plan18	14,816	Plan12	15,335	Plan21	14,546
Plan14	15,396	Plan23	14,762	Plan14	15,770	Plan14	14,935	Plan06	15,345	Plan14	14,567
Plan12	15,439	Plan24	14,770	Plan12	15,821	Plan12	14,991	Plan20	15,350	Plan12	14,608
Plan03	15,506	Plan03	14,774	Plan03	15,921	Plan13	15,066	Plan21	15,357	Plan06	14,647
Plan13	15,513	Plan20	14,781	Plan13	15,924	Plan03	15,092	Plan01	15,363	Plan03	14,658
Plan06	15,516	Plan21	14,784	Plan09	15,928	Plan06	15,130	Plan03	15,375	Plan01	14,665
Plan01	15,532	Plan13	14,796	Plan06	15,952	Plan01	15,147	Plan13	15,403	Plan13	14,680
Plan15	15,569	Plan07	14,801	Plan15	15,962	Plan15	15,152	Plan09	15,424	Plan09	14,701
Plan09	15,573	Plan05	14,816	Plan01	15,976	Plan09	15,230	Plan07	15,442	Plan07	14,732
Plan07	15,619	Plan09	14,822	Plan07	15,996	Plan05	15,239	Plan15	15,464	Plan15	14,735
Plan05	15,631	Plan11	14,866	Plan11	16,063	Plan04	15,280	Plan05	15,475	Plan05	14,763
Plan04	15,654	Plan15	14,894	Plan05	16,070	Plan07	15,306	Plan11	15,499	Plan04	14,797
Plan02	15,683	Plan02	14,908	Plan10	16,080	Plan02	15,339	Plan02	15,513	Plan11	14,804
Plan11	15,689	Plan04	14,919	Plan04	16,090	Plan11	15,370	Plan04	15,515	Plan02	14,813
Plan10	15,709	Plan10	14,954	Plan02	16,143	Plan10	15,406	Plan10	15,557	Plan10	14,833
Plan08	15,752	Plan08	14,965	Plan08	16,148	Plan08	15,482	Plan08	15,560	Plan08	14,861

Endpoint	39	Endpoint	44	Endpoint	51	Endpoint	60	Endpoint	64
Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR	Plan	NPVRR
Plan22	13,959	Plan22	13,074	Plan22	14,271	Plan22	13,804	Plan07	12,032
Plan06	13,967	Plan17	13,084	Plan19	14,285	Plan19	13,818	Plan06	12,038
Plan07	13,967	Plan19	13,087	Plan17	14,290	Plan17	13,823	Plan01	12,049
Plan19	13,975	Plan18	13,098	Plan23	14,304	Plan18	13,837	Plan09	12,070
Plan17	13,976	Plan06	13,103	Plan18	14,304	Plan23	13,884	Plan08	12,089
Plan09	13,982	Plan01	13,113	Plan20	14,305	Plan20	13,889	Plan03	12,096
Plan01	13,984	Plan14	13,129	Plan24	14,305	Plan24	13,889	Plan22	12,097
Plan18	13,992	Plan03	13,155	Plan21	14,306	Plan21	13,894	Plan17	12,107
Plan14	14,017	Plan12	13,158	Plan14	14,409	Plan14	13,905	Plan19	12,112
Plan03	14,032	Plan13	13,201	Plan12	14,473	Plan12	13,944	Plan02	12,118
Plan12	14,044	Plan23	13,208	Plan03	14,534	Plan06	13,967	Plan10	12,119
Plan08	14,052	Plan20	13,212	Plan13	14,562	Plan01	13,985	Plan11	12,119
Plan11	14,052	Plan05	13,213	Plan15	14,573	Plan03	13,987	Plan18	12,123
Plan10	14,071	Plan24	13,222	Plan09	14,585	Plan13	14,015	Plan14	12,130
Plan02	14,087	Plan21	13,227	Plan06	14,588	Plan09	14,017	Plan05	12,130
Plan05	14,091	Plan07	13,233	Plan01	14,607	Plan07	14,039	Plan04	12,161
Plan13	14,112	Plan09	13,240	Plan07	14,643	Plan15	14,066	Plan12	12,165
Plan04	14,113	Plan02	13,241	Plan05	14,685	Plan05	14,084	Plan15	12,207
Plan15	14,132	Plan04	13,262	Plan04	14,693	Plan11	14,114	Plan13	12,209
Plan23	14,145	Plan15	13,266	Plan10	14,701	Plan04	14,120	Plan23	12,319
Plan20	14,151	Plan11	13,310	Plan11	14,720	Plan02	14,130	Plan20	12,321
Plan24	14,151	Plan08	13,341	Plan02	14,743	Plan10	14,145	Plan24	12,330
Plan21	14,158	Plan10	13,350	Plan08	14,768	Plan08	14,165	Plan21	12,331

The lowest cost plan for each scenario is detailed in Table 15 below.

Table 15: Lowest NPVRR Plan by Scenario

Scenario	Plan	NPVRR	Prob	Scenario	Plan	NPVRR	Prob
1	Plan24	18,106	0.08%	33	Plan22	14,735	5.26%
2	Plan22	15,762	1.32%	34	Plan22	15,207	1.30%
3	Plan24	16,839	1.32%	35	Plan22	14,462	2.63%
4	Plan23	16,044	1.32%	36	Plan22	14,403	1.32%
5	Plan22	15,843	1.32%	37	Plan07	14,917	1.30%
6	Plan22	16,315	1.30%	38	Plan22	14,188	2.63%
7	Plan22	15,571	2.63%	39	Plan22	13,959	1.32%
8	Plan22	15,284	1.32%	40	Plan22	13,627	1.32%
9	Plan22	14,858	1.32%	41	Plan22	13,672	1.32%
10	Plan22	14,076	1.32%	42	Plan06	14,121	1.30%
11	Plan22	15,379	1.32%	43	Plan22	13,381	2.63%
12	Plan22	16,060	1.32%	44	Plan22	13,074	1.32%
13	Plan22	15,286	1.32%	45	Plan06	12,777	1.32%
14	Plan22	15,179	1.32%	46	Plan21	15,642	1.32%
15	Plan22	15,686	1.30%	47	Plan21	14,841	1.32%
16	Plan22	14,926	2.63%	48	Plan22	14,796	1.32%
17	Plan22	14,654	1.32%	49	Plan22	15,273	1.30%
18	Plan07	14,276	1.32%	50	Plan22	14,543	2.63%
19	Plan06	13,505	1.32%	51	Plan22	14,271	1.32%
20	Plan24	15,209	1.32%	52	Plan22	13,996	1.32%
21	Plan24	16,106	1.32%	53	Plan22	13,189	1.32%
22	Plan22	16,613	1.30%	54	Plan22	14,257	1.32%
23	Plan22	15,869	2.63%	55	Plan22	15,087	1.32%
24	Plan22	15,621	1.32%	56	Plan24	14,297	1.32%
25	Plan22	15,429	1.32%	57	Plan22	14,305	1.32%
26	Plan24	15,371	1.32%	58	Plan22	14,810	1.30%
27	Plan22	15,839	1.30%	59	Plan22	14,066	2.63%
28	Plan23	15,077	2.63%	60	Plan22	13,804	1.32%
29	Plan23	14,772	1.32%	61	Plan07	13,644	1.32%
30	Plan22	15,732	1.30%	62	Plan22	12,824	1.32%
31	Plan22	14,988	2.63%	63	Plan22	13,874	1.32%
32	Plan22	15,479	2.59%	64	Plan07	12,032	0.16%

The cumulative probability that an individual plan is the lowest cost plan is given in Table 16 below.

Table 16: Lowest NPVRR Plan Cumulative Probability

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

GMO further analyzed the risks impacting on the NPVRR performance measure by developing tornado charts of each alternative plan with probable environmental costs included. These charts are provided in Figure 2 through Figure 19.

