

OPTION 9

CO₂ PLANT PROCESSING

Description: Operate the existing Castle Valley CO₂ 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

CO₂ PLANT PROCESSING

PROS

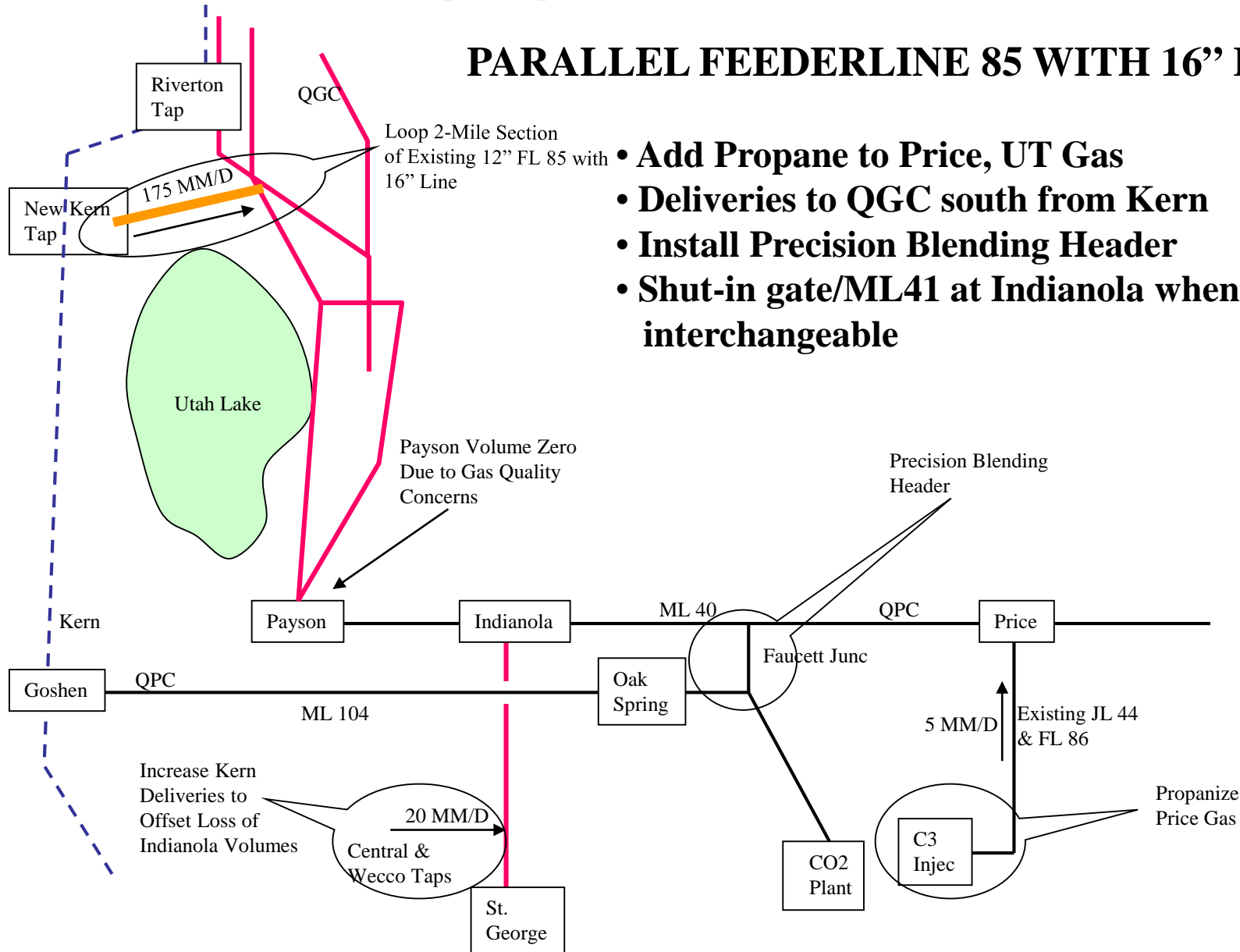
- Proven ability to manage gas interchangeability
- Upstream gas quality can fluctuate with minimum impact to QGC
- Can provide Price and surrounding communities with interchangeable gas
- Reliable day-to-day operations
- 3rd party revenues
- Plant can manage long-term changes in gas quality due to changes 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 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 is not interchangeable**

