VOLUME 7:

RISK ANALYSIS AND

STRATEGY SELECTION

KCP&L

INTEGRATED RESOURCE PLAN

4 CSR 240-22.070

** PUBLIC **

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SECTION 1: FORMAL DECISION ANALYSIS

Rule 22.070 (1) indicates that the utility shall use the methods of formal analysis to assess the impacts of 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 the explicitly state and document the subjected 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.

The following discussions address the requirements of 22.070, Risk Analysis and Strategy Selection.

SECTION 2: PRELIMINARY SENSITIVITY ANALYSIS

This section addresses the requirements of 22.070 (2)

As discussed in Volume 6, Integrated Analysis, Section 1.1, one component of KCP&L's preliminary sensitivity analysis used the Capacity Expansion Module (CEM) functionality of MIDAS^{TM}. The CEM is a mid to long-term resource option and capacity-portfolio optimization model. The model provides for automated screening and evaluation of decisions for generation capacity expansion and retirement options, contract transactions, and demand side management options. The CEM can be used as part of a supply planning process, or power contracts procurement study. The study period may be one to 30 years. The study period for KCP&L was 2008-2032. As part of the IRP screening of alternative technologies and alternative resource plans, KCP&L retained Ventyx, the company that developed MIDAS™, to perform CEM modeling for a study period of 2008-2032.

Ventyx provided an analysis of supply-side and demand-side resource alternatives using the MIDAS^{TM} CEM to meet KCP&L's long-term planning objectives and the Missouri IRP rules. Ventyx utilized the CEM functionality to completely enumerate possible combinations of supply-side and demand-side resource alternatives, including coal unit retirements. This powerful screening tool uses a Mixed Integer Linear Programming (MILP) technique to determine the optimal selection of resource expansion plans including sizing and timing. The model treats supply-side and demand-side alternatives on an equal basis as per the Missouri rules.

Working with Ventyx, KCP&L developed 10 scenarios representing 10 different assumptions for key future uncertainties. Each scenario represents a set of assumptions regarding future uncertainties and defines a specific set of uncertain outcomes. For example, one scenario might include the base forecast for all but one uncertainty, say $CO_{2,}$ and assume the high cost forecast for that one uncertainty. The resulting set of technologies selected under this set of assumptions would indicate the preferred, or least cost, resource plan under high cost CO_2 regulation. The 10 scenarios evaluated by Ventyx are shown below in Figure 1.

Figure 1: Ventyx CEM Alternative Scenarios

Ventyx Capital Expansion Model (CEM) Futures					
Natural Gas Prices	Enviromental Allowance Prices	Load Growth	Coal Prices	CO2 Allowance Prices	Plan Number
				High	Plan V-7
High	High	High	High	None	Plan V-2
	High	Base	Base	None	Plan V-3
				High	Plan V-8
				Base	Plan V-6
Base	Base	Base	Base		
				Low	Plan V-9
				None	Plan V-1
	Low	Base	Base	None	Plan V-4
Low	Low	Low	Low	Low	Plan V-10
				None	Plan V-5

The CEM MIDAS™ runs provide a least cost plan for each specific scenario. These results provided a starting point for the more detailed MIDAS™ runs conducted by KCP&L to refine the preferred and alternative plans. A high level summary of the resulting plans from the CEM MIDAS™ runs are detailed in Table 1, Table 2 and Table 3 below.

For the starting point of further IRP analysis, five runs were designated with no probable environmental costs and five runs with probable environmental costs. Included in the CEM MIDAS™ analysis were options that evaluated additional DSM and energy efficiency programs. On the supply side, options included combustion turbines, combined cycle technologies, and steam generation both coal and nuclear. Renewable technologies included wind and biomass conversions of existing facilities. Retirement of existing units in the fleet was also an option that the model could have selected. This brief summary of options is not exhaustive. The compete report from Ventyx outlining all options included in the CEM MIDAS™ runs is attached in Volume 4, Supply-Side Analysis, Appendix 4.G.

Table 1: Optimal Expansion Plans – Base Scenarios ** Proprietary **

Table 2: Optimal Expansion Plans – Probable Environmental Scenarios **

Proprietary **

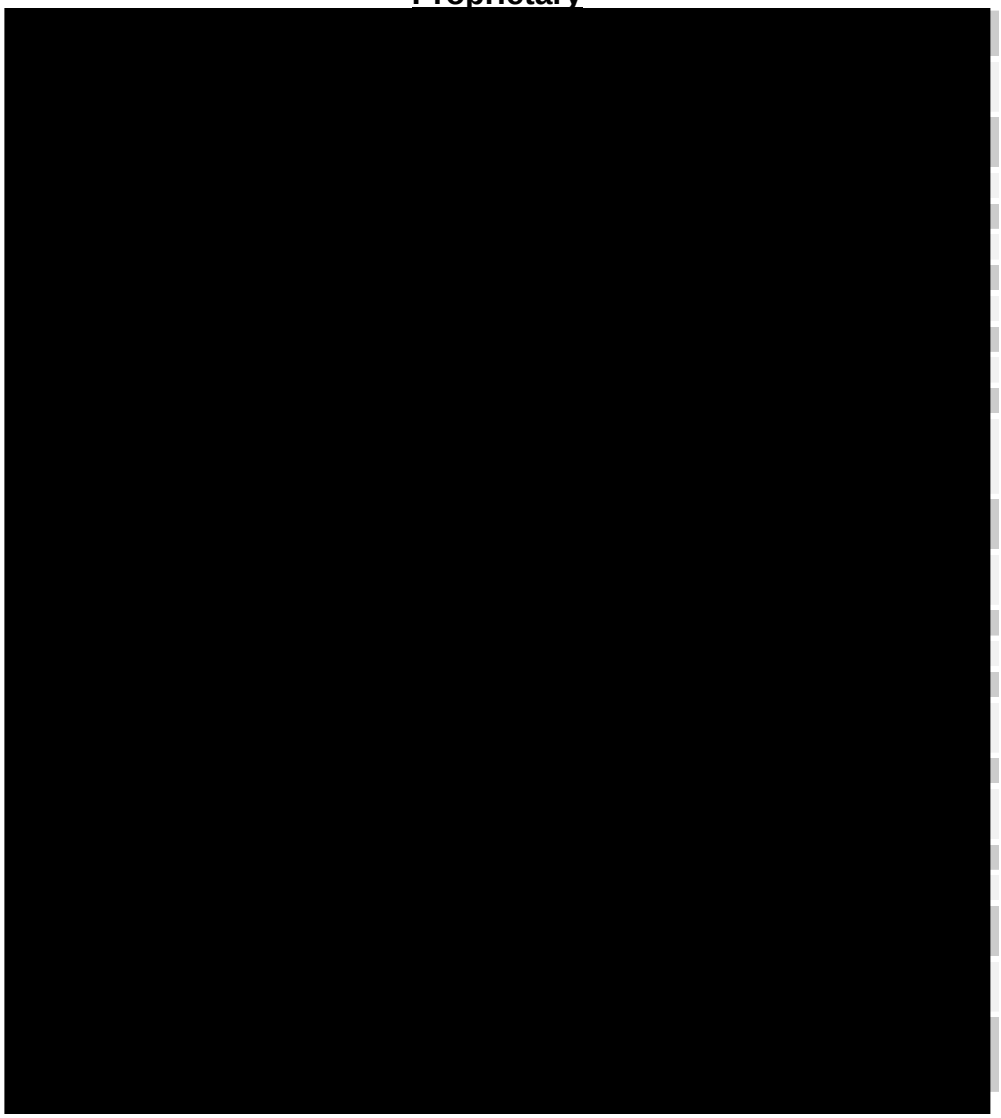

Table 3: DSM Selections by Expansion Plan ** Proprietary **

[redacted]

Plan 10	None	None	None

2.1 RANGE OF FUTURE LOAD GROWTH

This discussion addresses the requirements of 22.070 (2) (A)The Load Forecasting Department at KCP&L routinely develops a probabilistic forecast of peak demand and energy sales. Typically, the forecast consists of high, nominal (base) and low projections. For the IRP the probabilistic load forecast is included in the tree diagrams shown in Figure 2 and Figure 3 detailed in Section 11.1 Decision Tree Diagram in this Volume. Chance nodes were utilized to develop additional scenarios. The uncertainties impacting load growth are thoroughly discussed in Volume 3 of this IRP filing.

2.2 FUTURE INTEREST RATES

This section of the report addresses requirements under 22.070 (2) (B). KCP&L looked at the impact on the plans by varying the interest rate on new debt. The base assumption for interest rates was fixed at 8.00%. The high and low scenarios assumed a 20% variance in rates to arrive at a high rate of 10% and a low rate of 6%. For modeling purposes, interest rate increases have to be shown as an adjustment to the return on

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rate base input assumption. KCPL, adjusted the return on rate base for the high and low interest rate case, using the above listed interest rates as the basis of the adjustment. The adjustment was calculated using the following equation:

*Return on Rate Base = (Debt% * Interest Rate)*(1 – Tax Rate) + Equity% * ROE*

In the model, the tax rate, debt/equity ratio and ROE was assumed constant for this calculation. This sensitivity is displayed graphically in Figure 4 in Section 11.1 Decision Tree Diagram in this Volume. The debt/equity ratios and the return on rate base/equity were assumed constant. The impact of varying the interest rate on debt is detailed on the preferred plan tornado chart shown as Figure 7 in Section 11.3 Expected Value and Risk Tables in this Volume.

2.3 FUTURE ENVIRONMENTAL LAWS

This section of the report addresses requirements under 22.070 (2) (C).

For existing units, the Probable Environmental Costs were modeled as an increase in variable O&M. The calculations used to develop the Probable Environmental Costs detailed in Volume 4, Supply-Side Analysis, Appendix 4.D.2. Appendix 4.B.2 includes a discussion of current and potential environmental regulations utilized to develop the Probable Environmental Costs.

Future environmental impacts were also assumed to include a carbon emission credit market modeled as a tax on all carbon emissions. As such, the probability of a high, mid and low carbon emission price was estimated and the impact of this market included in the Probable Environmental Cost decision tree detailed as Figure 3 in Section 11.1 Decision Tree Diagram in this Volume.

2.4 FUEL AND EMISSIONS PRICE FORECASTS

This section of the report addresses requirements under 22.070 (2) (D) and 22.070 (2) (H). The probabilities associated with fuel prices are dependent upon each other and as a consequence vary due to impacts of other drivers. For example, when natural gas prices are high it is assumed that stronger pressure will exist to

push up the demand for environmental credits primarily associated with coal-fired generation. Therefore strong natural gas prices tend to lead to strong environmental allowance prices. The subjective and conditional probabilities used in the analysis of expected values are shown in the Decision Trees in Figure 2 for the Utility Costs and Figure 3 for the Probable Environmental Costs in Section 11.1 Decision Tree Diagram in this Volume. Details of the fuel price forecasts are included in Volume 4, Supply-Side Analysis, Appendix 4.C. Appendix 4.C. includes forecasts for the fuels and emissions listed below:

1. Natural Gas (Appendix 4.C.2)
2. Coal (Appendix 4.C.3)
3. Fuel Oil (Appendix 4.C.4)
4. Nuclear Fuel (Appendix 4.C.5)
5. SO_2, NO_X CAIR Annual, NO_X CAIR Seasonal, Hg and CO_2 credits

Emissions price forecast data is located in Volume 4, Supply-Side Resource Analysis, Section 7.

2.5 SITING AND PERMITING

This section of the report addresses requirements under 22.070 (2) (E). The cost of siting and permitting new generation is included in the projected construction cost for each technology. Generally, construction costs modeled range from a low of minus 15 percent to a high of plus 15 percent from a base line cost. This sensitivity is displayed graphically in Figure 4 in Section 11.1 Decision Tree Diagram in this Volume.

The analysis details the impact of this risk in the preferred plan tornado chart shown as Figure 7 in Section 11.3 Expected Value and Risk Tables in this Volume, within the overall construction cost risk.

2.6 CONSTRUCTION COSTS

This section of the report addresses requirements under 22.070 (2) (F). Details of the construction cost estimates are shown in Volume 4, Supply-Side Resource Analysis, Appendix 4.A.1 and Volume 6, Integrated Analysis, Appendix 6.A.1.

The impact of varying levels of capital construction costs are included in the risk profile and included in the preferred plan tornado chart, shown as Figure 7 in Section 11.3 Expected Value and Risk Tables in this Volume. Actual levels of construction under a high, base and low scenario vary by option. The levels used in the IRP are detailed in the construction cost estimates provided in Appendices 4.A.1 and 6.A.1. This sensitivity is displayed graphically in Figure 4 in Section 11.1 Decision Tree Diagram in this Volume. These costs adjustments also assume a cost variance for siting and permitting.

2.7 PURCHASE POWER AVAILABLITY AND COST

This section of the report addresses requirements under 22.070 (2) (G). Development of the cost and availability of purchase power agreements is included in Volume 4, Supply-Side Analysis, Section 10.1. Purchase power energy costs are estimated using the market price of power calculated by MIDAS™ for each scenario using the given assumptions of natural gas, environmental allowances, and other driver prices.

The availability of purchased power is simulated in the analysis through the contracted price of the capacity component of the PPA. For our base analysis, the capacity component of the PPA was derived from the value of a megawatt of capacity from the lowest cost combustion turbine. This sensitivity is displayed graphically in Figure 4 in Section 11.1 Decision Tree Diagram in this Volume. The sensitivity to power availability was simulated by varying the capacity price by +/- 25% from the base price. This sensitivity is detailed in the preferred plan tornado chart, shown as Figure 7 in Section 11.3 Expected Value and Risk Tables in this Volume.

2.8 FIXED OPERATING AND MAINTENANCE COSTS

This section of the report addresses requirements under 22.070 (2) (I). The Fixed O&M costs were modeled as plus or minus 5% from the base projection. This sensitivity is displayed graphically in Figure 4 in Section 11.1 Decision Tree Diagram in this Volume. Details of the estimated fixed O&M costs by technology type are shown in Volume 6, Integrated Analysis, Appendix 6.A. This sensitivity is detailed in the preferred plan tornado chart, shown as Figure 7 in Section 11.3 Expected Value and Risk Tables in this Volume.

2.9 FORCED OUTAGE RATES

This section of the report addresses requirements under 22.070 (2) (J). For the sensitivity analysis, forced outage rates we modeled as plus or minus 10% from the base forecast. This sensitivity is displayed graphically in Figure 4 in Section 11.1 Decision Tree Diagram in this Volume. Details of the estimated forced outage rates by technology type are shown in Volume 6, Integrated Analysis, Appendix 6.A. This sensitivity is detailed in the preferred plan tornado chart, shown as Figure 7 in Section 11.3 Expected Value and Risk Tables in this Volume.

2.10 FUTURE LOAD IMPACTS AND DELIVERY COST OF DSM

This section of the report addresses requirements under 22.070 (2) (K) and 22.070 (2) (L). Future programs of DSM and Energy Efficiency were detailed as various options available to the individual plans. KCP&L assumed three levels of future spending and load impacts for current programs (CEP-1 Base, Curtail and Growth) and four spending and impact levels for future programs, (Aggressive and Normal C&I, Residential and No Future Programs). While the actual spending and impact varies among the plans, the sending and impact within an individual plan is fixed.

Complete details of these programs are included in Volume 3 of this IRP filing.

SECTION 3: DECISION TREE FOR EACH ALTERNATIVE

This section of the report addresses requirements under 22.070 (3). Five key uncertainties that impact the performance of the individual resource plans were identified as listed below:

1. Natural gas price
2. Environmental allowance price
3. Load
4. Coal Price
5. Greenhouse gas regulation and CO_2 price.

Each alternative plan is run in MIDAS against each branch of the decision trees shown in Figure 2 and Figure 3 in Section 11.1 Decision Tree Diagram in this Volume. The decision tree has nested levels of risk. The first risk is with respect to the market price for natural gas. The Fuels Group at KCP&L developed a High-Base-Low level of natural gas prices which correspond to the three branches of the first decision tree uncertainty node. The subjective probability of each branch was determined by the KCP&L Fuels Group.

The next layer of the decision tree is the price level of Environmental Allowances (EA). The KCP&L fuel's Group determined a High-Base-Low level of EA prices and a subjective probability for each. The subjective probabilities are configured to be conditional to the price level of natural gas.

The third layer of uncertainty is with respect to the system load. The Load Forecasting Group at KCP&L developed a High-Base-Low load forecast. The subjective probabilities associated with Load are not conditioned on the price levels of natural gas and EA's.

The fourth level of uncertainty is with respect to the system price for coal. This forecast is also developed by the KCP&L Fuels group and is in the format of a High-Base-Low coal price forecast.

The last level of uncertainty relates to the level of costs associated with probable environmental costs and the impact of a CO_2 credit market. This forecast is also developed by the KCP&L Fuels group and is in the format of a High-Base-Low coal price forecast.

For each of these levels of uncertainty, a price estimate for electric wholesale power is determined using the MIDAS™ model in Multi-Area Mode. A discussion of how wholesale prices are calculated using MIDAS™ is located in Section 3.1 of this Volume.

3.1 WHOLESALE MARKET PRICE FORECAST METHODOLOGY

To estimate and forecast wholesale market prices, KCP&L utilizes the MIDAS™ model, which is similar to other fundamental price forecasting models that are commonly used in the industry. MIDAS™ is provided by Ventyx (formerly Global Energy Decisions). The Transact Analyst™ component of MIDAS™ generates regional prices by modeling power flows within and between various energy Markets, Transaction Areas, NERC Sub-Regions, and NERC Regions. Power flows are determined based on the relative loads, resources, marginal costs, transactions costs, and intertie limits between the areas or regions. Transactions occur on an hourly basis for 8760 hours per year.

The model utilizes a sizeable input dataset, referred to as the National Database. The version used for the KCP&L's IRP is EV07, and was distributed in April 2007. It is populated with assumptions about market supply, demand, and transmission. The bulk of the input assumptions use Federal Energy Regulatory Commission ("FERC") Form 1, Energy Information Administration ("EIA") 411 reports, and Continuous Emissions Monitoring system ("CEM") data compiled by the Environmental Protection Agency ("EPA"), as their source. The demand data includes projected hourly

demand for virtually every utility in the eastern interconnect. The supply data contains a representation of all generating units within those utilities: capacity, heat rate, fuel type, variable operations and maintenance costs, outage rates, emissions rates, start-up costs, etc. Fuel costs may also be tied to individual units based on reported costs. This applies primarily in the case of nuclear and coal units, whose fuel cost would not be tied to a national commodity price such as is the case with natural gas or fuel oil. The other primary inputs are: natural gas prices, natural gas basis adders, fuel oil prices, and emission allowance prices. These inputs are more "global" in nature, meaning they are not tied to specific units. The dataset also includes transmission constraints between the areas. Ventyx, the provider of the National Database, arrives at the constraints through their analyses of regional assessments from the various reliability councils.

The model performs an hourly chronological dispatch of all generation resources to meet projected hourly demand in each region as defined in the model's geographic topology. For each hour, the last generator needed to meet demand is identified as the marginal unit. All of the costs associated with dispatching the marginal unit become the basis for the price in that hour in that region.

MIDAS™ market simulations model most of the eastern interconnect. As a result, the unit identified as marginal may be dispatched in order to serve load in a neighboring region. The model will perform transactions between regions, as long as adequate transmission capacity still exists. If transmission becomes constrained between regions, before all of the economical transactions have been completed, the model's bidding logic will arrive at an appropriate price spread between the two regions.

Additionally, the model simulates the addition of various economic new generation resources in response to market prices and long-term load growth. A new resource will be added to a region when market prices are sufficient to recover the cost of construction. It the model is not capable of achieving new entrants through the

market energy price, the model will still add new generation to meet pre-set reserve margin requirements.

