PacifiCorp Energy
Interwest Mining/Fuels Department

Presented to:
Wyoming Public Service Commission

October 20, 2011
Fueling Strategy

— Overall Strategy

- Owned and operated plants:
  - Coal basin/plant specific (Central Utah, SW Wyoming, Wyoming PRB)

- Joint-owned plants
  - Plant specific

- Least cost, optimum quality and short-term/long-term supply balanced

- Portfolio based, where possible

- Diversification
  - Suppliers
  - Mining methods
  - Transportation
  - Captive reserve mining
  - Contract structures
Coal Inventory Strategies

Objectives

- Balance between supply risks, coal quality requirements versus costs for coal shortages, loss of electricity sales or generation replacement costs
- Flex inventories as circumstances evolve
- Set targets based on different coal basin and transportation dynamics
- Periodically re-assess short-term and long-term targets
Fueling Strategy — Central Utah

Supply and Demand
- Historical production levels averaged 25 million tons annually
- Current production levels averaging closer to 20 million tons annually
  - 8 m tons (40%) of Utah coal consumed annually by Pacificorp plants
  - 7 m tons of Utah coal consumed annually by other local power plants (IPA, Valmy and Reid Gardener)
  - 5 m tons of Utah coal consumed annually by cogeneration, cement and other industrial facilities, other utilities

Basin Dynamics
- Mines idled/closed (Tower Complex, Crandall Canyon, Emery)
- Near-term depletion of active mines in Book Cliffs (Dugout, Skyline and West Ridge)
- Supplier financial instability
- Mining Restrictions and increasingly difficult geological conditions
- Decreasing coal qualities; primarily higher sulfur/ash
- Limited spot market activity, primarily long-term contracts
- Limited coal imports, primarily exports
Fueling Strategy —— Central Utah (continued)

Future Supply and Demand Balance
- New reserve development is required to come online (Lila Canyon, Cottonwood, and Skyline expansion)
- Long term – Development of North Horn reserves
- IPA, Valmy and Reid Gardener have rail capabilities (UP captive)
- Reid Gardner burns PRB
- IPA and Valmy have undertaken PRB test burns

Supply Risks
- Near – term
  - Quality excursions, mining disruptions and labor negotiations
- Long – term
  - Reserve development lagging mine depletion
  - Significant quality shift (higher sulfur)
  - Loss of reserves (catastrophic or increased mining restrictions)
  - Rail capabilities
Fueling Strategy — Central Utah (continued)

- Utah Plants Fueling Strategy
  - Common fueling strategy (*Carbon, Hunter and Huntington*)
  - Portfolio and diversification of supply
    - Sufco long-term contract, longwall
    - Deer Creek captive supply, longwall
    - West Ridge contract – high fusion, high Btu coal, longwall
    - Horizon contract, continuous miner
    - Castle Valley contract, continuous miner
  - Diversification of transportation
    - Savage
    - Nielsen
    - Trimac
    - Barney/Robinson (Sufco mine)
  - Pursuit of opportunities
    - Contractual
    - Ownership (reserve/mine)
Coal Inventory Strategies — Utah Plants

- Plant Specifics
  - Designed for Utah coal, permit constraints (emissions), no rail capabilities, coal blending required

- Combined Supply/Inventory Strategy
  - Long-term inventory drivers
    - Reserve depletion
    - Degrading coal quality
    - Deep underground mines
    - Increasingly difficult mining conditions
    - Mining regulatory restrictions (loss of reserves)
    - Limited operating mines (stability of operators varies)
    - Limited replacement supply availability
    - New mine development timing
  - Short-term inventory considerations
    - Recent supply disruptions (Dugout and West Ridge)
    - Quality excursions (Deer Creek, Sufco, West Ridge, Skyline and Dugout)
    - Contentious contract negotiations
Fueling Strategy —— Central Utah (continued)

Utah Plant Specifics

❖ Carbon Plants: (0.6m tons annually – 2020 estimated depreciation life)
  - Blend coals required to manage and mitigate opacity issues
  - Rail nearby, no unloading facilities, limited surface area for coal stockpile/blending
  - Multiple supply sourcing: West Ridge, Horizon and Skyline/Deer Creek

❖ Hunter Plant: (4.5 tons annually – 2042 estimated depreciation life)
  - Coal preparation plant adjacent to Hunter facility – extensive blending for ash fusion temperature and heat content
  - No rail facilities, truck transport only
  - Multiple supply sourcing: Sufco, West Ridge and Deer Creek

