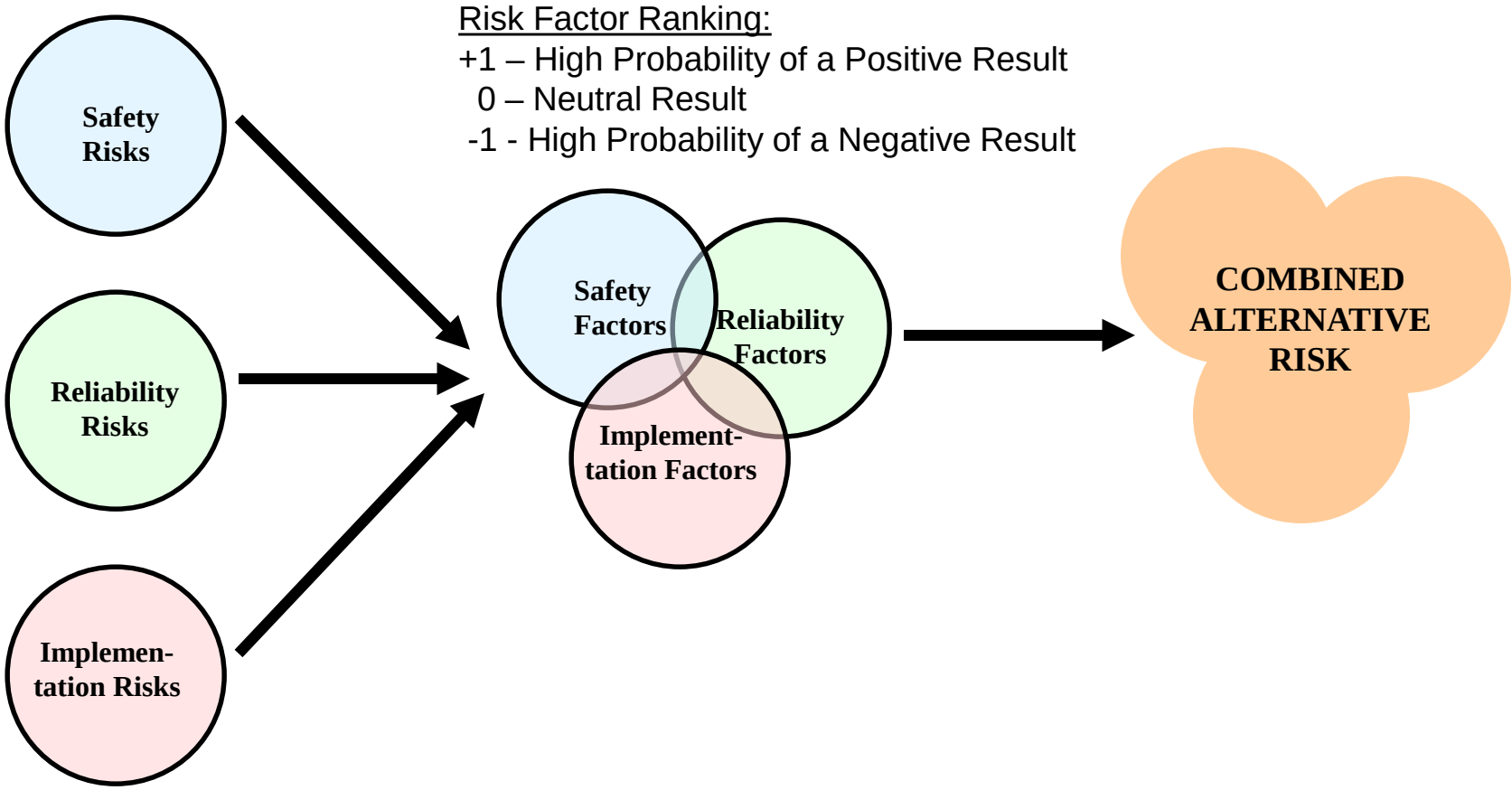
INTERCHANGEABILITY MANAGEMENT OPTIONS

CONCEPTUALIZATION OF TOTAL ALTERNATIVE RISK



SAFETY FACTOR

Safety Factor –	Ensure gas supply delivered to customers will burn safely and efficiently.
+1	A safety risk factor rating of **+1** indicates a positive result or “safe” result.
0	A safety risk factor rating of **0** indicates a neutral result or uncertain outcome.
-1	A safety risk factor rating of **-1** indicates a negative or “unsafe” result.

RELIABILITY FACTOR

Reliability Factor –	Ability to provide consistent gas supplies and transportation capacity to meet customers' demands.
+1	A reliability risk factor rating of **+1** indicates a positive result or "reliable" result.
0	A reliability risk factor rating of **0** indicates a neutral result or uncertain outcome.
-1	A reliability risk factor rating of **-1** indicates a negative result or "unreliable" result.

IMPLEMENTATION FACTOR

Implementation Factors -	Factors that could impact the ability to successfully implement the proposed alternatives.
+1	An implementation risk factor rating of +1 indicates a strong likelihood the option could be implemented.
0	An implementation risk factor rating of **0** indicates a neutral position and there is uncertainty that the option can be implemented.
-1	An implementation risk factor rating of **–1** indicates a strong likelihood the option would be difficult to implement.

Economic Assumptions

Capital Costs:	Rate Used
1. Current Estimate – Based on a budget level engineering estimates in 2004 dollars	
2. Contingency	10%
3. Construction Overhead	8%

1st Year Annualized Cost of Service	
1. Return on Capital Cost (Pretax)	13.86%
2. Depreciation of Capital Cost	3%
3. Property Taxes as Percentage of Capital Cost	1%
4. Operation & Maintenance Cost	
Plants	5%
Pipelines	2%
5. Gas Costs	$5.50/Dth

OPTIONS TO MANAGE GAS INTERCHANGEABILITY

OPTION 1:
NO ACTION

Description: Assumes managing heat content to meet interchangeability requirements is not necessary. Changing heat content does not create safety or operating issues for customers.

Process:

- QGC would go forward with 1998 gas quality set-points.
- QGC would not actively manage quality of gas to customers but would rely on gas within QPC & Kern River Pipeline's (KRGT) tariff specifications
- Terminate processing agreement with QTS
- QGC would seek immunity from liability

OPTION 1
NO ACTION

PROS

- Little or no direct costs to manage interchangeability
- Simplifies operation of QGC's system

CONS

- Would expose customers to unacceptable safety risks
- Decreased reliability and potential loss of service

–Business interruption costs

–Costs of relighting customers

–Safety issues related to customers relighting their own appliances

–Safety issues related to customers losing gas service

- QGC and State of Utah would assume significant liability risk

OPTION 1 – NO ACTION
RISK MATRIX

LEGEND: +1 Positive Result
0 Neutral Result
-1 Negative Result

Risk Areas	Discussion	RISK FACTORS Safety	Reliability	Implementation
Operating Considerations	• Customers would be exposed to an unacceptable safety risk	-1	-1	+1
	• Potential loss of service	-1	-1	+1
	• Technical support needed to justify this option	0	0	-1
	• Broad interchangeability would reduce value of having appliances inspected and adjusted	-1	0	+1
Market/ Nominations	• Suppliers would be reluctant to sell gas to QGC because of liability risk	0	-1	0
Regulatory Issues	• QGC and the State of Utah's reputation would be tarnished in both the communities they serve and the industry as a whole	0	0	-1

LEGEND: +1 Positive Result
0 Neutral Result
-1 Negative Result

OPTION 1 – NO ACTION(CONTINUED)
Risk Matrix

Risk Areas	Discussion	RISK FACTORS Safety	Reliability	Implementation
Regulatory Issues	• Other regulatory agencies would intervene to protect the safety of customers	0	0	+1
	• QGC along with the State of Utah would assume an unacceptable level of legal liability	0	0	+1

OPTION 2
PURSUE FERC INVOLVEMENT

Description: File complaint at FERC in attempt to compel QPC & Kern River Pipeline to change inert limits in their tariffs to control delivery specifications to meet QGC's requirements

- Division would file complaint on behalf of ratepayers
- Questar would underwrite costs to prosecute case
- If proceeding was successful, QPC would reduce tariff limit specification for CO_2 to 1%
- Some QGC production would require inert processing
- FERC may compel QPC to adopt a hydrocarbon dew point specification that would result in higher processing costs for QGC production
- Additional processing facilities would likely increase the purchase price of gas on QPC's system
- Many shippers on QPC would object to this option

OPTION 2
PURSUE FERC INVOLVEMENT

PROS

- Little or no direct costs to manage interchangeability
- Simplifies operation of QGC's system

CONS

- Unlikely FERC would rule to reduce CO_2 limit
- QGC could incur significant processing costs to meet new QPC & Kern River CO_2 specification
- FERC ruling may compel QPC to adopt hydrocarbon dew point spec resulting in added processing costs to QGC
- Likely QGC would have to process some of its own production to meet the new tariff specification

OPTION 2
FERC INVOLVEMENT COSTS

- Costs related to FERC protest of QPC's CO2 tariff specification - $100,000 +
- Annual cost to process CO2 content in excess of 1% from four QGC gas properties - $1,500,000
- Range of annual costs to process QGC owned gas to a hydrocarbon dew point of 15 ^{o}F assuming QPC is required to adopt this specification by the FERC - $8,520,000 to 18,030,000

OPTION 2 – FERC INVOLVEMENT COSTS

Company-Owned Gas Area 1/	May-05	Jun-05	Jul-05	Aug-05	Sep-05	Oct-05	Nov-05	Dec-05	Jan-06	Feb-06	Mar-06	Apr-06	Total
Clay Basin Frontier	120.3	101.4	104.3	103.8	114.1	113.5	141.1	144.8	143.7	122.5	113.5	109.3	1,432.3
East Hiawatha	113.9	148.0	156.6	156.4	161.2	171.2	204.1	216.3	214.6	182.8	169.3	157.7	2,052.1
Powder Wash	197.40	176.00	181.70	181.60	168.40	201.70	244.70	252.20	250.10	212.80	211.00	200.30	2,477.9
Sugar Loaf	72.2	60.9	62.6	62.3	68.6	68.3	84.8	87.1	86.6	73.8	68.5	65.9	861.6
North Baxter	19.70	16.60	17.00	17.00	18.60	18.60	23.10	23.70	23.60	20.10	18.70	17.90	234.6
West Hiawatha	39.1	52.0	53.5	43.2	32.3	60.3	72.3	76.7	76.1	64.8	60.0	55.8	686.1
Ace/Jacks Draw	6.8	6.2	6.4	6.4	7.7	6.1	7.6	7.9	7.8	6.7	6.6	6.4	82.6
Brady	169.3	164.9	166.9	164.0	150.1	155.6	150.2	152.5	149.4	131.5	142.7	134.9	1,832.0
Bruff/Moxa Arch	253.90	238.10	243.00	240.40	246.40	231.40	264.40	275.60	273.20	230.30	254.80	234.70	2,986.2
Hiawatha Deep	16.20	20.70	21.20	16.60	14.00	20.80	24.90	26.40	26.10	22.20	24.40	22.60	256.1
Island	216.3	175.4	103.9	103.7	100.0	223.9	215.5	221.6	220.3	188.2	207.2	199.7	2,175.7
Jackknife Spring	11.60	10.50	10.70	10.60	11.20	8.80	10.50	11.10	10.90	9.20	10.10	9.30	124.5
Kinney	26.4	22.7	23.3	23.2	28.0	22.3	27.8	28.6	28.5	24.3	25.4	24.5	305.0
Leucite Hills	4.0	3.4	3.5	3.5	4.2	3.3	4.1	4.2	4.2	3.6	3.8	3.6	45.4
Lower Horse Draw	2.1	3.2	3.3	2.6	1.8	2.7	3.3	3.5	3.5	2.9	3.2	3.0	35.1
Mesa/Pinedale	854.9	821.1	841.7	834.1	841.4	834.2	826.7	846.7	839.1	713.7	783.8	751.9	9,789.3
Middle Baxter	2.9	4.4	4.6	3.5	3.0	4.5	5.4	5.7	5.7	4.8	4.5	4.1	53.1
Rabbit Mountain	20.1	17.2	17.7	17.6	21.2	21.1	21.0	21.6	21.5	18.4	19.2	18.5	235.1
South Baxter	13.9	6.6	6.8	5.4	4.5	24.9	26.1	27.0	26.8	22.8	21.1	20.1	206.0
Trail	50.30	44.10	45.40	45.20	54.40	43.30	53.90	55.50	55.20	47.10	48.10	46.30	588.8
New Drill 2004	902.4	908.2	925.7	904.5	672.0	674.3	799.1	836.4	818.5	723.7	784.9	718.6	9,668.3
New Drill 2005	13.0	12.4	12.6	179.2	272.4	289.4	753.3	1,124.3	1,069.4	919.7	971.0	888.5	6,505.2
Total (MDth)	3,126.7	3,014.0	3,012.4	3,124.8	2,995.5	3,200.2	3,963.9	4,449.4	4,354.8	3,745.9	3,951.8	3,693.6	42,633.0
Processing Required (MDth) 1/	3,126.7	3,014.0	3,012.4	3,124.8	2,995.5	3,200.2	3,963.9	4,449.4	4,354.8	3,745.9	3,951.8	3,693.6	42,633
Low End Estimate ($/Dth) 2/	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	0.200	
Low End Estimate ($)	625,340	602,800	602,480	624,960	599,100	640,040	792,780	889,880	870,960	749,180	790,360	738,720	8,526,600
High End Estimate ($/Dth) 2/	0.423	0.423	0.423	0.423	0.423	0.423	0.423	0.423	0.423	0.423	0.423	0.423	
High End Estimate ($)	1,322,594	1,274,922	1,274,245	1,321,790	1,267,097	1,353,685	1,676,730	1,882,096	1,842,080	1,584,516	1,671,611	1,562,393	18,033,759