SECTION 4: DECISION TREE FOR ALL ALTERNATIVE PLANS

As required under 22.070 (4), the decision tree diagram for all alternative resource plans shall include at least two chance nodes for load growth uncertainty over consecutive subintervals of the planning horizon. The first of these subintervals shall not be more than ten years long. The decision tree used in this IRP is broken into two figures for easier display and shown in Figure 2 and Figure 3 in Section 11.1 Decision Tree Diagram in this Volume. The decision trees each contain chance nodes for load growth. A full discussion of these trees is included in Section 11.1 Decision Tree Diagram.

SECTION 5: DECISION TREE CUMULATIVE PROBABILITIES

Rule 22.070 (5), requires the utility to use the decision tree formulation to compute the cumulative probability distribution of the values of each performance measure specified pursuant to 22.060 (2), contingent upon the identified uncertain factors and associated subjective probabilities assigned by the utility decision makers pursuant to section 22.070 (1) of this rule. Both the expected performance and the risks of each alternative resource plan shall be quantified. A graphical representation of the decision trees and the respective cumulative probabilities are detailed in Figure 2 and Figure 3 in Section 11.1 Decision Tree Diagram in this Volume.

5.1 EXPECTED PERFORMANCE

Rule 22.070 (5) (A) indicates that the expected performance of each resource plan shall be measured by the statistical expectation of the value of each performance measure. The expected value of the NPVRR for each plan is tabulated and listed in Table 7 in Section 11.3 Expected Value and Risk Tables in this Volume.

5.2 RISK MEASURES

Rule 22.070 (5) (B) indicates that 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 of the values associated with specified percentiles of the distribution. In this IRP, the risk dispersion is detailed by use of Risk Tables (Table 12, Table 13 and Table 14 in Section 11.3 Expected Value and Risk Tables in this Volume) and detailing the preferred plan using a tornado chart showing how each risk factor impacts overall plan performance. This tornado chart is shown in Figure 7 in Section 11.3 Expected Value and Risk Tables in this Volume.

SECTION 6: PREFERRED PLAN

Rule 22.070 (6), indicates the utility shall select a preferred plan from among the alternative plans that have been analyzed pursuant to the requirements of 22.060 (1) and 22.070 (1). The preferred plan will meet at least the following conditions:

6.1 BALANCE OF OBJECTIVES

The preferred plan will strike a balance of the objectives detailed in 22.010 (2) such as:

1) Consider demand-side alternatives

2) Use net present worth of long-term costs as primary selection criterion

3) Explicitly identify and quantitatively analyze any other consideration critical to the resource planning process.

6.2 UNSERVED ENERGY

By rule, the preferred plan must not show an increased in unserved energy requiring increases of imported power for use in emergency conditions. The MIDAS™ model produces a standard report detailing the sources of energy required to meet system needs. The findings of this report for the preferred plan are included with this filing and presented as Table 15 in Section 11.4 Annual Unserved Hours.

6.3 SELECTED PREFERRED PLAN

The two plans with the lowest NPVRR, Plan 19 and Plan 26, include four (4) key resource additions:

1) Continuation of CEP-1 Demand Side Management (DSM) programs

2) Residential and Aggressive C&I Energy Efficiency (EE) programs as defined in Volume 5, Demand-Side Resource Analysis

3) 100 MW of wind annually up to a total addition of 400 MW

4) 154 MW of Combustion Turbines (CTs) in 2029

Based on the discussions detailed in Volume 1, Executive Summary, Plan 19 was selected as the preferred plan. Because the potential 2009 wind addition demonstrates the potential for significant savings compared to the costs modeled in the alternative resource plans, KCP&L anticipates moving forward with this addition. Implementation of wind after 2009 will be evaluated through additional analysis and the studies included in the SRS process.

For contingency planning purposes, the preferred plan also includes the recommendation to Start the early stages of development for a nuclear generation option.

SECTION 7: EMERGENCY IMPORTED POWER

Rule 22.070 (7), indicates the impact of the preferred plan on future requirements for emergency imported power shall be explicitly modeled and quantified. The requirement of emergency imported power shall be measured by expected unserved hours under normal-weather load conditions. This information is displayed in tabular form later in this section. Results are shown in Table 15 in Section 11.4 Annual Unserved Hours.

7.1 DESCRIPTION OF THE MIDAS™ MODEL

Rule 22.070 (7) requires that the estimation of unserved energy be performed by a model that can meet certain requirements. For this IRP, the level of unserved energy is calculated using the Ventyx MIDAS™ model.

Pursuant to Rule 22.070 (7) (A) the MIDAS™ model uses load information that is developed by KCP&L and is described in detail in Volume III of this IRP. The load data incorporates daily weather variations and normal-weather variables consistent with historical values and extremes.

Pursuant to Rule 22.070 (7) (B)the model provides hourly chronological dispatch of all system generating assets including unit commitment logic that simulation the actual operation of the utility system resources. The model contains all unit operating variables required to simulate the units. These variables include but are not limited to, heat rates, fuel costs, variable operation and maintenance costs, sulfur dioxide emission allowance costs, scheduled maintenance outages, forced and derate outages rates each on a per unit basis.

The model can also simulate capacity and energy purchases from or sales to a market in either a firm transaction or as a spot market transaction. In the case of market based transactions, all can be conducted with the impact of environmental credits factored in. The level of purchases or sales can also be limited to any range desired. For this IRP, KCP&L has limited the ability to purchase firm sales to a level consistent with the company's current operating methods and market conditions.

Pursuant to Rule 22.070 (7) (C) KCP&L does not propose an alternative method of calculating unserved energy as MIDAS™ has proved itself in other aspects of company operation and has been successfully utilized in other company's IRP submissions. The MIDAS™ Model meets the requirements set forth in this section.

SECTION 8: BETTER INFORMATION

Under rule 22.070 (8), the utility shall quantify the value of better information. To explain the method used to develop this value, suppose that KCP&L could conduct a market research study that would help in evaluating supply options by providing perfect information on the risks faced by the company. In light of that information, KCP&L would change its preferred strategy after hearing the results of this hypothetical study. Assuming that the probability of the various market outcomes remain the same, we can apply an expected value calculation to the resultant decision tree. The value of this decision tree under perfect information is compared to the expected value of the preferred plan to determine the value of the information. Results of this analysis are detailed in Figure 14 through Figure 18 in Section 11.5 Calculation of Better Information.

SECTION 9: IMPLEMENTATION PLAN

The requirements of Rule 22.070 (9) are discussed in Volume 1, Executive Summary and detailed in Volume 1, Executive, Appendix 1.B and 1.C.

SECTION 10: RESOURCE ACQUISITION STRATEGY

The requirements of rule 22.070 (10) are discussed in Volume 1, Executive Summary, Section 5.

Within rule 22.070 Risk Analysis and Strategy Selection, (10) (C) a set of combination of critical factors must be specified to determine the limits within which the preferred resource plan is appropriate. Using the results of the probable environmental cost analysis, the least cost plan for each of the thirty-nine scenarios are listed with its associated conditional probability is shown in Table 4 below. Therefore this table details under which conditions an individual plan performs best.

The cumulative conditional probabilities of each plan is then summed to show the expected overall probability of an individual plan outperforming all other plans. The results of this summation is shown in Table 5 below.

Table 4: Least NPVRR Plan by Scenario

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

Table 5: Cumulative Probability

Plan	Cumulative Probability
Plan 26	49.6%
Plan 15	20.2%
Plan 7	14.5%
Plan 11	9.7%
Plan 20	6.0%
Grand Total	100.0%

SECTION 11: REPORTING REQUIREMENTS

11.1 DECISION TREE DIAGRAM

Pursuant to Rule 22.070 (11) (A), the alternative resource plans were each run versus a decision tree of multiple uncertainty nodes. The resultant tree is shown in Figure 2 below.

Figure 2: Utility Cost Decision Tree

MIDAS MODEL SCENARIOS AND CONDITIONAL PROBABILITIES													
Natural Gas Prices		Enviromental Allowance Prices		Load Growth		Coal Prices		Cumulative Probability	Scenario
						High	25%	0.52%	HHHHN
				High	25%	Base	50%	1.03%	HHHBN
						Low	25%	0.52%	HHHLN
						High	25%	1.03%	HHBHN
		High	33%	Base	50%	Base	50%	2.06%	HHBBN
						Low	25%	1.03%	HHBLN
						High	25%	0.52%	HHLHN
				Low	25%	Base	50%	1.03%	HHLBN
						Low	25%	0.52%	HHLLN
						High	25%	1.05%	HBHHN
				High	25%	Base	50%	2.09%	HBHBN
						Low	25%	1.05%	HBHLN
						High	25%	2.09%	HBBHN
High	25%	Base	67%	Base	50%	Base	50%	4.19%	HBBBN
						Low	25%	2.09%	HBBLN
						High	25%	1.05%	HBLHN
				Low	25%	Base	50%	2.09%	HBLBN
						Low	25%	1.05%	HBLLN
						High	25%	0.78%	BHHHN
				High	25%	Base	50%	1.56%	BHHBN
						Low	25%	0.78%	BHHLN
						High	25%	1.56%	BHBHN
		High	25%	Base	50%	Base	50%	3.13%	BHBBN
						Low	25%	1.56%	BHBLN
						High	25%	0.78%	BHLHN
				Low	25%	Base	50%	1.56%	BHLBN
						Low	25%	0.78%	BHLLN
						High	25%	1.56%	BBHHN
				High	25%	Base	50%	3.13%	BBHBN
						Low	25%	1.56%	BBHLN
						High	25%	3.13%	BBBHN
Base	50%	Base	50%	Base	50%	Base	50%	6.25%	BBBBN
						Low	25%	3.13%	BBBLN
						High	25%	1.56%	BBLHN
				Low	25%	Base	50%	3.13%	BBLBN
						Low	25%	1.56%	BBLLN
						High	25%	0.78%	BLHHN
				High	25%	Base	50%	1.56%	BLHBN
						Low	25%	0.78%	BLHLN
						High	25%	1.56%	BLBHN
		Low	25%	Base	50%	Base	50%	3.13%	BLBBN
						Low	25%	1.56%	BLBLN
						High	25%	0.78%	BLLHN
				Low	25%	Base	50%	1.56%	BLLBN
						Low	25%	0.78%	BLLLN
						High	25%	1.05%	LBHHN
				High	25%	Base	50%	2.09%	LBHBN
						Low	25%	1.05%	LBHLN
						High	25%	2.09%	LBBHN
Low	25%	Base	67%	Base	50%	Base	50%	4.19%	LBBBN
						Low	25%	2.09%	LBBLN
						High	25%	1.05%	LBLHN
				Low	25%	Base	50%	2.09%	LBLBN
						Low	25%	1.05%	LBLLN
						High	25%	0.52%	LLHHN
				High	25%	Base	50%	1.03%	LLHBN
						Low	25%	0.52%	LLHLN
						High	25%	1.03%	LLBHN
		Low	33%	Base	50%	Base	50%	2.06%	LLBBN

The Utility Cost Scenario Tree shown in Figure 2 is the basis of all analysis for the IRP. This tree delineates the different input assumptions for the power price forecasting model.

Determination of individual resource plan NPVRR is influenced by the underlying assumption of the forecast of wholesale electric market prices. The economic assumption of the power price forecast is that economic actors in the power markets will participate in those markets to meet a goal of minimizing their total costs of operation. It is assumed that all actors in the market will choose to source their individual power needs by calling upon the lowest cost available generation.

KCP&L utilizes the MIDAS™ model, which is similar to other fundamental price forecasting models that are commonly used in the industry. MIDAS™ is provided by Ventyx (formerly Global Energy Decisions). The Transact Analyst™ component of MIDAS™ generates regional prices by modeling power flows within and between various energy Markets, Transaction Areas, NERC Sub-Regions, and NERC Regions. Power flows are determined based on the relative loads, resources, marginal costs, transactions costs, and intertie limits between the areas or regions. Transactions occur on an hourly basis for 8760 hours per year.

The model utilizes a sizeable input dataset, referred to as the National Database. The version used for the KCP&L's IRP is EV07, and was distributed in April 2007. It is populated with assumptions about market supply, demand, and transmission. The bulk of the input assumptions use Federal Energy Regulatory Commission ("FERC") Form 1, Energy Information Administration ("EIA") 411 reports, and Continuous Emissions Monitoring system ("CEM") data compiled by the Environmental Protection Agency ("EPA"), as their source. The demand data includes projected hourly demand for virtually every utility in the eastern interconnect. The supply data contains a representation of all generating units within those utilities: capacity, heat rate, fuel type, variable operations and maintenance costs, outage rates, emissions rates, start-up costs, etc. Fuel costs may also be tied to individual units based on reported costs. This applies primarily in the case of nuclear and coal units, whose

fuel cost would not be tied to a national commodity price such as is the case with natural gas or fuel oil. The other primary inputs are: natural gas prices, natural gas basis adders, fuel oil prices, and emission allowance prices. These inputs are more "global" in nature, meaning they are not tied to specific units. The dataset also includes transmission constraints between the areas. Ventyx, the provider of the National Database, arrives at the constraints through their analyses of regional assessments from the various reliability councils.

The model performs an hourly chronological dispatch of all generation resources to meet projected hourly demand in each region as defined in the model's geographic topology. For each hour, the last generator needed to meet demand is identified as the marginal unit. All of the costs associated with dispatching the marginal unit become the basis for the price in that hour in that region.

MIDAS™ market simulations model most of the eastern interconnect. As a result, the unit identified as marginal may be dispatched in order to serve load in a neighboring region. The model will perform transactions between regions, as long as adequate transmission capacity still exists. If transmission becomes constrained between regions, before all of the economical transactions have been completed, the model's bidding logic will arrive at an appropriate price spread between the two regions.

Additionally, the model simulates the addition of various economic new generation resources in response to market prices and long-term load growth. A new resource will be added to a region when market prices are sufficient to recover the cost of construction. It the model is not capable of achieving new entrants through the market energy price, the model will still add new generation to meet pre-set reserve margin requirements.

Care is taken to make sure that the capital costs of new generation is similar to the costs of the available supply options modeled in the company Integrated Analysis.

Figure 3: Probable Environmental Cost Decision Tree

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

To measure the effects of the sensitivity risks on the preferred and alternative plans, a focused analysis is conducted using the following tree detailed in Figure 4, on the BBBBB Scenario of the Probable Environmental Cost risk tree, to quantify the impact of these additional risk variables on the plans. Resultant risks for these sensitivities are detailed in the tornado charts (Figure 7 through Figure 13) and risk table (Table 14) for the preferred plan and a selected subset of plans chosen to highlight the diversity of analysis results.

Figure 4: Alternative Plan Sensitivities

MIDAS MODEL SENSITIVITY SCENARIOS-PROBABLE ENVIRONMENTAL COSTS					
Interest Rates	Construction Costs (includes siting and permintting	Fixed O&M	Outage Rates	Purchased Power Availability	Scenario
High	Base	Base	Base	Base	HBBBB
	High	Base	Base	Base	BHBBB
		High	Base	Base	BBHBB
			High	Base	BBBHB
				High	BBBBH
Base	Base	Base	Base	Base	BBBBB
				Low	BBBBL
			Low	Base	BBBLB
		Low	Base	Base	BBLBB
	Low	Base	Base	Base	BLBBB
Low	Base	Base	Base	Base	LBBBB

11.2 CUMULATIVE PROBABILITY

Pursuant to rule 22.070 (11) (B), the cumulative probabilities are detailed on each applicable decision tree graphic. These probabilities are applied to the resultant performance measures from each scenario. The performance measures can then be displayed graphically with their probability distributions. Of the five performance measures listed in rule 22.060 Integrated Resource Analysis, (2) only two can be detailed in this manner; NPVRR and Levelized Annual Average Rates. No distribution exists for DSM costs as they are assumed fixed in an individual plan. Each plan also has only one maximum annual rate increase. Finally, the NPVRR distribution is based on the Probable Environmental Coasts assumptions thereby incorporating Both NPVRR and Probable Environmental Costs.

Figure 5: Probability Distribution - 25 Year NPVRR

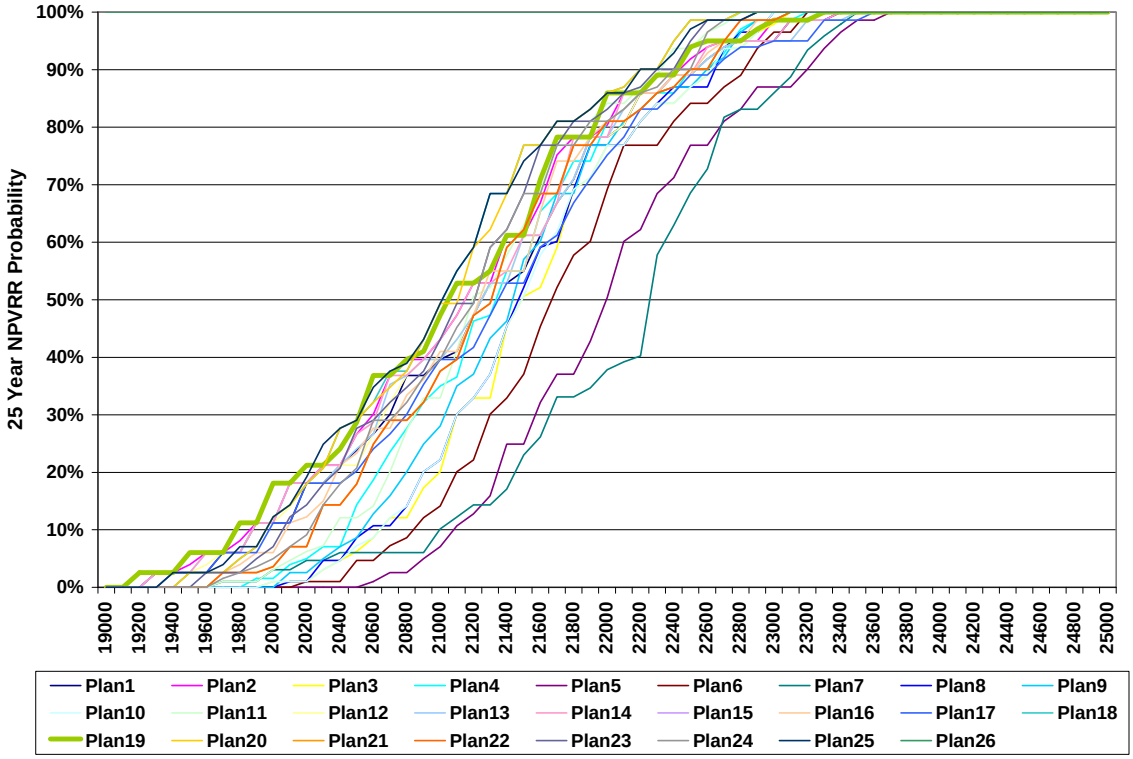
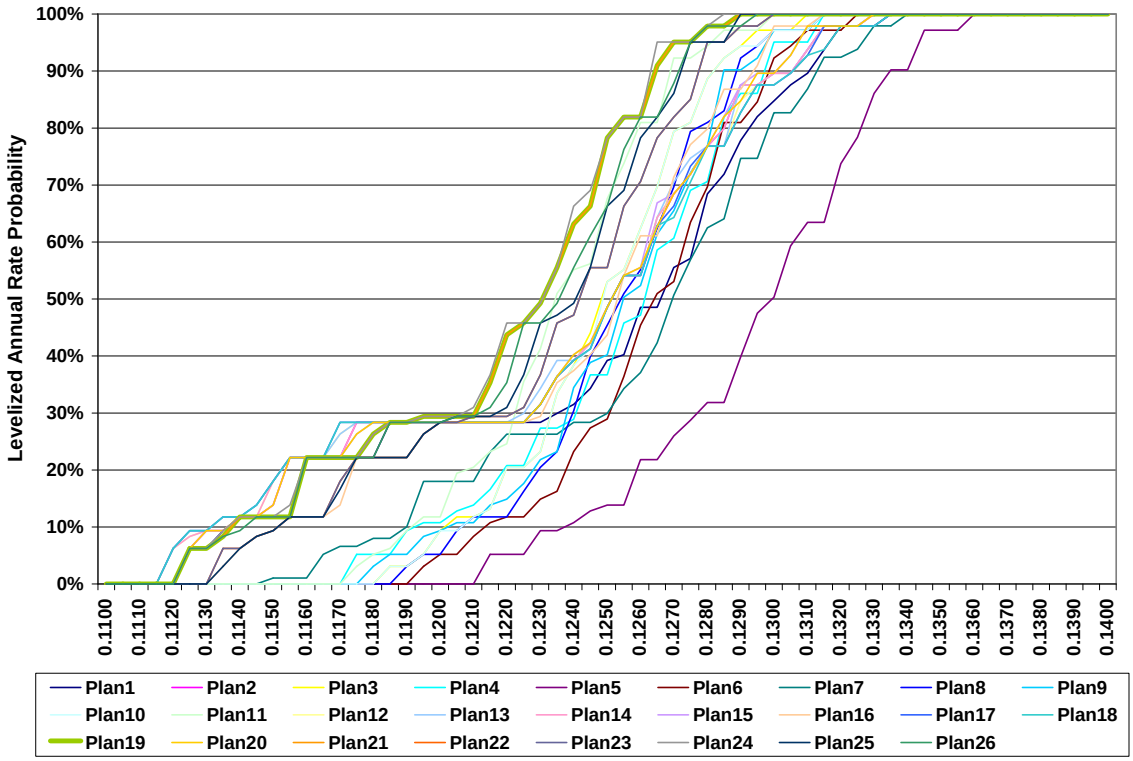


Figure 6: Probability Distribution - Levelized Annual Rates



11.3 EXPECTED VALUE AND RISK TABLES

Pursuant to rule 22.070 (11) (C), the expected value of each performance measure is summarized in Table 6.