Figure 2: Plan 1 Tornado Chart

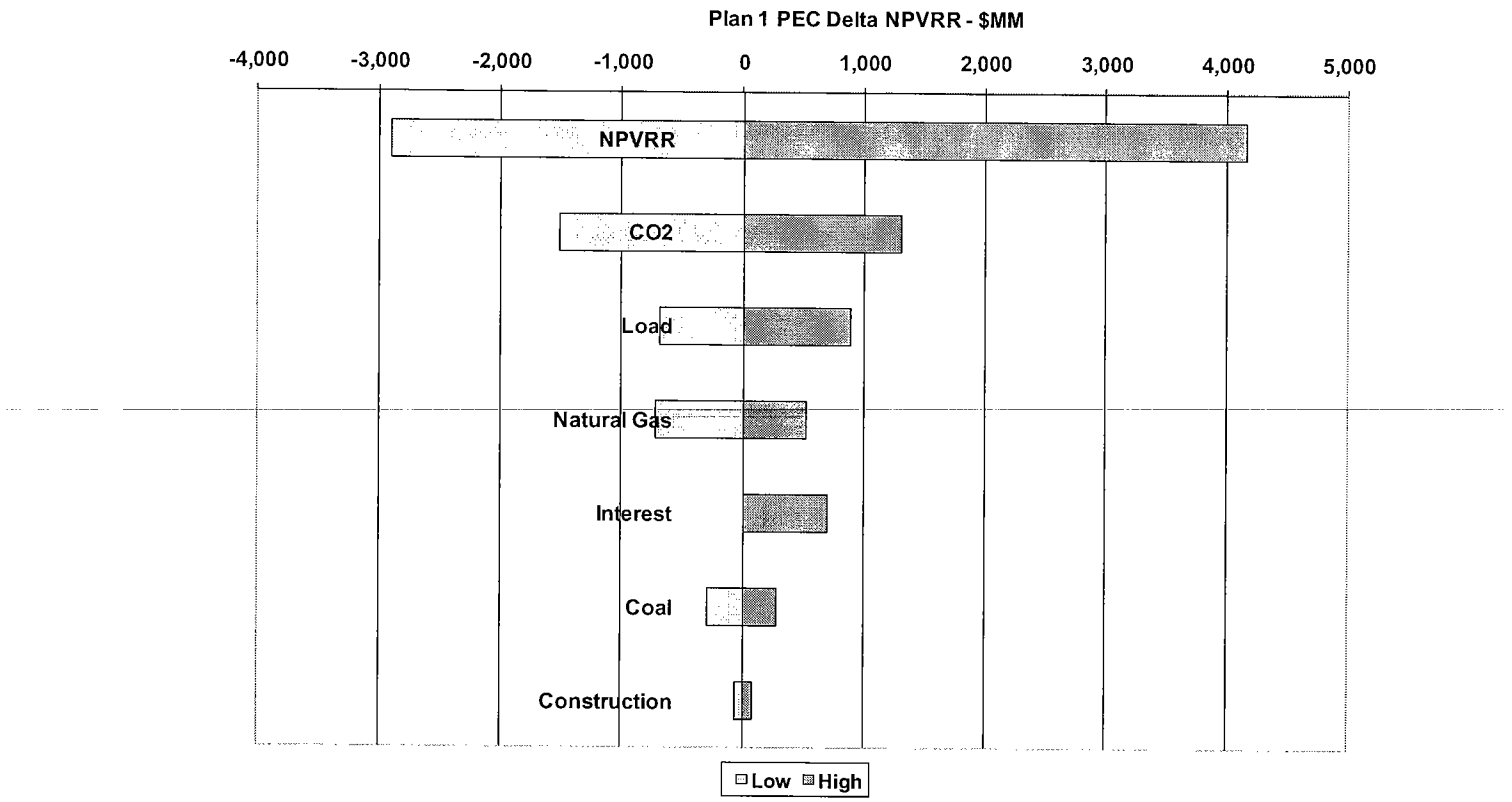


Figure 3: Plan 2 Tornado Chart

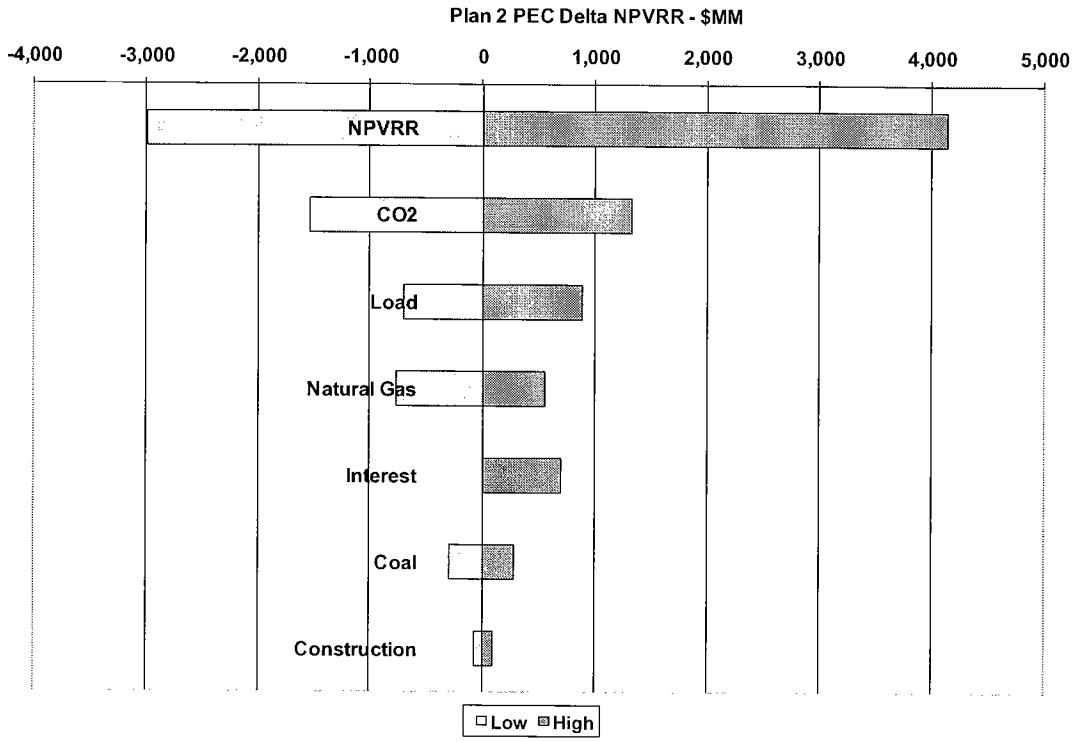


Figure 4: Plan 3 Tornado Chart

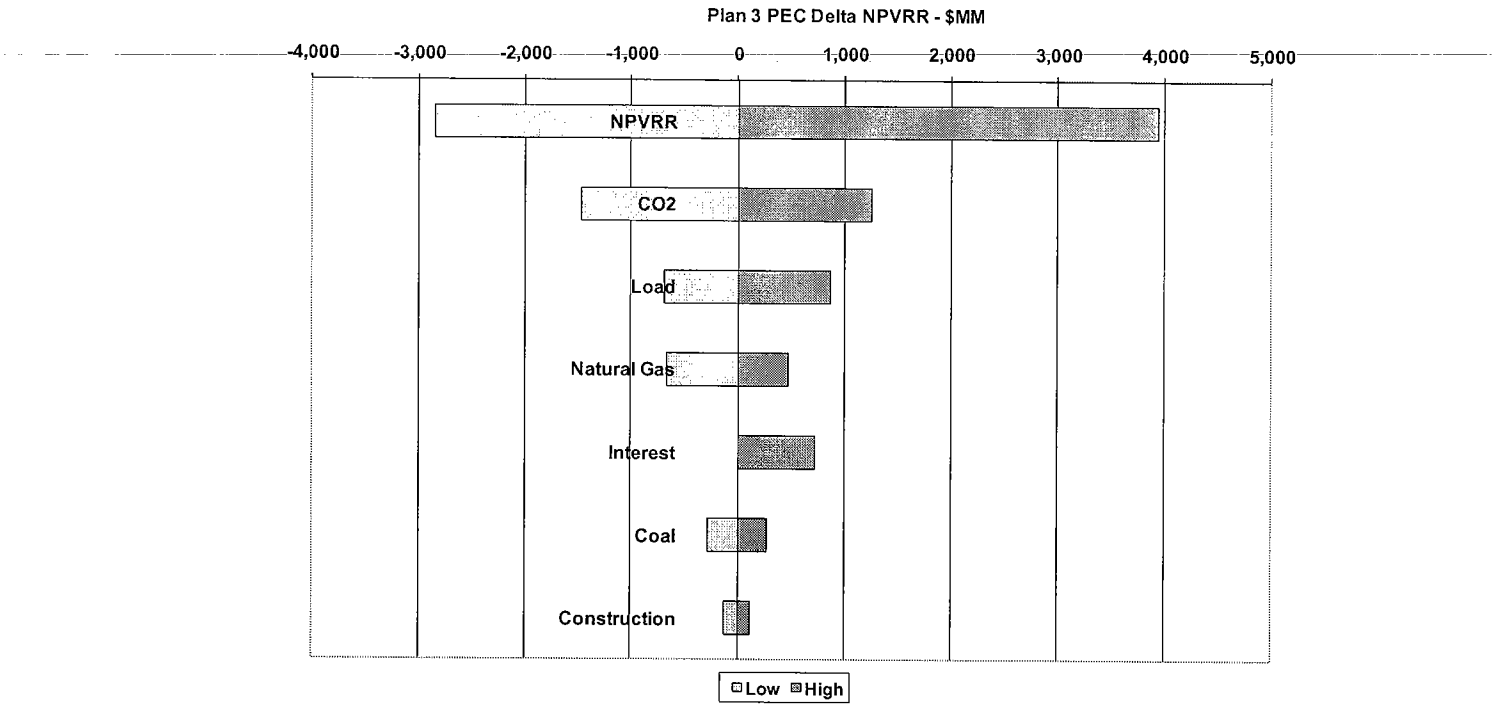


Figure 5: Plan 4 Tornado Chart

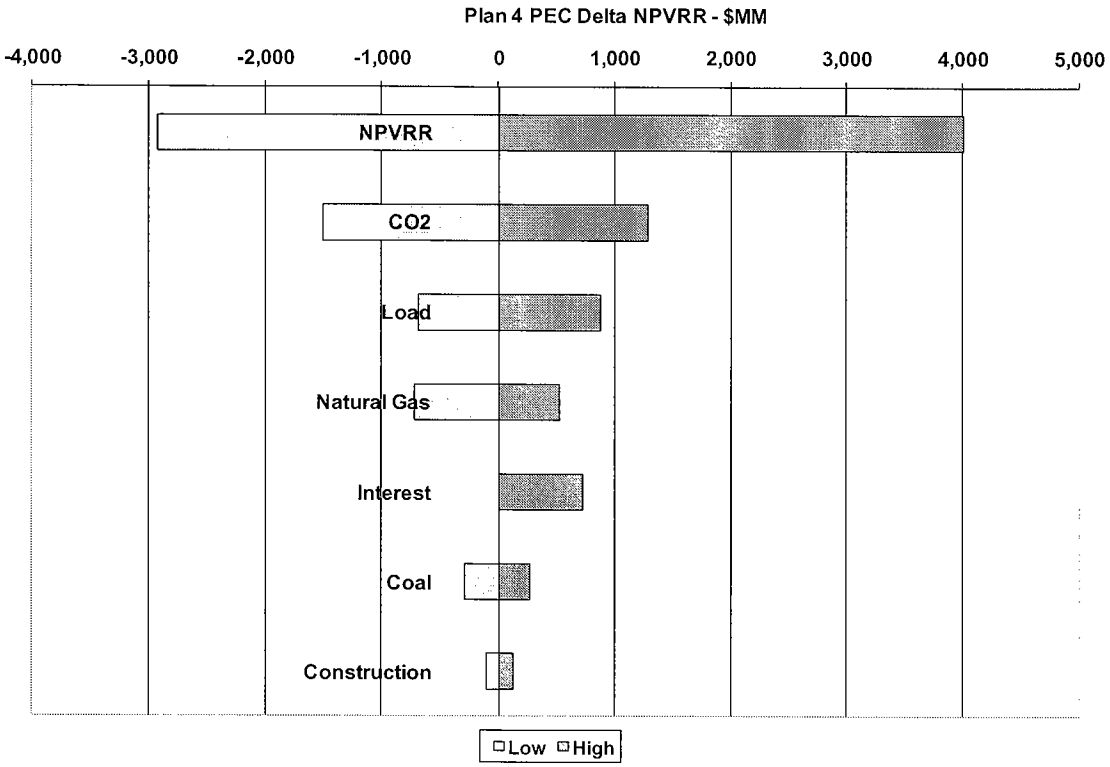


Figure 6: Plan 5 Tornado Chart

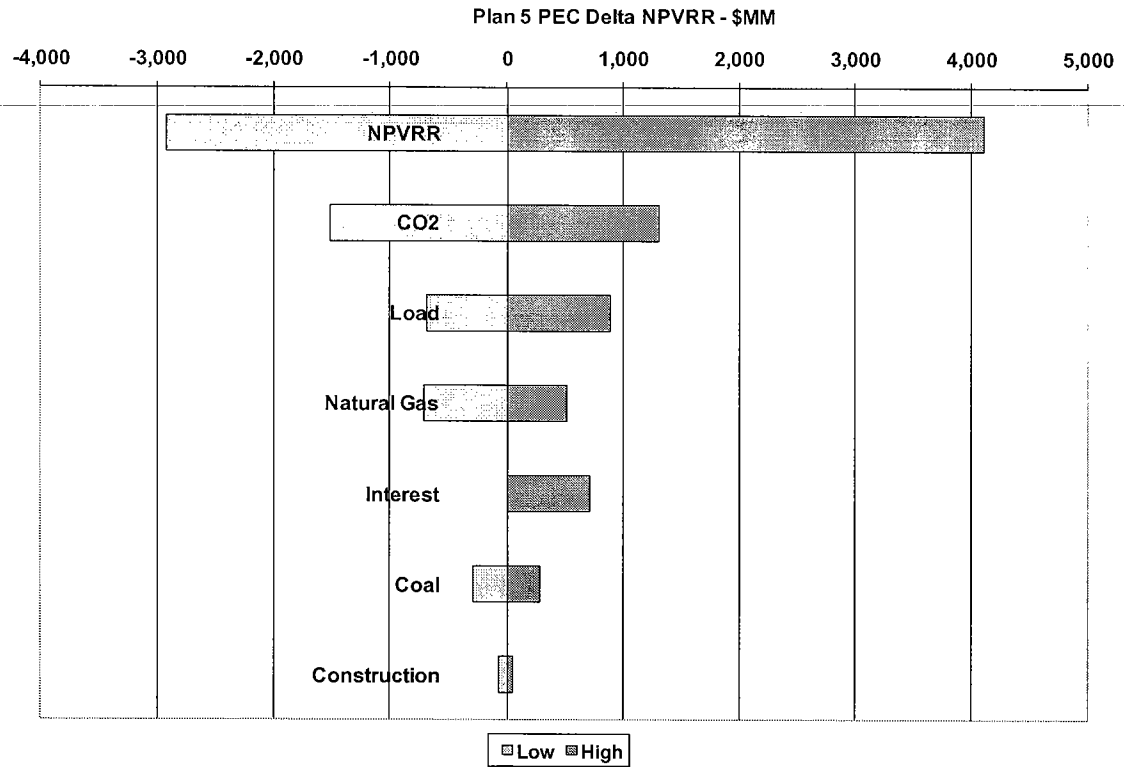


Figure 7: Plan 6 Tornado Chart

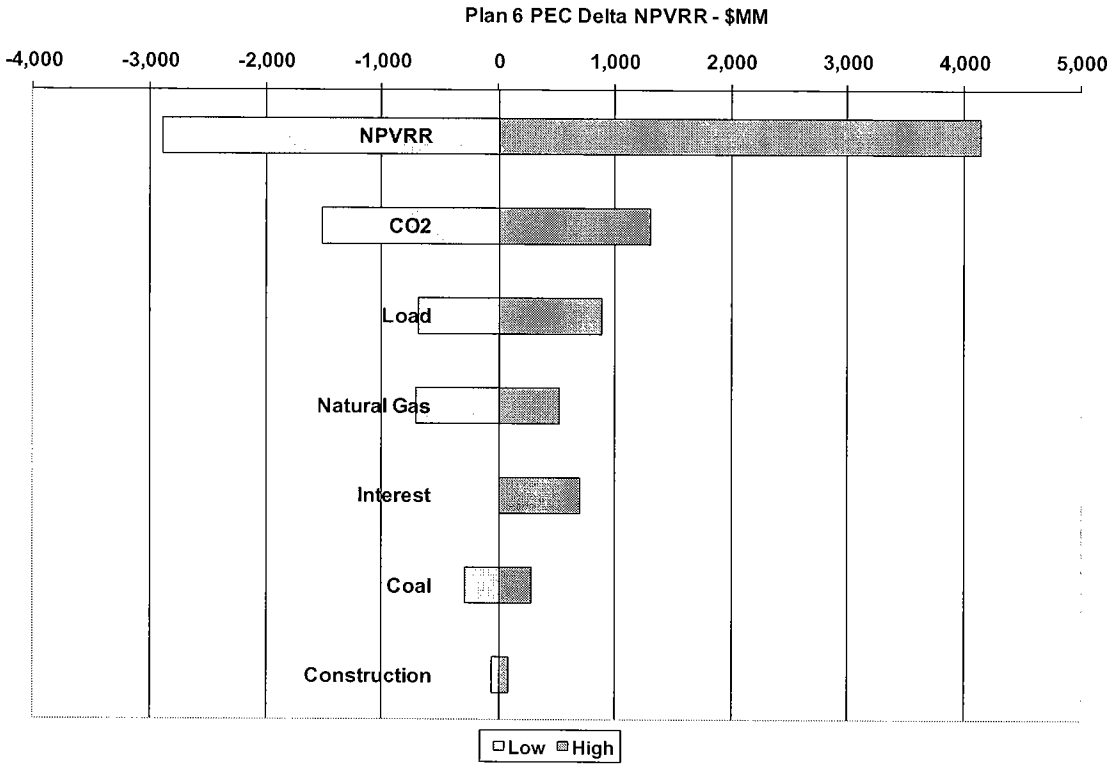


Figure 8: Plan 7 Tornado Chart

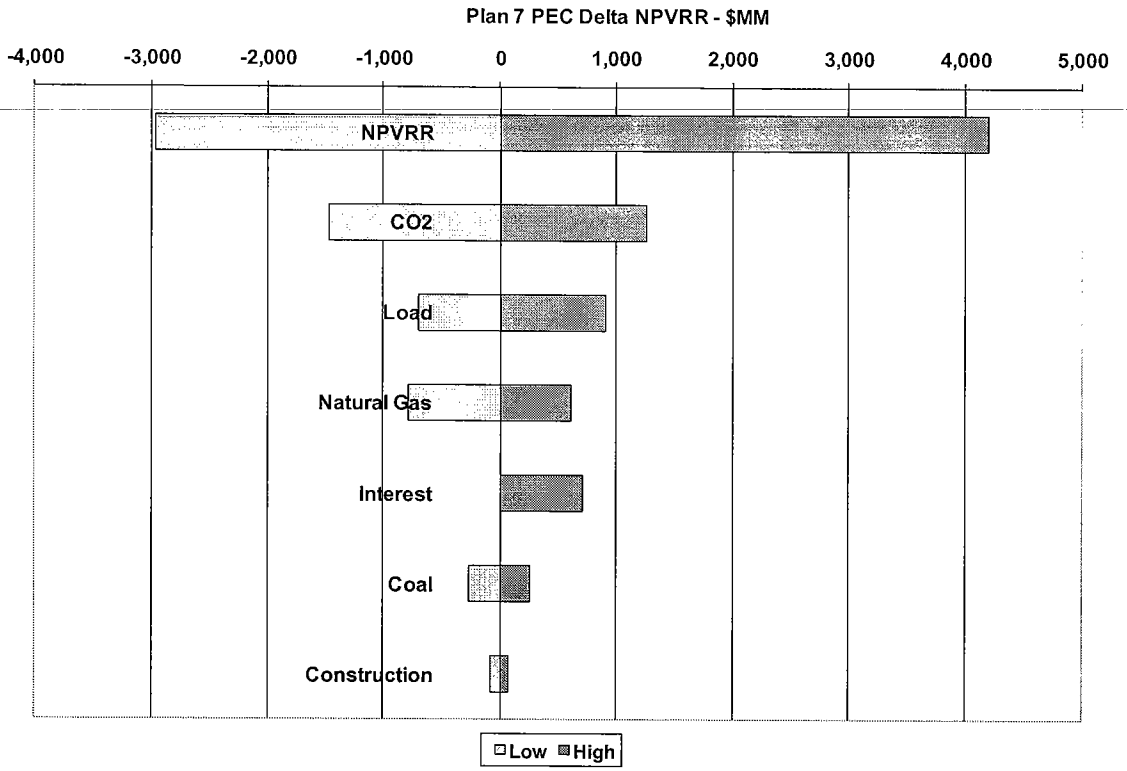


Figure 9: Plan 8 Tornado Chart

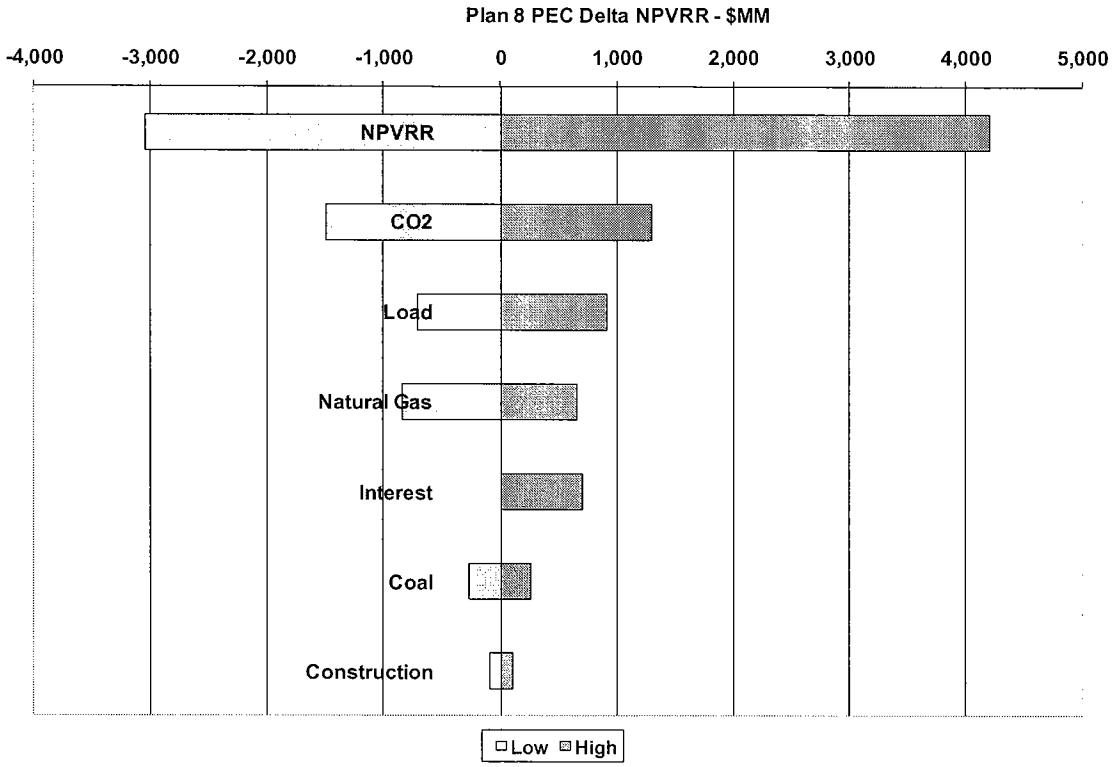


Figure 10: Plan 9 Tornado Chart

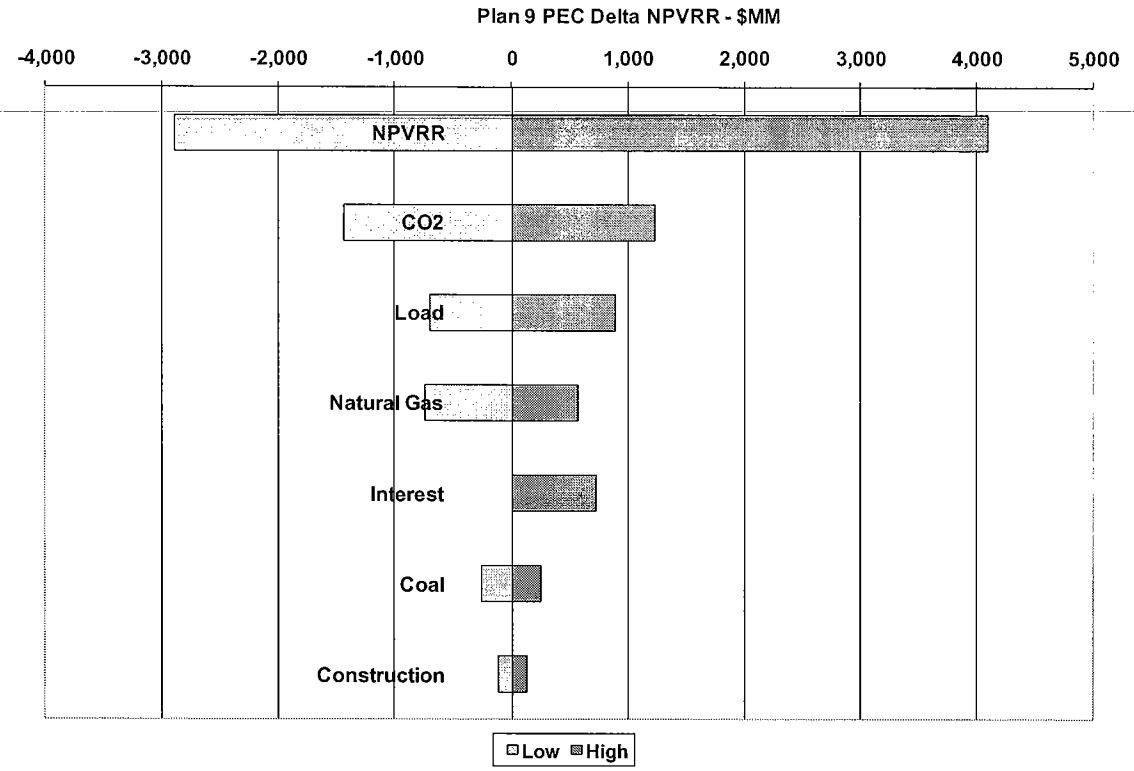


Figure 11: Plan 10 Tornado Chart

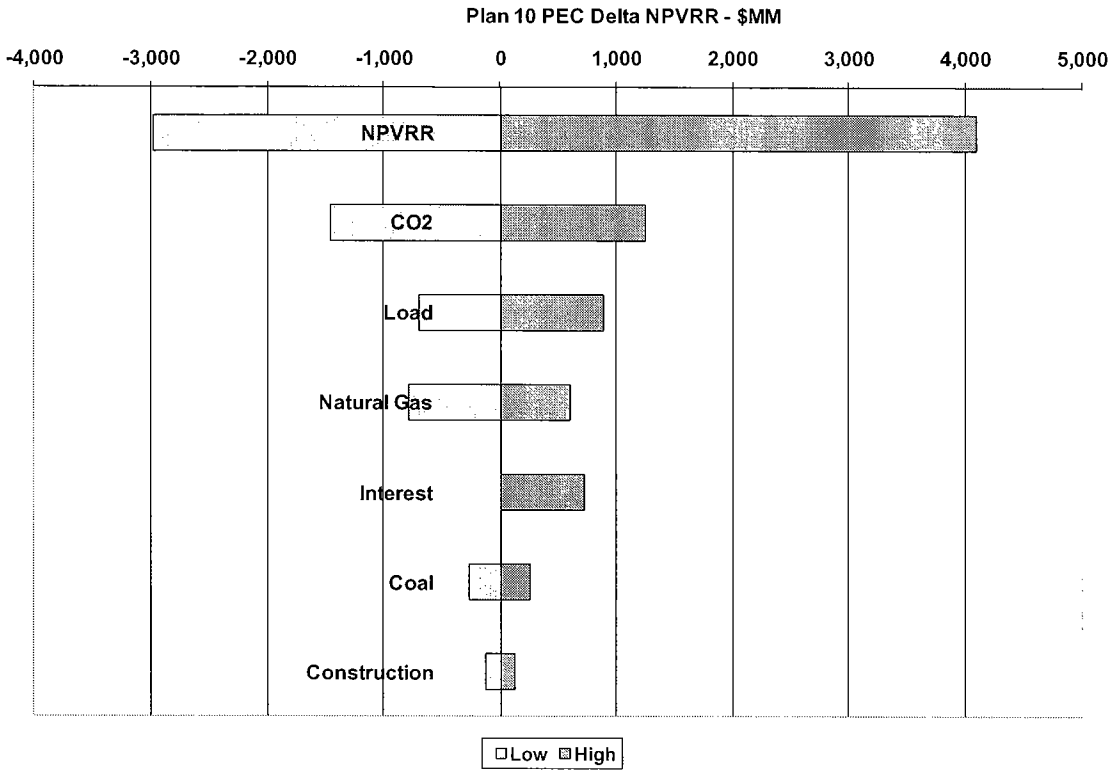


Figure 12: Plan 11 Tornado Chart

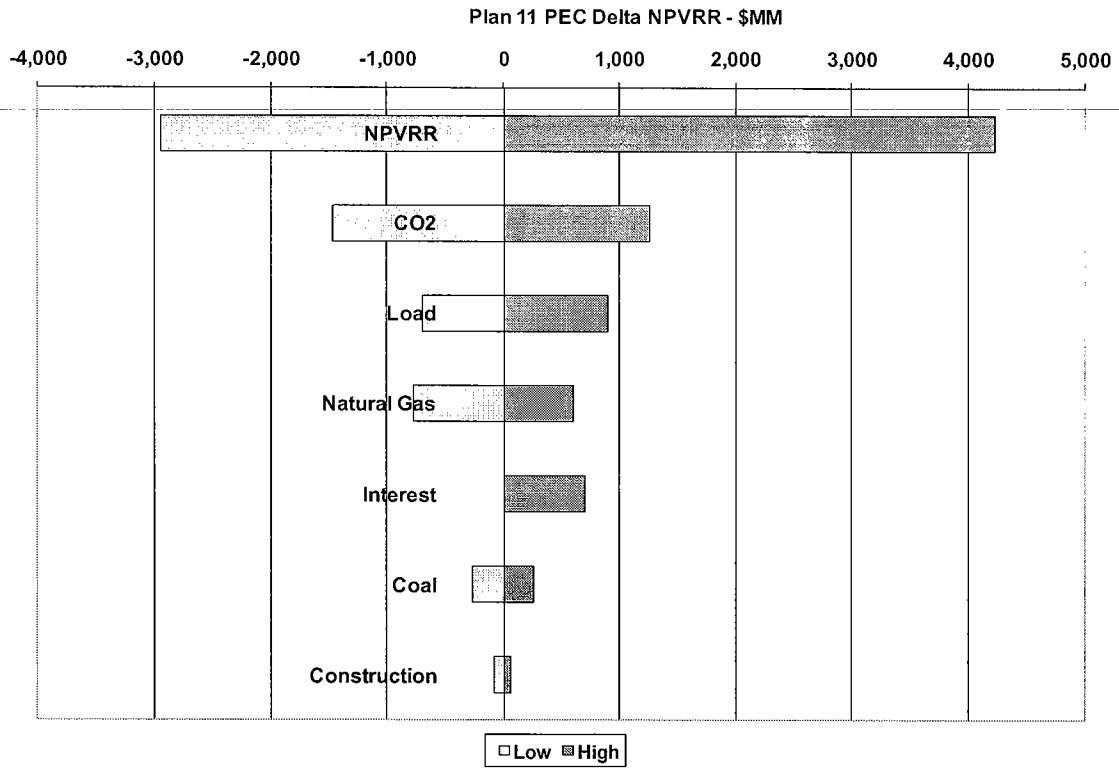


Figure 13: Plan 12 Tornado Chart

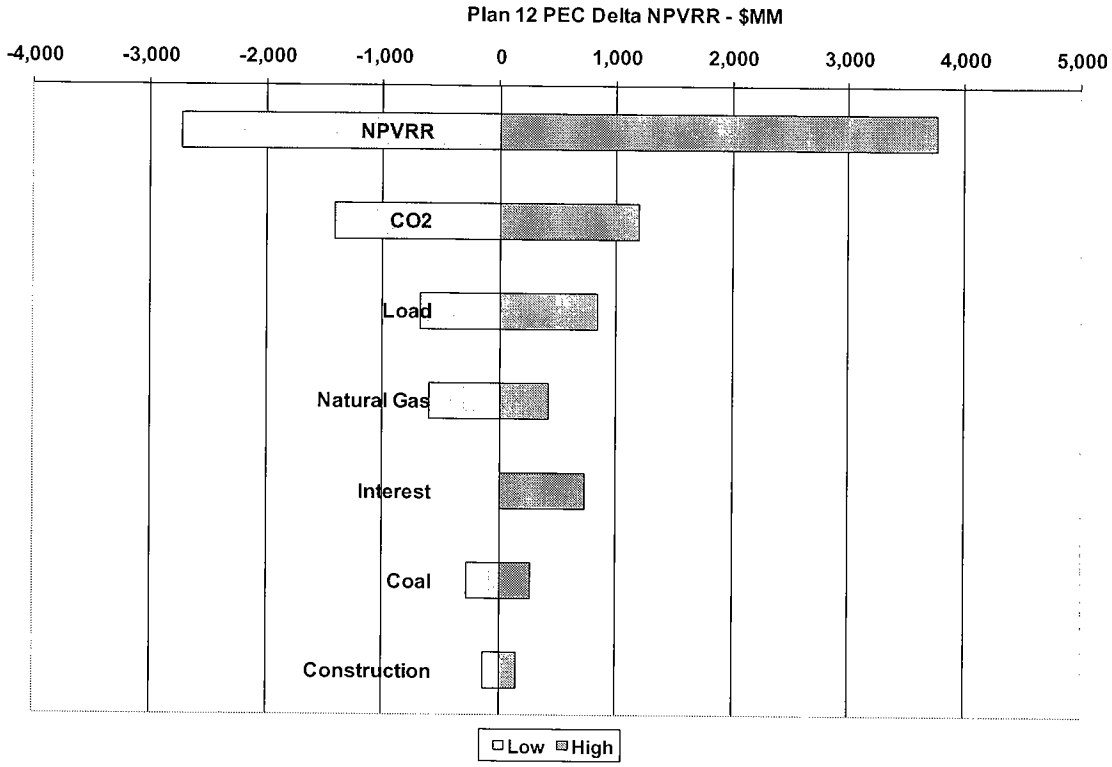


Figure 14: Plan 13 Tornado Chart

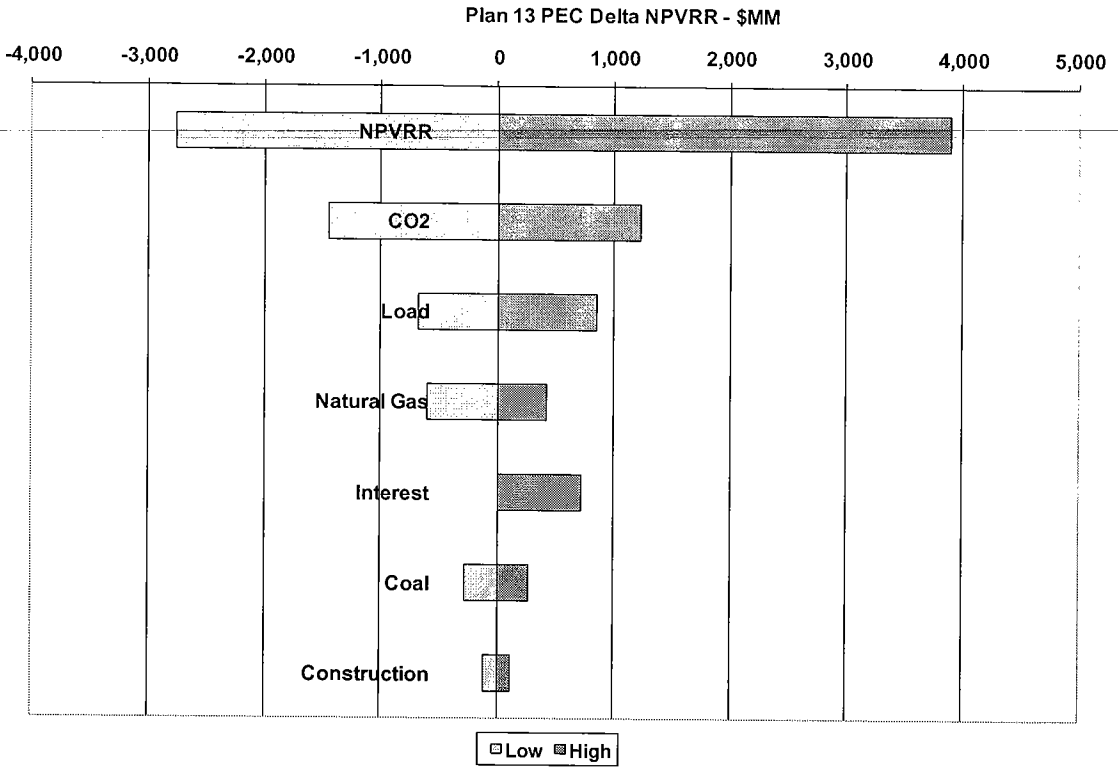