1/ Quantities from Base Case Gas Supply Plan for IRP Year 2 from Questar Gas Company Integrated Resource Plan Submittted May 3, 2004.

2/ Based on the bids received by QGC for the recent Church Buttes Processing RFP. Costs are for processing gas and delivering to QPC mainline.

LEGEND: +1 Positive Result
0 Neutral Result
-1 Negative Result

OPTION 2 – FERC INVOLVEMENT

RISK MATRIX

Risk Areas	Discussion	RISK FACTORS Safety	Reliability	Implementation
Operating Considerations	• Time required for producers to install additional processing would take a year or more	0	0	0
	• Some QGC production would require inert processing	0	-1	-1
Market/ Nominations	• Some gas supply on QGC's system would be diverted to other pipelines because of inert processing costs – this could decrease the amount of available supply and increase gas costs to QGC	0	-1	0
	• QGC would alienate many of its gas suppliers during the FERC proceedings	0	0	+1
Regulatory Issues	• The FERC would reject the state of Utah's complaint.	0	0	-1
	• The FERC will require QPC to adopt a hydrocarbon dew point limit	0	-1	-1

OPTION 3
REORIFICING

Description: Check and adjust all Utah County customers to the post 1998 set point

- Affects approximately 130,000 customers between the Payson gate and Salt Lake county
- Would take 3 years, using 33 temporary service technicians
- Total estimated cost to be $20 Million over 3 years. This cost does not include the cost of managing interchangeability during transition period

OPTION 3
REORIFICING

PROS

- After high initial costs very little future O&M costs
- QGC is able to receive coal-seam gas or blended gas from the Uinta Basin at Payson for Utah County
- High percentage of Utah County customers would have their gas appliances inspected

CONS

- High initial costs
- Would require operational constraints to keep northern gas from flowing into Utah County
- Would require purchasing incremental supply on Kern
- No redundant system if the Payson gate was shut-in
- Transition needed to manage interchangeability during three year adjustment period
- Does not solve interchangeability issues on the north

OPTION 3 - REORIFICING

1st Year Cost-of-Service (For first 3 years only):

• Annual cost to reorifice	$ 6.67 MM
• Annual cost to manage interchangeability during transition period	6.58
Total	$13.25 MM

OPTION 3 – REORIFICING RISK MATRIX

LEGEND: +1 Positive Result
0 Neutral Result
-1 Negative Result

Risk Areas	Discussion	RISK FACTORS Safety	Reliability	Implementation
Operating Considerations	• Time to implement project (3+ years)	0	0	-1
	• Requires alternative(s) to manage interchangeability while appliances are being adjusted	+1	0	-1
	• Northern vs. southern QGC gas flows at Point of the Mountain	-1	-1	-1
Market/ Nominations	• Changing gas markets have little impact on ability to manage interchangeability	+1	+1	0
	• Gas supplies upstream of Price may change in volume and heat content	0	+1	0

OPTION 4
PRODUCER-INVOLVED SOLUTIONS

Description: In the event of pipeline maintenance, facilities failures or upstream/downstream market changes, producers would shut-in or reduce production to enable gas blending to meet QGC interchangeability.

- Would require a firm service contract between QGC and Price area producers that would likely include demand costs
- Includes propane injection for the city of Price
- Include precision blending as the primary means of managing interchangeability

OPTION 4
PRODUCER INVOLVED SOLUTIONS

PROS

- Gas quality from various sources can vary to some extent and still be used
- Real-time gas quality reaction is possible

CONS

- Sources dependant on blending may decrease or change over time
- After initial capital costs, high annual costs
- Unlikely producers would be willing to contract to shut-in their production

OPTION 4
PRODUCER-INVOLVED SOLUTIONS
COSTS

Assumptions:

Total Average Coal Seam Production:	230 MMcf/Day
Average summer load at Payson:	75 MMcf/Day
Average winter load at Payson:	175 MMcf/Day

Assumption: 3 days of production curtailment in summer
2 days of production curtailment in winter

From previous discussions, we can make interchangeable gas by blending two parts coal seam gas to one part Uinta Basin gas.

Producers will shut in 180MMcf(230MMcf – 50MMcf) on a typical summer day.
Producers will shut in 113MMcf(230MMcf – 117MMcf) on a typical winter day.

COST TO QGC: Summer: 180,000 Mcf/Day *$5.50 = $990,000/Day*3 Days = $2.97MM
Winter: 113,000 Mcf/Day*$5.50 = $621,500/Day*2 Days = $1.24MM

Summer: Demand Charge - $.12/Mcf *180,000Mcf/Day*155 Days/Year = $3.35MM
Winter: Demand Charge - $.12/Mcf*113,000Mcf/Day* 210 Days/Year = $2.85MM

TOTAL ANNUAL COST TO QGC: $10.41MM

OPTION 4 - COSTS
PRODUCER INVOLVED SOLUTION

Capital Costs:

•Precision Blending Header		$4.70 MM
•Propane Injection for Price		1.00
Total	$5.70 MM	

1st Year Cost-of-Service:

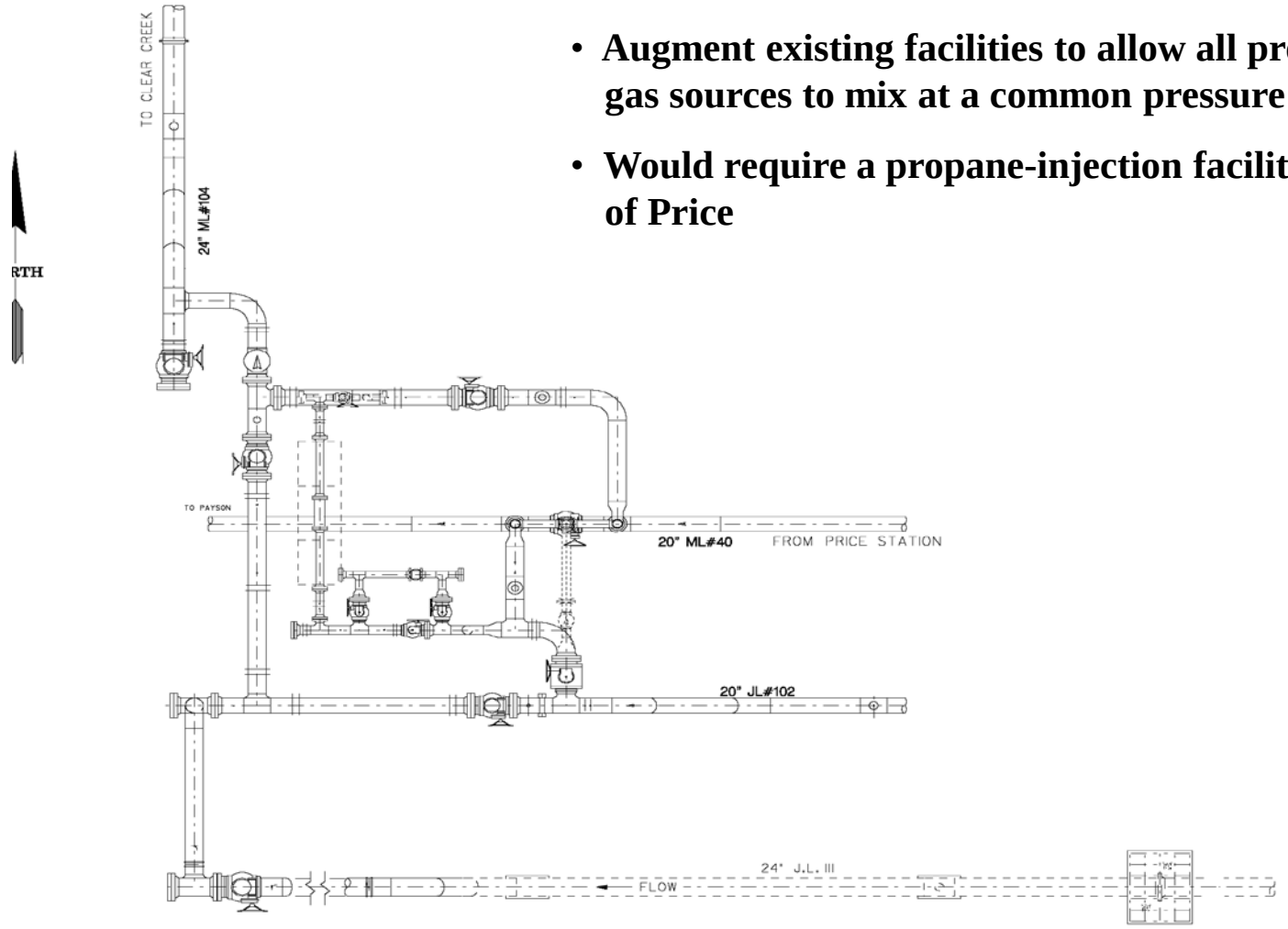
• Return on Capital and Depreciation		$ 0.96 MM
• Property Taxes		0.06
• Annual Producer Contract Costs		10.41
• O & M Costs		0.29
	Total	$11.72 MM

OPTION 4 – PRODUCER-INVOLVED SOLUTIONS RISK MATRIX

LEGEND: +1 Positive Result
0 Neutral Result
-1 Negative Result

Risk Areas	Discussion	RISK FACTORS Safety	Reliability	Inherent
Operating Considerations	•Time to implement (1+ years)	0	0	0
	•Reconfigure QGC gas supplies	0	-1	-1
	•Precision blending for interchangeability	0	-1	0
	•Response time to shut in production	-1	0	0
Market/ Nominations	•Ongoing ability to contract for firm service	0	-1	-1
Regulatory Issues	•Order 2004 issues related to QPC providing a blending service to QGC	0	0	-1

OPTION 5
GROSS BLENDING



- **Augment existing facilities to allow all pressures and gas sources to mix at a common pressure and location**
- **Would require a propane-injection facility for the city of Price**

OPTION 5
GROSS BLENDING
DESCRIPTION OF PROJECT

- Blend gas from various sources to a common pressure and location at Fausett Junction and Coalville Station
- The gas blend will be a simple mixed, comingled stream of all supplies upstream of the blending header
- Requires piping changes to ensure upstream pipelines can blend to a common pressure
- This type of blending can be inefficient since the blended quality is not precisely controlled
- Injection of propane for the city of Price

OPTION 5
Gross Blending

PROS

- Low capital costs
- Currently works on the northern system at the Coalville station for these deliveries:
  - Little Mountain Deliveries
  - Sunset Deliveries
  - Porters Lane Deliveries
- Operation could commence quickly, minor regulatory issues