Table 6: Expected Values of All Performance Measures by Plan

Plan	NPVRR ($MM)	Probable Environmental Costs ($MM)	DSM Costs ($MM)	Levelized Annual Rates ($/kw-hr)	Maximum Rate Increase
Plan 1	21,240	3,502	46.06	0.1259	29.74%
Plan 2	21,137	3,358	46.06	0.1251	29.74%
Plan 3	21,554	2,345	50.02	0.1265	27.18%
Plan 4	21,360	2,623	50.02	0.1271	30.04%
Plan 5	22,022	2,505	50.02	0.1313	27.17%
Plan 6	21,722	2,395	50.02	0.1280	27.17%
Plan 7	22,089	1,288	50.02	0.1275	25.32%
Plan 8	21,525	2,390	50.02	0.1271	32.17%
Plan 9	21,442	2,487	50.02	0.1270	32.17%
Plan 10	21,539	2,339	50.02	0.1266	27.24%
Plan 11	21,271	2,345	50.02	0.1252	27.04%
Plan 12	21,239	3,387	34.09	0.1251	29.79%
Plan 13	21,221	3,387	11.97	0.1249	29.85%
Plan 14	21,168	3,370	23.93	0.1250	29.83%
Plan 15	21,071	3,340	58.02	0.1250	29.71%
Plan 16	21,244	1,401	11.97	0.1254	29.74%
Plan 17	21,334	3,416	-	0.1250	29.93%
Plan 18	21,340	3,416	-	0.1251	29.90%
Plan 19	21,019	3,050	58.02	0.1232	27.01%
Plan 20	21,072	3,340	58.02	0.1250	29.71%
Plan 21	21,021	3,050	58.02	0.1232	27.01%
Plan 22	21,289	3,047	58.02	0.1245	27.21%
Plan 23	21,290	3,050	58.02	0.1245	27.21%
Plan 24	21,126	3,124	58.02	0.1231	26.97%
Plan 25	21,215	3,050	58.02	0.1241	26.04%
Plan 26	21,006	3,093	58.02	0.1236	31.70%

Table 7 ranks each plan in ascending order of the expected value of net present value of revenue requirements, under the Utility Cost and Probable Environmental Cost assumptions.

Table 7: Expected Values by Plan

Expected Value - Utility Costs			Expected Value - PEC		
Plan	NPVRR	Delta	Plan	NPVRR	Delta
Plan15	17,732	-	Plan26	21,006	-
Plan20	17,732	1	Plan19	21,019	13
Plan1	17,737	6	Plan21	21,021	15
Plan2	17,779	47	Plan15	21,071	65
Plan14	17,798	67	Plan20	21,072	66
Plan13	17,834	102	Plan24	21,126	120
Plan12	17,852	120	Plan2	21,137	131
Plan26	17,913	181	Plan14	21,168	162
Plan17	17,919	187	Plan25	21,215	209
Plan18	17,924	192	Plan13	21,221	215
Plan19	17,968	237	Plan12	21,239	233
Plan21	17,970	239	Plan1	21,240	234
Plan24	18,002	270	Plan16	21,244	238
Plan25	18,166	434	Plan11	21,271	265
Plan23	18,240	508	Plan22	21,289	283
Plan22	18,242	510	Plan23	21,290	284
Plan4	18,736	1,005	Plan17	21,334	328
Plan11	18,926	1,194	Plan18	21,340	334
Plan9	18,955	1,223	Plan4	21,360	354
Plan8	19,135	1,403	Plan9	21,442	436
Plan10	19,200	1,468	Plan8	21,525	518
Plan3	19,208	1,477	Plan10	21,539	533
Plan6	19,327	1,595	Plan3	21,554	548
Plan5	19,517	1,786	Plan6	21,722	716
Plan16	19,842	2,111	Plan5	22,022	1,016
Plan7	20,801	3,070	Plan7	22,089	1,083

Annual rates for each of the plans is calculated and tabulated for display in Table 8 through Table 11. For each plan, the maximum single year rate increase is determined and provided. It must be noted that the largest jump in rates occurs in all plans when the assumed high-CO2 market cost case is modeled. In all plans this occurs in 2012 with the onset of a market with a tight control of available credits.

Table 8: Annual Rates with Maximum Annual Increase ** Proprietary **

Year	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7
[redacted]							

Table 9: Annual Rates with Maximum Annual Increase ** Proprietary **

Year	Plan 8	Plan 9	Plan 10	Plan 11	Plan 12	Plan 13	Plan 14
[redacted]							

Table 10: Annual Rates with Maximum Annual Increase ** Proprietary **

Year	Plan 15	Plan 16	Plan 17	Plan 18	Plan 19	Plan 20	Plan 21
[redacted]							

Table 11: Annual Rates with Maximum Annual Increase ** Proprietary **

Year	Plan 22	Plan 23	Plan 24	Plan 25	Plan 26
[redacted]					

The tornado chart shown below in Figure 7 demonstrates the range of risks associated with the preferred resource plan. Six other plans are included as a comparison. These plans include Plan 26, the lowest cost plan by expected value, and five other plans to highlight the diversity of analysis by DSM assumptions and technology utilized.

