Discussion of Alternatives

- CO_2 Plant manages interchangeability over a wide range of operating and market conditions. CO_2 Processing has proved reliable to manage heat content.

- Blending alone will not provide interchangeable gas under all circumstances. Mechanical problems or market conditions will negate precision blending's ability to manage gas heat content. Reliability of winter time gas supplies is substantially reduced.

- Precision blending coupled with winter time CO_2 processing will provide a fairly reliable combination to manage heat content for Payson & Indianola.

- Precision blending coupled with a Kern River winter back up is not reliable to manage heat content due to the lack of availability of inter day gas supply service off of Kern River.

- Precision blending with CO_2 winter operation is the most economical – even compared to the blending/Kern option – when considering the total of fixed costs, gas supply costs, and transition time costs.

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

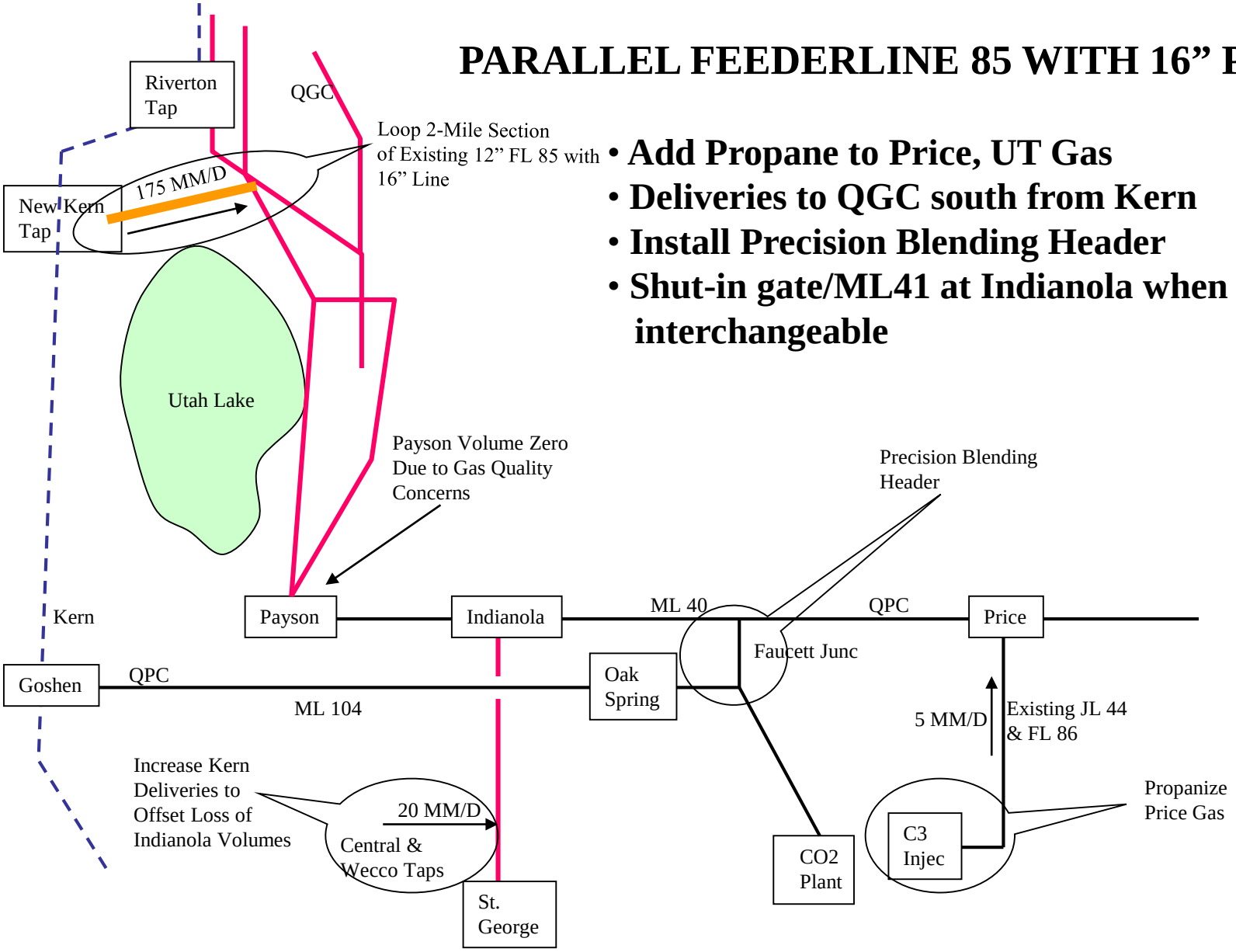
OPTION 9 -CO_2 PLANT PROCESSING RISK MATRIX