CONS

- Will not ensure consistent gas interchangeability to Indianola & Payson
- Susceptible to mechanical problems and outages at compressor stations. No back-up at the Wasatch Front if problems develop
- Controlling blended gas quality may be difficult
- May introduce undue operating constraints

OPTION NO. 5 – GROSS BLENDING

Costs

Capital Costs:

• Pipeline Facility Installation	$0.15 MM
• New Chromatographs	0.21
• Modify Existing Price Propane Injection	1.00
Total	$1.36 MM

1st Year Cost-of-Service:

• Return on Capital and Depreciation	$0.23 MM
• Property Taxes	0.01
• O & M Costs	0.07
• Cost of Propane	0.03
Total	$0.31 MM

OPTION 5 – GROSS BLENDING RISK MATRIX

LEGEND: +1 Positive Result
0 Neutral Result
-1 Negative Result

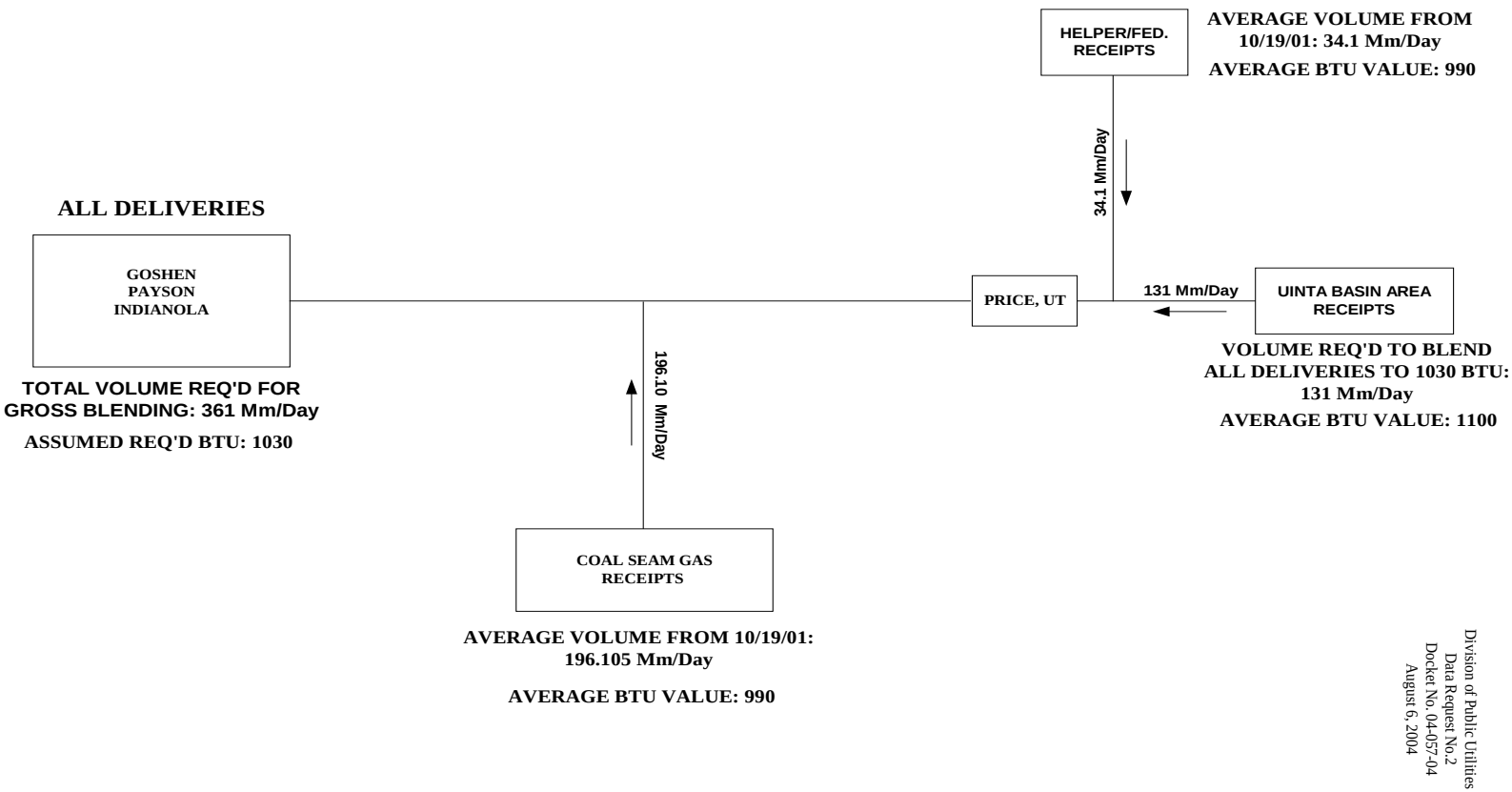
Risk Areas	Discussion	RISK FACTORS Safety	Reliability	Implementation
Operating Considerations	• Rely on blending header to ensure gas interchangeability to Payson	-1	-1	+1
	• Time to implement project (less than one year)	0	0	+1
	• Facility failures or maintenance would limit ability to blend	-1	-1	0
Market/ Nominations	• KRGT markets need to stay consistent and strong to enable precision blending	0	-1	0
	• Gas supplies upstream of Price may change in volume and heat content	0	-1	-1

OPTION 5 – GROSS BLENDING RISK MATRIX

LEGEND: **+1 Positive Result**
0 Neutral Result
-1 Negative Result

Risk Areas	Discussion	RISK FACTORS		
		Safety	Reliability	Implementation
Regulatory Issues	• Order 2004 issues related to QPC providing a blending service to QGC	0	0	-1
	• Minor permitting issues to put into service	0	0	+1

OPTION 5 GROSS BLENDING CONCEPT DETAILS



Division of Public Utilities
Data Request No.2
Docket No. 04-057-04
August 6, 2004

FIGURE 1 GROSS BLEND BALANCING DIAGRAM

OPTION 5 GROSS BLENDING CONCEPT DETAILS

Deliveries at Indianola, Payson and Goshen

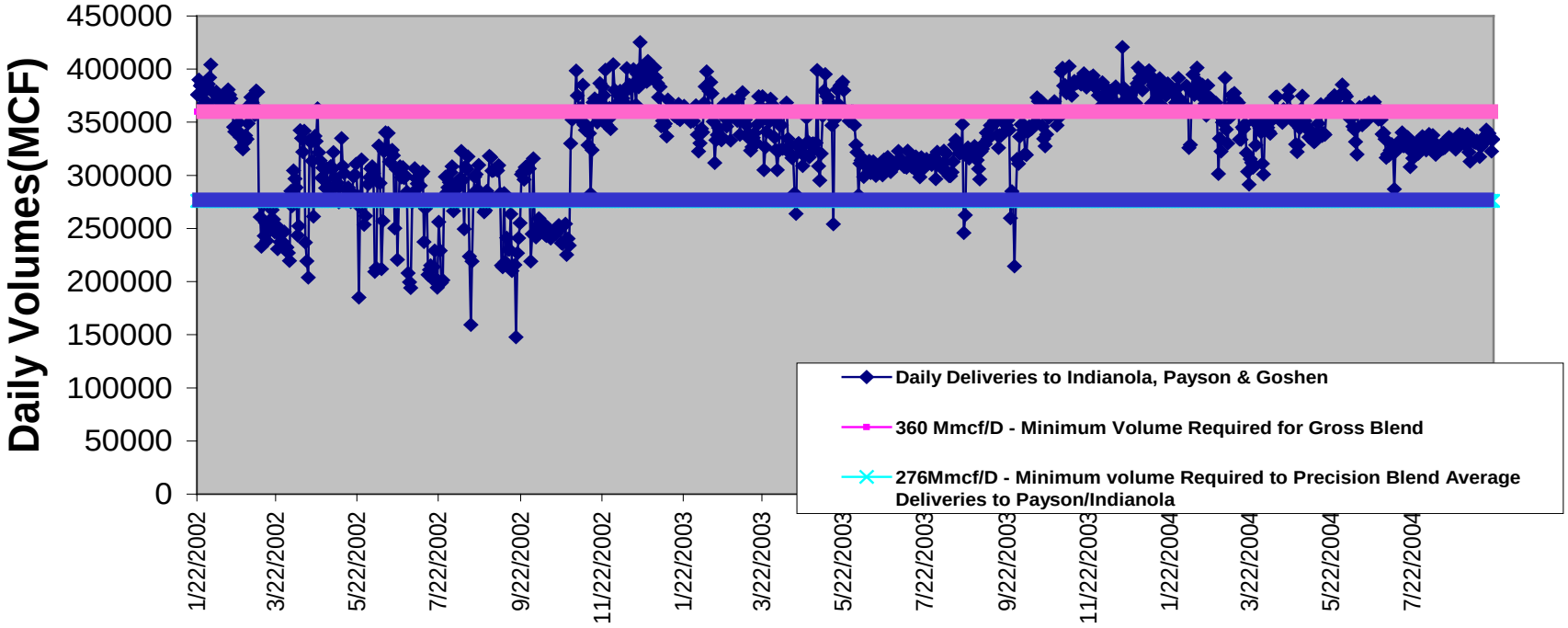


FIGURE 1

OPTION 5 - GROSS BLENDING CONCEPT DETAILS

WORKSHEET #1

CALCULATIONS TO ENABLE GROSS BLENDING

BTU(All)	All deliveries[1]	=1030
BTU(CSG)	Coal Seam Gas[2=]	=990
BTU(UBG)	Uinta Basin Gas[3]	=1100
Volume(CSG)	Coal Seam Gas[4]	=230.2 Mmcf/Day
Volume(UBG)	Uinta Basin Gas =	=determine by calculation
Volume(ALL)	All Deliveries =	=Vol(CSG) + Vol(UBG)

$$BTU(ALL) = (BTU(CSG) * VOL(CSG)) + (BTU(UBG) * VOL(UBG)) / (VOL(ALL))$$

$$1030 = ((990 * 230.2) + (1100 * VOL(UBG)) / (230.2 + VOL(UBG))$$

$$\Downarrow$$

$$237106 + 1030VOL(UBG) = 227898 + 1100VOL(UBG)$$

$$\Downarrow$$

$$9208 = 70VOL(UBG)$$

$$\Downarrow$$

$$131.54Mmcf / Day = VOL(UBG)$$

$$\Downarrow$$

$$V(ALL) = VOL(UBG) + VOL(CSG) = 131.54Mm + 230.2Mm = 361.74Mm / day$$

As solved above, the minimum Uinta Basin flow required to blend all coal seam gas if gas was commingled with common piping/pressure is 131.54Mmcf/day. Therefore, the minimum total volume to blend at all deliveries is the combination of the coal seam gas and the Uinta Basin gas, or 361.71Mmcf/day.

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[1] BTU that corresponds to a specific gravity gas blend that is considered interchangeable.(reference Exhibit 2.2, Case #98-057-12).
[2] Average coal seam gas BTU from all receipts(Ferron, CO2 Plant Inlet, Helper/Federal, etc.)
[3] Average Uinta Basin “wet” gas receipt point BTU(River Bend/Island/Monument Butte)
[4] Average Receipts of Coal Seam Gas in Price Area from 10/19/01 to 8/1/04(CO2 Plant Inlet, Helper/Federal, Ferron area, etc.)

OPTION 6
SHUT-IN GATES

Description: Shut-in the Castle Valley CO_2 plant and rely on precision blending on QPC's system at Fausett junction as the primary means for managing interchangeabilty. In the event that gas quality is not interchangeable on the QGC system, QGC will shut-in deliveries from QPC or Kern River thereby preserving customer safety.