Figure 7: Tornado Chart - Plan 19

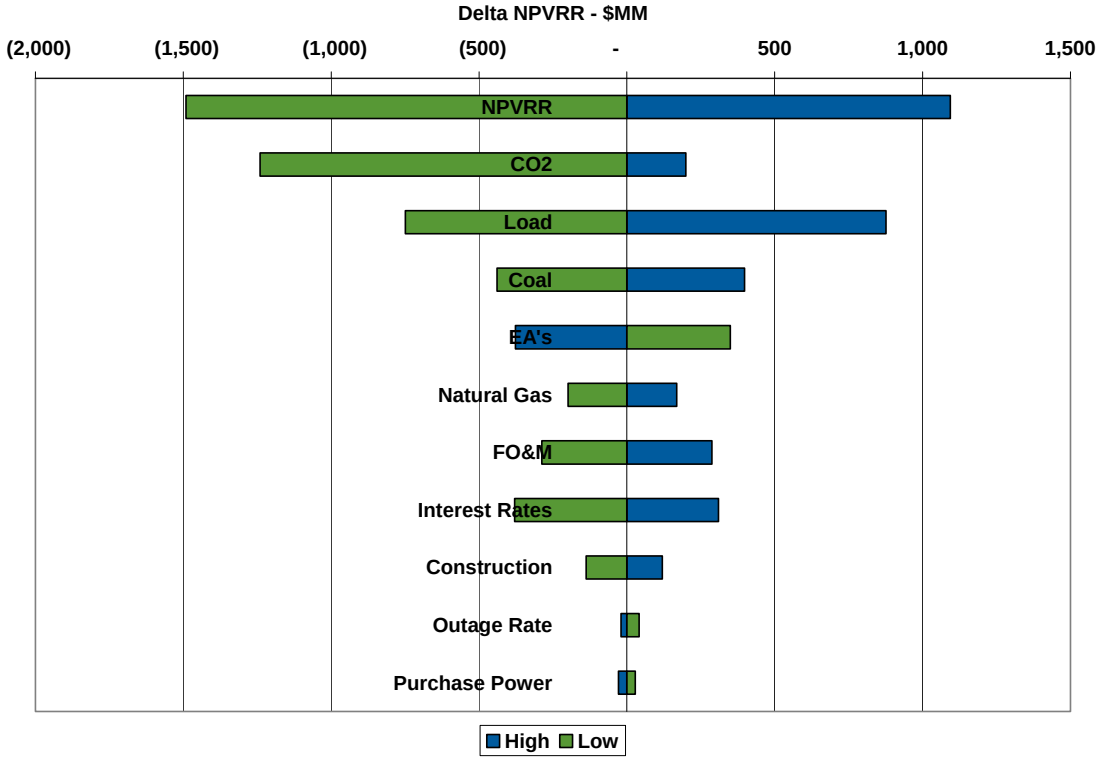


Figure 8: Tornado Chart - Plan 1

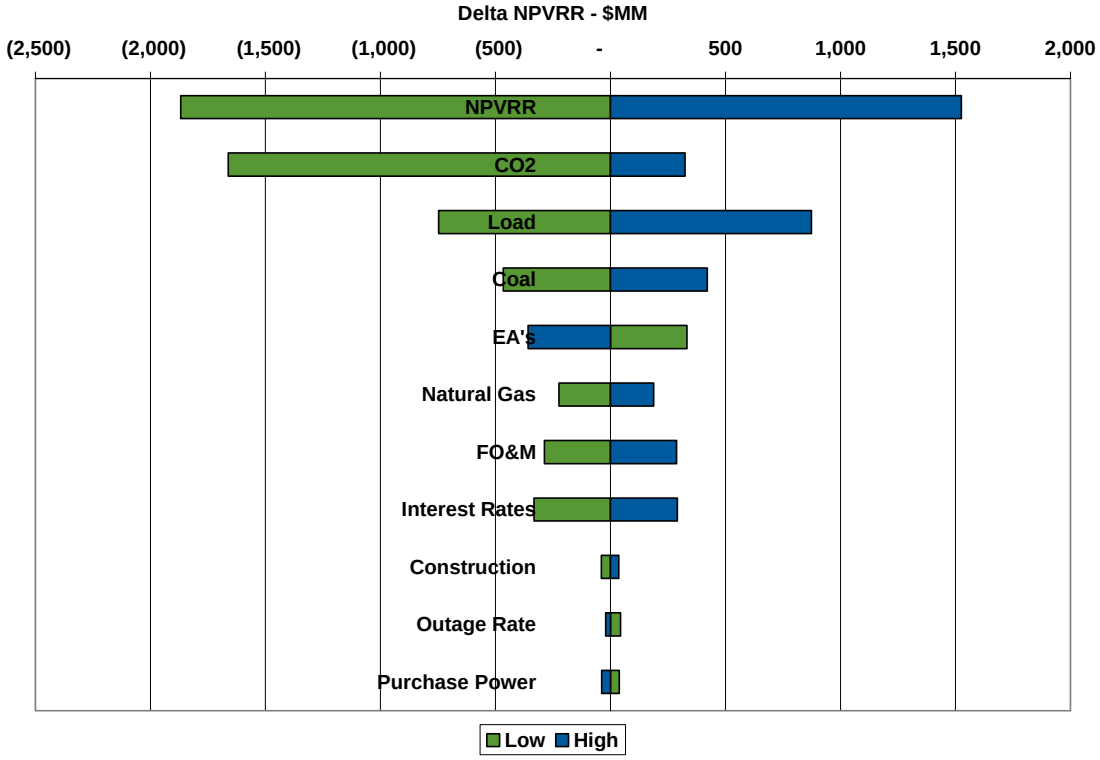


Figure 9: Tornado Chart - Plan 15

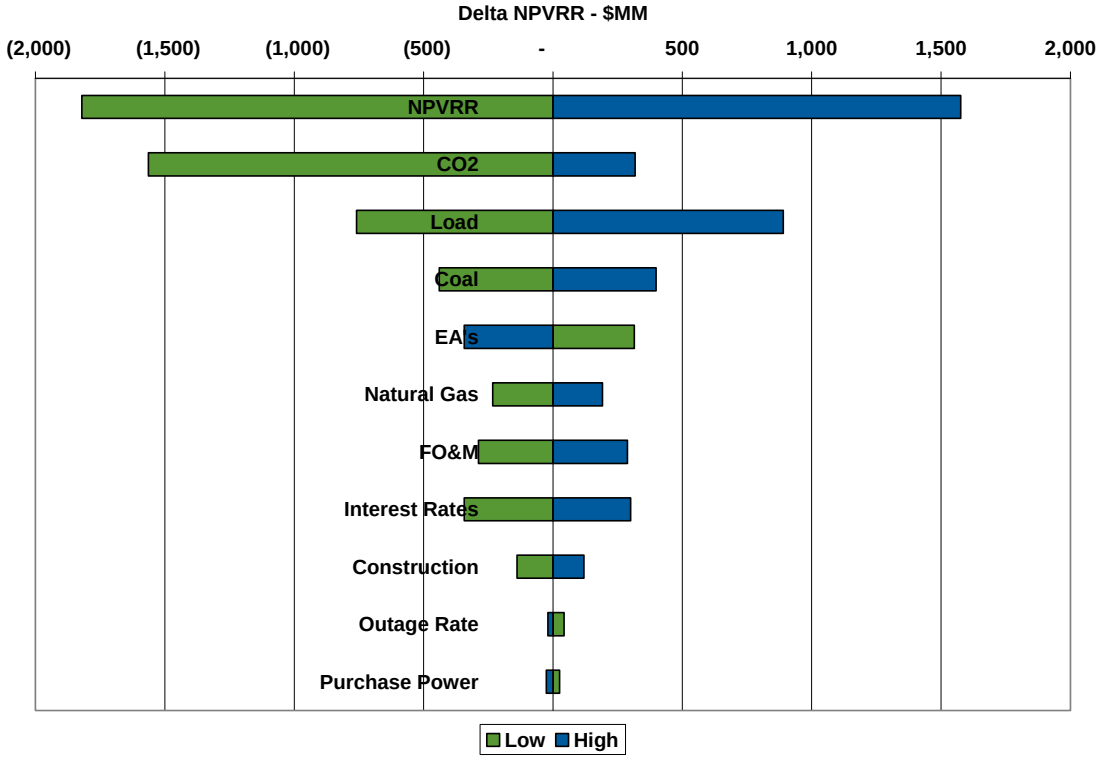


Figure 10: Tornado Chart - Plan 21

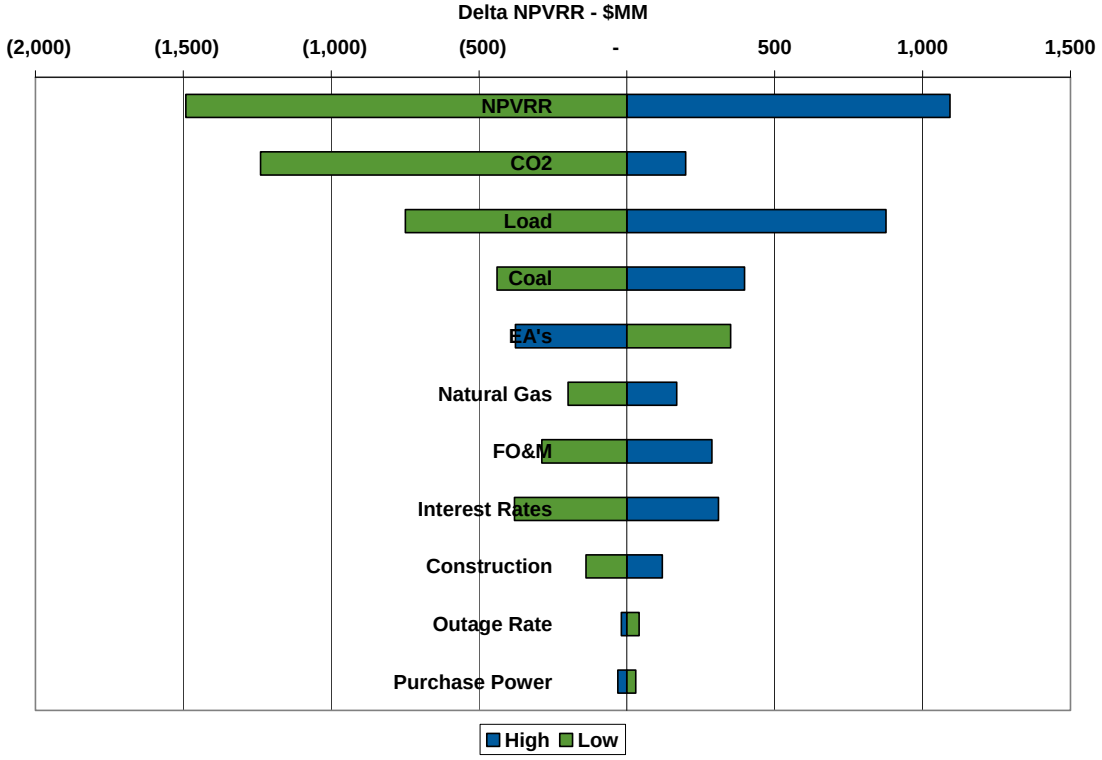


Figure 11: Tornado Chart - Plan 24

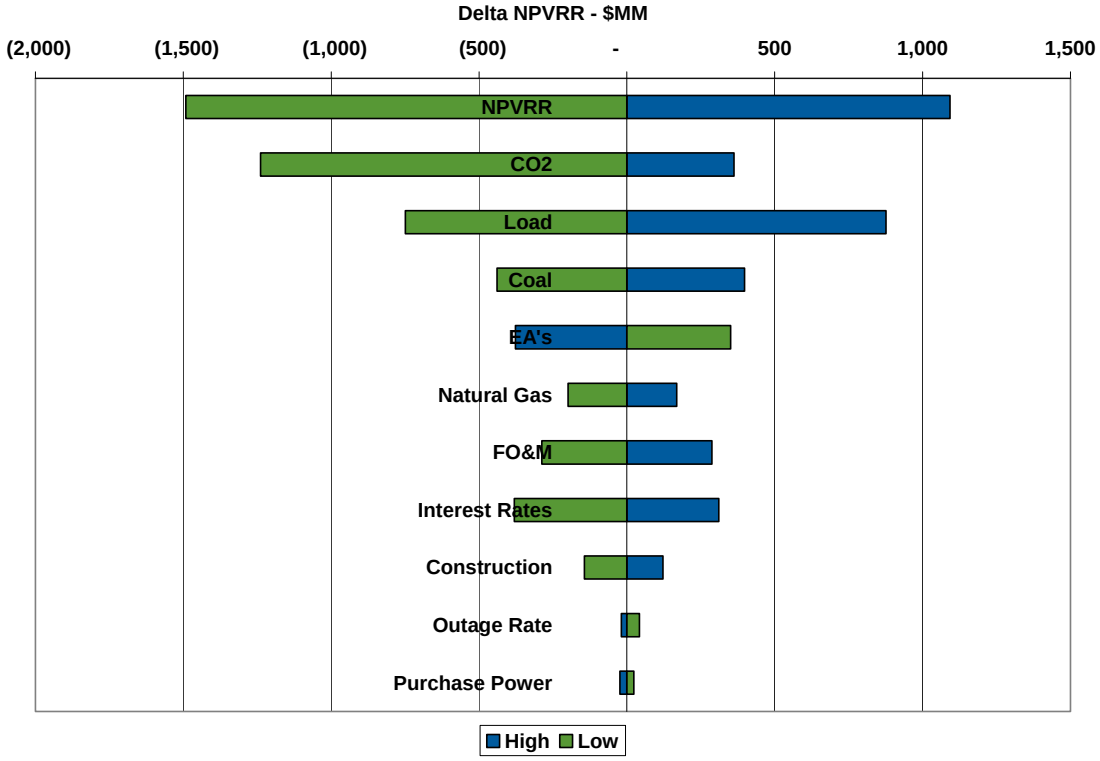


Figure 12: Tornado Chart - Plan 25

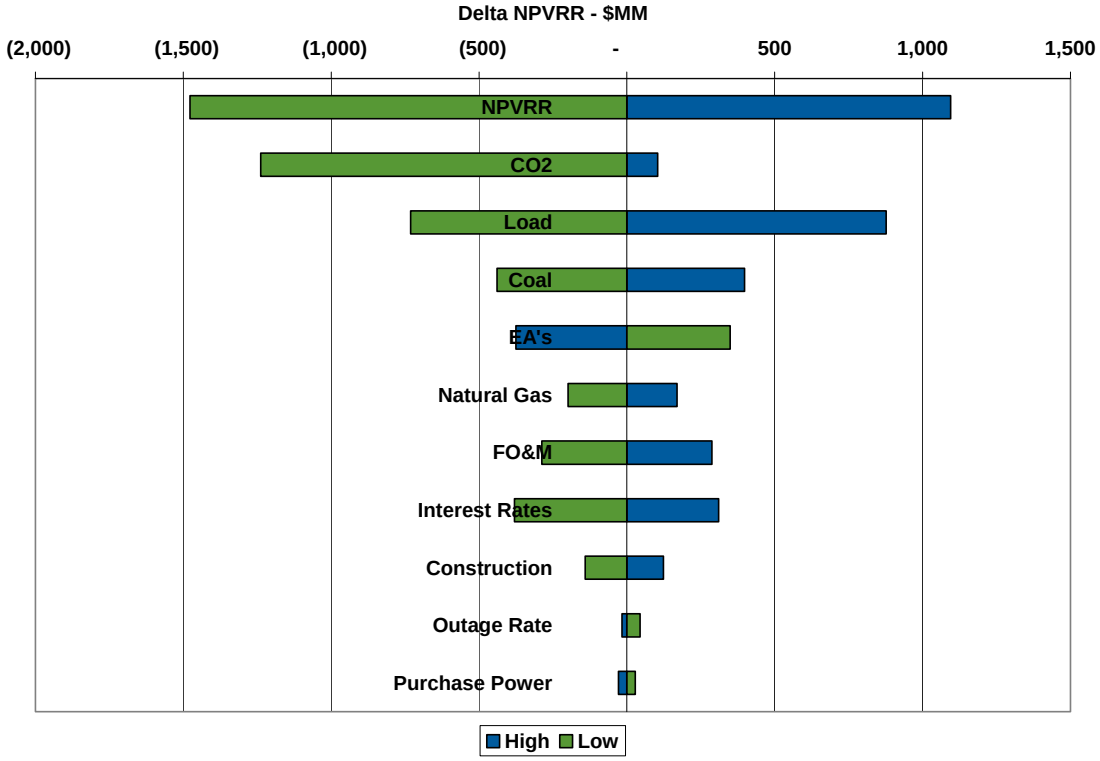
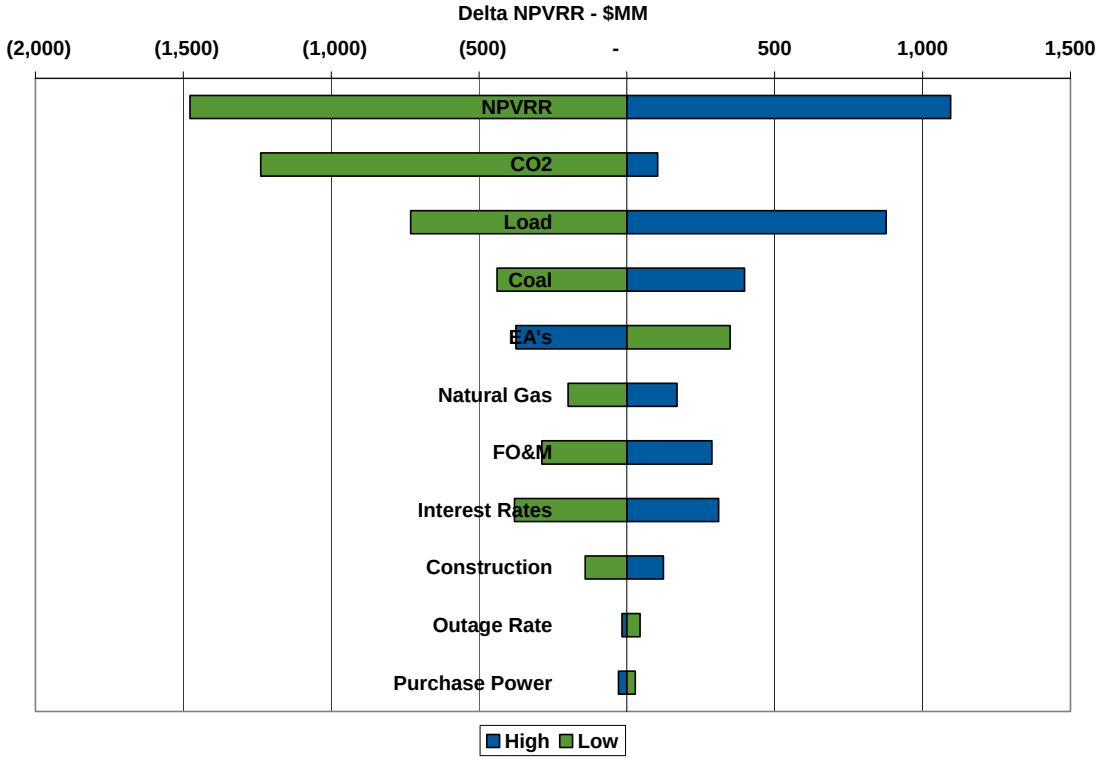


Figure 13: Tornado Chart - Plan 26



The next three sets of information are the Scenario Risk Tables, Table 12 and Table 13. These three tables show the detailed range of risks for each alternative resource plan for every scenario under consideration in the IRP. The risk tables also rank the plans in each scenario in order of preference. Table 14 details the risks associated with all other alternative sensitivities by highlights a subset of plans selected to represent the range of alternatives modeled in the IRP. Plans were selected to show the range of technology utilized in all plans.

Table 12: Scenario Risk Tables - Utility Costs

Base Gas / Base Load											
BBBBN	NPVRR	Delta	BBBHN	NPVRR	Delta	BBBLN	NPVRR	Delta	BHBBN	NPVRR	Delta
Plan15	17,699	-	Plan15	18,097	-	Plan1	17,241	-	Plan15	17,759	-
Plan20	17,700	1	Plan20	18,098	1	Plan15	17,260	19	Plan20	17,759	1
Plan1	17,707	8	Plan1	18,127	30	Plan20	17,261	20	Plan1	17,772	13
Plan2	17,746	47	Plan2	18,144	47	Plan2	17,307	66	Plan2	17,807	48
Plan14	17,764	66	Plan14	18,163	66	Plan14	17,325	84	Plan14	17,825	67
Plan13	17,800	101	Plan13	18,199	101	Plan13	17,361	120	Plan13	17,862	104
Plan12	17,819	120	Plan12	18,217	120	Plan12	17,380	139	Plan12	17,880	122
Plan26	17,881	182	Plan26	18,279	182	Plan26	17,442	201	Plan26	17,932	174
Plan17	17,885	186	Plan17	18,283	186	Plan17	17,446	205	Plan17	17,947	188
Plan18	17,891	192	Plan18	18,289	192	Plan18	17,452	211	Plan18	17,954	195
Plan19	17,935	236	Plan19	18,334	236	Plan19	17,496	255	Plan19	17,983	225
Plan21	17,938	239	Plan21	18,336	239	Plan21	17,499	258	Plan21	17,986	227
Plan24	17,965	266	Plan24	18,363	266	Plan24	17,526	285	Plan24	18,013	255
Plan25	18,192	494	Plan25	18,473	376	Plan25	17,636	395	Plan25	18,180	421
Plan23	18,207	508	Plan23	18,605	508	Plan23	17,768	527	Plan23	18,255	496
Plan22	18,209	510	Plan22	18,607	510	Plan22	17,770	529	Plan22	18,257	498
Plan4	18,710	1,012	Plan4	19,057	960	Plan4	18,324	1,083	Plan4	18,551	793
Plan11	18,899	1,201	Plan11	19,246	1,149	Plan11	18,514	1,273	Plan11	18,729	970
Plan9	18,929	1,230	Plan9	19,275	1,178	Plan9	18,543	1,302	Plan9	18,764	1,006
Plan8	19,110	1,411	Plan8	19,456	1,359	Plan8	18,724	1,483	Plan8	18,943	1,184
Plan10	19,173	1,474	Plan10	19,519	1,422	Plan10	18,787	1,546	Plan10	19,003	1,244
Plan3	19,182	1,483	Plan3	19,528	1,431	Plan3	18,796	1,555	Plan3	19,011	1,253
Plan6	19,302	1,603	Plan6	19,675	1,578	Plan6	18,883	1,642	Plan6	19,145	1,386
Plan5	19,491	1,792	Plan5	19,837	1,740	Plan5	19,105	1,864	Plan5	19,324	1,565
Plan16	19,823	2,125	Plan16	20,212	2,115	Plan16	19,391	2,150	Plan16	19,793	2,034
Plan7	20,770	3,072	Plan7	21,162	3,065	Plan7	20,339	3,098	Plan7	20,698	2,939

Base Gas / Base Load											
BHBHN	NPVRR	Delta	BHBLN	NPVRR	Delta	BLBBN	NPVRR	Delta	BLBHN	NPVRR	Delta
Plan15	18,154	-	Plan1	17,310	-	Plan15	17,675	-	Plan15	18,073	-
Plan20	18,154	0	Plan15	17,323	13	Plan20	17,676	1	Plan20	18,075	1
Plan1	18,189	36	Plan20	17,323	14	Plan1	17,676	1	Plan1	18,097	24
Plan2	18,202	48	Plan2	17,371	61	Plan2	17,721	47	Plan2	18,120	47
Plan14	18,220	67	Plan14	17,389	80	Plan14	17,740	65	Plan14	18,139	65
Plan13	18,257	104	Plan13	17,426	117	Plan13	17,775	100	Plan13	18,174	100
Plan12	18,275	121	Plan12	17,444	135	Plan12	17,794	119	Plan12	18,192	119
Plan26	18,327	173	Plan26	17,496	187	Plan17	17,859	185	Plan17	18,258	185
Plan17	18,342	188	Plan17	17,511	202	Plan26	17,862	187	Plan26	18,261	187
Plan18	18,349	195	Plan18	17,518	208	Plan18	17,865	190	Plan18	18,263	190
Plan19	18,378	225	Plan19	17,547	238	Plan19	17,919	244	Plan19	18,318	244
Plan21	18,380	227	Plan21	17,550	240	Plan21	17,921	247	Plan21	18,320	247
Plan24	18,408	255	Plan24	17,577	268	Plan24	17,948	274	Plan24	18,347	274
Plan25	18,462	309	Plan25	17,629	319	Plan23	18,190	516	Plan25	18,510	436
Plan23	18,649	496	Plan23	17,819	509	Plan22	18,193	518	Plan23	18,589	515
Plan22	18,652	498	Plan22	17,821	511	Plan25	18,229	554	Plan22	18,591	518
Plan4	18,895	742	Plan4	18,167	858	Plan4	18,873	1,198	Plan4	19,220	1,146
Plan11	19,073	919	Plan11	18,345	1,036	Plan11	19,070	1,395	Plan11	19,417	1,343
Plan9	19,108	955	Plan9	18,381	1,071	Plan9	19,094	1,420	Plan9	19,441	1,368
Plan8	19,286	1,133	Plan8	18,559	1,249	Plan8	19,277	1,602	Plan8	19,624	1,550
Plan10	19,346	1,193	Plan10	18,619	1,309	Plan10	19,343	1,669	Plan10	19,690	1,617
Plan3	19,355	1,202	Plan3	18,628	1,318	Plan3	19,352	1,678	Plan3	19,699	1,626
Plan6	19,516	1,362	Plan6	18,728	1,418	Plan6	19,460	1,786	Plan6	19,834	1,760
Plan5	19,667	1,514	Plan5	18,940	1,630	Plan5	19,660	1,986	Plan5	20,007	1,934
Plan16	20,148	1,994	Plan16	19,383	2,073	Plan16	19,818	2,144	Plan16	20,212	2,138
Plan7	21,087	2,933	Plan7	20,269	2,959	Plan7	20,858	3,184	Plan7	21,250	3,176

Base Gas / Base Load		
BLBLN	NPVRR	Delta
Plan1	17,210	-
Plan15	17,235	25
Plan20	17,237	26
Plan2	17,282	72
Plan14	17,300	90
Plan13	17,336	125
Plan12	17,354	144
Plan17	17,420	210
Plan26	17,423	212
Plan18	17,425	215
Plan19	17,480	270
Plan21	17,482	272
Plan24	17,509	299
Plan25	17,672	462
Plan23	17,751	541
Plan22	17,753	543
Plan4	18,487	1,276
Plan11	18,684	1,473
Plan9	18,708	1,498
Plan8	18,891	1,681
Plan10	18,957	1,747
Plan3	18,966	1,756
Plan6	19,041	1,830
Plan5	19,274	2,064
Plan16	19,383	2,173
Plan7	20,428	3,218

Base Gas / High Load											
BBHBN	NPVRR	Delta	BBHHN	NPVRR	Delta	BBHLN	NPVRR	Delta	BHHBN	NPVRR	Delta
Plan1	18,349	-	Plan15	18,748	-	Plan1	17,883	-	Plan15	18,417	-
Plan15	18,350	1	Plan20	18,750	2	Plan15	17,911	27	Plan20	18,419	2
Plan20	18,352	3	Plan1	18,770	21	Plan20	17,912	29	Plan1	18,422	5
Plan2	18,398	49	Plan2	18,797	49	Plan2	17,959	76	Plan2	18,467	50
Plan14	18,418	69	Plan14	18,816	68	Plan14	17,979	95	Plan14	18,487	70
Plan13	18,454	105	Plan13	18,853	104	Plan13	18,015	132	Plan13	18,524	106
Plan12	18,472	123	Plan12	18,871	122	Plan12	18,033	149	Plan12	18,541	124
Plan26	18,527	178	Plan26	18,925	177	Plan26	18,088	204	Plan26	18,586	169
Plan17	18,539	190	Plan17	18,938	190	Plan17	18,100	217	Plan17	18,610	193
Plan18	18,545	196	Plan18	18,943	195	Plan18	18,105	222	Plan18	18,615	198
Plan19	18,581	232	Plan19	18,979	231	Plan19	18,142	258	Plan19	18,637	220
Plan21	18,583	234	Plan21	18,981	233	Plan21	18,144	260	Plan21	18,639	222
Plan24	18,611	261	Plan24	19,009	261	Plan24	18,171	288	Plan24	18,666	249
Plan25	18,838	489	Plan25	19,119	371	Plan25	18,282	398	Plan25	18,833	416
Plan23	18,852	503	Plan23	19,251	502	Plan23	18,413	530	Plan23	18,908	491
Plan22	18,854	505	Plan22	19,252	504	Plan22	18,415	531	Plan22	18,910	493
Plan4	19,368	1,019	Plan4	19,715	967	Plan4	18,982	1,099	Plan4	19,216	799
Plan11	19,550	1,201	Plan11	19,897	1,148	Plan11	19,164	1,281	Plan11	19,386	969
Plan9	19,585	1,236	Plan9	19,932	1,184	Plan9	19,199	1,316	Plan9	19,428	1,011
Plan8	19,761	1,412	Plan8	20,107	1,359	Plan8	19,375	1,492	Plan8	19,600	1,183
Plan10	19,824	1,475	Plan10	20,170	1,422	Plan10	19,438	1,555	Plan10	19,660	1,243
Plan3	19,833	1,484	Plan3	20,179	1,431	Plan3	19,447	1,563	Plan3	19,668	1,251
Plan6	19,953	1,604	Plan6	20,326	1,578	Plan6	19,533	1,650	Plan6	19,802	1,385
Plan5	20,150	1,801	Plan5	20,497	1,748	Plan5	19,764	1,880	Plan5	19,989	1,572
Plan16	20,471	2,121	Plan16	20,860	2,111	Plan16	20,038	2,155	Plan16	20,449	2,032
Plan7	21,431	3,082	Plan7	21,822	3,074	Plan7	20,999	3,116	Plan7	21,364	2,947

Base Gas / High Load											
BHHHN	NPVRR	Delta	BHHLN	NPVRR	Delta	BLHBN	NPVRR	Delta	BLHHN	NPVRR	Delta
Plan15	18,812	-	Plan1	17,959	-	Plan1	18,315	-	Plan15	18,721	-
Plan20	18,814	2	Plan15	17,981	22	Plan15	18,322	7	Plan20	18,723	2
Plan1	18,839	27	Plan20	17,983	24	Plan20	18,324	9	Plan1	18,736	15
Plan2	18,862	50	Plan2	18,031	71	Plan2	18,370	55	Plan2	18,769	48
Plan14	18,882	70	Plan14	18,050	91	Plan14	18,389	74	Plan14	18,788	67
Plan13	18,918	107	Plan13	18,087	128	Plan13	18,426	110	Plan13	18,825	103
Plan12	18,936	124	Plan12	18,105	146	Plan12	18,443	128	Plan12	18,842	121
Plan26	18,981	169	Plan26	18,150	191	Plan26	18,504	189	Plan26	18,903	182
Plan17	19,005	193	Plan17	18,173	214	Plan17	18,510	195	Plan17	18,909	188
Plan18	19,010	198	Plan18	18,178	219	Plan18	18,515	200	Plan18	18,914	193
Plan19	19,032	220	Plan19	18,201	242	Plan19	18,561	246	Plan19	18,960	238
Plan21	19,034	222	Plan21	18,203	244	Plan21	18,563	247	Plan21	18,962	240
Plan24	19,061	249	Plan24	18,230	271	Plan24	18,591	276	Plan24	18,990	268
Plan25	19,116	304	Plan25	18,282	323	Plan23	18,832	517	Plan25	19,152	431
Plan23	19,303	491	Plan23	18,472	513	Plan22	18,834	519	Plan23	19,231	510
Plan22	19,305	493	Plan22	18,474	515	Plan25	18,871	556	Plan22	19,233	511
Plan4	19,560	748	Plan4	18,832	873	Plan4	19,528	1,213	Plan4	19,875	1,154
Plan11	19,730	918	Plan11	19,002	1,043	Plan11	19,718	1,402	Plan11	20,065	1,343
Plan9	19,772	960	Plan9	19,044	1,084	Plan9	19,748	1,433	Plan9	20,095	1,374
Plan8	19,944	1,132	Plan8	19,216	1,257	Plan8	19,925	1,610	Plan8	20,272	1,551
Plan10	20,004	1,192	Plan10	19,276	1,317	Plan10	19,991	1,676	Plan10	20,338	1,617
Plan3	20,012	1,200	Plan3	19,284	1,325	Plan3	20,000	1,685	Plan3	20,347	1,626
Plan6	20,173	1,361	Plan6	19,385	1,425	Plan6	20,109	1,793	Plan6	20,482	1,761
Plan5	20,334	1,522	Plan5	19,605	1,646	Plan5	20,316	2,001	Plan5	20,664	1,942
Plan16	20,805	1,993	Plan16	20,037	2,078	Plan16	20,463	2,147	Plan16	20,856	2,135
Plan7	21,753	2,941	Plan7	20,935	2,976	Plan7	21,516	3,201	Plan7	21,907	3,186