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(c2) - 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**
- **Shut-in gate/ML41 at Indianola when gas in not interchangeable**



OPTION 10(c2) - 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.
- During periods in the summer that gas is not interchangeable, QPC will shut valve at Indianola, closing in gate at Payson.
- 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(c2) - KERN RIVER

PROS

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

CONS

- Inability to call on Kern supplies on an intra-day basis
- 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 contract for Kern supplies on a long-term basis
- Reduced reliability during the shoulder months

OPTION 10(c2) - 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]	3.34
– Commodity (Kern Diff. @ $.65/Dth/day)	0.12
– Propane (Cost for 5 winter days)	0.03
Total	$ 6.09 MM

1. Winter(7 Months) demand charge for an average of 175 MMBtu/day is $3.34 Million.

OPTION 10(c2) - 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 precision blending header alone to ensure gas quality to Payson/Summer and shoulder months	+1	-1	0
	• Rely on blending/Kern River supplies for winter months	+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 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

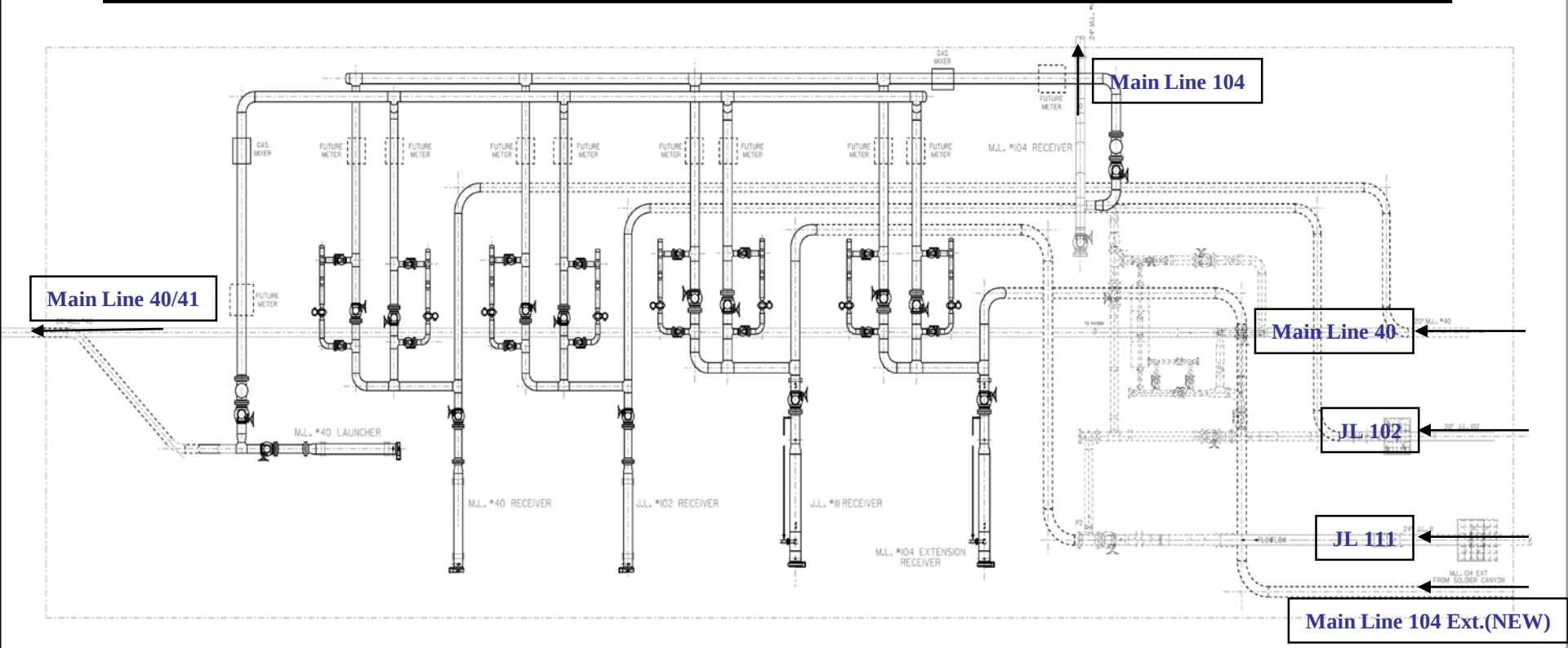
OPTION 10(c2) - KERN RIVER RISK MATRIX

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

Risk Areas	Discussion	RISK FACTORS Safety	Reliability	Implementaion
Market/ Nominations	• 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 11

PRECISION BLENDING WITH CO_2 PLANT BACK-UP



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: / BY: / CAD FILE:	CORROSION APPROVAL; COMPLIANCE 49CFR PART 192; ENVIRONMENTAL; APPROVED FOR CONST; SECTION; T. R. COUNTY; LAT: LONG: DATE: / DATE:
THESE FACILITIES ARE D.O.T. JURISDICTIONAL. DESIGN CONFORMS TO APPLICABLE TITLE 49 CFR PART 192 REQUIREMENTS.				PIPING MODIFICATIONS FAUSSET JUNCTION M.L. #40, M.L. #102, M.L. #111 M.L. #104, M.L. #104 EXT.
				SCALE: / DRWG. NO. / REV.No. / SHEET No.: OF / PREPARED BY QUESTAR REGULATED SERVICES COMPANY

OPTION 11
PRECISION BLENDING W/ CO_2 PLANT BACK-UP
DESCRIPTION

- Install a blending facility at Faucett 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