OPTION 6
SHUT-IN GATES

PROS

- Lower capital costs
- Immediate response to flowing gas that is non-interchangeable

CONS

- Numerous operational complexities
- QGC risks losing customers
- Costs of re-lighting customers
- Safety issues related to customers losing gas service
- Safety issues related to customers re-lighting their own appliances
- Issues related to venting non-interchangeable gas to the atmosphere

OPTION 6 - SHUT-IN GATES COSTS

Capital Costs:

•Precision Blending Header		$4.70 MM
•South – Measurement station for venting gas		1.00
•Coalville – Measurement station for venting gas		1.00
•Hyrum - Measurement station for venting gas		1.00
Total	$7.70 MM	

1st Year Cost-of-Service:

• Return on Capital and Depreciation		$1.30 MM
• Property Taxes		0.08
• O & M Costs		$0.39 MM
	Total	$1.77 MM

OPTION 6 – SHUT-IN GATES RISK MATRIX

LEGEND: +1 Positive Result
0 Neutral Result
-1 Negative Result

Risk Areas	Discussion	RISK FACTORS Safety	Reliability	Implementation
Operating Considerations	• Potential loss of service	-1	-1	+1
	• Time to implement project (1 year)	0	0	+1
	• Rely on precision blending to ensure gas quality to Payson & Indianola	0	-1	+1
	• Reconfigure gas supplies on QGC	-1	0	-1
Market/ Nominations	• KRGT markets need to stay consistent and strong to enable precision blending	0	-1	0
	• Liability issues associated with loss of service & venting gas	0	-1	-1
	• Gas supplies upstream of Price may change in volume and heat content	0	-1	-1

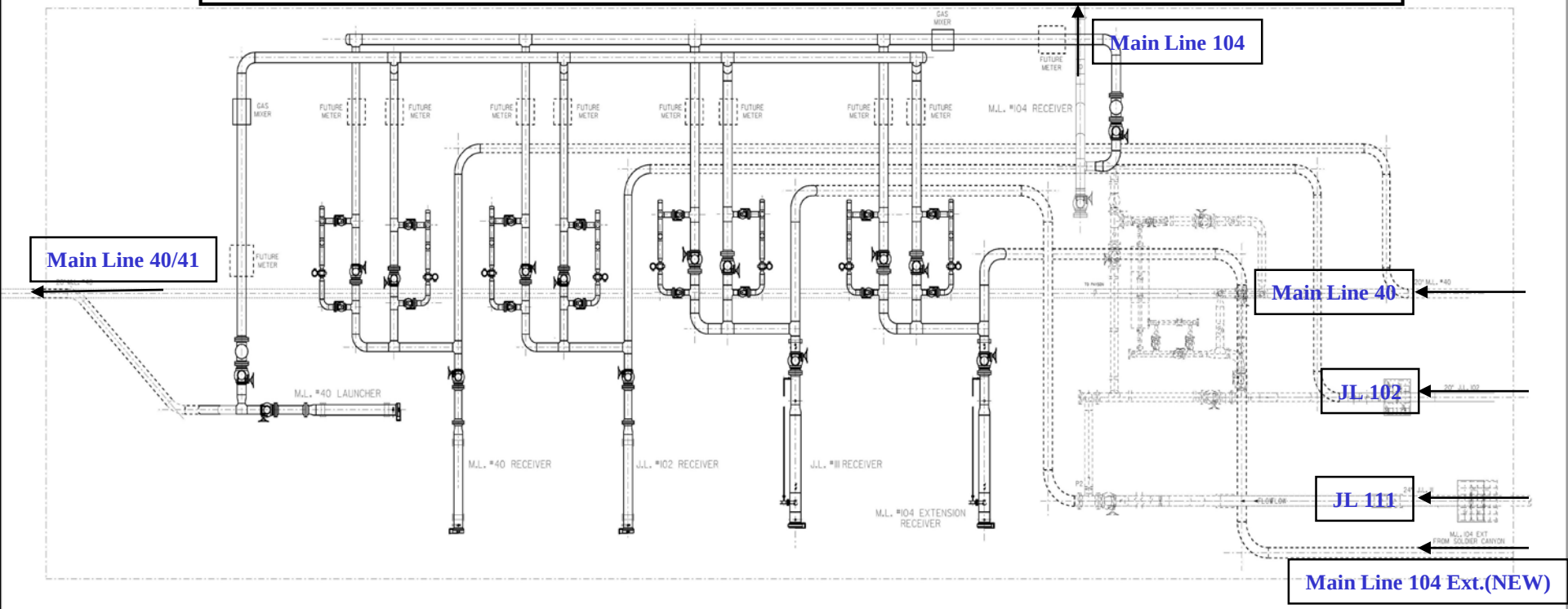
OPTION 6 – SHUT-IN GATES
RISK MATRIX

LEGEND: +1 Positive Result
0 Neutral Result
-1 Negative Result

Risk Areas	Discussion	RISK FACTORS Safety	Reliability	Implementation
Regulatory Issues	• Potential for QGC to vent non-interchangeable gas	0	-1	+1
	• Air quality permitting associated with venting gas	0	-1	-1
	• Order 2004 issues related to QPC providing a blending service to QGC	0	0	-1

OPTION 7

PRECISION BLENDING



Install a complex facility that will blend gas sources at different pressures and Btu's to meet QGC interchangeability requirements. Would require a propane injection facility for the city of Price.

JUSTIFICATION / FUNCTION OF ASSEMBLY	REFERENCE DRAWINGS	REVISIONS	ENGINEERING RECORD	QUESTAR Pipeline
LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION	DRWG. No. / DESCRIPTION	NO. / DESCRIPTION / DATE / BY	P.N./W.O.; DRAWN; DRAFTING CHECK; PROJECT ENGINEER APPR.; PROJECT MANAGER; ENGINEERING APPR.; OPERATIONS APPR.; METER /REG APPR.; ELEVATION; FIELD VERIFIED BY; CAD FILE; CORROSION APPROVAL; COMPLIANCE 49CFR PART 192; ENVIRONMENTAL; APPROVED FOR CONST; SECTION; T. R. COUNTY; LAT: LONG: DATE; DATE;	PIPING MODIFICATIONS FAUSSET JUNCTION M.L. #40, M.L. #102, M.L. #111 M.L. #104, M.L. #104 EXT.
THESE FACILITIES ARE D.O.T. JURISDICTIONAL DESIGN CONFORMS TO APPLICABLE TITLE 49 CFR PART 192 REQUIREMENTS.				SCALE: DRWG. NO. REV.No. SHEET No.: OF PREPARED BY QUESTAR REGULATED SERVICES COMPANY

OPTION 7
PRECISION BLENDING DESCRIPTION

- Install a blending facility at Fausett Junction capable of precisely blending upstream volumes on a real-time basis to meet interchangeability requirements at Payson and Indianola
- Requires numerous valves, control valves, meters, chromatographs, automation, etc
- May require QPC to add a blending service in its tariff
- Modify and use existing propane-injection facility at the Castle Valley plant to ensure interchangeable gas can be delivered to Price

OPTION 7
PRECISION BLENDING

PROS

- Moderate capital costs
- Ability to precisely blend gas streams would increase
- Gas quality from various sources can vary to some extent and be used

CONS

- Precision blending alone will not work when volumes are not available to blend with coal-seam gas due to:
  1. Maintenance of the pipeline facilities
  2. Facility failures
  3. Changing markets and gas supplies
- Future supply sources(KRGT, ML 104) for Utah county will affect volumes down ML 40
- Potential requirement for a tariff provision allowing QPC to blend for a specific customer's needs

OPTION 7 – PRECISION BLENDING COSTS

Capital Costs:

• Blending Header	$4.2 MM
• New Chromatographs	0.4
• ROW Costs	0.1
• Modify Price Propane Facility	1.0
Total	$5.7 MM

1st Year Cost-of-Service:

• Return on Capital and Depreciation	$0.96 MM
• Property Taxes	0.06
• O & M Costs	0.29
• Cost of Propane	0.03
Total	$1.34 MM

OPTION 7- PRECISION BLENDING RISK MATRIX

LEGEND: +1 Positive Result
0 Neutral Result
-1 Negative Result

Risk Areas	Discussion	RISK FACTORS		
		Safety	Reliability	Implementation
Operating Considerations	• Time to implement project.	0	-1	0
	• Injection of propane at Price	-1	-1	0
	• Rely on blending header alone to ensure gas quality to Payson	0	-1	-1
	• Increased complexity of operations	0	-1	0
Market/ Nominations	• Gas supplies downstream of Price may change in volumes and heat content	0	-1	0
	• KRGT markets need to stay consistent and strong to enable precision blending	0	-1	0

OPTION 7 – PRECISION BLENDING RISK MATRIX

LEGEND: +1 Positive Result
0 Neutral Result
-1 Negative Result

Risk Areas	Discussion	RISK FACTORS		
		Safety	Reliability	Implementation
Regulatory Issues	• Order 2004 issues related to QPC providing a blending service to QGC	0	0	-1
	• Major permitting issues to put facility into service.	0	0	-1
	• Shipper protests on QPC tariff filing	0	0	-1

OPTION 7 PRECISION BLENDING CONCEPT DETAILS

Deliveries at Indianola, Payson and Goshen

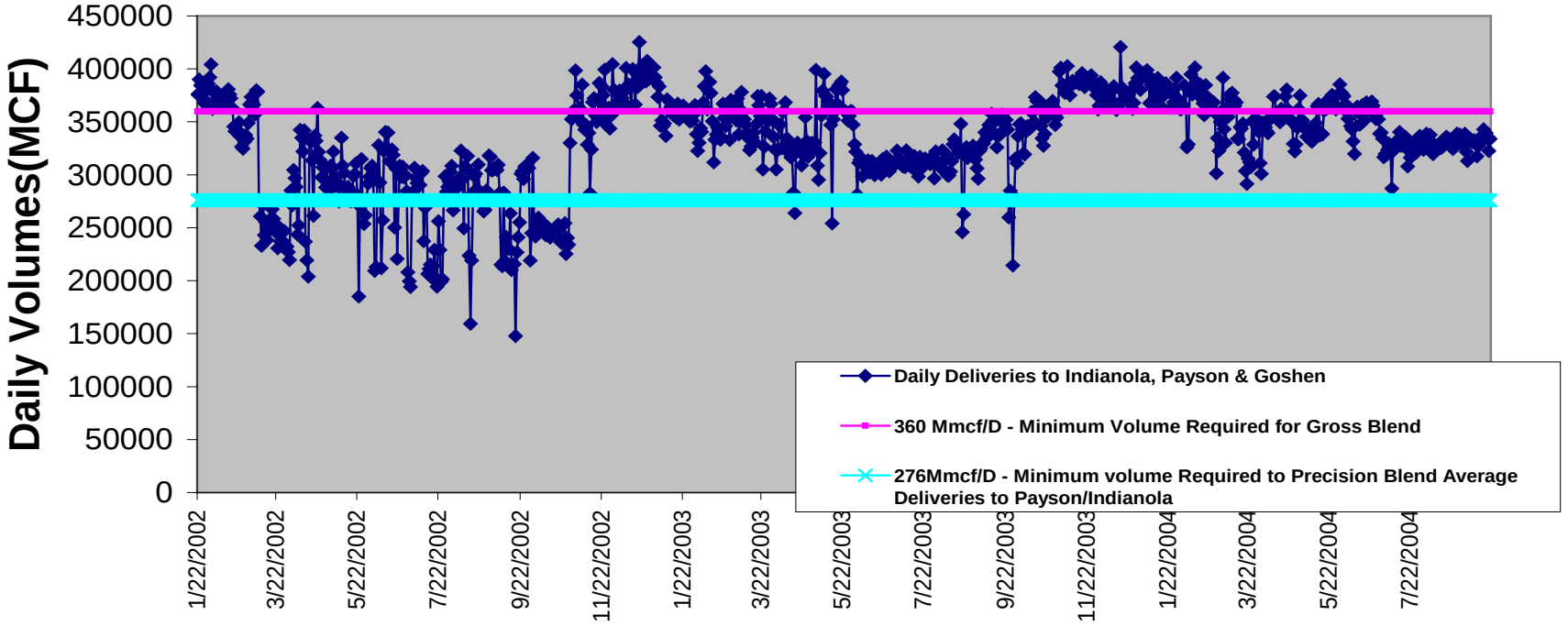
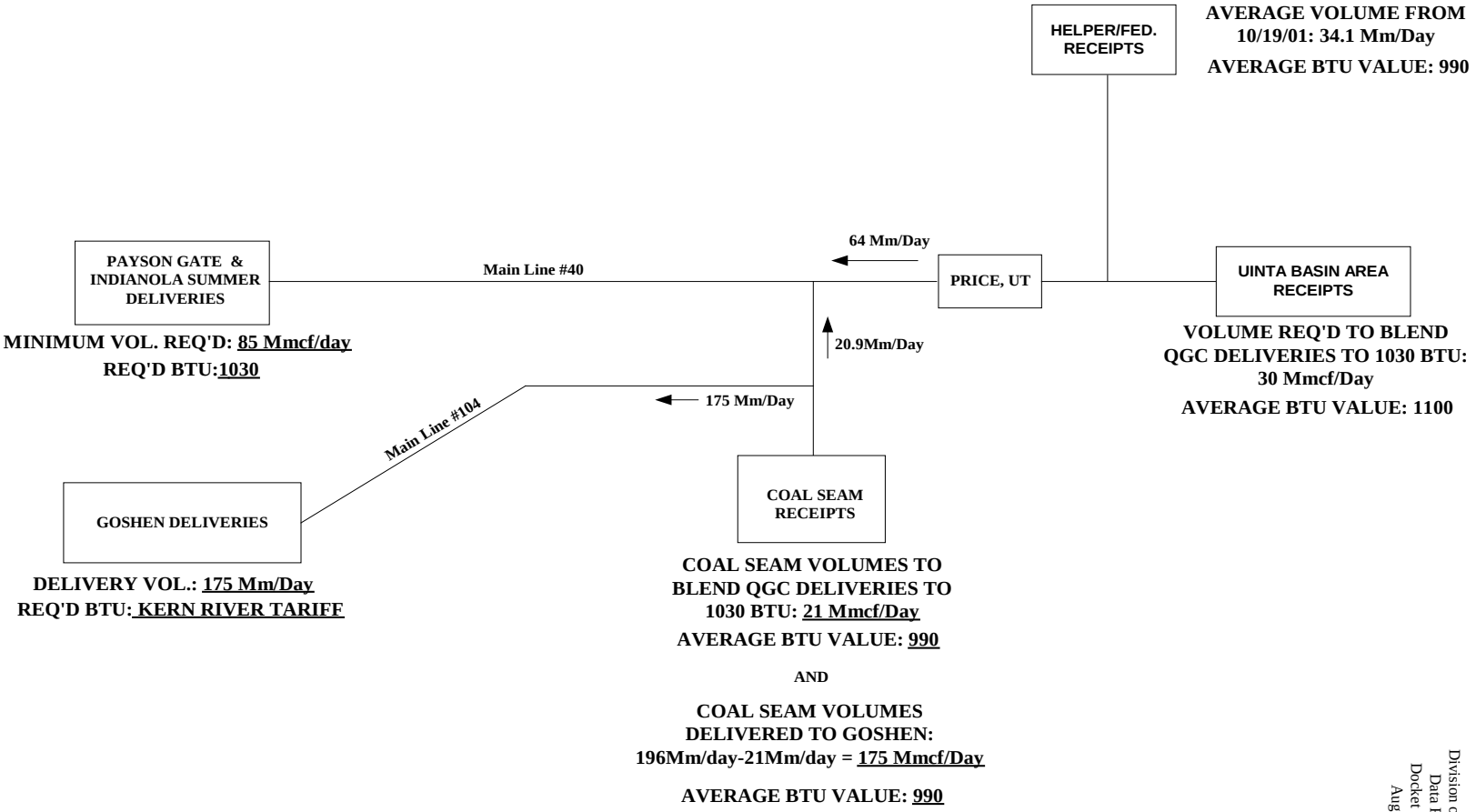