Figure 15: Plan 14 Tornado Chart

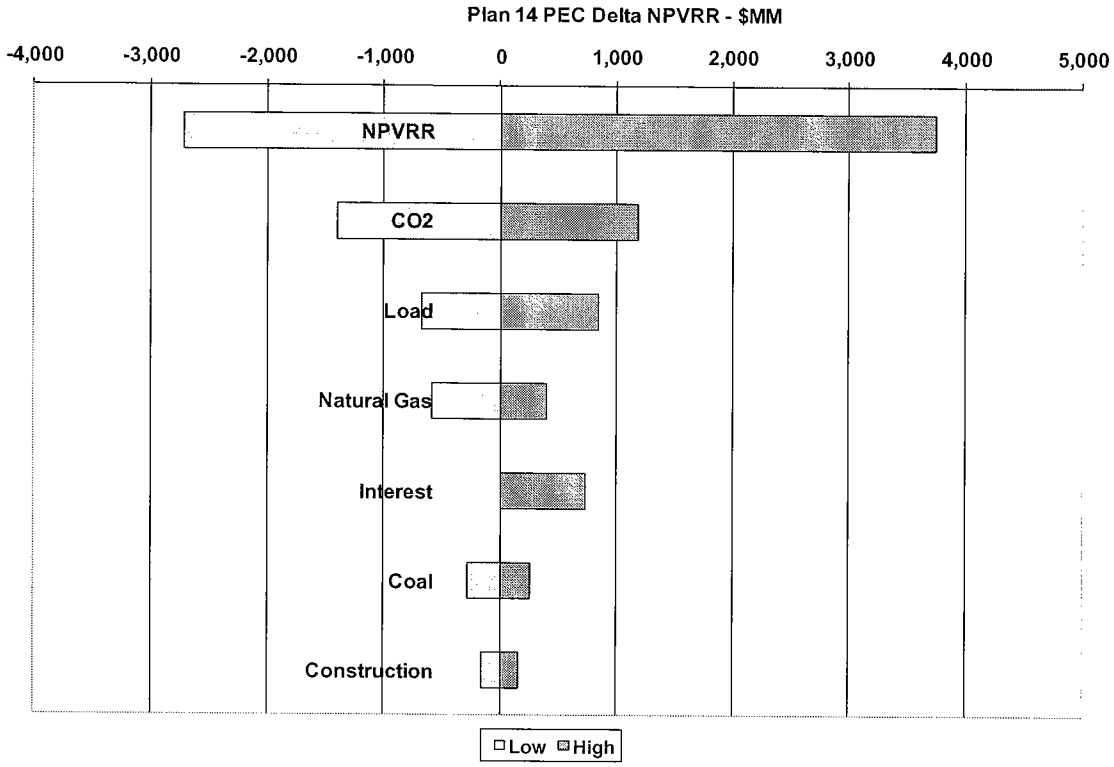


Figure 16: Plan 15 Tornado Chart

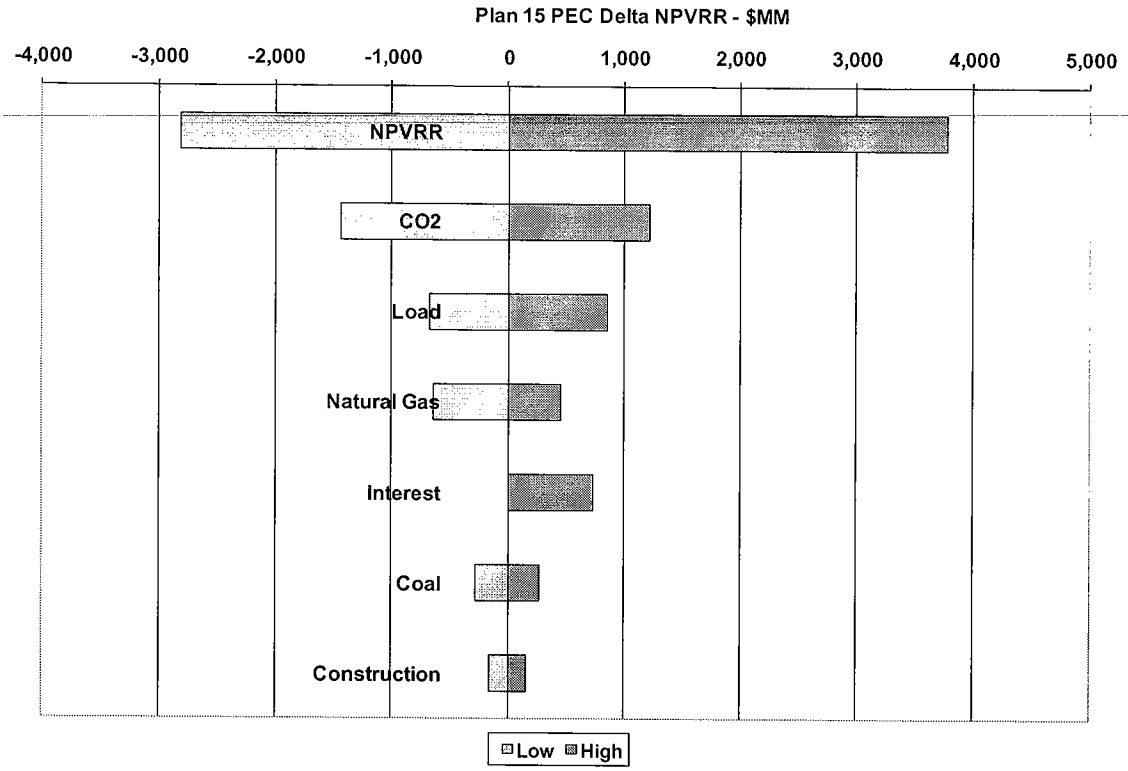


Figure 17: Plan 16 Tornado Chart

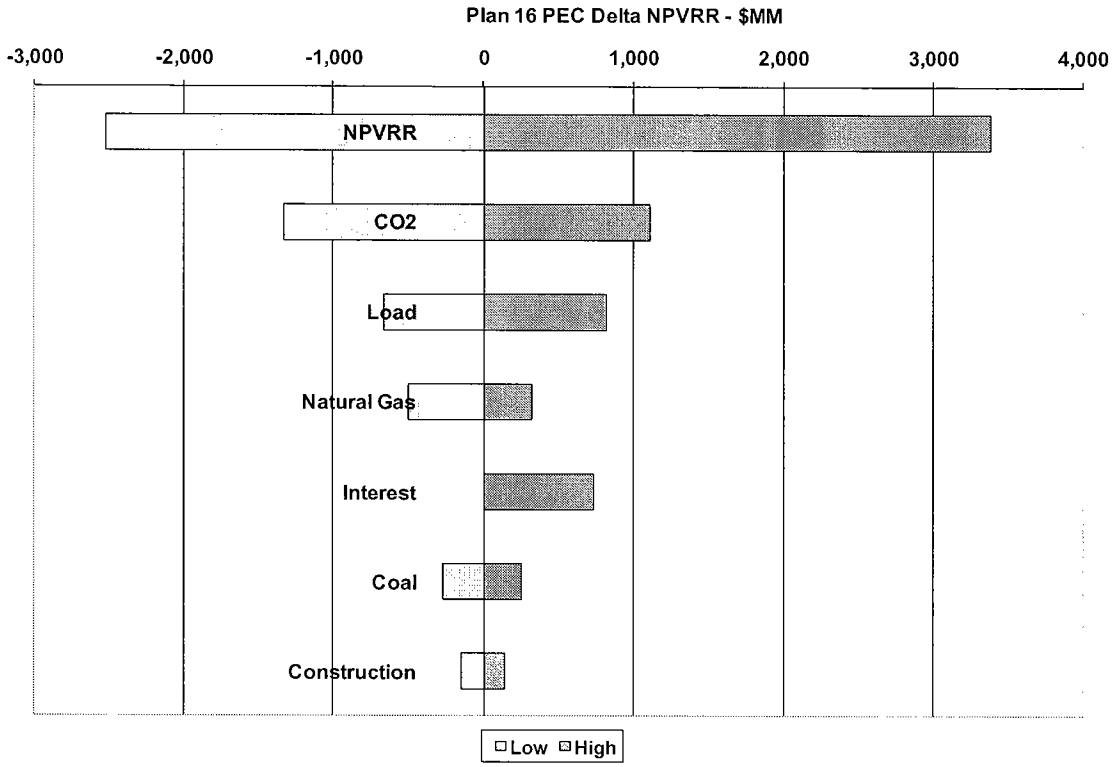


Figure 18: Plan 17 Tornado Chart

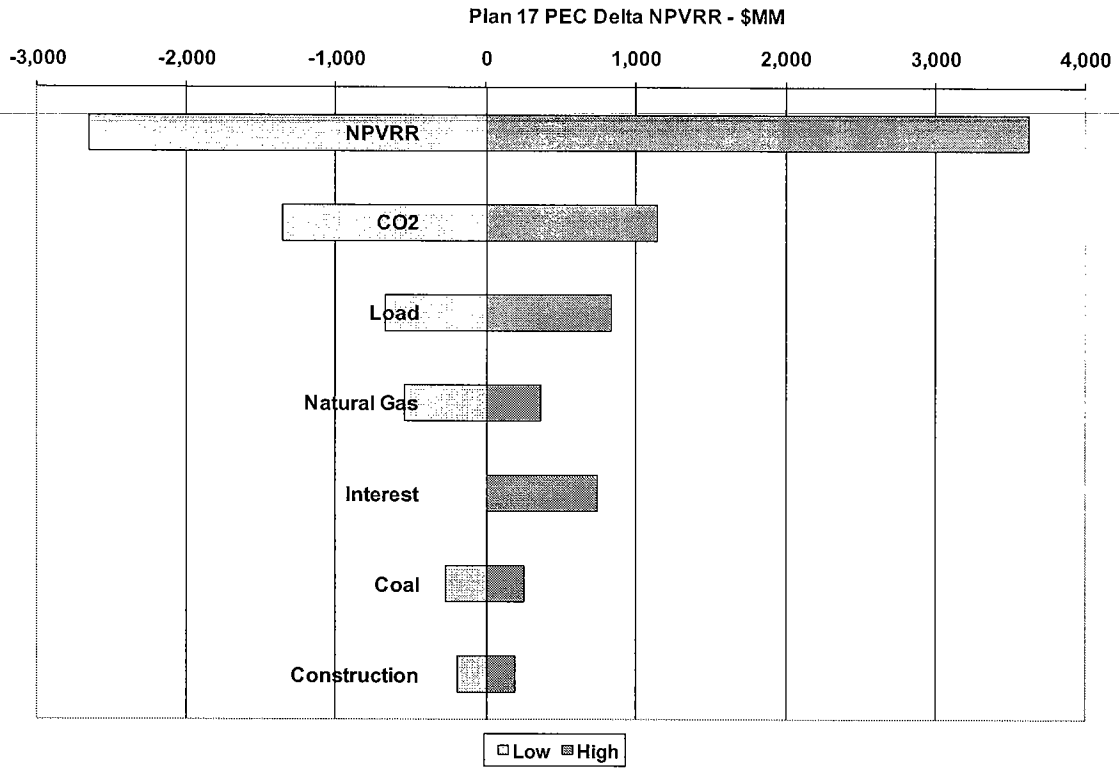


Figure 19: Plan 18 Tornado Chart

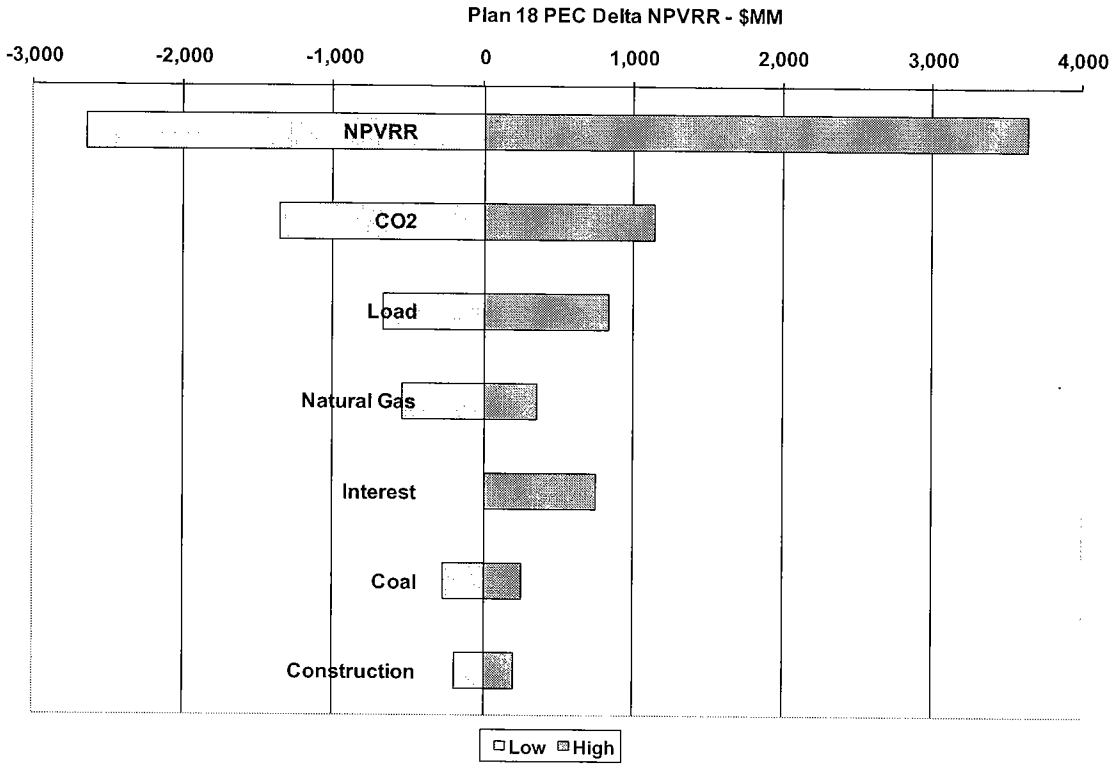


Figure 20: Plan 19 Tornado Chart

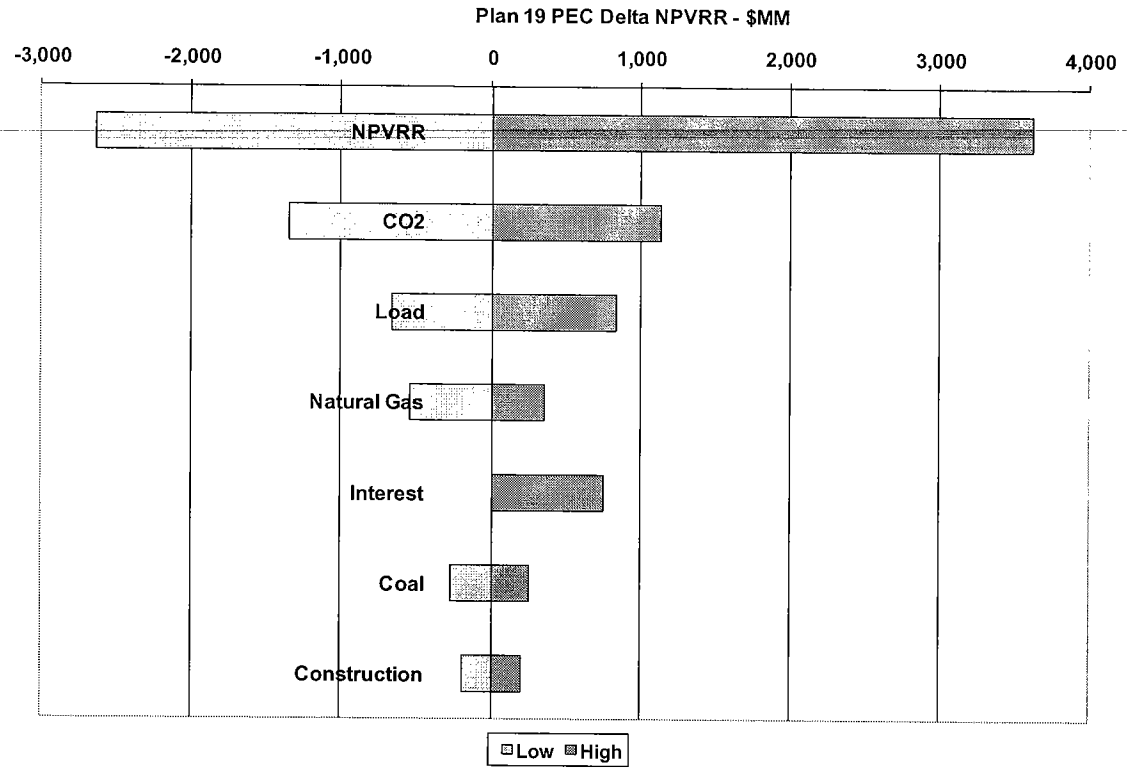


Figure 21: Plan 20 Tornado Chart

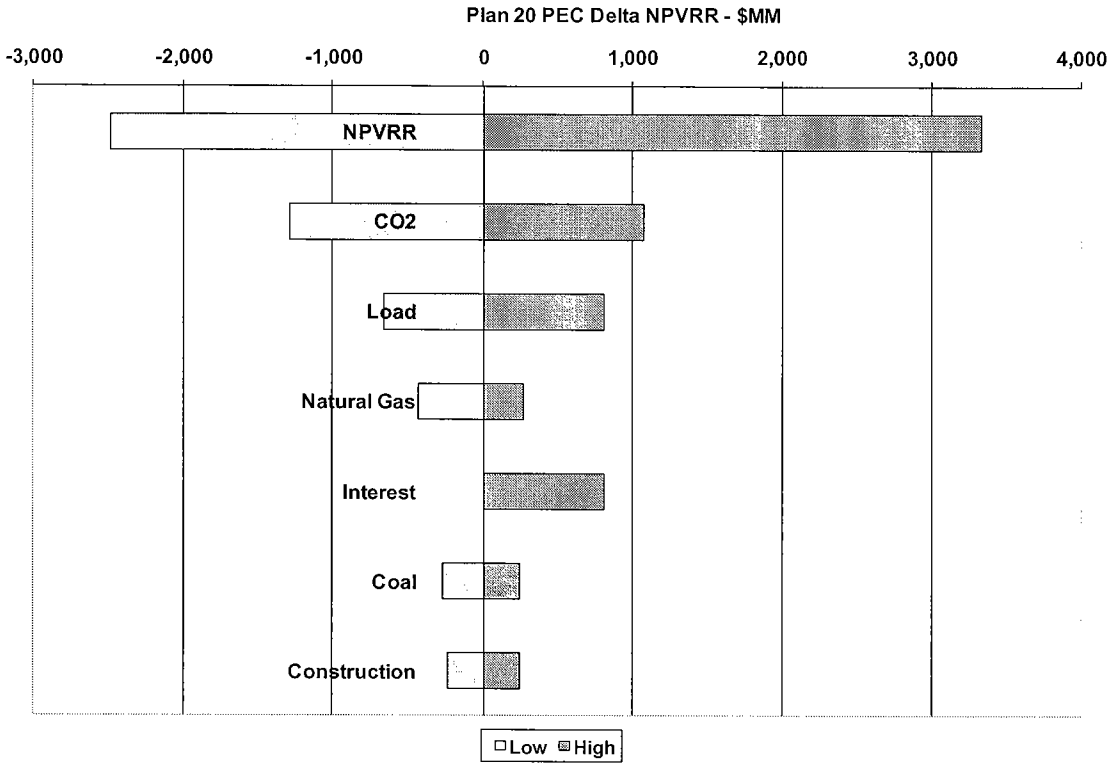


Figure 22: Plan 21 Tornado Chart

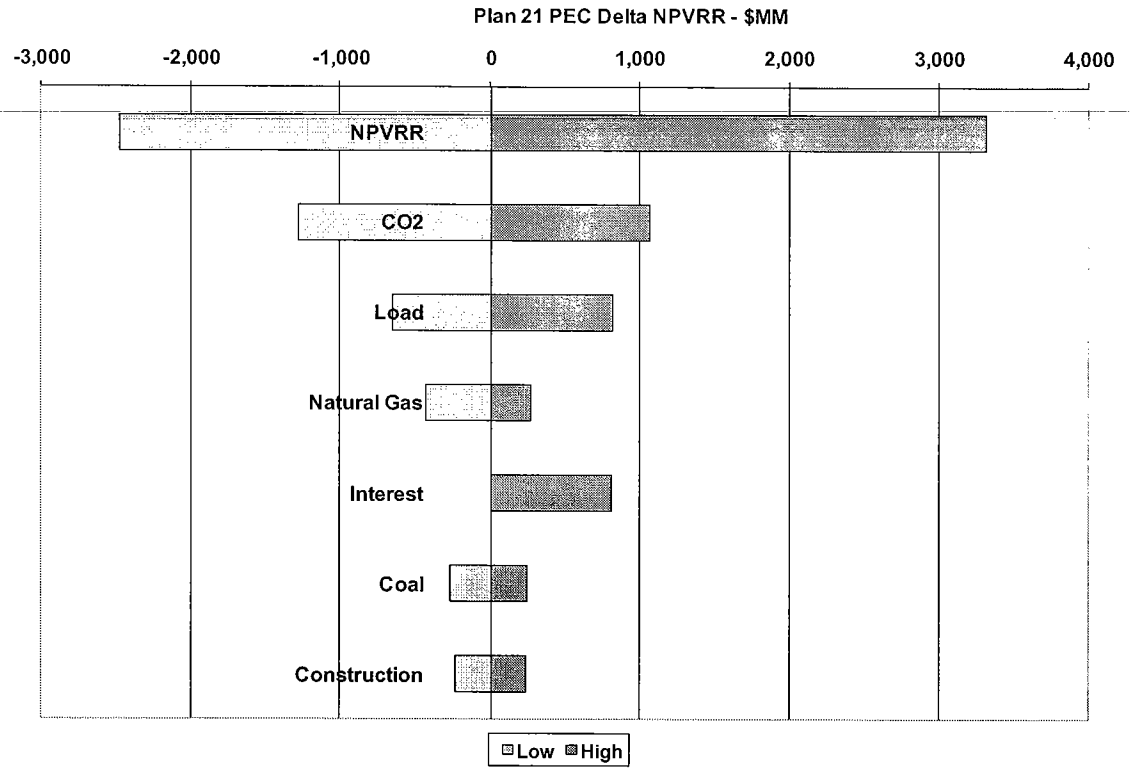


Figure 23: Plan 22 Tornado Chart

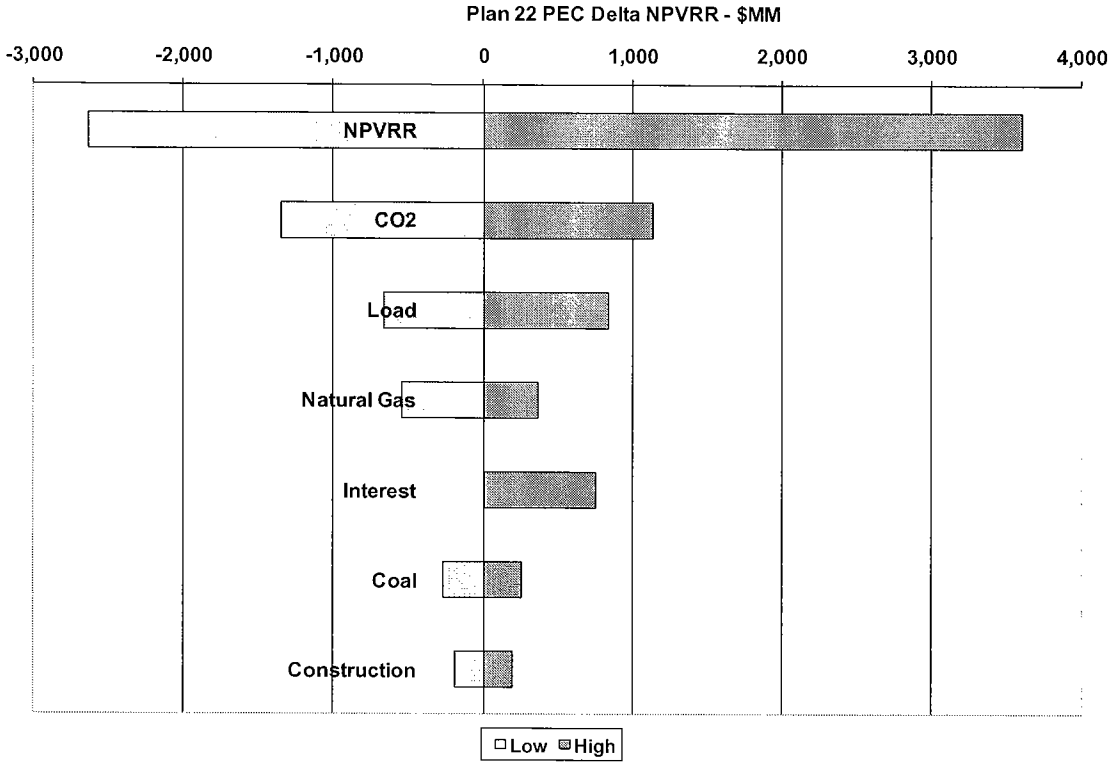


Figure 24: Plan 23 Tornado Chart

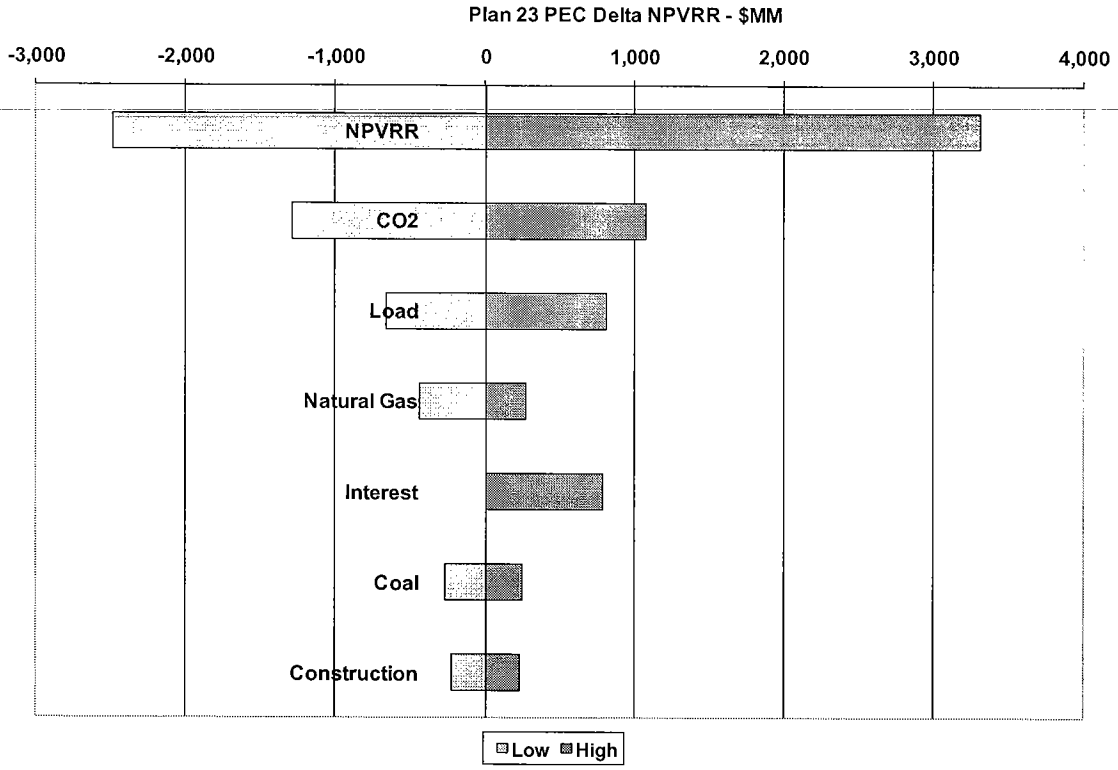
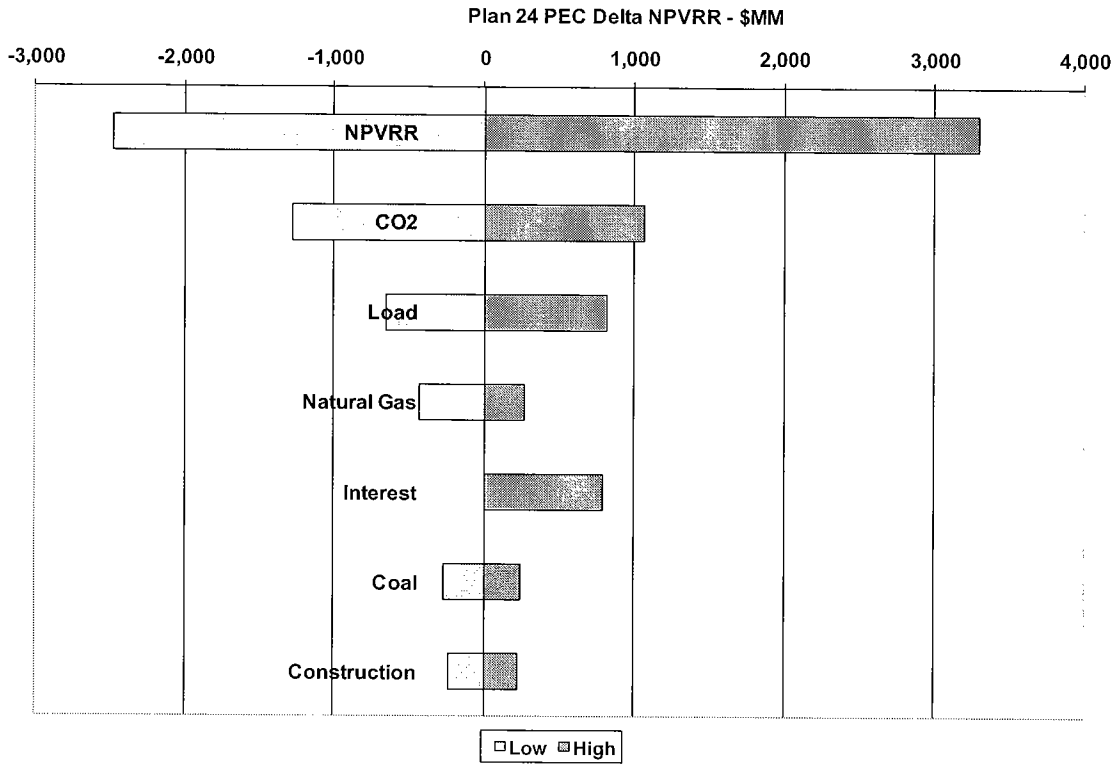


Figure 25: Plan 24 Tornado Chart



SECTION 6: PREFERRED PLAN