Base Gas / High Load		
BLHLN	NPVRR	Delta
Plan1	17,849	-
Plan15	17,883	34
Plan20	17,885	35
Plan2	17,931	82
Plan14	17,950	101
Plan13	17,986	137
Plan12	18,004	155
Plan26	18,065	215
Plan17	18,071	221
Plan18	18,076	227
Plan19	18,122	272
Plan21	18,123	274
Plan24	18,152	302
Plan25	18,314	464
Plan23	18,393	544
Plan22	18,395	545
Plan4	19,141	1,292
Plan11	19,331	1,482
Plan9	19,362	1,512
Plan8	19,539	1,689
Plan10	19,605	1,756
Plan3	19,614	1,764
Plan6	19,689	1,839
Plan5	19,930	2,080
Plan16	20,027	2,178
Plan7	21,085	3,236

Base Gas / Low Load											
BBLBN	NPVRR	Delta	BBLHN	NPVRR	Delta	BBLLN	NPVRR	Delta	BHLBN	NPVRR	Delta
Plan20	17,138	-	Plan20	17,537	-	Plan1	16,685	-	Plan20	17,191	-
Plan15	17,139	1	Plan15	17,537	1	Plan20	16,699	15	Plan15	17,192	1
Plan1	17,150	12	Plan1	17,571	34	Plan15	16,700	15	Plan1	17,208	17
Plan2	17,185	47	Plan2	17,584	47	Plan2	16,746	61	Plan2	17,239	48
Plan14	17,206	68	Plan14	17,605	68	Plan14	16,767	82	Plan14	17,260	69
Plan13	17,240	101	Plan13	17,638	101	Plan13	16,800	116	Plan13	17,294	103
Plan12	17,258	120	Plan12	17,657	120	Plan12	16,819	134	Plan12	17,313	122
Plan26	17,325	186	Plan26	17,723	186	Plan26	16,886	201	Plan26	17,369	178
Plan17	17,325	187	Plan17	17,724	187	Plan17	16,886	201	Plan17	17,381	190
Plan18	17,328	190	Plan18	17,727	190	Plan18	16,889	205	Plan18	17,385	194
Plan19	17,379	241	Plan19	17,777	240	Plan19	16,940	255	Plan19	17,420	229
Plan21	17,380	242	Plan21	17,779	242	Plan21	16,941	257	Plan21	17,421	230
Plan24	17,423	284	Plan24	17,821	284	Plan24	16,984	299	Plan24	17,464	273
Plan25	17,636	498	Plan25	17,917	380	Plan25	17,080	395	Plan25	17,617	426
Plan23	17,650	512	Plan23	18,049	512	Plan23	17,211	527	Plan23	17,691	500
Plan22	17,652	513	Plan22	18,050	513	Plan22	17,213	528	Plan22	17,692	501
Plan4	18,144	1,005	Plan4	18,490	953	Plan4	17,758	1,073	Plan4	17,978	787
Plan11	18,338	1,200	Plan11	18,684	1,147	Plan11	17,952	1,267	Plan11	18,161	970
Plan9	18,364	1,225	Plan9	18,710	1,173	Plan9	17,978	1,293	Plan9	18,193	1,002
Plan8	18,548	1,410	Plan8	18,895	1,358	Plan8	18,162	1,478	Plan8	18,375	1,184
Plan10	18,612	1,473	Plan10	18,958	1,421	Plan10	18,226	1,541	Plan10	18,435	1,244
Plan3	18,620	1,482	Plan3	18,967	1,430	Plan3	18,235	1,550	Plan3	18,443	1,252
Plan6	18,741	1,602	Plan6	19,113	1,576	Plan6	18,321	1,636	Plan6	18,577	1,386
Plan5	18,923	1,785	Plan5	19,270	1,733	Plan5	18,537	1,853	Plan5	18,750	1,559
Plan16	19,265	2,127	Plan16	19,655	2,118	Plan16	18,833	2,149	Plan16	19,229	2,038
Plan7	20,205	3,066	Plan7	20,597	3,060	Plan7	19,773	3,088	Plan7	20,126	2,935

Base Gas / Low Load											
BHLHN	NPVRR	Delta	BHLLN	NPVRR	Delta	BLLBN	NPVRR	Delta	BLLHN	NPVRR	Delta
Plan20	17,586	-	Plan1	16,745	-	Plan20	17,117	-	Plan20	17,516	-
Plan15	17,587	1	Plan20	16,755	9	Plan15	17,118	1	Plan15	17,517	1
Plan1	17,625	40	Plan15	16,755	10	Plan1	17,123	6	Plan1	17,544	28
Plan2	17,634	48	Plan2	16,802	57	Plan2	17,164	47	Plan2	17,563	47
Plan14	17,655	69	Plan14	16,824	79	Plan14	17,185	67	Plan14	17,583	67
Plan13	17,689	103	Plan13	16,858	112	Plan13	17,218	100	Plan13	17,617	100
Plan12	17,708	122	Plan12	16,877	131	Plan12	17,236	119	Plan12	17,635	119
Plan26	17,764	178	Plan26	16,933	187	Plan17	17,302	185	Plan17	17,701	185
Plan17	17,776	190	Plan17	16,945	200	Plan18	17,305	188	Plan18	17,704	188
Plan18	17,780	194	Plan18	16,949	204	Plan26	17,309	191	Plan26	17,707	191
Plan19	17,815	229	Plan19	16,984	238	Plan19	17,366	248	Plan19	17,765	248
Plan21	17,816	230	Plan21	16,985	240	Plan21	17,367	250	Plan21	17,766	250
Plan24	17,859	273	Plan24	17,028	283	Plan24	17,409	292	Plan24	17,808	291
Plan25	17,899	313	Plan25	17,066	320	Plan23	17,637	520	Plan25	17,957	440
Plan23	18,086	500	Plan23	17,255	509	Plan22	17,639	521	Plan23	18,036	519
Plan22	18,087	501	Plan22	17,256	511	Plan25	17,676	558	Plan22	18,037	521
Plan4	18,322	736	Plan4	17,594	849	Plan4	18,309	1,192	Plan4	18,656	1,140
Plan11	18,505	919	Plan11	17,777	1,032	Plan11	18,511	1,394	Plan11	18,858	1,342
Plan9	18,537	951	Plan9	17,810	1,064	Plan9	18,533	1,415	Plan9	18,880	1,363
Plan8	18,719	1,133	Plan8	17,991	1,246	Plan8	18,718	1,601	Plan8	19,065	1,549
Plan10	18,778	1,193	Plan10	18,051	1,305	Plan10	18,785	1,667	Plan10	19,132	1,615
Plan3	18,787	1,201	Plan3	18,060	1,314	Plan3	18,794	1,676	Plan3	19,140	1,624
Plan6	18,948	1,362	Plan6	18,159	1,414	Plan6	18,901	1,784	Plan6	19,275	1,758
Plan5	19,094	1,508	Plan5	18,366	1,620	Plan5	19,096	1,978	Plan5	19,443	1,927
Plan16	19,584	1,998	Plan16	18,819	2,073	Plan16	19,264	2,146	Plan16	19,657	2,141
Plan7	20,515	2,929	Plan7	19,697	2,952	Plan7	20,295	3,178	Plan7	20,687	3,170

Base Gas / Low Load		
BLLLN	NPVRR	Delta
Plan1	16,658	-
Plan20	16,678	20
Plan15	16,679	21
Plan2	16,725	67
Plan14	16,745	88
Plan13	16,778	121
Plan12	16,797	139
Plan17	16,863	205
Plan18	16,866	208
Plan26	16,869	212
Plan19	16,927	269
Plan21	16,928	270
Plan24	16,970	312
Plan25	17,119	461
Plan23	17,198	540
Plan22	17,199	542
Plan4	17,923	1,265
Plan11	18,125	1,467
Plan9	18,146	1,489
Plan8	18,332	1,674
Plan10	18,399	1,741
Plan3	18,407	1,750
Plan6	18,482	1,824
Plan5	18,710	2,052
Plan16	18,829	2,171
Plan7	19,865	3,207

High Gas / Base Load											
HBBBN	NPVRR	Delta	HBBHN	NPVRR	Delta	HBBLN	NPVRR	Delta	HHBBN	NPVRR	Delta
Plan1	17,469	-	Plan1	17,890	-	Plan1	17,003	-	Plan1	17,537	-
Plan15	17,511	42	Plan15	17,910	20	Plan15	17,072	69	Plan15	17,573	35
Plan20	17,512	43	Plan20	17,910	21	Plan20	17,073	69	Plan20	17,573	35
Plan2	17,563	94	Plan2	17,961	72	Plan2	17,124	120	Plan2	17,625	88
Plan14	17,584	114	Plan14	17,982	92	Plan14	17,144	141	Plan14	17,646	109
Plan13	17,624	155	Plan13	18,022	132	Plan13	17,185	181	Plan13	17,688	150
Plan26	17,636	167	Plan26	18,035	145	Plan26	17,197	194	Plan26	17,689	152
Plan12	17,642	173	Plan12	18,040	150	Plan12	17,203	199	Plan12	17,705	167
Plan19	17,680	211	Plan19	18,079	189	Plan19	17,241	238	Plan19	17,730	192
Plan21	17,683	214	Plan21	18,081	191	Plan21	17,244	240	Plan21	17,732	195
Plan24	17,710	241	Plan24	18,109	219	Plan24	17,271	268	Plan24	17,760	223
Plan17	17,715	246	Plan17	18,113	223	Plan17	17,276	272	Plan17	17,779	241
Plan18	17,722	253	Plan18	18,120	230	Plan18	17,282	279	Plan18	17,787	249
Plan25	17,938	468	Plan25	18,219	329	Plan25	17,381	378	Plan25	17,926	388
Plan23	17,952	482	Plan23	18,350	460	Plan23	17,513	509	Plan23	18,001	464
Plan22	17,954	485	Plan22	18,352	462	Plan22	17,515	511	Plan22	18,003	466
Plan4	18,607	1,138	Plan4	18,953	1,063	Plan4	18,221	1,217	Plan4	18,448	911
Plan11	18,726	1,257	Plan11	19,072	1,183	Plan11	18,340	1,337	Plan11	18,556	1,018
Plan9	18,792	1,323	Plan9	19,139	1,249	Plan9	18,407	1,403	Plan9	18,629	1,091
Plan8	18,948	1,479	Plan8	19,294	1,404	Plan8	18,562	1,559	Plan8	18,781	1,244
Plan10	18,999	1,530	Plan10	19,345	1,456	Plan10	18,613	1,610	Plan10	18,829	1,291
Plan3	19,009	1,539	Plan3	19,355	1,465	Plan3	18,623	1,619	Plan3	18,838	1,301
Plan6	19,132	1,663	Plan6	19,505	1,615	Plan6	18,712	1,709	Plan6	18,975	1,438
Plan5	19,380	1,911	Plan5	19,726	1,837	Plan5	18,994	1,991	Plan5	19,212	1,675
Plan16	19,607	2,138	Plan16	19,999	2,109	Plan16	19,173	2,170	Plan16	19,628	2,090
Plan7	20,631	3,162	Plan7	21,023	3,133	Plan7	20,199	3,196	Plan7	20,558	3,021

High Gas / Base Load					
HHBHN	NPVRR	Delta	HHBLN	NPVRR	Delta
Plan1	17,956	-	Plan1	17,074	-
Plan15	17,969	13	Plan15	17,135	62
Plan20	17,969	13	Plan20	17,136	62
Plan2	18,022	66	Plan2	17,188	114
Plan14	18,042	86	Plan14	17,209	135
Plan13	18,084	128	Plan13	17,250	177
Plan26	18,085	129	Plan26	17,252	178
Plan12	18,101	145	Plan12	17,267	194
Plan19	18,126	170	Plan19	17,293	219
Plan21	18,128	172	Plan21	17,295	221
Plan24	18,156	200	Plan24	17,323	249
Plan17	18,175	219	Plan17	17,341	268
Plan18	18,183	227	Plan18	17,349	276
Plan25	18,208	252	Plan25	17,373	300
Plan23	18,397	441	Plan23	17,564	490
Plan22	18,399	443	Plan22	17,566	492
Plan4	18,793	837	Plan4	18,063	990
Plan11	18,900	944	Plan11	18,171	1,098
Plan9	18,973	1,017	Plan9	18,244	1,171
Plan8	19,126	1,170	Plan8	18,397	1,323
Plan10	19,173	1,217	Plan10	18,444	1,371
Plan3	19,183	1,227	Plan3	18,454	1,380
Plan6	19,346	1,390	Plan6	18,557	1,483
Plan5	19,557	1,601	Plan5	18,827	1,754
Plan16	20,007	2,051	Plan16	19,203	2,129
Plan7	20,948	2,992	Plan7	20,128	3,055

High Gas / High Load											
HBHBN	NPVRR	Delta	HBHHN	NPVRR	Delta	HBHLN	NPVRR	Delta	HHHBN	NPVRR	Delta
Plan1	18,181	-	Plan1	18,602	-	Plan1	17,715	-	Plan1	18,256	-
Plan15	18,233	52	Plan15	18,631	29	Plan15	17,793	78	Plan15	18,301	45
Plan20	18,234	53	Plan20	18,633	31	Plan20	17,795	80	Plan20	18,304	47
Plan2	18,286	105	Plan2	18,684	82	Plan2	17,846	131	Plan2	18,356	99
Plan14	18,307	126	Plan14	18,706	104	Plan14	17,868	153	Plan14	18,378	122
Plan13	18,348	167	Plan13	18,747	145	Plan13	17,909	194	Plan26	18,412	156
Plan26	18,352	171	Plan26	18,751	149	Plan26	17,913	197	Plan13	18,419	163
Plan12	18,366	185	Plan12	18,764	163	Plan12	17,926	211	Plan12	18,437	180
Plan19	18,396	215	Plan19	18,794	192	Plan19	17,957	241	Plan19	18,453	197
Plan21	18,398	217	Plan21	18,796	194	Plan21	17,958	243	Plan21	18,455	199
Plan24	18,426	245	Plan24	18,824	222	Plan24	17,987	271	Plan24	18,483	227
Plan17	18,440	259	Plan17	18,839	237	Plan17	18,001	286	Plan17	18,512	256
Plan18	18,447	265	Plan18	18,845	243	Plan18	18,007	292	Plan18	18,518	262
Plan25	18,653	472	Plan25	18,934	332	Plan25	18,096	381	Plan25	18,649	393
Plan23	18,667	486	Plan23	19,066	464	Plan23	18,228	513	Plan23	18,724	468
Plan22	18,669	488	Plan22	19,067	465	Plan22	18,230	514	Plan22	18,726	470
Plan4	19,337	1,156	Plan4	19,683	1,081	Plan4	18,950	1,235	Plan4	19,184	928
Plan11	19,447	1,266	Plan11	19,794	1,192	Plan11	19,062	1,346	Plan11	19,283	1,027
Plan9	19,520	1,339	Plan9	19,867	1,265	Plan9	19,134	1,419	Plan9	19,363	1,107
Plan8	19,670	1,488	Plan8	20,016	1,414	Plan8	19,284	1,568	Plan8	19,509	1,253
Plan10	19,721	1,540	Plan10	20,067	1,465	Plan10	19,335	1,619	Plan10	19,556	1,300
Plan3	19,730	1,549	Plan3	20,076	1,474	Plan3	19,344	1,629	Plan3	19,565	1,309
Plan6	19,854	1,673	Plan6	20,227	1,625	Plan6	19,434	1,719	Plan6	19,703	1,447
Plan5	20,111	1,930	Plan5	20,458	1,856	Plan5	19,725	2,010	Plan5	19,950	1,694
Plan16	20,324	2,143	Plan16	20,716	2,114	Plan16	19,889	2,174	Plan16	20,351	2,095
Plan7	21,363	3,182	Plan7	21,755	3,153	Plan7	20,932	3,216	Plan7	21,297	3,041

High Gas / High Load					
HHHHN	NPVRR	Delta	HHHLN	NPVRR	Delta
Plan1	18,675	-	Plan1	18,675	-
Plan15	18,698	23	Plan15	18,698	23
Plan20	18,700	25	Plan20	18,700	25
Plan2	18,752	77	Plan2	18,752	77
Plan14	18,774	99	Plan14	18,774	99
Plan26	18,809	134	Plan26	18,809	134
Plan13	18,816	141	Plan13	18,816	141
Plan12	18,833	158	Plan12	18,833	158
Plan19	18,849	175	Plan19	18,849	175
Plan21	18,851	176	Plan21	18,851	176
Plan24	18,879	204	Plan24	18,879	204
Plan17	18,908	233	Plan17	18,908	233
Plan18	18,915	240	Plan18	18,915	240
Plan25	18,931	256	Plan25	18,931	256
Plan23	19,121	446	Plan23	19,121	446
Plan22	19,122	448	Plan22	19,122	448
Plan4	19,529	855	Plan4	19,529	855
Plan11	19,628	953	Plan11	19,628	953
Plan9	19,707	1,033	Plan9	19,707	1,033
Plan8	19,853	1,179	Plan8	19,853	1,179
Plan10	19,901	1,226	Plan10	19,901	1,226
Plan3	19,910	1,235	Plan3	19,910	1,235
Plan6	20,074	1,399	Plan6	20,074	1,399
Plan5	20,295	1,620	Plan5	20,295	1,620
Plan16	20,731	2,056	Plan16	20,731	2,056
Plan7	21,687	3,012	Plan7	21,687	3,012