FIGURE 1

OPTION 7 PRECISION BLENDING CONCEPT DETAILS



Division of Public Utilities
Data Request No.2
Docket No. 04-057-04
August 6, 2004

FIGURE 5 PRECISION BLEND BALANCING DIAGRAM

OPTION 7 PRECISION BLENDING CONCEPT DETAILS

CALCULATIONS TO ENABLE PRECISE BLENDING

VARIABLE	DESCRIPTION	VALUE
BTU(All)	Required at Payson/Indianola[1]	1030
BTU(C02)	CO2[2]	990
BTU(HE/FED)	Helper-Federal Gas	990
BTU(UBG)	Uinta Basin Gas[3]	1100
Volume(C02)	CO2 Plant Gas [4]	determine by calculation
Volume(HE/FED)	Helper-Federal Gas[5]	34 Mm/Day
Volume(UBG)	Uinta Basin Gas	determine by calculation
Volume(PAY)	Deliveries to Payson/Indianola	125 Mm/Day[6]

Two Equations to determine what precise volumes should be of Coal Seam Gas and Uinta Basin Gas.

Equation 1. $$Vol(PAY)*BTU(ALL)=Vol(CO2)*BTU(CO2)+Vol(HE/FED)*BTU(HE/FED)+VOL(UBG)*BTU(UBG)$$

Equation 2. $$Vol(PAY)=Vol(CO2)+Vol(UBG)+Vol(HE/FED)=125$$

SOLVING BY SUBSTITUTION,

---

[1] BTU that corresponds to the required QGC gas quality with a specific gravity gas blend that is considered interchangeable(reference Exhibit 2.2, Case #98-057-12)
[2] Average coal seam gas BTU from all receipts(Ferron, CO2 Plant Inlet, Helper/Federal, etc.)
[3] Average Uinta Basin “wet” gas receipt point BTU(River Bend/Island/Monument Butte)
[4] Necessary as to blend the high BTU from the Uinta Basin to QGC standards.
[5] Average Daily Receipts of Coal Seam Gas from Helper Federal(10/19/01-8/1/04)
[6] Average Minimum historical deliveries to Questar Gas through Payson and Indianola Gate Stations

OPTION 7 PRECISION BLENDING CONCEPT DETAILS(CONTINUED)

(Eq.1) $125 * 1030 = Vol(CO2) * 990 + 34Mm * 990 + Vol(UBG) * 1100$

(Eq.2) $125 = Vol(CO2) + Vol(UBG) + 34Mm \Rightarrow Vol(CO2) = -Vol(UBG) + 91$

(Total) $128750 = -990Vol(UBG) + 90090 + 33660 + Vol(UBG)1100$

$\Downarrow$ SOLVING EQ. 1,

$5000 = 110Vol(UBG)$

$\Downarrow$

$45.5Mm / Day = Vol(UBG)$

SOLVING EQ. 1, $125Mm = Vol(CO2) + 34Mm + 45.5Mm$

$\Downarrow$

$Vol(CO2) = 45.5Mm / Day$

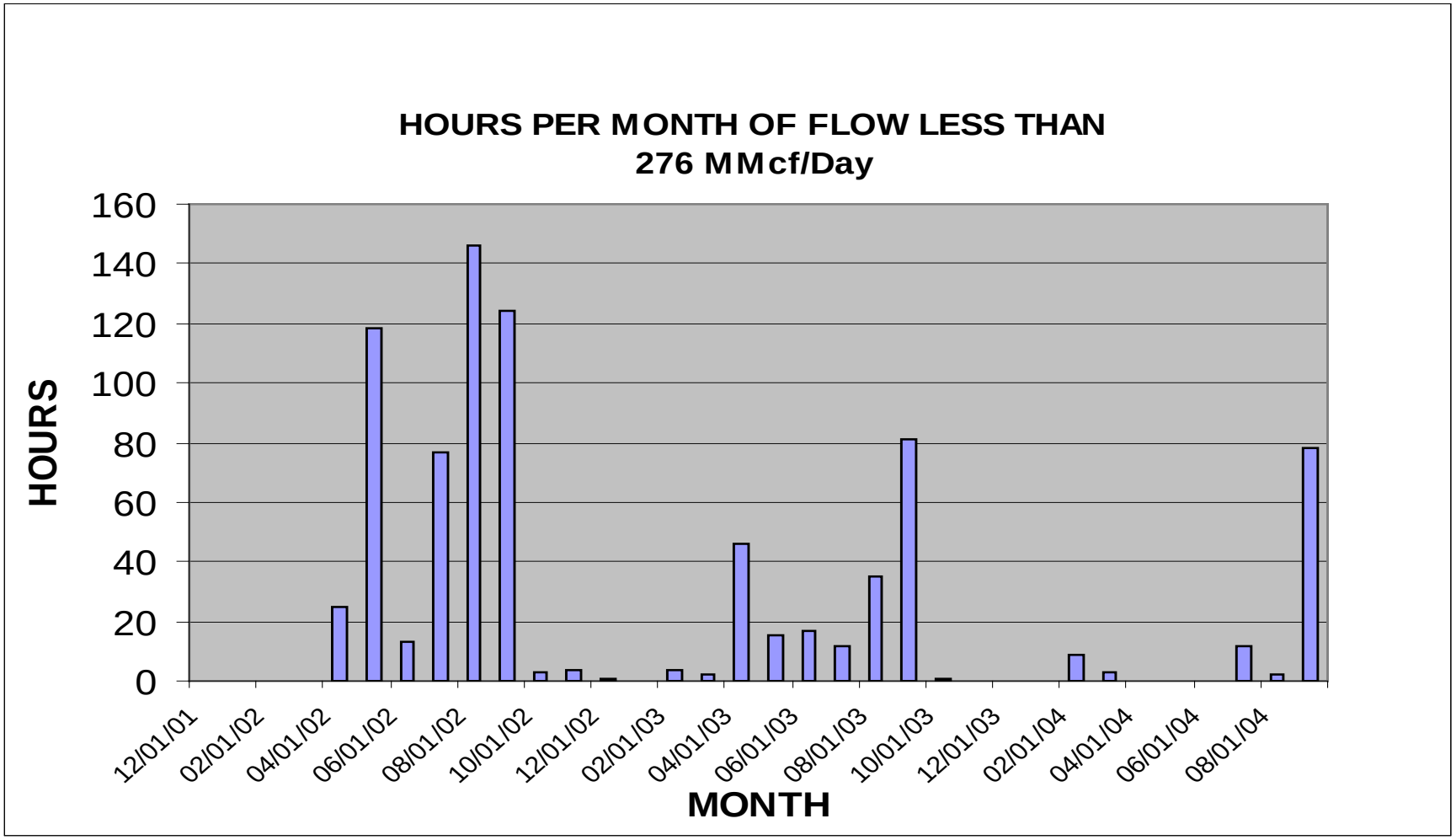
Results,

As solved above, 45.5 Mm/Day of Uinta Basin gas needs to be combined with 45.5Mm/Day of coal seam gas to produce a volume of 125 Mm/day of 1030 BTU gas at Payson.

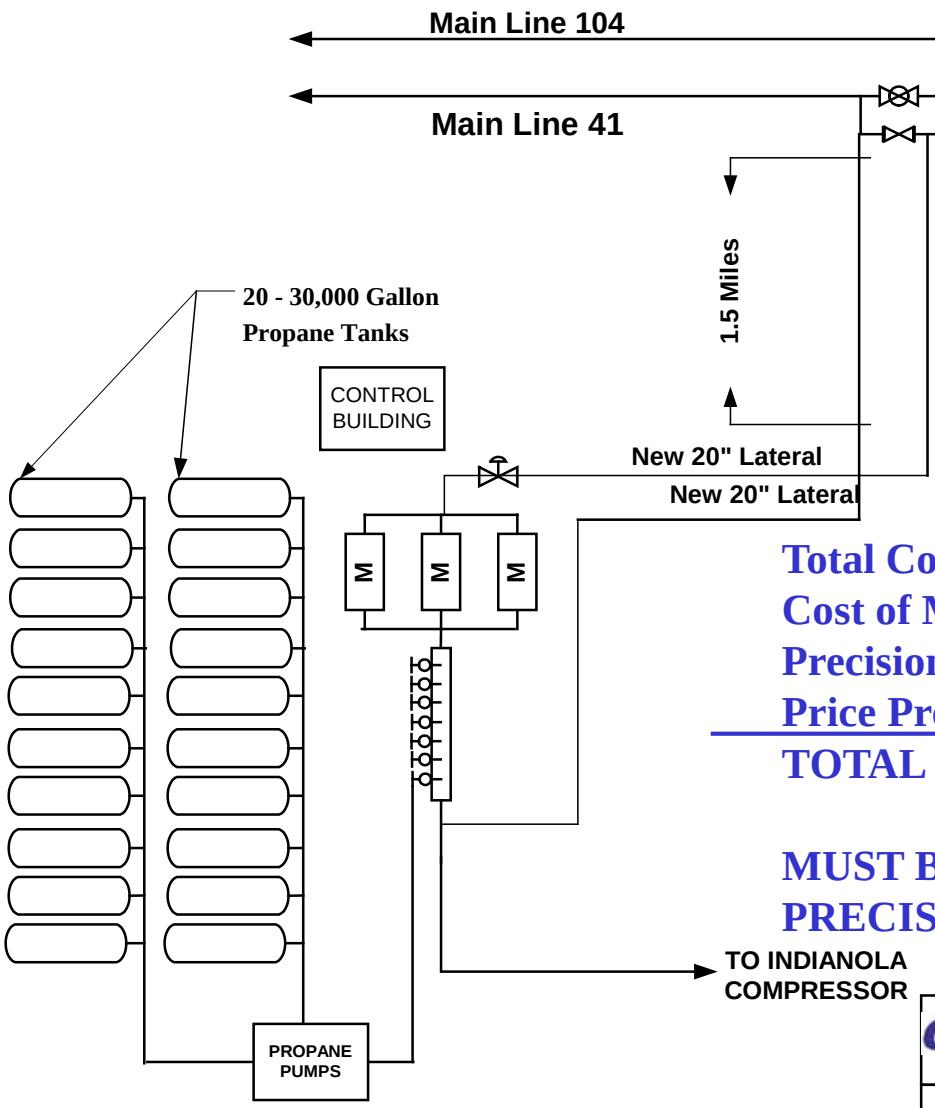
Because on average, 196 Mm/day of coal seam gas is received in the Questar Pipeline system, the gas not required for this precision blend would need to travel down Main Line 104 to Goshen. Thus, 151 Mm/day of gas would be a daily average volume delivered to Goshen.