(6) The utility shall select a preferred resource plan from among the alternative plans that have been analyzed pursuant to the requirements of 4 CSR 240-22.060 and sections (1)–(5) of this rule. The preferred resource plan shall satisfy at least the following conditions:

GMO has reviewed the results of the risk analysis and has chosen Plan 22 as the Preferred Resource Plan. A complete description of Plan 22 is given in Appendix 7A.

6.1 OBJECTIVES

(A) In the judgment of utility decision makers, the preferred plan shall strike an appropriate balance between the various planning objectives specified in 4 CSR 240--22.010(2); and

The Preferred Resource Plan was not the lowest cost plan from a Net Present Value of Revenue Requirements (NPVRR) perspective. Plan 16 resulted in the lowest expected value of NPVRR of all modeled plans. This plan included a hypothetical 1% incremental annual DSM impact based on achieving DSM energy reductions of 1% of annual retail energy every year of the planning horizon. Plan 16 was modeled to provide an indication of the NPVRR impacts of obtaining increased DSM penetrations over and above the maximum currently identified by the company.

While Plan 16 was based on assumptions regarding the cost of achieving this level of DSM penetration, it does provide insight on the company's plan to achieve ever higher amounts of DSM energy and peak reductions. The results show that the company and the ratepayer stand to benefit from the company's continuing efforts to achieve more DSM programs and improved DSM penetration. GMO will continue to take advantage of developing technologies and will expand DSM offerings if cost effective

The Preferred Resource Plan demonstrates an improving financial liquidity over the implementation period. Table 17 details the expected value of the Preferred Plan pretax interest coverage ratio.

Table 17: Preferred Resource Plan - Financial Liquidity

Preferred Plan	2010	2011	2012
Pretax Interest coverage	3.18	3.41	3.45

6.2 TRENDS

(B) The trend of expected unserved hours for the preferred resource plan must not indicate a consistent increase in the need for emergency imported power over the planning horizon.

The preferred plan adequately provides for the capacity and energy needs of the system. The expected value of unserved megawatt-hours for the preferred plan is detailed in Table 18 below.

Table 18: Unserved Energy - Preferred Plan

Year	Megawatt-hrs
2010	0.00
2011	0.00
2012	0.00
2013	0.00
2014	0.00
2015	0.00
2016	0.00
2017	0.00
2018	0.00
2019	0.61
2020	0.00
2021	0.30
2022	46.93
2023	0.00
2024	55.36
2025	0.00
2026	16.83
2027	17.35
2028	3.15
2029	113.08

SECTION 7: EMERGENCY POWER

(7) The impact of the preferred resource plan on future requirements for emergency imported power shall be explicitly modeled and quantified. The requirement for emergency imported power shall be measured by expected unserved hours under normal-weather load conditions.