High Gas / Low Load											
HBLBN	NPVRR	Delta	HBLHN	NPVRR	Delta	HBLLN	NPVRR	Delta	HHLBN	NPVRR	Delta
Plan1	18,675	-	Plan1	18,675	-	Plan1	17,792	-	Plan1	16,853	-
Plan15	18,698	23	Plan15	18,698	23	Plan15	17,864	72	Plan20	16,890	37
Plan20	18,700	25	Plan20	18,700	25	Plan20	17,866	74	Plan15	16,891	38
Plan2	18,752	77	Plan2	18,752	77	Plan2	17,918	126	Plan2	16,942	88
Plan14	18,774	99	Plan14	18,774	99	Plan14	17,940	148	Plan14	16,965	112
Plan26	18,809	134	Plan26	18,809	134	Plan26	17,975	183	Plan13	17,003	149
Plan13	18,816	141	Plan13	18,816	141	Plan13	17,982	190	Plan26	17,020	167
Plan12	18,833	158	Plan12	18,833	158	Plan12	17,999	207	Plan12	17,021	168
Plan19	18,849	175	Plan19	18,849	175	Plan19	18,016	224	Plan19	17,064	211
Plan21	18,851	176	Plan21	18,851	176	Plan21	18,017	225	Plan21	17,066	212
Plan24	18,879	204	Plan24	18,879	204	Plan24	18,046	253	Plan17	17,095	241
Plan17	18,908	233	Plan17	18,908	233	Plan17	18,074	282	Plan18	17,099	246
Plan18	18,915	240	Plan18	18,915	240	Plan18	18,081	289	Plan24	17,108	255
Plan25	18,931	256	Plan25	18,931	256	Plan25	18,096	304	Plan25	17,322	468
Plan23	19,121	446	Plan23	19,121	446	Plan23	18,287	495	Plan23	17,335	482
Plan22	19,122	448	Plan22	19,122	448	Plan22	18,289	497	Plan22	17,337	484
Plan4	19,529	855	Plan4	19,529	855	Plan4	18,800	1,007	Plan4	17,979	1,126
Plan11	19,628	953	Plan11	19,628	953	Plan11	18,898	1,106	Plan11	18,105	1,251
Plan9	19,707	1,033	Plan9	19,707	1,033	Plan9	18,978	1,186	Plan9	18,167	1,314
Plan8	19,853	1,179	Plan8	19,853	1,179	Plan8	19,124	1,332	Plan8	18,326	1,473
Plan10	19,901	1,226	Plan10	19,901	1,226	Plan10	19,172	1,379	Plan10	18,378	1,524
Plan3	19,910	1,235	Plan3	19,910	1,235	Plan3	19,181	1,389	Plan3	18,387	1,534
Plan6	20,074	1,399	Plan6	20,074	1,399	Plan6	19,284	1,492	Plan6	18,510	1,657
Plan5	20,295	1,620	Plan5	20,295	1,620	Plan5	19,565	1,773	Plan5	18,752	1,898
Plan16	20,731	2,056	Plan16	20,731	2,056	Plan16	19,926	2,134	Plan16	18,989	2,136
Plan7	21,687	3,012	Plan7	21,687	3,012	Plan7	20,867	3,075	Plan7	20,004	3,151

High Gas / Low Load					
HHLHN	NPVRR	Delta	HHLLN	NPVRR	Delta
Plan1	17,274	-	Plan1	17,274	-
Plan20	17,289	15	Plan20	17,289	15
Plan15	17,290	16	Plan15	17,290	16
Plan2	17,340	66	Plan2	17,340	66
Plan14	17,364	90	Plan14	17,364	90
Plan13	17,401	127	Plan13	17,401	127
Plan26	17,418	144	Plan26	17,418	144
Plan12	17,419	145	Plan12	17,419	145
Plan19	17,463	189	Plan19	17,463	189
Plan21	17,464	190	Plan21	17,464	190
Plan17	17,493	219	Plan17	17,493	219
Plan18	17,497	223	Plan18	17,497	223
Plan24	17,507	233	Plan24	17,507	233
Plan25	17,603	329	Plan25	17,603	329
Plan23	17,734	460	Plan23	17,734	460
Plan22	17,735	461	Plan22	17,735	461
Plan4	18,326	1,052	Plan4	18,326	1,052
Plan11	18,451	1,177	Plan11	18,451	1,177
Plan9	18,514	1,240	Plan9	18,514	1,240
Plan8	18,672	1,398	Plan8	18,672	1,398
Plan10	18,724	1,450	Plan10	18,724	1,450
Plan3	18,733	1,459	Plan3	18,733	1,459
Plan6	18,883	1,609	Plan6	18,883	1,609
Plan5	19,098	1,824	Plan5	19,098	1,824
Plan16	19,381	2,107	Plan16	19,381	2,107
Plan7	20,396	3,122	Plan7	20,396	3,122

Low Gas / Base Load											
LBBBN	NPVRR	Delta	LBBHN	NPVRR	Delta	LBBLN	NPVRR	Delta	LLBBN	NPVRR	Delta
Plan1	17,274	-	Plan1	17,274	-	Plan1	16,387	-	Plan1	16,914	-
Plan20	17,289	15	Plan20	17,289	15	Plan20	16,451	63	Plan20	16,945	31
Plan15	17,290	16	Plan15	17,290	16	Plan15	16,452	64	Plan15	16,946	32
Plan2	17,340	66	Plan2	17,340	66	Plan2	16,502	115	Plan2	16,997	83
Plan14	17,364	90	Plan14	17,364	90	Plan14	16,526	138	Plan14	17,021	107
Plan13	17,401	127	Plan13	17,401	127	Plan13	16,564	176	Plan13	17,059	145
Plan26	17,418	144	Plan26	17,418	144	Plan26	16,581	193	Plan26	17,066	152
Plan12	17,419	145	Plan12	17,419	145	Plan12	16,582	194	Plan12	17,078	164
Plan19	17,463	189	Plan19	17,463	189	Plan19	16,625	238	Plan19	17,107	193
Plan21	17,464	190	Plan21	17,464	190	Plan21	16,626	239	Plan21	17,108	194
Plan17	17,493	219	Plan17	17,493	219	Plan17	16,655	268	Plan24	17,152	238
Plan18	17,497	223	Plan18	17,497	223	Plan18	16,660	272	Plan17	17,153	239
Plan24	17,507	233	Plan24	17,507	233	Plan24	16,669	282	Plan18	17,158	244
Plan25	17,603	329	Plan25	17,603	329	Plan25	16,765	378	Plan25	17,303	389
Plan23	17,734	460	Plan23	17,734	460	Plan23	16,896	509	Plan23	17,378	464
Plan22	17,735	461	Plan22	17,735	461	Plan22	16,898	510	Plan22	17,379	465
Plan4	18,326	1,052	Plan4	18,326	1,052	Plan4	17,593	1,206	Plan4	17,814	900
Plan11	18,451	1,177	Plan11	18,451	1,177	Plan11	17,719	1,331	Plan11	17,928	1,014
Plan9	18,514	1,240	Plan9	18,514	1,240	Plan9	17,781	1,394	Plan9	17,997	1,083
Plan8	18,672	1,398	Plan8	18,672	1,398	Plan8	17,940	1,553	Plan8	18,153	1,239
Plan10	18,724	1,450	Plan10	18,724	1,450	Plan10	17,992	1,604	Plan10	18,201	1,287
Plan3	18,733	1,459	Plan3	18,733	1,459	Plan3	18,001	1,614	Plan3	18,210	1,296
Plan6	18,883	1,609	Plan6	18,883	1,609	Plan6	18,091	1,703	Plan6	18,347	1,433
Plan5	19,098	1,824	Plan5	19,098	1,824	Plan5	18,366	1,978	Plan5	18,577	1,663
Plan16	19,381	2,107	Plan16	19,381	2,107	Plan16	18,555	2,168	Plan16	19,004	2,090
Plan7	20,396	3,122	Plan7	20,396	3,122	Plan7	19,572	3,185	Plan7	19,926	3,012

Low Gas / Base Load					
LLBHN	NPVRR	Delta	LLBLN	NPVRR	Delta
Plan1	17,333	-	Plan1	17,333	-
Plan20	17,341	8	Plan20	17,341	8
Plan15	17,342	9	Plan15	17,342	9
Plan2	17,393	60	Plan2	17,393	60
Plan14	17,417	85	Plan14	17,417	85
Plan13	17,455	123	Plan13	17,455	123
Plan26	17,462	130	Plan26	17,462	130
Plan12	17,474	141	Plan12	17,474	141
Plan19	17,503	170	Plan19	17,503	170
Plan21	17,504	172	Plan21	17,504	172
Plan24	17,548	215	Plan24	17,548	215
Plan17	17,549	216	Plan17	17,549	216
Plan18	17,554	222	Plan18	17,554	222
Plan25	17,585	253	Plan25	17,585	253
Plan23	17,774	442	Plan23	17,774	442
Plan22	17,776	443	Plan22	17,776	443
Plan4	18,159	826	Plan4	18,159	826
Plan11	18,273	940	Plan11	18,273	940
Plan9	18,342	1,010	Plan9	18,342	1,010
Plan8	18,498	1,166	Plan8	18,498	1,166
Plan10	18,546	1,213	Plan10	18,546	1,213
Plan3	18,555	1,222	Plan3	18,555	1,222
Plan6	18,719	1,386	Plan6	18,719	1,386
Plan5	18,922	1,590	Plan5	18,922	1,590
Plan16	19,383	2,050	Plan16	19,383	2,050
Plan7	20,316	2,984	Plan7	20,316	2,984

Low Gas / High Load											
LBHBN	NPVRR	Delta	LBHHN	NPVRR	Delta	LBHLN	NPVRR	Delta	LLHBN	NPVRR	Delta
Plan1	17,333	-	Plan1	17,333	-	Plan1	16,450	-	Plan15	17,935	-
Plan20	17,341	8	Plan20	17,341	8	Plan20	16,507	57	Plan20	17,937	1
Plan15	17,342	9	Plan15	17,342	9	Plan15	16,508	58	Plan2	17,978	43
Plan2	17,393	60	Plan2	17,393	60	Plan2	16,559	109	Plan1	17,994	58
Plan14	17,417	85	Plan14	17,417	85	Plan14	16,584	134	Plan14	17,994	59
Plan13	17,455	123	Plan13	17,455	123	Plan13	16,622	172	Plan13	18,025	90
Plan26	17,462	130	Plan26	17,462	130	Plan26	16,629	179	Plan12	18,044	109
Plan12	17,474	141	Plan12	17,474	141	Plan12	16,640	190	Plan17	18,103	168
Plan19	17,503	170	Plan19	17,503	170	Plan19	16,669	219	Plan18	18,108	173
Plan21	17,504	172	Plan21	17,504	172	Plan21	16,671	221	Plan26	18,175	239
Plan24	17,548	215	Plan24	17,548	215	Plan24	16,714	264	Plan19	18,245	310
Plan17	17,549	216	Plan17	17,549	216	Plan17	16,715	265	Plan21	18,248	312
Plan18	17,554	222	Plan18	17,554	222	Plan18	16,720	270	Plan24	18,274	339
Plan25	17,585	253	Plan25	17,585	253	Plan25	16,750	300	Plan25	18,502	566
Plan23	17,774	442	Plan23	17,774	442	Plan23	16,941	491	Plan23	18,517	581
Plan22	17,776	443	Plan22	17,776	443	Plan22	16,942	492	Plan22	18,519	583
Plan4	18,159	826	Plan4	18,159	826	Plan4	17,430	980	Plan4	18,862	926
Plan11	18,273	940	Plan11	18,273	940	Plan11	17,543	1,093	Plan9	19,114	1,178
Plan9	18,342	1,010	Plan9	18,342	1,010	Plan9	17,613	1,163	Plan11	19,128	1,193
Plan8	18,498	1,166	Plan8	18,498	1,166	Plan8	17,769	1,319	Plan8	19,319	1,384
Plan10	18,546	1,213	Plan10	18,546	1,213	Plan10	17,816	1,366	Plan10	19,402	1,466
Plan3	18,555	1,222	Plan3	18,555	1,222	Plan3	17,826	1,376	Plan3	19,411	1,475
Plan6	18,719	1,386	Plan6	18,719	1,386	Plan6	17,929	1,479	Plan6	19,526	1,591
Plan5	18,922	1,590	Plan5	18,922	1,590	Plan5	18,193	1,743	Plan5	19,652	1,717
Plan16	19,383	2,050	Plan16	19,383	2,050	Plan16	18,578	2,128	Plan16	20,076	2,140
Plan7	20,316	2,984	Plan7	20,316	2,984	Plan7	19,496	3,046	Plan7	20,964	3,028

Low Gas / High Load					
LLHHN	NPVRR	Delta	LLHLN	NPVRR	Delta
Plan15	18,333	-	Plan15	17,497	-
Plan20	18,335	1	Plan20	17,498	1
Plan2	18,376	43	Plan1	17,528	32
Plan14	18,392	59	Plan2	17,540	43
Plan1	18,414	80	Plan14	17,555	59
Plan13	18,423	90	Plan13	17,587	90
Plan12	18,442	109	Plan12	17,606	109
Plan17	18,501	168	Plan17	17,665	168
Plan18	18,506	173	Plan18	17,669	173
Plan26	18,573	239	Plan26	17,736	240
Plan19	18,643	310	Plan19	17,807	310
Plan21	18,645	312	Plan21	17,809	312
Plan24	18,672	339	Plan24	17,836	339
Plan25	18,784	450	Plan25	17,947	450
Plan23	18,914	581	Plan23	18,078	581
Plan22	18,917	583	Plan22	18,080	584
Plan4	19,208	875	Plan4	18,476	979
Plan9	19,460	1,127	Plan9	18,728	1,231
Plan11	19,474	1,141	Plan11	18,742	1,246
Plan8	19,666	1,332	Plan8	18,933	1,437
Plan10	19,748	1,415	Plan10	19,016	1,519
Plan3	19,757	1,423	Plan3	19,025	1,528
Plan6	19,899	1,565	Plan6	19,106	1,610
Plan5	19,999	1,665	Plan5	19,266	1,770
Plan16	20,449	2,116	Plan16	19,652	2,156
Plan7	21,355	3,022	Plan7	20,533	3,036

Low Gas / Low Load											
LBLBN	NPVRR	Delta	LBLHN	NPVRR	Delta	LBLLN	NPVRR	Delta	LLLBN	NPVRR	Delta
Plan15	18,513	-	Plan15	18,911	-	Plan15	18,074	-	Plan20	17,439	-
Plan20	18,515	2	Plan20	18,913	2	Plan20	18,076	2	Plan15	17,439	0
Plan2	18,557	44	Plan2	18,955	44	Plan1	18,099	24	Plan2	17,481	42
Plan1	18,564	51	Plan14	18,972	61	Plan2	18,118	44	Plan14	17,499	60
Plan14	18,574	61	Plan1	18,984	73	Plan14	18,135	61	Plan1	17,500	61
Plan13	18,606	93	Plan13	19,004	93	Plan13	18,167	93	Plan13	17,528	89
Plan12	18,624	111	Plan12	19,022	111	Plan12	18,185	111	Plan12	17,547	109
Plan17	18,684	171	Plan17	19,082	171	Plan17	18,245	171	Plan17	17,607	168
Plan18	18,688	175	Plan18	19,086	175	Plan18	18,249	175	Plan18	17,609	170
Plan26	18,748	235	Plan26	19,146	235	Plan26	18,309	235	Plan26	17,681	242
Plan19	18,818	305	Plan19	19,216	305	Plan19	18,380	305	Plan19	17,751	313
Plan21	18,820	307	Plan21	19,218	307	Plan21	18,381	307	Plan21	17,753	314
Plan24	18,848	335	Plan24	19,246	335	Plan24	18,409	335	Plan24	17,794	356
Plan25	19,075	562	Plan25	19,357	445	Plan25	18,519	445	Plan25	18,008	570
Plan23	19,090	577	Plan23	19,488	576	Plan23	18,651	577	Plan23	18,023	584
Plan22	19,091	578	Plan22	19,489	578	Plan22	18,653	578	Plan22	18,024	586
Plan4	19,446	932	Plan4	19,792	881	Plan4	19,059	985	Plan4	18,359	920
Plan9	19,697	1,184	Plan9	20,043	1,132	Plan9	19,311	1,237	Plan9	18,612	1,174
Plan11	19,706	1,193	Plan11	20,052	1,141	Plan11	19,320	1,245	Plan11	18,629	1,191
Plan8	19,897	1,384	Plan8	20,244	1,332	Plan8	19,511	1,437	Plan8	18,821	1,382
Plan10	19,979	1,466	Plan10	20,326	1,414	Plan10	19,593	1,519	Plan10	18,903	1,465
Plan3	19,988	1,475	Plan3	20,334	1,423	Plan3	19,602	1,528	Plan3	18,912	1,473
Plan6	20,104	1,591	Plan6	20,477	1,565	Plan6	19,684	1,610	Plan6	19,027	1,589
Plan5	20,237	1,724	Plan5	20,583	1,672	Plan5	19,850	1,776	Plan5	19,149	1,711
Plan16	20,651	2,138	Plan16	21,025	2,114	Plan16	20,227	2,153	Plan16	19,581	2,143
Plan7	21,549	3,036	Plan7	21,940	3,029	Plan7	21,118	3,043	Plan7	20,462	3,024

Low Gas / Low Load					
LLLHN	NPVRR	Delta	LLLLN	NPVRR	Delta
Plan20	17,837	-	Plan20	17,000	-
Plan15	17,837	0	Plan15	17,000	0
Plan2	17,879	42	Plan1	17,034	35
Plan14	17,897	60	Plan2	17,042	42
Plan1	17,920	83	Plan14	17,060	60
Plan13	17,926	89	Plan13	17,089	89
Plan12	17,945	109	Plan12	17,108	109
Plan17	18,005	169	Plan17	17,168	168
Plan18	18,007	170	Plan18	17,170	170
Plan26	18,079	242	Plan26	17,242	243
Plan19	18,149	313	Plan19	17,313	313
Plan21	18,151	314	Plan21	17,314	315
Plan24	18,192	356	Plan24	17,356	356
Plan25	18,290	453	Plan25	17,453	453
Plan23	18,421	584	Plan23	17,584	584
Plan22	18,422	586	Plan22	17,585	586
Plan4	18,705	868	Plan4	17,972	973
Plan9	18,958	1,122	Plan9	18,226	1,226
Plan11	18,976	1,139	Plan11	18,243	1,244
Plan8	19,167	1,330	Plan8	18,435	1,435
Plan10	19,249	1,413	Plan10	18,517	1,517
Plan3	19,258	1,422	Plan3	18,526	1,526
Plan6	19,400	1,563	Plan6	18,608	1,608
Plan5	19,495	1,659	Plan5	18,763	1,763
Plan16	19,954	2,118	Plan16	19,158	2,158
Plan7	20,853	3,017	Plan7	20,031	3,031

Table 13: Scenario Risk Tables - Probable Environmental Costs

Base Gas/Base CO2											
BBBBB	NPVRR	Delta	BBHBB	NPVRR	Delta	BBLBB	NPVRR	Delta	BHBBB	NPVRR	Delta
Plan26	21,278	-	Plan26	22,155	-	Plan26	20,528	-	Plan26	20,907	-
Plan19	21,298	21	Plan19	22,175	20	Plan19	20,549	21	Plan19	20,922	15
Plan21	21,301	23	Plan21	22,177	22	Plan21	20,552	24	Plan21	20,924	17
Plan15	21,318	40	Plan15	22,208	53	Plan15	20,559	31	Plan15	20,976	69
Plan20	21,319	41	Plan20	22,209	55	Plan20	20,560	31	Plan20	20,976	70
Plan2	21,381	104	Plan2	22,272	118	Plan2	20,622	94	Plan24	21,025	119
Plan24	21,401	123	Plan24	22,277	123	Plan14	20,650	122	Plan2	21,042	136
Plan14	21,411	133	Plan14	22,301	147	Plan24	20,670	142	Plan14	21,074	168
Plan13	21,460	182	Plan13	22,352	197	Plan13	20,699	171	Plan25	21,095	188
Plan12	21,479	201	Plan25	22,356	201	Plan12	20,718	190	Plan11	21,105	198
Plan25	21,486	209	Plan12	22,371	216	Plan25	20,747	219	Plan13	21,125	218
Plan16	21,501	223	Plan11	22,375	220	Plan16	20,749	221	Plan16	21,144	237
Plan1	21,505	227	Plan1	22,379	224	Plan1	20,758	230	Plan12	21,144	238
Plan11	21,512	234	Plan16	22,382	227	Plan11	20,774	246	Plan1	21,147	241
Plan4	21,567	289	Plan4	22,442	288	Plan17	20,808	280	Plan4	21,188	282
Plan22	21,569	291	Plan22	22,445	290	Plan18	20,815	287	Plan22	21,192	285
Plan17	21,569	291	Plan23	22,446	291	Plan4	20,818	290	Plan23	21,193	287
Plan23	21,570	292	Plan17	22,464	310	Plan22	20,820	292	Plan17	21,238	331
Plan18	21,576	298	Plan18	22,469	314	Plan23	20,821	293	Plan18	21,246	339
Plan9	21,663	385	Plan9	22,533	378	Plan9	20,918	390	Plan9	21,271	364
Plan8	21,757	480	Plan8	22,621	466	Plan8	21,019	491	Plan8	21,357	450
Plan10	21,781	504	Plan10	22,644	489	Plan10	21,044	516	Plan10	21,374	467
Plan3	21,794	517	Plan3	22,657	503	Plan3	21,057	529	Plan3	21,387	481
Plan6	21,961	684	Plan6	22,824	670	Plan6	21,223	695	Plan6	21,567	661
Plan5	22,271	993	Plan5	23,145	990	Plan5	21,522	993	Plan7	21,661	754
Plan7	22,279	1,001	Plan7	23,184	1,029	Plan7	21,557	1,029	Plan5	21,874	967