With these above volumes combined, a minimum total of 276Mm/day(125Mm+151Mm) would need to be delivered to the Indianola, Payson and Goshen delivery points to meet obligations of gas quality and nominations.

OPTION 7 PRECISION BLENDING CONCEPT DETAILS



OPTION 8
PROPANE INJECTION



Total Cost of Facility (Option 8) =		**$5.5Million**
Cost of ML 41 Pipline =		**$25Million**
Precision Blending Header =		**$4.7Million**
Price Propane Facility		**$1.0Million**
TOTAL COST	**=**	**$36.2Million**

MUST BE USED IN CONJUNCTION WITH PRECISION BLENDING.

QUESTAR

PROPANE INJECTION FACILITY

INDIANOLA, UTAH

SIZ _ | FSCM NO | DWG NO | RE

SC | SH

AL | 1 : 1 | EE

E | T

OPTION 8
PROPANE INJECTION DESCRIPTION

- Payson and Indianola deliveries would rely on precision blending as the primary means of managing gas interchangeability
- QGC would install a propane injection facility capable of meeting the interchangeability requirements of Payson and Indianola
- QGC would purchase Main Line 41 from QPC and would establish a new gate station at Indianola to replace the Payson gate (QPC would not allow this quantity of propane to be injected into its facilities)
- Facility would be built at a site near Indianola, UT
- Facility would require pipelines, 20 – 30,000 gallon propane tanks, propane injection system, and may require some unique security and fire suppression systems
- Economic and available propane sources would need to be located.
- Modify and use existing propane injection facility at the Castle Valley plant to insure interchangeable gas can be delivered to Price, UT

OPTION 8
PROPANE INJECTION

PROS

- Would provide QGC a feasible backup to precision blending
- Upstream gas quality can fluctuate with little impact to QGC.

CONS

- High capital costs
- High annual costs
- May be difficult to locate adequate propane supplies
- Numerous safety and security issues to resolve
- May create different interchaneability problems

OPTION 8 – COSTS
PROPANE INJECTION AT INDIANOLA

Capital Costs:

•Propane Injection Facility at Indianola		$ 5.50 MM
•Cost to Purchase ML 41 from QPC		25.00
•Precision Blending Header		4.70
•Propane Injection for Price		1.00
Total	**$36.20 MM**	

1st Year Cost-of-Service:

• Return on Capital and Depreciation		$ 6.10 MM
• Property Taxes		$ 0.36
• O & M Costs		$ 0.81
	Total	**$ 7.27 MM**

LEGEND: +1 Positive Result
0 Neutral Result
-1 Negative Result

OPTION 8 - PROPANE INJECTION RISK MATRIX

Risk Areas	Discussion	RISK FACTORS		
		Safety	Reliability	Implementation
Operating Considerations	• Time to Implement Project(2+years)	+1	0	-1
	• Potential security risk	0	-1	-1
	• Potential safety questions	-1	0	-1
	• Rely on blending header to ensure gas quality to Payson	0	-1	-1
Market/ Nominations	• Local propane market may be unable to meet demand.	0	-1	-1
	• Gas supplies upstream of Price may change in volume and heat content.	0	-1	0
	• KRGT markets need to stay consistent and strong to enable precision blending	0	-1	0

LEGEND: +1 Positive Result
0 Neutral Result
-1 Negative Result

OPTION 8 - PROPANE INJECTION

RISK MATRIX

Risk Areas	Discussion	RISK FACTORS		
		Safety	Reliability	Implementation
Regulatory Issues	• FERC filing to abandon ML 41 (1+ years)	+1	+1	0
	• Order 2004 issues related to QPC providing a blending service to QGC	0	0	-1
	• Permitting to install a bulk propane storage facility	0	0	-1

OPTION 9
CO_2 PLANT PROCESSING

Description: Operate the existing Castle Valley CO_2 plant to process the Price area coal-seam gas. Plant can processes 200 MMcf/Day of coal seam gas to meet Questar gas interchangeability requirements. For reliability, a propane injection facility was installed at the plant site for partial back-up.

OPTION 9
CO_2 PLANT PROCESSING

PROS

- Proven ability to manage gas interchangeability
- Upstream gas quality can fluctuate with minimum impact to QGC
- Can provide Price and surrounding communities with interchangeable gas
- Reliable day-to-day operations
- 3rd party revenues
- Plant can manage long-term changes in gas quality due to changes in market and gas supplies
- Can respond quickly to potential interchangeability problems

CONS

- Processing fees
- Plant fuel gas costs have gone up significantly due to run up in gas prices
- Plant owned and operated by affiliate

OPTION 9- CO_2 PLANT PROCESSING COSTS

2005 Projected Cost-of-Service:

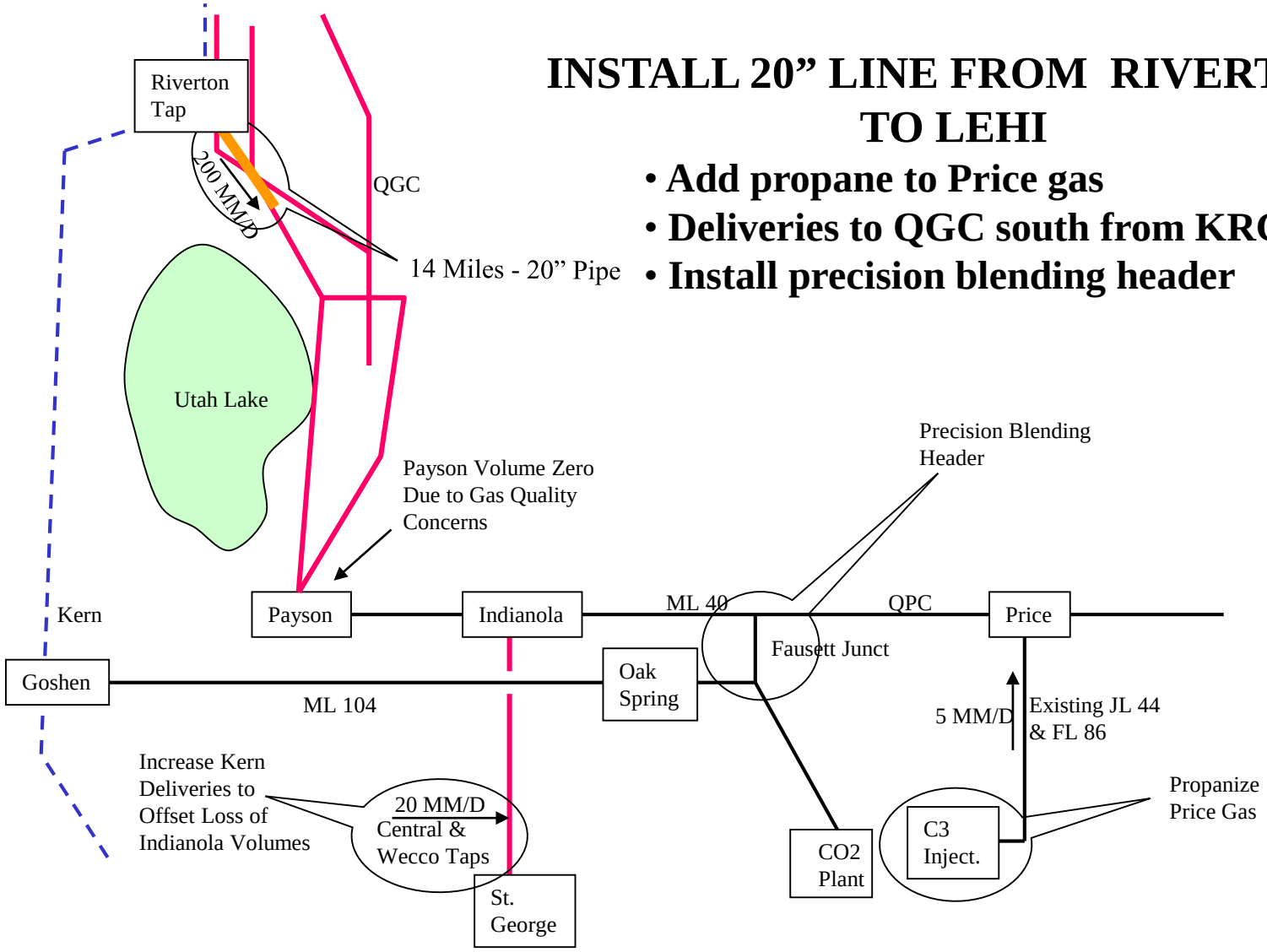
• Return on Capital		$ 2.21 MM
• O&M and Depriciation		2.63
• Fuel Costs		$ 1.74
	Total	$ 6.58 MM

LEGEND: +1 Positive Result
0 Neutral Result
-1 Negative Result

OPTION 9 -CO_2 PLANT PROCESSING RISK MATRIX

Risk Areas	Discussion	RISK FACTORS Safety	Reliability	Implementation
Operating Considerations	• Familiarity with operating plant and downstream facilities	+1	+1	0
	• Immediate implementation of project	0	0	+1
	• Flexibility to manage interchangeability as conditions on QPC changes	+1	+1	0
Market/ Nominations	• Can economically manage long-term changes in gas quality due to market shifts	+1	+1	0
	• Can economically manage long-term changes in gas supply	+1	+1	0

OPTION 10(a) - KERN RIVER SUPPLY



INSTALL 20" LINE FROM RIVERTON TO LEHI

- **Add propane to Price gas**
- **Deliveries to QGC south from KRGT**
- **Install precision blending header**

OPTION 10(a) - KERN RIVER DESCRIPTION

- Payson and Indianola deliveries would rely on precision blending as the primary means of managing gas interchangeability
- Provide access to up to 200 MM/Day of gas supply as a backup to precision blending
- Expand Questar Gas's Riverton tap facility with Kern River including heaters, control valves, odorant, etc.
- Run 14 miles of 20" diameter pipe extending from Riverton to Lehi (Feeder Line 26).
- Miscellaneous ties of new district regulation stations to reinforce Questar Gas's distribution system.
- Modify and use existing propane-injection facility at the Castle Valley plant to insure interchangeable gas can be delivered to Price.