7.1 NORMAL WEATHER

(A) The daily normal-weather series used to develop normal-weather loads shall contain a representative amount of day-to-day temperature variation. Both the high and low extreme values of daily normal-weather variables shall be consistent with the historical average of annual extreme temperatures.

GMO utilized the MIDAS™ model software from Ventyx which uses weather normalized monthly peak and energy forecast inputs and applies historical load shapes to these two factors. This allows the model to simulate both high and low extreme values of daily normal-weather variables consistent with historical average and extreme temperatures. MIDAS™ model complies with the requirement of 22.070 (7) (A).

7.2 SIMULATION SOFTWARE

(B) The supply-system simulation software used to calculate expected unserved hours shall be capable of accurately representing at least the following aspects of system operations:

GMO utilized the MIDAS™ model software from Ventyx which complies with all requirements specified in 22.070 (7) (B).

7.2.1 CHRONOLOGICAL DISPATCH

1. Chronological dispatch, including unit commitment decisions that are consistent with the operational characteristics and constraints of all system resources; .

GMO utilized the MIDAS™ model software from Ventyx which includes unit commitment logic that simulates operational characteristics of the GMO resource fleet and all other material system constraints.

7.2.2 HEAT RATES, ET. AL.

2. Heat rates, fuel costs, variable operation and maintenance costs, and sulfur dioxide emission allowance costs for each generating unit; .

GMO utilized the MIDAS™ model software from Ventyx which includes unit heat rates, fuel costs, variable O&M costs and the cost of SO2 and other environmental allowances.

7.2.3 MAINTENANCE OUTAGES

3. Scheduled maintenance outages for each generating unit; .

GMO utilized the MIDAS™ model software from Ventyx which included scheduled maintenance outages for each generating unit.

7.2.4 OUTAGE RATES

4. Partial- and full-forced-outage rates for each generating unit; and

GMO utilized the MIDAS™ model software from Ventyx which included forced outage rates for each generating unit.

7.2.5 CAPACITY AND ENERGY PURCHASES

5. Capacity and energy purchases and sales, including the full spectrum of possibilities, from long-term firm contracts or unit participation agreements to hourly economy transactions. .

GMO utilized the MIDAS™ model software from Ventyx which included a full range of modeling options of capacity and energy purchases. These options include long-

term firm contracts, unit participation agreements and hourly economic energy transactions.

7.2.5.1 Sulfur Dioxide Emission Allowances

A. The utility shall maintain the capability to model purchases and sales of energy both with and without the inclusion of sulfur dioxide emission allowances. .

GMO utilized the MIDAS™ model software from Ventyx which includes the capability to model purchases and sales of energy both with and without the inclusion of sulfur dioxide emission allowances,

7.2.5.2 Consistency

B. The level of energy sales and purchases shall be consistent with forecasts of the utility's own production costs as compared to the forecasted production costs of other likely participants in the bulk power market; and .

GMO utilized the MIDAS™ model software from Ventyx which uses consistent forecasts of the utility's own production costs as compared to the forecasted production costs of other likely participants in the bulk power market.

7.3 ALTERNATIVE METHODS

(C) The utility may use an alternative method of calculating expected unserved hours per year if it can demonstrate that the alternative method produces results that are equivalent to those obtained by a method that meets the requirements of subsection (7)(B).

GMO attests that the MIDAS™ model complies with the requirements of Rule 22.970 (B). No alternative methodology is proposed.

SECTION 8: VALUE OF BETTER INFORMATION

(8) The utility shall quantify the expected value of better information concerning at least the critical uncertain factors that affect the performance of the preferred resource plan, as measured by the present value of utility revenue requirements.

GMO calculated the value of better information for each of the critical uncertain factors identified in the preliminary sensitivity test. For each uncertainty, the preferred plan NPVRR for the specific uncertainty scenarios (or endpoints) was compared to the better plan under each extreme uncertainty condition. The comparison was made on an expected value basis assuming that only those three particular scenarios (high value uncertainty, mid value and low value uncertainty) would occur. Baye's Theorem was applied to the endpoint probabilities to develop conditional probabilities for the calculation scenarios. The difference between the expected value of the preferred plan and the expected value of the better information results is the expected value of better information.

These value represent the maximum amount GMO should be willing to spend to study each of these uncertainties.

The results for these calculations are shown in Table 19 through Table 24 below.

Table 19: Better Information - CO_2

CO2						
Preferred Plan	Endpoint	Plan	NPVRR	EP Prob	Cond. Prob	Expected Value
High CO2	21	Plan22	16,110	1.32%	16.71%	14,864
Mid	33	Plan22	14,735	5.26%	66.83%	
Low CO2	42	Plan22	14,125	1.30%	16.46%	
Better Information	Endpoint	Plan	NPVRR	EP Prob	Cond. Prob	Expected Value
High CO2	21	Plan24	16,106	1.32%	16.71%	14,863
Mid	33	Plan22	14,735	5.26%	66.83%	
Low CO2	42	Plan06	14,121	1.30%	16.46%	
Expected Value of Better Information			1.34 Million			

Table 20: Better Information - Coal

Coal						
Preferred Plan	Endpoint	Plan	NPVRR	EP Prob	Cond. Prob	Expected Value
High Coal	26	Plan22	15,397	1.32%	16.67%	14,854
Mid	33	Plan22	14,735	5.26%	66.67%	
Low Coal	29	Plan22	14,788	1.32%	16.67%	
Better Information	Endpoint	Plan	NPVRR	EP Prob	Cond. Prob	Expected Value
High Coal	26	Plan24	15,371	1.32%	16.67%	14,847
Mid	33	Plan22	14,735	5.26%	66.67%	
Low Coal	29	Plan23	14,772	1.32%	16.67%	
Expected Value of Better Information			6.92	Million		

Table 21: Better Information - Construction

Construction						
Preferred Plan	Endpoint	Plan	NPVRR	EP Prob	Cond. Prob	Expected Value
High Construction	18	Plan22	14,379	1.32%	16.67%	14,704
Mid	33	Plan22	14,735	5.26%	66.67%	
Low Construction	47	Plan22	14,903	1.32%	16.67%	
Better Information	Endpoint	Plan	NPVRR	EP Prob	Cond. Prob	Expected Value
High Construction	18	Plan07	14,276	1.32%	16.67%	14,676
Mid	33	Plan22	14,735	5.26%	66.67%	
Low Construction	47	Plan21	14,841	1.32%	16.67%	
Expected Value of Better Information			27.76	Million		

Table 22: Better Information - Load

Load						
Preferred Plan	Endpoint	Plan	NPVRR	EP Prob	Cond. Prob	Expected Value
High Load	4	Plan22	16,099	1.32%	16.67%	14,780
Mid	33	Plan22	14,735	5.26%	66.67%	
Low Load	61	Plan22	13,644	1.32%	16.67%	
Better Information	Endpoint	Plan	NPVRR	EP Prob	Cond. Prob	Expected Value
High Load	4	Plan23	16,044	1.32%	16.67%	14,771
Mid	33	Plan22	14,735	5.26%	66.67%	
Low Load	61	Plan07	13,644	1.32%	16.67%	
Expected Value of Better Information			9.15	Million		

Table 23: Better Information - Natural Gas

Natural Gas

Preferred Plan	Endpoint	Plan	NPVRR	EP Prob	Cond. Prob	Expected Value
High Natural Gas	28	Plan22	15,095	2.63%	28.63%	14,866
Mid	33	Plan22	14,735	5.26%	57.26%	
Low Natural Gas	37	Plan22	14,932	1.30%	14.10%	
Better Information	**Endpoint**	**Plan**	**NPVRR**	**EP Prob**	**Cond. Prob**	**Expected Value**
High Natural Gas	28	Plan23	15,077	2.63%	28.63%	14,858
Mid	33	Plan22	14,735	5.26%	57.26%	
Low Natural Gas	37	Plan07	14,917	1.30%	14.10%	
Expected Value of Better Information			7.37	Million		

Table 24: Better Information - Interest

Interest

Preferred Plan	Endpoint	Plan	NPVRR	EP Prob	Cond. Prob	Expected Value
High Interest	37	Plan22	14,932	1.30%	19.76%	14,774
Mid	33	Plan22	14,735	5.26%	80.24%	
Better Information	**Endpoint**	**Plan**	**NPVRR**	**EP Prob**	**Cond. Prob**	**Expected Value**
High Interest	37	Plan07	14,917	1.30%	19.76%	14,771
Mid	33	Plan22	14,735	5.26%	80.24%	
Expected Value of Better Information			3.12	Million		

SECTION 9: IMPLEMENTATION PLAN

(9) The utility shall develop an implementation plan that specifies the major tasks and schedules necessary to implement the preferred resource plan over the implementation period. The implementation plan shall contain:

The Implementation Plan is attached as Appendix 7A.

9.1 SCHEDULE OF RESEARCH

(A) A schedule and description of ongoing and planned research activities to update and improve the quality of data used in load analysis and forecasting;

The response is included in the Implementation Plan which is attached as Appendix 7A.

9.2 SCHEDULE OF DSM

(B) A schedule and description of ongoing and planned demand-side programs, program evaluations and research activities;

The response is included in the Implementation Plan which is attached as Appendix 7A.

(C) A schedule and description of all supply-side resource acquisition and construction activities; and .

The response is included in the Implementation Plan which is attached as Appendix 7A.

9.3 CRITICAL PATH

(D) Identification of critical paths and major milestones for each resource acquisition project, including decision points for committing to major expenditures.

The response is included in the Implementation Plan which is attached as Appendix 7A.

SECTION 10: RESOURCE ACQUISITION STRATEGY

(10) The utility shall develop, document and officially adopt a resource acquisition strategy. This means that the utility's resource acquisition strategy shall be formally approved by the board of directors, a committee of senior management, an officer of the company or other responsible party who has been duly delegated the authority to commit the utility to the course of action described in the resource acquisition strategy. The officially adopted resource acquisition strategy shall consist of the following components:

The Resource Acquisition Strategy is attached as Appendix 7A.

10.1 PREFERRED RESOURCE PLAN

(A) A preferred resource plan selected pursuant to the requirements of section (6) of this rule;

The response is included in the Preferred Resource Plan which is attached as Appendix 7A.

10.2 IMPLEMENTATION PLAN

(B) An implementation plan developed pursuant to the requirements of section (9) of this rule; .

The response is included in the Preferred Resource Plan which is attached as Appendix 7A.

10.3 RANGES OF CRITICAL UNCERTAIN FACTORS

(C) A specification of the ranges or combinations of outcomes for the critical uncertain factors that define the limits within which the preferred resource plan is judged to be appropriate and an explanation of how these limits were determined;

The response is included in the Preferred Resource Plan which is attached as Appendix 7A.

10.4 CONTINGENCY OPTIONS

(D) A set of contingency options that are judged to be appropriate responses to extreme outcomes of the critical uncertain factors and an explanation of why these options are judged to be appropriate responses to the specified outcomes; and

The response is included in the Preferred Resource Plan which is attached as Appendix 7A.

10.5 MONITORING CRITICAL UNCERTAIN FACTORS

(E) A process for monitoring the critical uncertain factors on a continuous basis and reporting significant changes in a timely fashion to those managers or officers who have the authority to direct the implementation of contingency options when the specified limits for uncertain factors are exceeded. .

The response is included in the Preferred Resource Plan which is attached as Appendix 7A.

SECTION 11: REPORTING REQUIREMENTS

(11) Reporting Requirements. To demonstrate compliance with the provisions of this rule, and pursuant to the requirements of 4 CSR 240-22.080, the utility shall furnish at least the following information:

In this section GMO either supplies requested information or cites where in the filing requested information is located.

11.1 DECISION TREE DIAGRAM

(A) A decision-tree diagram for each of the alternative resource plans along with narrative discussions of the following aspects of the decision analysis:

The decision tree detailing the risks evaluated in the risk analysis is show in Section 3: Figure 1 of this Volume.

11.1.1 SEQUENCE AND TIMING

1. A discussion of the sequence and timing of the decisions represented by decision nodes in the decision tree and a description of the specific decision alternatives considered at each decision point; and

The decision tree used in the risk analysis and detailed in Figure 1 of this volume does not contain decision nodes. Timing of decisions resides in the specification of each alternative resource plan. Those timing considerations are detailed in Volume 6, Integrated Resource Analysis.

11.1.2 CRITICAL UNCERTAIN FACTORS

2. An explanation of how the critical uncertain factors were identified, how the ranges of potential outcomes for each uncertain factor were determined and how the subjective probabilities for each outcome were derived; .

The method for identifying critical uncertain factors is detailed in Section 2: of this Volume. The derivation of subjective probabilities is detailed in Volume 4, Supply-Side Resource Analysis.

11.2 PROBABILITY PLOTS

(B) Plots of the cumulative probability distribution of each performance measure for each alternative resource plan;

Cumulative probability distribution charts for the performance measures listed in 22.060 (2) are given below in Figure 26 through Figure 29. Of the five performance measure listed only one, DSM Out-Of-Pocket Expenses, can not be displayed with a meaningful cumulative probability distribution. This performance measure is an input to the model and does not vary with respect to the risk sensitivities. It is varied across the alternative plans. The listing of these values are detailed in Table 2 of this Volume.