Increase Kern Deliveries to Offset Loss of Indianola Volumes

5 MM/D Existing JL 44 & FL 86

Propanize Price Gas

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

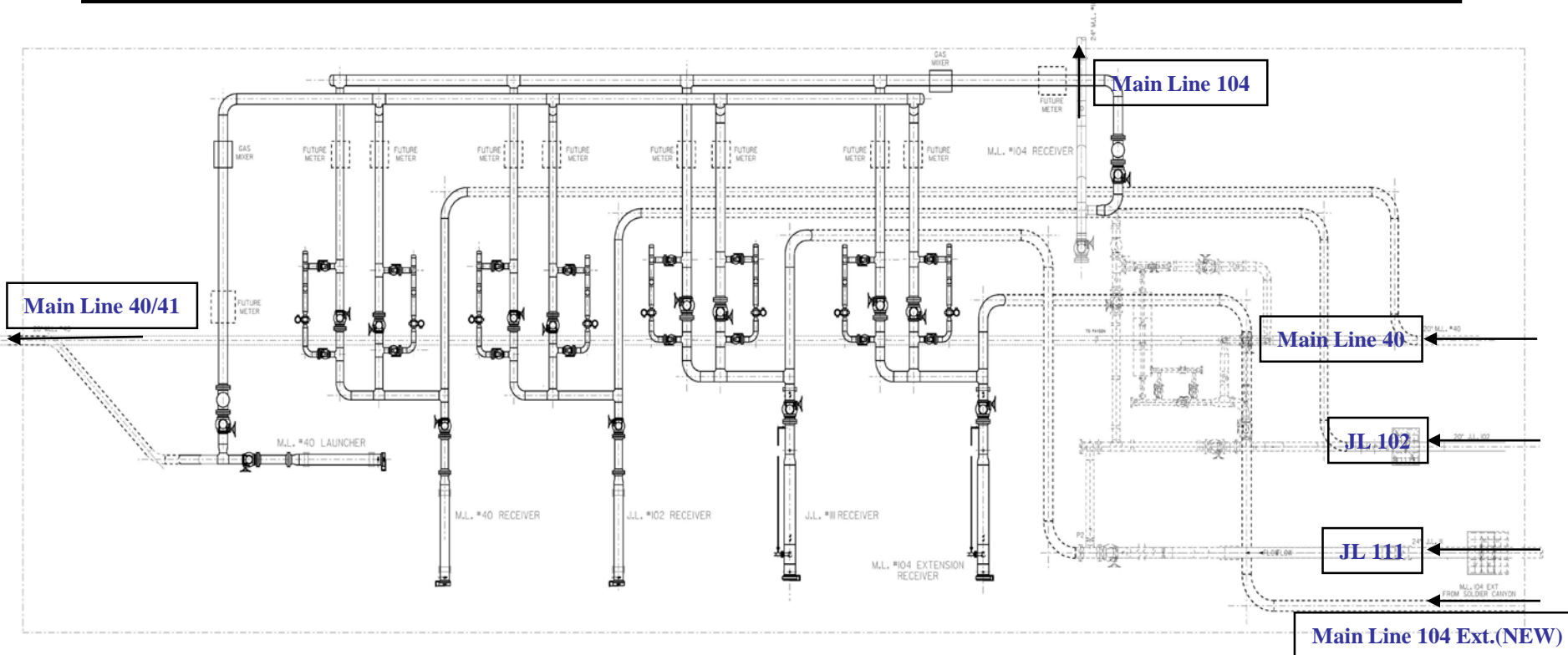
- Would increase reliability of precision blending alternative
- Alternate source of gas supply
- Requires minimal addition of new pipe

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 11

PRECISION BLENDING WITH CO₂ 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 PIPING MODIFICATIONS FAUSSET JUNCTION M.L. #40, M.L. #102, M.L. #111 M.L. #104, M.L. #104 EXT.
LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION	DRWG. NO.	DESCRIPTION	NO.	DESCRIPTION	DATE / BY	PLAN NO. DRAWING CHECK: CONFORMANCE #108 PART 102 PROJECT ENGINEER APPROVAL: ENVIRONMENTAL PROJECT MANAGER: APPROVED FOR CONSTRUCTION ENGINEERING APPROVAL: SECTION OPERATIONS APPROVAL: T. & COUNTY, METER PREP APPROVAL: DATE ELEVATION: LAT: (LONG): FIELD VERIFIED: BY: DATE BY: DATE CAD FILE:	
THESE FACILITIES ARE D.O.T. JURISDICTIONAL DESIGN CONFORMS TO APPLICABLE TITLE 49 CFR PART 192 REQUIREMENTS.							SCALE: _____ SHEET No. OF _____ PREPARED BY: QUESTAR REGULATORY SERVICES COMPANY

OPTION 11

PRECISION BLENDING W/ CO₂ 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 CO₂ 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/ CO₂ 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 (KRG T, 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