OPTION 10(a) - KERN RIVER

PROS

- Would help reinforce QGC's high-pressure pipeline system
- Would increase reliability of precision-blending alternative
- Alternate source of gas supply

CONS

- High capital and annual costs
- Difficulty in permitting and acquiring right-of-way for pipeline
- Inability to call on KRGT supplies on a no-notice basis
- Inability to contract for KRGT supplies on a long-term basis

OPTION 10(a) – KERN RIVER COSTS

Capital Costs:

• Pipeline Installation (14 Miles of 20” Pipe)	$15.00 MM
• Riverton Station Expansion (Add heaters, odorant)	0.50
• Kern Tap Expansion (Add metering, control valves)	1.50
• Regulation & Control (Tie-in distribution system)	0.50
• Blending Header (See Option 7)	4.70
• Propane Injection for Price	1.00
Total	$23.20 MM

1st Year Cost-of-Service:

• Return on Capital & Depreciation	$ 3.90 MM
• O & M Costs	0.64
• Property Taxes	0.23
• Gas Costs	
– Demand[1]	5.20
– Commodity (Kern Diff. @ $.65/Dth/day)	0.20
– Propane (Cost for 5 winter days)	0.03
Total	$10.20 MM

1. Summer(7 Months) demand charge for an average of 75,000 MMBtu/day is $1.85 Million.

Winter(5 Months) demand charge for an average of 175 MMBtu/day is $3.34 Million.

OPTION 10(a) – KERN RIVER RISK MATRIX

LEGEND: +1 Positive Result
0 Neutral Result
-1 Negative Result

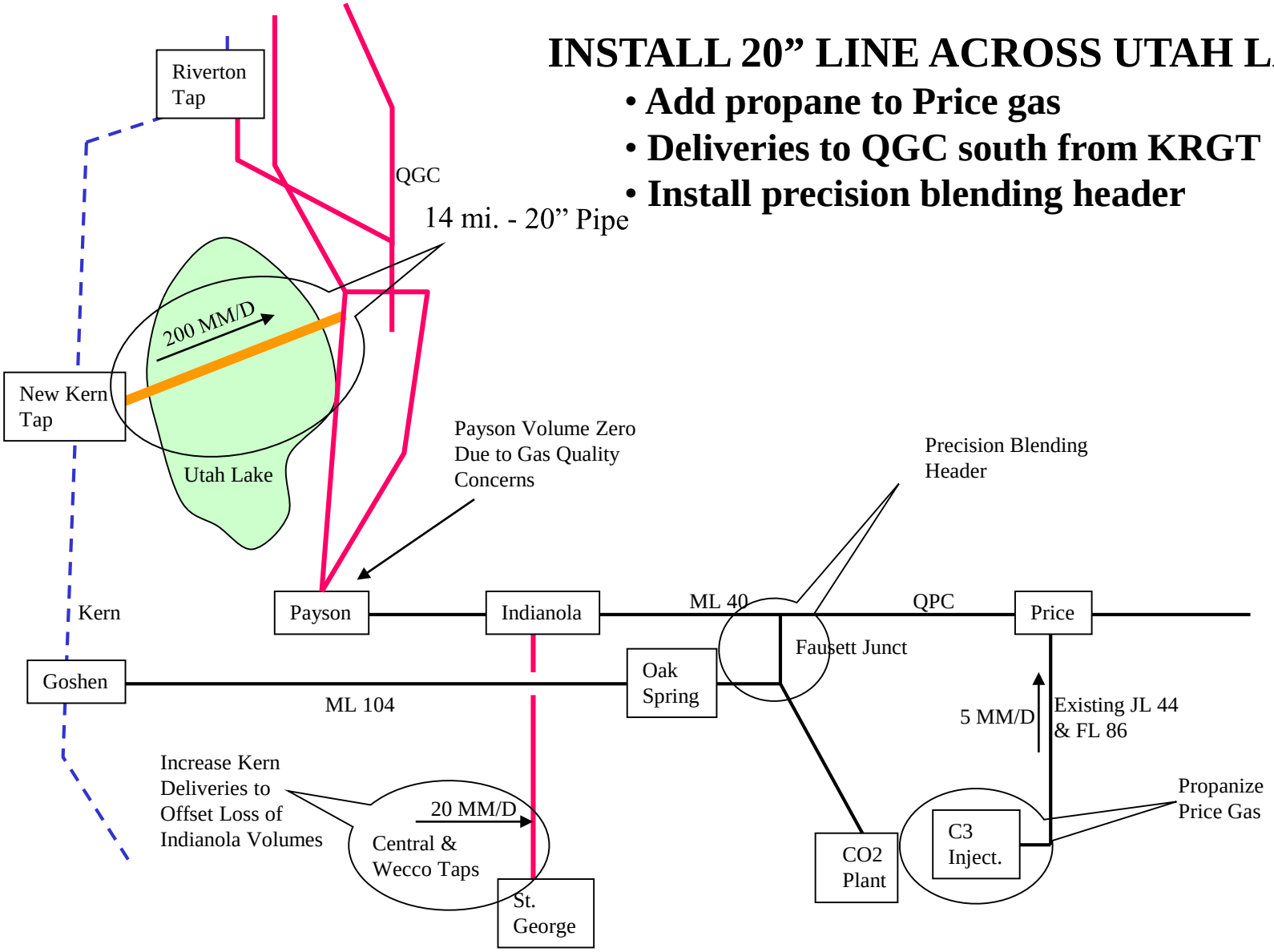
Risk Areas	Discussion	RISK FACTORS Safety	Reliability	Implementation
Operating Considerations	• Time to Implement Project (2+ years)	0	0	-1
	• Time to receive gas supplies from KRGT	-1	-1	0
	• Rely on blending header to ensure gas quality to Payson & Indianola	0	-1	0
	• Reconfigure gas supplies on QGC	0	-1	-1
Market/ Nominations	• KRGT markets need to stay consistent and strong to enable precision blending	0	-1	0
	• Gas supplies upstream of Price may change in volume and quality	0	-1	0
	• Long term ability to acquire economical KRGT gas supplies	0	-1	-1
	• KRGT gas quality is consistent and interchangeable	+1	0	0

OPTION 10(a) – KERN RIVER RISK MATRIX

LEGEND: +1 Positive Result
0 Neutral Result
-1 Negative Result

Risk Areas	Discussion	RISK FACTORS Safety	Reliability	Implementation
Market/ Nominations (Continued)	• Without a “no-notice” service contract on KRGT, QGC risks customers outages within a current gas day	0	-1	-1
Regulatory Issues	• Order 2004 issues related to QPC providing a blending service to QGC	0	0	-1
	• Permitting pipeline and acquiring right-of-way	0	0	-1

OPTION 10(b) - KERN RIVER SUPPLY



OPTION 10(b)-KERN RIVER DESCRIPTION

- Payson deliveries rely on using precision blending as the primary means of gas-quality control
- Provide additional 200 MM/Day volumes as a redundant system back-up to Utah county
- Install a precision-blending header at the Fausett junction
- Add new KRGT Tap facility including; meters, control valves, odorant stations, etc.
- Run 14 miles of 20” diameter pipe extending from new KRGT tap across Utah Lake to FL26
- Modify and use existing propane-injection facility at the Castle Valley plant to insure interchangeable gas can be delivered to Price.

OPTION 10(b)-KERN RIVER

PROS

- Would increase reliability of precision blending alternative
- Alternate source of gas supply

CONS

- High capital and annual costs
- Difficulty in permitting and acquiring right-of-way for pipeline
- Possible permitting issues regarding crossing Utah Lake
- Inability to call on KRGT supplies on a no-notice basis
- Inability to contract for KRGT supplies on a long-term basis

OPTION 10(b)-KERN RIVER COSTS

Capital Costs:

• Pipeline Installation (14 Miles of 20” Pipe)	$20.00 MM
• New Kern River Tap	2.00
• Misc. Piping Mods.	0.50
• Regulation & Control (Tie-in distribution system)	0.50
• Blending Header (See Alternative 7)	4.70
• Propane Injection for Price	1.00
Total	$28.70 MM

1st Year Cost-of-Service:

• Return on Capital & Depreciation	$ 4.84 MM
• O & M Costs	0.75
• Property Taxes	0.29
• Gas Costs	
– Demand[1]	5.20
– Commodity (Kern Diff. @ $.65/Dth/day)	0.20
– Propane (Cost for 5 winter days)	0.03
Total	$11.31 MM

1. Summer(7 Months) demand charge for an average of 75,000 MMBtu/day is $1.85 Million.

Winter(5 Months) demand charge for an average of 175 MMBtu/day is $3.34 Million.

OPTION 10(b) - KERN RIVER RISK MATRIX

LEGEND: +1 Positive Result
0 Neutral Result
-1 Negative Result

Risk Areas	Discussion	RISK FACTORS Safety	Reliability	Inherent
Operating Considerations	• Time to Implement Project (2+ years)	0	0	-1
	• Time to receive gas supplies from KRGT	-1	-1	0
	• Rely on blending header to ensure gas quality to Payson & Indianola	0	-1	0
	• Reconfigure gas supplies on QGC	0	-1	-1
Market/ Nominations	• KRGT Markets need to stay consistent and strong to enable precision blending	0	-1	0
	• Gas supplies upstream of Price may change in volume and quality	0	-1	0
	• Long term ability to acquire economical KRGT gas supplies	0	-1	-1
	• Kern gas quality is consistent and interchangeable.	+1	0	0

OPTION 10(b) - KERN RIVER RISK MATRIX

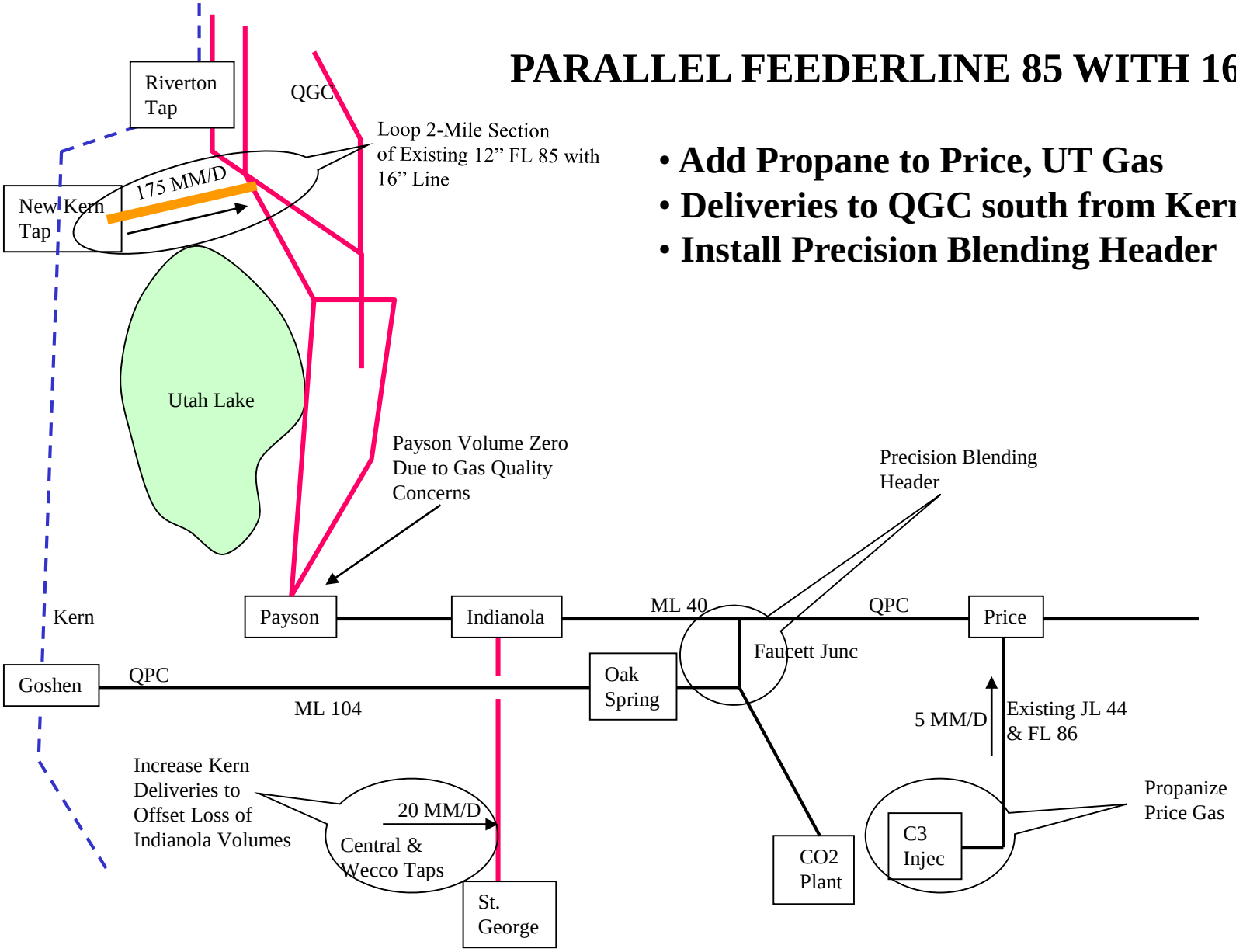
LEGEND: +1 Positive Result
0 Neutral Result
-1 Negative Result