Figure 26: Distribution - NPVRR

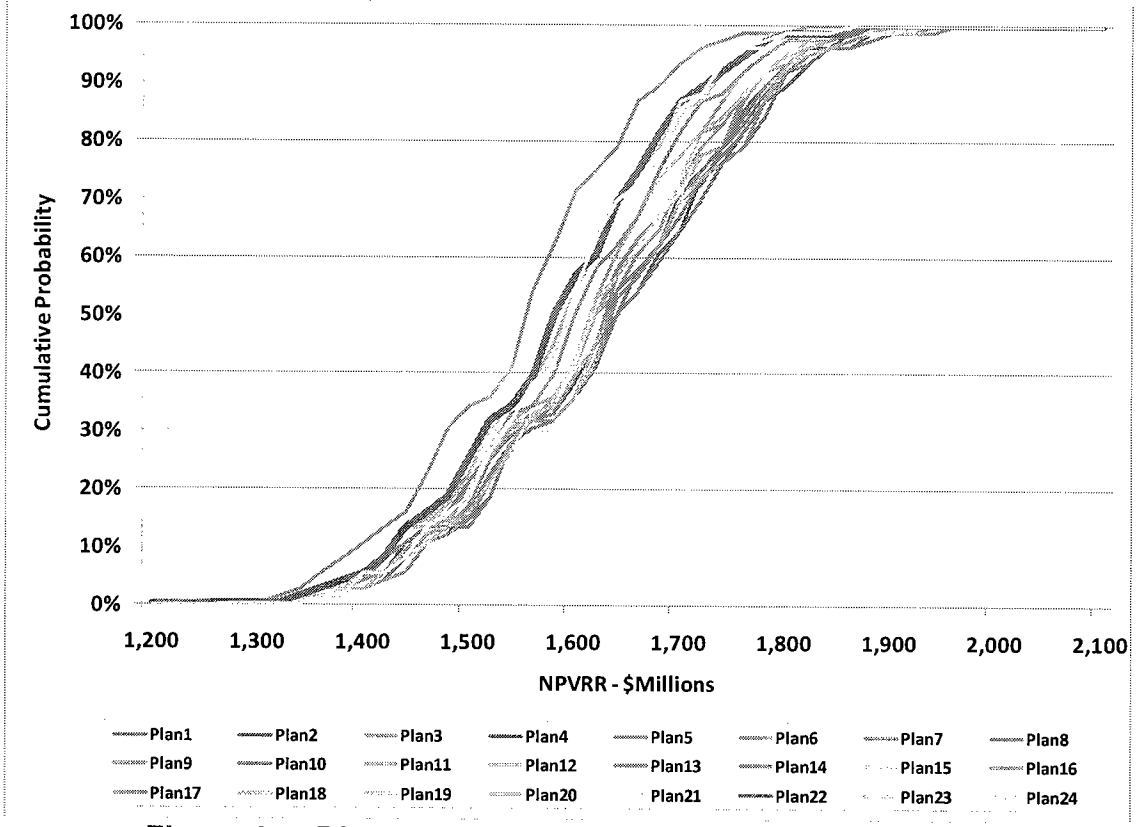


Figure 27: Distribution - Probable Environmental Costs

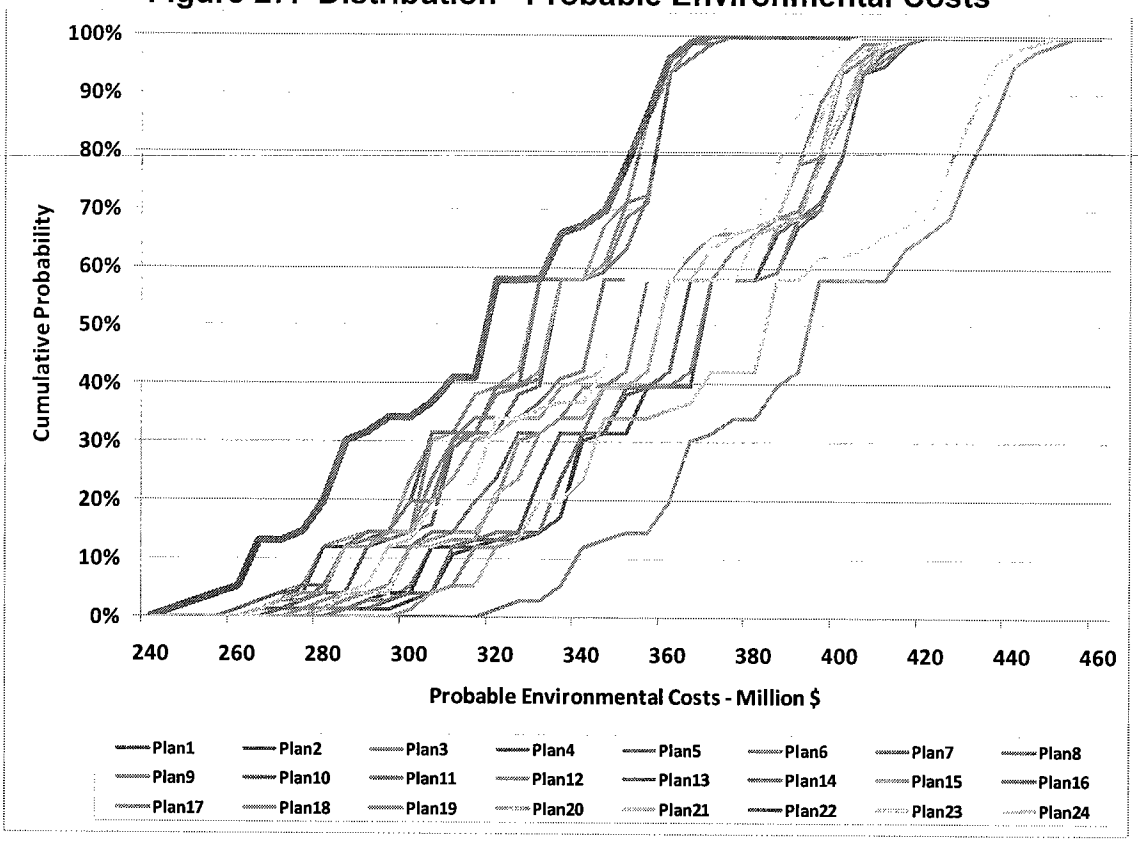


Figure 28: Distribution - Average Annual Rates

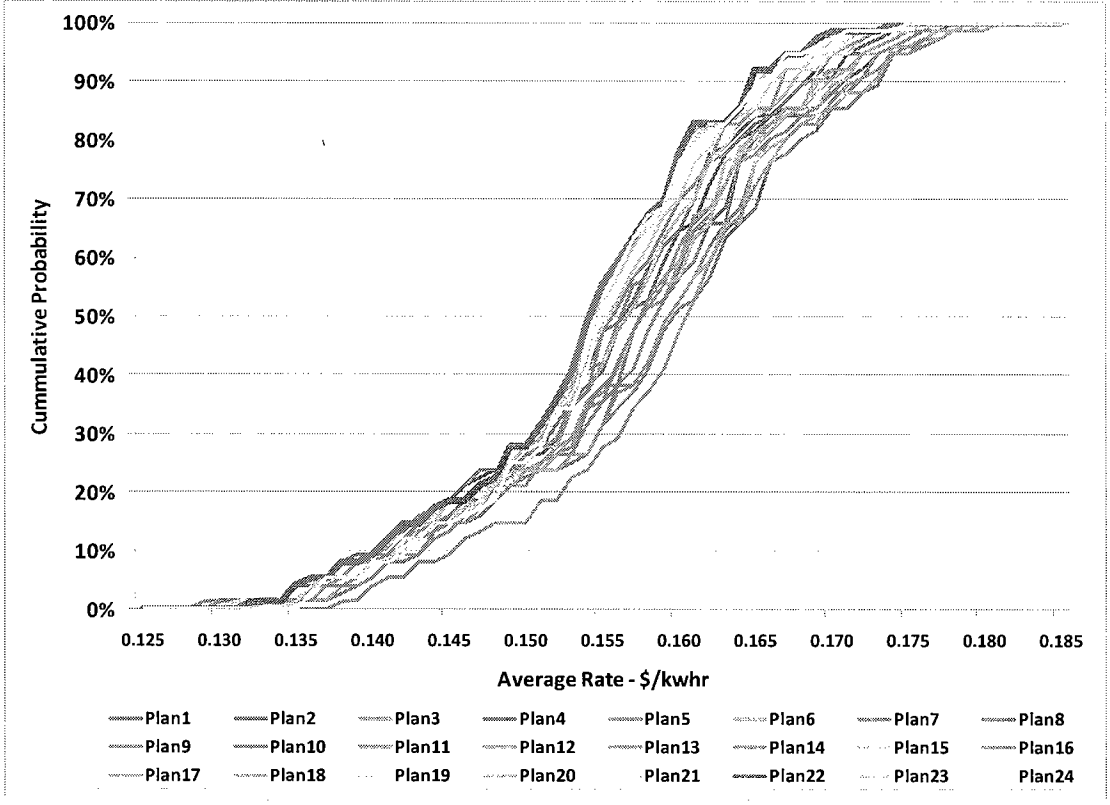
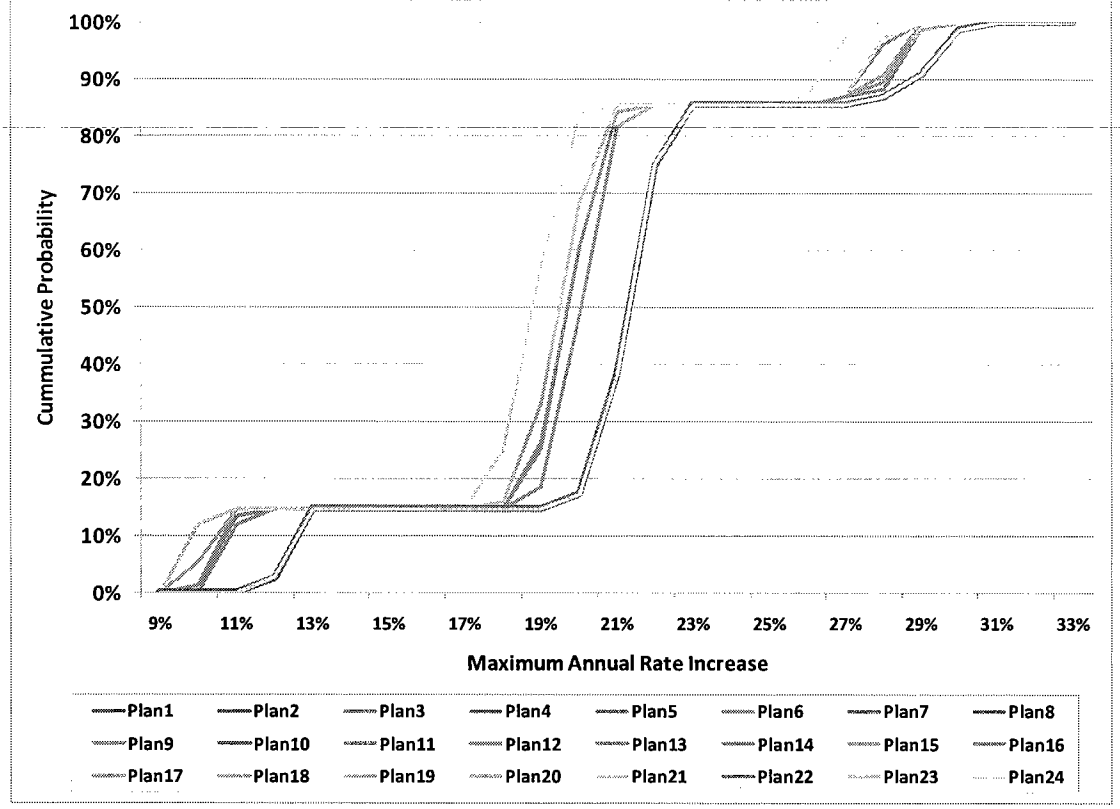


Figure 29: Distribution - Maximum Annual Rate Increase



11.3 EXPECTED VALUE AND RISK

(C) For each performance measure, a table that shows the expected value and the risk of each resource plan;

Expected values of each performance measure for each alternative plan is given in Table 2 of this volume. The risk of each alternative plan expressed in standard deviations of the performance measures is given in Table 3 of this volume.

11.4 PLOT OF UNSERVED HOURS

(D) A plot of the expected level of annual unserved hours for the preferred resource plan over the planning horizon;

The amount of unserved megawatt-hours of energy in the preferred plan is very small. To provide this data more clearly, it was presented in tabular format in Table 18 of this volume.

11.5 ANALYSIS OF BETTER INFORMATION

(E) A discussion of the analysis of the value of better information required by section (8), a tabulation of the key quantitative results of that analysis and a discussion of how those findings will be incorporated in ongoing research activities;

The calculation of the value of better information is detailed in Table 19 through Table 24 of this volume. The method of calculation is discussed in Section 8: Value of Better Information in this volume.

11.6 SELECTION PROCESS

(F) A discussion of the process used to select the preferred resource plan, including the relative weights given to the various performance measures and the rationale used by utility decision-makers to judge the appropriate tradeoffs

between competing planning objectives and between expected performance and risk; and

The selection process can be found in the attached Appendix 7A.

11.7 RESOURCE ACQUISITION STRATEGY

(G) The fully documented resource acquisition strategy that has been developed and officially adopted pursuant to the requirements of section (10) of this rule.

The Resource Acquisition Strategy is attached as Appendix 7A.