Base Gas/Base CO2											
BHHBB	NPVRR	Delta	BHLBB	NPVRR	Delta	BLBBB	NPVRR	Delta	BLHBB	NPVRR	Delta
Plan26	21,821	-	Plan26	20,130	-	Plan26	21,623	-	Plan26	22,466	-
Plan19	21,835	14	Plan19	20,145	16	Plan15	21,633	9	Plan15	22,487	21
Plan21	21,836	15	Plan21	20,148	18	Plan20	21,634	11	Plan20	22,488	23
Plan15	21,904	83	Plan15	20,186	56	Plan19	21,649	25	Plan19	22,491	25
Plan20	21,905	84	Plan20	20,186	56	Plan21	21,651	28	Plan21	22,493	28
Plan24	21,938	117	Plan2	20,251	121	Plan2	21,693	70	Plan2	22,549	83
Plan2	21,972	151	Plan24	20,266	137	Plan14	21,721	98	Plan14	22,576	111
Plan11	21,993	172	Plan14	20,281	152	Plan24	21,750	127	Plan24	22,592	127
Plan25	22,000	179	Plan25	20,326	196	Plan13	21,768	145	Plan13	22,625	160
Plan14	22,003	182	Plan13	20,333	203	Plan12	21,788	164	Plan12	22,643	178
Plan1	22,056	235	Plan11	20,344	214	Plan16	21,832	208	Plan1	22,676	210
Plan13	22,057	236	Plan12	20,351	221	Plan1	21,838	214	Plan16	22,677	211
Plan16	22,062	241	Plan16	20,364	234	Plan25	21,851	228	Plan25	22,683	218
Plan12	22,074	253	Plan1	20,372	243	Plan17	21,875	251	Plan11	22,723	257
Plan4	22,091	270	Plan22	20,416	286	Plan18	21,880	257	Plan17	22,732	266
Plan22	22,104	283	Plan23	20,417	287	Plan11	21,883	260	Plan18	22,737	271
Plan23	22,106	285	Plan4	20,418	288	Plan4	21,910	287	Plan22	22,761	296
Plan9	22,169	348	Plan17	20,446	316	Plan22	21,919	296	Plan23	22,762	297
Plan17	22,173	352	Plan18	20,454	324	Plan23	21,920	297	Plan4	22,764	298
Plan18	22,178	357	Plan9	20,504	375	Plan9	22,019	395	Plan9	22,866	401
Plan8	22,246	425	Plan8	20,595	466	Plan8	22,124	500	Plan8	22,963	498
Plan10	22,262	441	Plan10	20,613	484	Plan10	22,153	530	Plan10	22,993	527
Plan3	22,276	455	Plan3	20,627	497	Plan3	22,166	542	Plan3	23,005	540
Plan6	22,456	635	Plan6	20,806	677	Plan6	22,323	700	Plan6	23,163	697
Plan7	22,658	837	Plan5	21,103	973	Plan7	22,573	949	Plan7	23,431	966
Plan5	22,775	954	Plan7	21,172	1,042	Plan5	22,631	1,007	Plan5	23,483	1,017

Base Gas/Base CO2		
BLLBB	NPVRR	Delta
Plan15	20,904	-
Plan26	20,905	1
Plan20	20,906	1
Plan19	20,931	27
Plan21	20,934	29
Plan2	20,964	60
Plan14	20,992	88
Plan13	21,038	133
Plan24	21,049	145
Plan12	21,057	153
Plan16	21,111	207
Plan1	21,122	218
Plan25	21,143	239
Plan17	21,144	240
Plan18	21,148	243
Plan11	21,166	262
Plan4	21,183	278
Plan22	21,202	297
Plan23	21,202	298
Plan9	21,295	391
Plan8	21,406	501
Plan10	21,436	532
Plan3	21,449	544
Plan6	21,605	701
Plan5	21,903	999
Plan7	21,913	1,009

High Gas/High&Base CO2											
HBBBB	NPVRR	Delta	HBBBH	NPVRR	Delta	HBHBB	NPVRR	Delta	HBHBH	NPVRR	Delta
Plan26	21,453	-	Plan7	21,345	-	Plan26	22,350	-	Plan11	22,654	-
Plan19	21,467	14	Plan11	21,432	87	Plan19	22,364	14	Plan7	22,708	55
Plan21	21,470	17	Plan19	21,493	147	Plan21	22,366	16	Plan19	22,748	94
Plan15	21,509	56	Plan21	21,495	150	Plan15	22,420	70	Plan21	22,750	96
Plan20	21,510	57	Plan26	21,552	207	Plan20	22,422	71	Plan26	22,810	156
Plan24	21,570	117	Plan24	21,595	250	Plan24	22,467	117	Plan24	22,850	196
Plan2	21,574	121	Plan25	21,642	297	Plan2	22,487	137	Plan25	22,880	226
Plan14	21,605	152	Plan10	21,689	344	Plan14	22,517	167	Plan10	22,913	259
Plan11	21,644	191	Plan3	21,714	369	Plan11	22,538	188	Plan3	22,936	282
Plan25	21,653	200	Plan8	21,761	416	Plan25	22,541	191	Plan8	22,985	331
Plan13	21,655	202	Plan22	21,763	418	Plan13	22,570	220	Plan22	23,018	364
Plan12	21,674	221	Plan23	21,764	419	Plan16	22,585	235	Plan23	23,019	366
Plan16	21,685	232	Plan9	21,811	465	Plan1	22,586	236	Plan9	23,042	388
Plan1	21,693	240	Plan4	21,908	563	Plan12	22,587	237	Plan4	23,142	488
Plan4	21,730	277	Plan6	21,928	583	Plan22	22,634	284	Plan6	23,149	496
Plan22	21,738	285	Plan20	21,938	593	Plan23	22,635	285	Plan16	23,201	547
Plan23	21,739	286	Plan15	21,939	593	Plan4	22,638	288	Plan15	23,213	559
Plan17	21,766	313	Plan16	21,941	596	Plan17	22,684	334	Plan20	23,214	560
Plan18	21,774	321	Plan2	22,030	685	Plan18	22,690	340	Plan2	23,305	651
Plan9	21,813	360	Plan14	22,075	730	Plan9	22,717	367	Plan14	23,350	697
Plan8	21,897	444	Plan1	22,124	778	Plan8	22,791	441	Plan1	23,370	716
Plan10	21,913	460	Plan13	22,154	808	Plan10	22,807	457	Plan13	23,430	776
Plan3	21,926	473	Plan12	22,168	823	Plan3	22,820	470	Plan12	23,442	788
Plan6	22,095	642	Plan17	22,304	959	Plan6	22,990	640	Plan17	23,582	928
Plan5	22,432	979	Plan18	22,313	967	Plan7	23,056	706	Plan18	23,586	932
Plan7	22,455	1,002	Plan5	22,392	1,047	Plan5	23,341	991	Plan5	23,620	966

High Gas/High&Base CO2											
HBLBB	NPVRR	Delta	HBLBH	NPVRR	Delta	HHBBH	NPVRR	Delta	HHHBH	NPVRR	Delta
Plan26	20,685	-	Plan7	20,311	-	Plan7	20,960	-	Plan11	22,268	-
Plan19	20,699	14	Plan11	20,387	76	Plan11	21,020	60	Plan7	22,285	17
Plan21	20,702	17	Plan19	20,423	112	Plan19	21,102	142	Plan19	22,392	125
Plan15	20,734	49	Plan21	20,426	115	Plan21	21,103	143	Plan21	22,394	126
Plan20	20,734	49	Plan26	20,479	168	Plan26	21,166	206	Plan26	22,460	192
Plan2	20,798	113	Plan24	20,546	235	Plan24	21,207	246	Plan24	22,495	228
Plan24	20,820	135	Plan25	20,583	272	Plan25	21,257	297	Plan10	22,526	258
Plan14	20,827	142	Plan10	20,646	335	Plan10	21,278	318	Plan25	22,534	266
Plan13	20,877	192	Plan3	20,669	358	Plan3	21,302	342	Plan3	22,550	282
Plan11	20,880	195	Plan22	20,693	382	Plan8	21,355	394	Plan8	22,605	337
Plan25	20,896	211	Plan23	20,695	384	Plan22	21,371	411	Plan22	22,662	394
Plan12	20,896	211	Plan8	20,713	402	Plan23	21,373	413	Plan23	22,664	396
Plan16	20,915	230	Plan9	20,751	440	Plan9	21,415	455	Plan9	22,673	406
Plan1	20,929	244	Plan4	20,843	532	Plan4	21,522	562	Plan6	22,777	510
Plan4	20,955	270	Plan20	20,848	537	Plan6	21,530	570	Plan4	22,787	519
Plan22	20,970	285	Plan15	20,848	537	Plan16	21,565	605	Plan16	22,864	596
Plan23	20,971	286	Plan16	20,861	550	Plan20	21,577	617	Plan15	22,894	626
Plan17	20,987	302	Plan6	20,883	572	Plan15	21,578	618	Plan20	22,896	628
Plan18	20,994	309	Plan2	20,938	627	Plan2	21,671	711	Plan2	22,988	720
Plan9	21,044	359	Plan14	20,986	675	Plan14	21,721	761	Plan1	23,031	763
Plan8	21,133	448	Plan1	21,050	739	Plan1	21,748	788	Plan14	23,036	768
Plan10	21,149	464	Plan13	21,063	752	Plan13	21,801	841	Plan13	23,119	851
Plan3	21,162	477	Plan12	21,076	765	Plan12	21,815	855	Plan12	23,131	864
Plan6	21,331	646	Plan17	21,211	900	Plan17	21,956	996	Plan5	23,248	980
Plan5	21,656	971	Plan18	21,218	907	Plan18	21,965	1,005	Plan17	23,276	1,008
Plan7	21,680	995	Plan5	21,339	1,028	Plan5	21,991	1,031	Plan18	23,281	1,013

High Gas/High&Base CO2		
HHLBH	NPVRR	Delta
Plan7	19,905	-
Plan11	19,955	50
Plan19	20,006	101
Plan21	20,008	103
Plan26	20,066	161
Plan24	20,128	223
Plan25	20,172	267
Plan10	20,214	309
Plan3	20,237	332
Plan22	20,276	371
Plan23	20,277	372
Plan8	20,286	381
Plan9	20,334	429
Plan4	20,438	533
Plan15	20,458	553
Plan20	20,458	553
Plan16	20,460	555
Plan6	20,464	559
Plan2	20,550	645
Plan14	20,599	694
Plan1	20,650	745
Plan13	20,680	775
Plan12	20,691	786
Plan17	20,831	926
Plan18	20,840	935
Plan5	20,917	1,012

LowGas / Low & Base CO2											
LBBBB	NPVRR	Delta	LBBBL	NPVRR	Delta	LBHBB	NPVRR	Delta	LBHBL	NPVRR	Delta
Plan26	21,068	-	Plan15	19,961	-	Plan26	21,917	-	Plan15	20,551	-
Plan15	21,085	18	Plan20	19,962	1	Plan19	21,948	31	Plan20	20,553	2
Plan20	21,086	18	Plan2	20,005	43	Plan15	21,950	33	Plan2	20,596	45
Plan19	21,100	32	Plan14	20,022	61	Plan21	21,951	34	Plan14	20,613	62
Plan21	21,102	34	Plan13	20,053	91	Plan20	21,952	35	Plan13	20,646	94
Plan2	21,148	80	Plan12	20,072	111	Plan2	22,013	96	Plan12	20,665	113
Plan14	21,176	108	Plan1	20,103	142	Plan14	22,040	123	Plan1	20,685	133
Plan24	21,202	134	Plan17	20,132	171	Plan24	22,050	133	Plan17	20,726	174
Plan13	21,224	156	Plan18	20,137	176	Plan13	22,088	172	Plan18	20,730	179
Plan12	21,244	177	Plan26	20,189	228	Plan12	22,107	191	Plan26	20,773	222
Plan25	21,279	211	Plan19	20,259	298	Plan25	22,124	207	Plan19	20,843	292
Plan1	21,281	214	Plan21	20,261	300	Plan1	22,127	211	Plan21	20,845	294
Plan16	21,281	214	Plan16	20,298	337	Plan16	22,137	220	Plan16	20,883	332
Plan11	21,330	263	Plan24	20,361	400	Plan11	22,160	243	Plan24	20,946	394
Plan17	21,331	263	Plan25	20,492	530	Plan4	22,187	271	Plan25	21,076	524
Plan18	21,336	269	Plan22	20,529	568	Plan17	22,198	281	Plan22	21,113	561
Plan4	21,345	277	Plan23	20,530	569	Plan18	22,200	284	Plan23	21,114	563
Plan22	21,370	302	Plan4	20,559	598	Plan22	22,219	302	Plan4	21,157	605
Plan23	21,371	303	Plan9	20,803	841	Plan23	22,219	303	Plan9	21,399	847
Plan9	21,454	387	Plan11	20,812	851	Plan9	22,293	377	Plan11	21,402	850
Plan8	21,561	494	Plan8	21,004	1,043	Plan8	22,391	475	Plan8	21,594	1,042
Plan10	21,599	531	Plan10	21,086	1,125	Plan10	22,428	512	Plan10	21,675	1,124
Plan3	21,613	545	Plan3	21,095	1,133	Plan3	22,442	526	Plan3	21,684	1,133
Plan6	21,776	708	Plan6	21,216	1,255	Plan6	22,606	689	Plan6	21,806	1,254
Plan5	22,038	970	Plan5	21,352	1,390	Plan5	22,877	961	Plan5	21,950	1,399
Plan7	22,212	1,144	Plan7	22,630	2,669	Plan7	22,980	1,063	Plan7	23,201	2,650

LowGas / Low & Base CO2											
LBLBB	NPVRR	Delta	LBLBL	NPVRR	Delta	LLBBL	NPVRR	Delta	LLHBL	NPVRR	Delta
Plan26	20,341	-	Plan20	19,456	-	Plan15	19,997	-	Plan15	20,581	-
Plan20	20,352	11	Plan15	19,456	0	Plan20	19,998	1	Plan20	20,583	2
Plan15	20,352	11	Plan2	19,499	43	Plan2	20,040	43	Plan2	20,626	44
Plan19	20,375	34	Plan14	19,517	61	Plan14	20,057	60	Plan14	20,642	61
Plan21	20,377	36	Plan13	19,547	91	Plan13	20,087	90	Plan13	20,674	93
Plan2	20,411	70	Plan12	19,567	110	Plan12	20,107	110	Plan12	20,693	112
Plan14	20,439	98	Plan1	19,602	145	Plan1	20,133	136	Plan1	20,710	128
Plan13	20,486	145	Plan17	19,627	171	Plan17	20,166	169	Plan17	20,753	172
Plan24	20,495	154	Plan18	19,629	173	Plan18	20,170	174	Plan18	20,758	177
Plan12	20,506	164	Plan26	19,688	231	Plan26	20,231	235	Plan26	20,811	229
Plan16	20,555	214	Plan19	19,758	301	Plan19	20,304	308	Plan19	20,883	302
Plan1	20,557	216	Plan21	19,759	303	Plan21	20,307	310	Plan21	20,885	304
Plan25	20,557	216	Plan16	19,796	339	Plan16	20,336	339	Plan16	20,916	334
Plan17	20,593	251	Plan24	19,874	418	Plan24	20,407	410	Plan24	20,986	405
Plan18	20,598	257	Plan25	19,991	535	Plan22	20,575	578	Plan22	21,153	572
Plan11	20,619	278	Plan22	20,027	571	Plan23	20,576	579	Plan23	21,155	573
Plan4	20,626	285	Plan23	20,029	573	Plan25	20,594	597	Plan25	21,173	591
Plan22	20,645	304	Plan4	20,047	591	Plan4	20,763	766	Plan4	21,356	774
Plan23	20,646	305	Plan9	20,292	836	Plan9	21,011	1,014	Plan9	21,602	1,021
Plan9	20,737	396	Plan11	20,305	849	Plan11	21,027	1,030	Plan11	21,612	1,030
Plan8	20,849	508	Plan8	20,497	1,041	Plan8	21,215	1,218	Plan8	21,800	1,219
Plan10	20,888	547	Plan10	20,579	1,123	Plan10	21,301	1,304	Plan10	21,885	1,304
Plan3	20,901	560	Plan3	20,588	1,132	Plan3	21,309	1,313	Plan3	21,894	1,313
Plan6	21,065	723	Plan6	20,709	1,253	Plan6	21,422	1,425	Plan6	22,007	1,425
Plan5	21,317	976	Plan5	20,839	1,383	Plan5	21,564	1,568	Plan5	22,158	1,577
Plan7	21,436	1,095	Plan7	22,093	2,637	Plan7	22,678	2,682	Plan7	23,331	2,750

LowGas / Low & Base CO2		
LLLBL	NPVRR	Delta
Plan20	19,496	-
Plan15	19,497	0
Plan2	19,539	43
Plan14	19,557	60
Plan13	19,586	89
Plan12	19,606	109
Plan1	19,636	140
Plan17	19,665	169
Plan18	19,667	171
Plan26	19,734	238
Plan19	19,807	311
Plan21	19,809	313
Plan16	19,838	342
Plan24	19,923	427
Plan22	20,077	581
Plan23	20,079	582
Plan25	20,097	600
Plan4	20,256	759
Plan9	20,505	1,009
Plan11	20,524	1,028
Plan8	20,713	1,216
Plan10	20,798	1,302
Plan3	20,807	1,311
Plan6	20,919	1,423
Plan5	21,056	1,560
Plan7	22,231	2,735