Risk Areas	Discussion	RISK FACTORS Safety	Reliability	Implementation
Market/ Nominations (Continued)	• Without a “no-notice” service contract on KRGT, QGC risks customers outages within a current gas day	0	-1	-1
Regulatory Issues	• Order 2004 issues related to QPC providing a blending service to QGC	0	0	-1
	• Permitting pipeline and acquiring right-of-way	0	0	-1

OPTION 10(c) - KERN RIVER SUPPLY

PARALLEL FEEDERLINE 85 WITH 16” PIPE

- **Add Propane to Price, UT Gas**
- **Deliveries to QGC south from Kern**
- **Install Precision Blending Header**



OPTION 10(c) - KERN RIVER DESCRIPTION

- Payson deliveries rely on using precision blending as the primary means of gas quality control.
- Provide additional 175 MM/day volumes as a redundant system back-up to Utah county.
- Install a precision blending header at Faucett Junction
- Add new Kern River Tap including; meters, control valves, odorant stations, etc.
- Loop 2 miles of Feeder Line #85 with new 16” diameter line.
- Modify and use existing propane injection facility at the Castle Valley plant to insure interchangeable gas can be delivered to Price.

OPTION 10(c) - KERN RIVER

PROS

- Would increase reliability of precision blending alternative
- Alternate source of gas supply
- Requires minimal addition of new pipe

CONS

- High capital and annual costs
- Difficulty in permitting and acquiring right-of-way for pipeline
- No capacity upside – existing FL 28 at capacity
- Inability to call on Kern supplies on a no-notice basis
- Inability to contract for Kern supplies on a long-term basis

OPTION 10(c) - KERN RIVER - COSTS

Capital Costs:

• Pipeline Installation (2 Miles of 16” Pipe)	$ 3.00 MM
• New Kern River Tap	2.50
• Misc. Piping Mods.	0.50
• Regulation & Control (Tie-in distribution system)	0.50
• Blending Header (See Alternative 7)	4.70
• Propane Injection for Price	1.00
Total	$12.20 MM

1st Year Cost-of-Service:

• Return on Capital & Depreciation	$ 2.06 MM
• O & M Costs	0.42
• Property Taxes	0.12
• Gas Costs	
– Demand[1]	5.20
– Commodity (Kern Diff. @ $.65/Dth/day)	0.20
– Propane (Cost for 5 winter days)	0.03
Total	$ 8.03 MM

1. Summer(7 Months) demand charge for an average of 75,000 MMBtu/day is $1.85 Million.

Winter(5 Months) demand charge for an average of 175 MMBtu/day is $3.34 Million.

OPTION 10(c) - KERN RIVER RISK MATRIX

LEGEND: +1 Positive Result
0 Neutral Result
-1 Negative Result

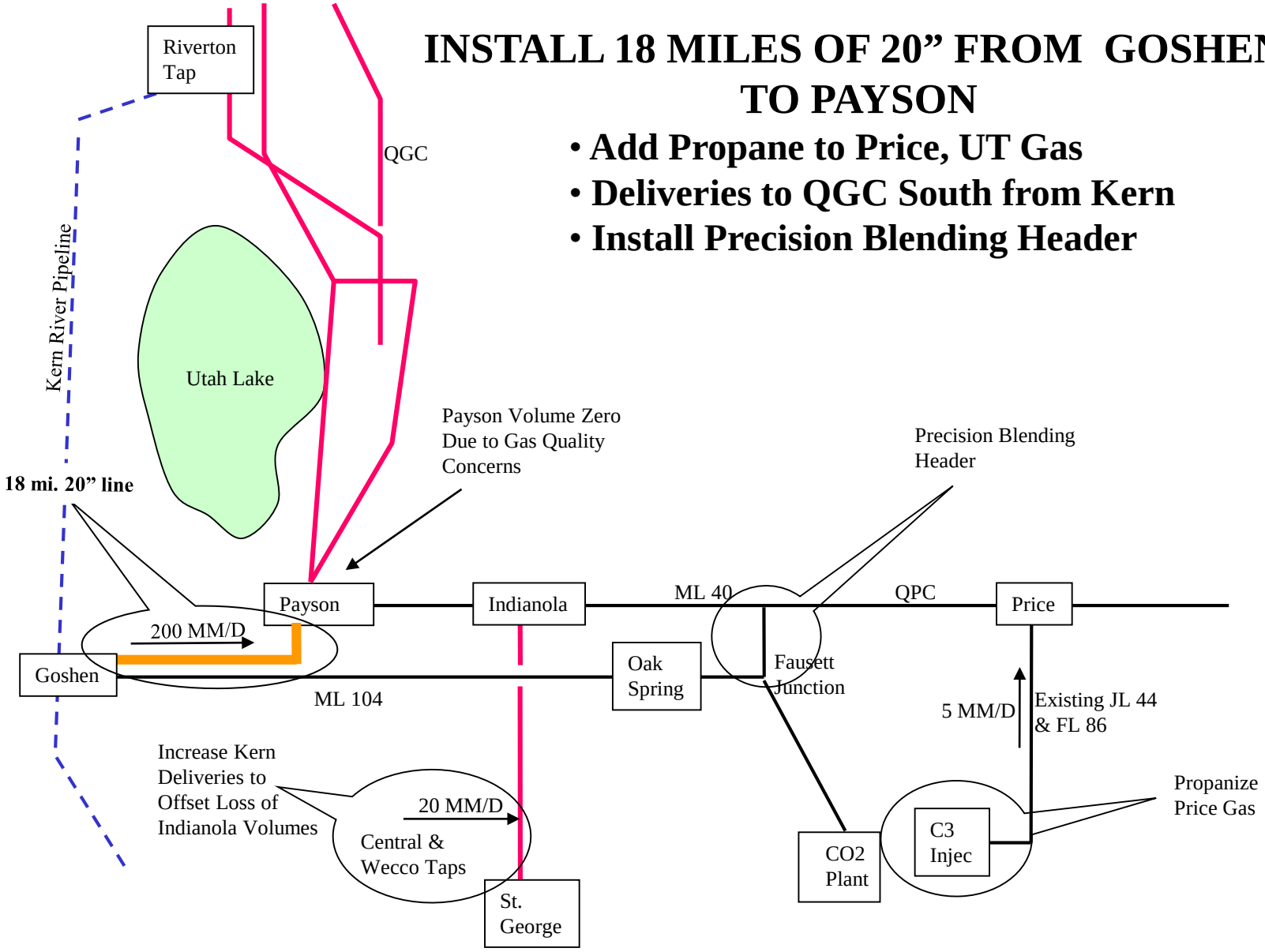
Risk Areas	Discussion	RISK FACTORS		
		Safety	Reliability	Implementation
Operating Considerations	• Time to Implement Project (1+ years)	0	0	-1
	• Time to receive gas supplies from KRGT	-1	-1	0
	• Rely on blending header to ensure gas quality to Payson & Indianola	0	-1	0
	• Reconfigure gas supplies on QGC	0	-1	-1
Market/ Nominations	• KRGT markets need to stay consistent and strong to enable precision blending	0	-1	0
	• Gas supplies upstream of Price may change in volume and quality	0	-1	0
	• Long term ability to acquire economical KRGT gas supplies	0	-1	-1
	• KRGT gas quality is consistent and interchangeable	+1	0	0

OPTION 10(c) - KERN RIVER RISK MATRIX

LEGEND: +1 Positive Result
0 Neutral Result
-1 Negative Result

Risk Areas	Discussion	RISK FACTORS Safety	Reliability	Implementaion
Market/ Nominations (Continued)	• Without a “no-notice” service contract on Kern, QGC risks customers outages within a current gas day	0	-1	-1
Regulatory Issues	• Order 2004 issues related to QPC providing a blending service to QGC	0	0	-1
	• Permitting pipeline and acquiring right-of-way	0	0	-1

OPTION 10(d) - KERN RIVER SUPPLY



INSTALL 18 MILES OF 20" FROM GOSHEN TO PAYSON

- **Add Propane to Price, UT Gas**
- **Deliveries to QGC South from Kern**
- **Install Precision Blending Header**

OPTION 10(d) - KERN RIVER DESCRIPTION

- Payson deliveries rely on using precision blending as the primary means of controlling interchangeability to Indianola and Payson
- Provide additional 200 MM/day volumes as a redundant system back-up to Utah county
- Install a precision blending header at Fausett Junction
- Add new Kern River Tap including; meters, control valves, odorant stations, etc.
- Construct 18 miles of 20-inch line from the vicinity of the Goshen tap on KRGT to QGC's Payson gate
- By blending gas at Payson, QGC would be able to reduce KRGT requirement
- Modify and use existing propane injection facility at the Castle Valley plant to insure interchangeable gas can be delivered to Price, UT

OPTION 10(d) - KERN RIVER

PROS

- Would increase reliability of precision-blending alternative
- Alternate source of gas supply
- Would allow QGC to take advantage of blending at Payson to reduce Kern River supply requirements

CONS

- High capital and annual costs
- Difficulty in permitting and acquiring right-of-way for pipeline
- Inability to call on KRGT supplies on a no-notice basis
- Inability to contract for KRGT supplies on a long-term basis
- Would not add gas supply to QGC

OPTION 10(d) COSTS

Capital Costs:

• Pipeline Installation (18 Miles of 20” Pipe)	$18.00 MM
• New Kern River Tap	2.50
• Misc. Piping Mods.	0.50
• Regulation & Control (Tie-in distribution system)	0.50
• Blending Header (See Alternative 7)	4.70
• Propane Injection for Price	1.00
Total	$27.20 MM

1st Year Cost-of-Service:

• Return on Capital & Depreciation	$ 4.59 MM
• O & M Costs	0.72
• Property Taxes	0.27
• Gas Costs	
– Demand[1]	3.19
– Commodity (Kern Diff. @ $.65/Dth/day)	0.13
– Propane (Cost for 5 winter days)	0.03
Total	$ 8.99 MM

1. Summer(7 Months) demand charge for an average of 47,000 MMBtu/day is $1.21 Million.

Winter(5 Months) demand charge for an average of 109,000 MMBtu/day is $1.98 Million.

LEGEND: +1 Positive Result
0 Neutral Result
-1 Negative Result

OPTION 10(d) - KERN RIVER RISK MATRIX

Risk Areas	Discussion	RISK FACTORS Safety	Reliability	Implementation
Operating Considerations	• Time to implement project (2+ years)	0	0	-1
	• Time to receive gas supplies from KRGT	-1	-1	0
	• Rely on blending header to ensure gas quality to Payson & Indianola	0	-1	0
	• Reconfigure gas supplies on QGC	0	-1	-1
Market/ Nominations	• KRGT Markets need to stay consistent and strong to enable precision blending	0	-1	0
	• Gas supplies upstream of Price may change in volume and quality	0	-1	0
	• Long term uncertainty in acquiring economical KRGT gas supplies	0	-1	-1
	• KRGT gas quality is consistent and interchangeable.	+1	0	0

LEGEND: +1 Positive Result
0 Neutral Result
-1 Negative Result

OPTION 10(d) - KERN RIVER RISK MATRIX

Risk Areas	Discussion	RISK FACTORS Safety	Reliability	Implementation
Market/ Nominations (Continued)	• Without a “no-notice” service contract on Kern, QGC risks customers outages within a current gas day.	0	-1	-1
Regulatory Issues	• Order 2004 issues related to QPC providing a blending service to QGC	0	0	-1
	• Permitting pipeline and acquiring right-of-way	0	0	-1