- Rely on CO_2 processing during winter and shoulder months (7 months) to manage interchangeability if blending is not feasible
- Shut-in Payson/Indianola gates during the summer months to manage interchangeability if blending is not feasible
- 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 11

PRECISION BLENDING W/ CO_2 PLANT BACK-UP

PROS

- Moderate capital costs
- Enhanced ability to precisely blend gas streams
- Provides flexibility to manage interchangeability as markets and gas supplies change
- High winter reliability
- Eliminates uncertainty in gas supply contracting and scheduling
- Ability to respond quickly to events using QPC “no-notice” service
- Gas volumes are still able to be delivered 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

CONS

- 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
- Increased operating complexity due to potential of shutting in Payson and Indianola gates during summer operations
- Potential to vent gas during summer operations

OPTION 11
PRECISION BLENDING W/ CO_2 PLANT BACK-UP 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:

Blending

• 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
CO_2 Processing*	$4.82
Total	$6.16 MM

*Costs based on 7 months of plant operation a year and a 20 year book depreciation rate.

OPTION 11
PRECISION BLENDING W/ CO2 PLANT BACK-UP
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	0	0
	• Injection of propane at Price	-1	-1	0
	• Rely on precision blending header alone to ensure gas quality to Payson/Summer and shoulder months	+1	-1	0
	• Rely on blending/CO2 plant for winter months	+1	+1	0
	• Increased complexity of operations	0	0	0
Market/ Nominations	• Gas supplies downstream of Price may change in volumes and heat content	0	0	0

OPTION 11
PRECISION BLENDING W/ CO2 PLANT BACK-UP
RISK MATRIX

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

Risk Areas	Discussion	RISK FACTORS Safety	Reliability	Implementation
Market/Nominations	• KRGT markets need to stay consistent and strong to enable precision blending during summer/shoulder periods	0	-1	0
	• KRGT markets need to stay consistent and strong to enable precision blending during winter periods	0	0	0
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