Base Gas/High CO2											
BBBBH	NPVRR	Delta	BBHBH	NPVRR	Delta	BBLBH	NPVRR	Delta	BHBBH	NPVRR	Delta
Plan11	21,166	-	Plan7	22,287	-	Plan7	20,107	-	Plan11	20,721	-
Plan19	21,218	52	Plan11	22,367	81	Plan11	20,144	37	Plan19	20,801	80
Plan21	21,220	54	Plan19	22,456	170	Plan19	20,160	53	Plan21	20,802	81
Plan26	21,269	103	Plan21	22,458	171	Plan21	20,161	53	Plan26	20,856	135
Plan24	21,319	153	Plan26	22,510	224	Plan26	20,209	102	Plan24	20,903	182
Plan25	21,370	204	Plan24	22,557	271	Plan24	20,281	174	Plan25	20,957	236
Plan10	21,427	261	Plan25	22,592	305	Plan25	20,319	212	Plan10	20,981	260
Plan7	21,430	264	Plan10	22,627	340	Plan10	20,403	296	Plan3	21,003	282
Plan3	21,448	282	Plan3	22,650	363	Plan3	20,427	319	Plan7	21,039	319
Plan22	21,488	322	Plan8	22,690	404	Plan22	20,429	321	Plan8	21,049	329
Plan8	21,488	322	Plan22	22,726	439	Plan23	20,431	324	Plan22	21,070	349
Plan23	21,490	324	Plan23	22,728	441	Plan8	20,461	354	Plan23	21,072	351
Plan9	21,528	362	Plan9	22,743	456	Plan9	20,489	381	Plan9	21,101	380
Plan4	21,614	448	Plan4	22,836	549	Plan15	20,559	452	Plan4	21,190	469
Plan15	21,635	469	Plan6	22,863	576	Plan20	20,561	454	Plan6	21,229	508
Plan20	21,637	471	Plan16	22,896	609	Plan4	20,571	463	Plan16	21,242	522
Plan16	21,647	481	Plan15	22,900	614	Plan16	20,582	475	Plan15	21,250	530
Plan6	21,660	494	Plan20	22,902	616	Plan6	20,638	531	Plan20	21,251	530
Plan2	21,727	561	Plan2	22,992	705	Plan2	20,650	543	Plan2	21,343	622
Plan14	21,773	607	Plan14	23,037	751	Plan14	20,695	587	Plan14	21,389	668
Plan1	21,829	663	Plan1	23,074	787	Plan1	20,767	660	Plan1	21,436	715
Plan13	21,850	684	Plan13	23,118	832	Plan13	20,771	663	Plan13	21,469	748
Plan12	21,865	699	Plan12	23,130	844	Plan12	20,782	675	Plan12	21,484	763
Plan17	22,001	835	Plan5	23,243	957	Plan17	20,917	810	Plan5	21,604	883
Plan18	22,007	841	Plan17	23,268	981	Plan18	20,925	818	Plan17	21,622	901
Plan5	22,038	872	Plan18	23,272	985	Plan5	21,010	903	Plan18	21,625	904

Base Gas/High CO2					
BHHBH	NPVRR	Delta	BHLBH	NPVRR	Delta
Plan11	21,952	-	Plan7	19,679	-
Plan19	22,075	123	Plan11	19,681	2
Plan21	22,076	124	Plan19	19,718	38
Plan26	22,133	181	Plan21	19,719	39
Plan7	22,151	199	Plan26	19,772	93
Plan24	22,177	225	Plan24	19,839	160
Plan10	22,210	258	Plan25	19,884	205
Plan25	22,214	263	Plan10	19,939	260
Plan3	22,234	282	Plan3	19,964	284
Plan8	22,279	327	Plan22	19,987	307
Plan9	22,342	390	Plan23	19,989	310
Plan22	22,344	392	Plan8	20,003	324
Plan23	22,346	394	Plan9	20,042	362
Plan4	22,441	490	Plan4	20,125	446
Plan6	22,460	508	Plan15	20,143	463
Plan16	22,529	577	Plan20	20,143	463
Plan15	22,552	600	Plan16	20,156	477
Plan20	22,555	603	Plan6	20,188	508
Plan2	22,645	693	Plan2	20,233	554
Plan14	22,691	739	Plan14	20,279	600
Plan1	22,713	761	Plan1	20,342	663
Plan13	22,773	821	Plan13	20,359	679
Plan12	22,785	833	Plan12	20,370	690
Plan5	22,838	886	Plan17	20,507	827
Plan18	22,928	976	Plan18	20,511	832
Plan17	22,928	976	Plan5	20,555	876

Base Gas/Low CO2											
BBBBL	NPVRR	Delta	BBHBL	NPVRR	Delta	BBLBL	NPVRR	Delta	BLBBL	NPVRR	Delta
Plan15	19,754	-	Plan15	20,419	-	Plan20	19,184	-	Plan15	19,751	-
Plan20	19,755	1	Plan20	20,421	2	Plan15	19,185	1	Plan20	19,752	1
Plan2	19,802	48	Plan2	20,468	50	Plan2	19,232	48	Plan2	19,799	47
Plan14	19,822	68	Plan14	20,488	69	Plan14	19,253	69	Plan14	19,818	67
Plan1	19,844	89	Plan1	20,498	80	Plan1	19,278	94	Plan1	19,834	83
Plan13	19,857	103	Plan13	20,525	106	Plan13	19,287	103	Plan13	19,853	102
Plan12	19,876	122	Plan12	20,543	125	Plan12	19,306	122	Plan12	19,872	121
Plan26	19,924	170	Plan26	20,583	164	Plan26	19,359	174	Plan26	19,926	175
Plan17	19,943	189	Plan17	20,612	193	Plan17	19,374	190	Plan17	19,939	187
Plan18	19,949	195	Plan18	20,617	199	Plan18	19,377	193	Plan18	19,945	193
Plan19	19,978	224	Plan19	20,637	218	Plan19	19,413	229	Plan19	19,983	232
Plan21	19,981	227	Plan21	20,639	220	Plan21	19,415	230	Plan21	19,986	234
Plan16	20,055	301	Plan16	20,714	295	Plan16	19,488	304	Plan16	20,054	302
Plan24	20,081	327	Plan24	20,740	321	Plan24	19,530	346	Plan24	20,086	335
Plan25	20,217	462	Plan25	20,875	456	Plan25	19,651	467	Plan22	20,254	502
Plan22	20,249	495	Plan22	20,907	488	Plan22	19,683	498	Plan23	20,254	503
Plan23	20,250	495	Plan23	20,908	489	Plan23	19,684	500	Plan25	20,275	523
Plan4	20,426	672	Plan4	21,100	681	Plan4	19,849	665	Plan4	20,605	854
Plan11	20,603	848	Plan11	21,267	848	Plan11	20,031	847	Plan11	20,790	1,038
Plan9	20,637	882	Plan9	21,308	889	Plan9	20,062	878	Plan9	20,819	1,068
Plan8	20,813	1,059	Plan8	21,477	1,059	Plan8	20,242	1,057	Plan8	20,997	1,246
Plan10	20,876	1,122	Plan10	21,540	1,122	Plan10	20,305	1,121	Plan10	21,063	1,312
Plan3	20,885	1,131	Plan3	21,549	1,130	Plan3	20,314	1,130	Plan3	21,072	1,321
Plan6	21,011	1,257	Plan6	21,676	1,257	Plan6	20,440	1,256	Plan6	21,189	1,438
Plan5	21,209	1,454	Plan5	21,884	1,465	Plan5	20,631	1,447	Plan5	21,395	1,644
Plan7	22,356	2,602	Plan7	23,106	2,688	Plan7	21,856	2,672	Plan7	22,370	2,619

Base Gas/Low CO2					
BLHBL	NPVRR	Delta	BLLBL	NPVRR	Delta
Plan15	20,412	-	Plan20	19,185	-
Plan20	20,414	2	Plan15	19,185	1
Plan2	20,461	49	Plan2	19,232	47
Plan14	20,480	68	Plan14	19,253	68
Plan1	20,486	74	Plan1	19,273	88
Plan13	20,517	105	Plan13	19,286	102
Plan12	20,535	123	Plan12	19,305	120
Plan26	20,581	169	Plan26	19,364	179
Plan17	20,603	191	Plan17	19,372	188
Plan18	20,609	197	Plan18	19,375	191
Plan19	20,638	226	Plan19	19,421	236
Plan21	20,639	227	Plan21	19,423	238
Plan16	20,709	297	Plan16	19,490	305
Plan24	20,741	329	Plan24	19,538	353
Plan22	20,907	495	Plan22	19,691	506
Plan23	20,909	497	Plan23	19,692	508
Plan25	20,929	517	Plan25	19,713	528
Plan4	21,275	863	Plan4	20,032	847
Plan11	21,451	1,039	Plan11	20,222	1,037
Plan9	21,487	1,075	Plan9	20,248	1,063
Plan8	21,658	1,246	Plan8	20,429	1,244
Plan10	21,724	1,312	Plan10	20,496	1,311
Plan3	21,733	1,321	Plan3	20,504	1,319
Plan6	21,850	1,438	Plan6	20,621	1,436
Plan5	22,067	1,655	Plan5	20,820	1,636
Plan7	23,210	2,798	Plan7	21,966	2,781

Table 14: Alternative Risk Tables (Selected Plans)

Interest Rate Sensitivity			
High Interest		Low Interest	
Plan 26	21,591	Plan 19	20,919
Plan 19	21,608	Plan 21	20,921
Plan 21	21,610	Plan 26	20,924
Plan 15	21,618	Plan 15	20,975
Plan 24	21,711	Plan 24	21,020
Plan 1	21,796	Plan 25	21,106
Plan 25	21,797	Plan 1	21,173

Construction and Siting Costs			
High		Low	
Plan 19	21,418	Plan 19	21,160
Plan 21	21,421	Plan 21	21,162
Plan 26	21,424	Plan 26	21,167
Plan 15	21,438	Plan 15	21,179
Plan 24	21,523	Plan 24	21,257
Plan 1	21,541	Plan 25	21,345
Plan 25	21,610	Plan 1	21,466

Fixed O&M			
High		Low	
Plan 26	21,565	Plan 26	20,990
Plan 19	21,586	Plan 19	21,011
Plan 21	21,588	Plan 21	21,013
Plan 15	21,606	Plan 15	21,030
Plan 24	21,688	Plan 24	21,113
Plan 25	21,774	Plan 25	21,199
Plan 1	21,793	Plan 1	21,217

Outage Rates			
High		Low	
Plan 26	21,321	Plan 26	21,259
Plan 19	21,340	Plan 19	21,279
Plan 21	21,342	Plan 21	21,282
Plan 15	21,361	Plan 15	21,299
Plan 24	21,443	Plan 24	21,382
Plan 25	21,531	Plan 25	21,470
Plan 1	21,548	Plan 1	21,484

Purchase Power Availability			
High		Low	
Plan 26	21,249	Plan 26	21,307
Plan 19	21,270	Plan 19	21,327
Plan 21	21,271	Plan 21	21,331
Plan 15	21,293	Plan 15	21,343
Plan 24	21,377	Plan 24	21,424
Plan 25	21,458	Plan 25	21,515
Plan 1	21,466	Plan 1	21,544

11.4 ANNUAL UNSERVED HOURS

Pursuant to rule 22.070 (11) (D), the expected amount of unserved hours for the preferred plan are shown below in Table 15. As the data is this table shows, under the base assumption, the preferred plan meets the energy needs of the system without relying upon energy from outside sources. Only in the high load case does the need to provide energy from other sources come into play. As the plan is set to meet the needs of the base load assumption, should load grow faster than the base load forecast the plan could be adjusted in the future to meet the small needs of the system for emergency power, such as a firm purchase power agreement.

Table 15: Expected Megawatt-hours Unserved Energy

	Base Load	High Load	Low Load
2007	-	-	-
2008	-	-	-
2009	-	-	-
2010	-	-	-
2011	-	-	-
2012	-	-	-
2013	-	-	-
2014	-	15	-
2015	-	-	-
2016	-	-	-
2017	-	-	-
2018	-	-	-
2019	-	14	-
2020	-	-	-
2021	-	-	-
2022	-	1	-
2023	-	14	-
2024	-	-	-
2025	-	7	-
2026	-	46	-
2027	-	69	4
2028	-	8	-
2029	-	-	-
2030	-	3	-
2031	-	500	-
2032	5	1,467	-

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11.5 CALCULATION OF BETTER INFORMATION

This section discusses the requirements of rule 22.070 (11) (E). The method of calculating the value of better information is to look at the value of the portfolio that would have been picked. To estimate this, we assume that we can purchase a report to provide perfect information on the determination of a particular risk component such as CO2 prices or Natural Gas prices. With this information the lowest cost resource plan would be selected for which ever outcome would be determined. Results are shown below in Figure 14 through Figure 18.

Figure 14: Calculation - Value of Better Information - CO2

Scenario	Plan	NPVRR	Probability	
Better Information				
BBBBH	Plan11	21,166	25%	Expected Value
BBBBB	Plan26	21,278	25%	19,974 $MM
BBBBL	Plan15	19,754	25%	
BBBBN	Plan15	17,699	25%	
Preferred Plan				
BBBBH	Plan19	21,218	25%	Expected Value
BBBBB	Plan19	21,298	25%	20,108 $MM
BBBBL	Plan19	19,978	25%	
BBBBN	Plan19	17,935	25%	
		Expected Value of Better Information		133 $MM

Figure 15: Calculation - Value of Better Information – NG (PEC)

Scenario	Plan	NPVRR	Probability	
Better Information				
HBBBB	Plan26	21,453	25%	Expected Value
BBBBB	Plan26	21,278	50%	21,269 $MM
LBBBB	Plan26	21,068	25%	
Preferred Plan				
HBBBB	Plan19	21,467	25%	Expected Value
BBBBB	Plan19	21,298	50%	21,291 $MM
LBBBB	Plan19	21,100	25%	
		Expected Value of Better Information		22 $MM

Figure 16: Calculation - Value of Better Information - NG Utility Costs

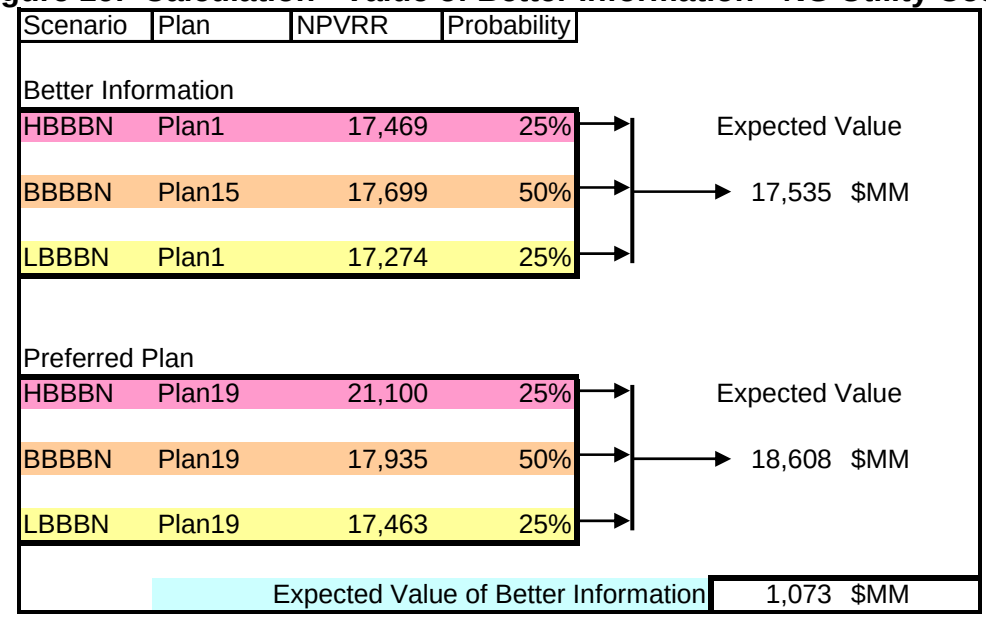


Figure 17: Calculation - Value of Better Information - Load (PEC)

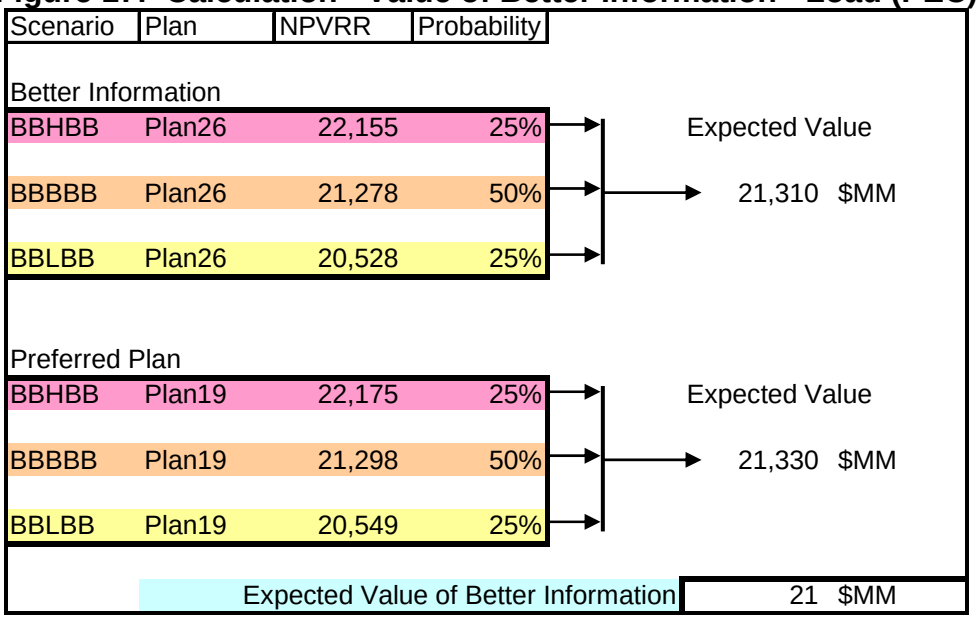
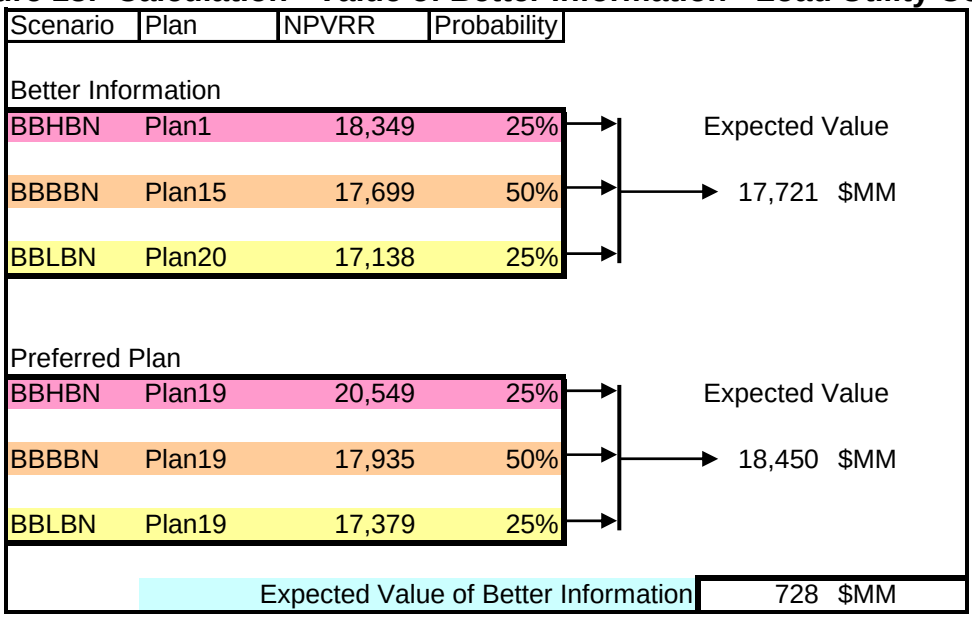


Figure 18: Calculation - Value of Better Information - Load Utility Costs



11.6 PROCESS TO DETERMINE PREFERRED PLAN

This discussion provides the requirements of Rule 22.070 (11) (F). The preferred plan for this IRP was selected using the lowest NPVRR for the Probable Environmental Cost (PEC) including consideration for risk mitigation. The difference between the base Utility Cost analysis and the PEC analysis is due to the cost to comply with additional environmental laws or regulations that, in the judgment of utility decision-makers, may be imposed at some point in the planning horizon. A detailed narrative review of environmental regulations and future potential changes in regulations is included in the attached in Volume 4, Supply-Side Resource Analysis, Appendix 4.B.2. Based on this review, five (5) potential new environmental laws, regulations or restrictions have been identified as follows:

1. Greenhouse gas restrictions in the form of a cap and trade market
2. Requirements to landfill all solid combustion by-products
3. The addition of cooling towers and fish impingement protection
4. Potential need to add control for zebra mussels

5. “Other” air emissions

11.7 DOCUMENTED RESOURCE ACQUITION STRATEGY

Rule 22.070 (11) (G) requires the utility to fully document the resource acquisition strategy. The acquisition strategy is outlined in Volume 1, Executive Summary, Section 5.