❖ Huntington plant: (2.9m tons annually – 2036 estimated depreciation life)
  - Adjacent to Deer Creek mine, conveyor system to plant
  - No rail facilities
  - Limited blending space and capabilities
  - Multiple supply sourcing: Deer Creek, Sufco and Castle Valley
Fueling Strategy —— SW Wyoming

- Supply and Demand
  - Three active mining operations: Black Butte, Kemmerer and Bridger Coal
  - New mining operation coming online 2012 - Haystack
  - Current production levels averaging between 14 – 15 million tons annually
    - Approximately 78% of which is consumed by PacifiCorp's plants: Naughton & Jim Bridger
    - Remainder consumed by Valmy plant (Nevada) and industrial customers, predominately trona-patch companies located within the region

- Basin Dynamics
  - High operating cost and low British thermal unit operations
  - Increasing stripping ratios for surface operations
  - Low capacity operations (operating close to full capacity)
  - Limited penetration into markets outside the region
  - Limited supply options and virtually no true market competition

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Fueling Strategy — SW Wyoming (continued)

- Supply Risks
  - Near-term
    - Quality excursions
    - Mining disruptions
    - Transportation disruptions
    - Labor negotiations
  - Long-term
    - Quality shifts
    - Loss of reserves (catastrophic or increased mining restrictions)
    - Rail capabilities
Fueling Strategy —— SW Wyoming (continued)

—SW Wyoming Plants Fueling Strategy

- Plant specific fueling strategies (Bridger and Naughton)
- Near-term
  - Flexibility to move supply between facilities, where possible
  - Broaden contract flexibilities to facilitate new sourcing opportunities
  - Enhanced blending and coal handling capabilities
  - Optimization of Bridger surface and Black Butte volumes
- Long-term
  - Bridger Underground versus other supply alternatives
  - Multi-source if economic (Naughton)
- Portfolio and diversification of supply
  - Bridger captive supply, longwall and surface
  - Black Butte contract, surface
  - Kemmerer contract, surface
- Diversification of transportation
  - Conveyor
  - Rail
- Pursuit of opportunities (contractual, ownership)(reserves/mines)
Coal Inventory Strategies — SW Wyoming Plants

- Plant Specifics
  - Jim Bridger – sensitive to sodium, limited coal blending capabilities, limited rail capacity, and significant capital modifications required to burn PRB
  - Naughton – sensitive to iron, calcium and ash, separate coal streams until 2013, no blending capability, no truck or rail unloading facilities and limited surface footprint

- Long-Term Inventory Drivers
  - Limited operating mines
  - Limited replacement supply availability
  - Limited or no rail capacity and unloading facilities
  - Limited coal blending capabilities
  - Mining disruptions
  - Underground mining regulatory restrictions (loss of reserves)
  - New mine/reserve development timing (Haystack, Deadman Wash)
Fueling Strategy — SW Wyoming (continued)

SW Wyoming Plants Specifics

- Jim Bridger plant: (8.5m tons annually – 2037 estimated depreciation life)
  - Blend coals required to manage plant’s quality and coal handling system sensitivities
  - Limited blending capability at plant
  - UP captive rail, capacity limited
  - Adjacent to Bridger Coal Company, conveyor system to plant
  - Multiple supply sourcing: Bridger Coal, Black Butte

- Naughton plant: (2.7m tons annually – 2029 estimated depreciation life)
  - Two coal streams: high sulfur and low sulfur
  - Limited blending capability
  - No rail or unloading facilities; limited surface footprint
  - Adjacent to Chevron’s Kemmerer mine, conveyor system to plant
  - Gas co-firing (20%)
  - Single supply source: Kemmerer
Fueling Strategy — Wyoming PRB

Supply and Basin Dynamics
- Largest coal producing basin in the U.S.
- Large volume, low cost surface operations
- Excess supply capability
- Production levels adjust to demand fairly quickly
- Heat content variations between north Gillette, south Gillette and Wright areas
- Highly liquid market; coals travel throughout U.S. and internationally
- Joint line access to south Gillette and Wright areas
- North Gillette mines captive to BNSF

Supply Risks
- Environmental permitting impediments
- Competition between domestic vs. export
- Transportation disruptions
Fueling Strategy — Wyoming PRB (continued)

Wyoming PRB Plants Fueling Strategy

- Plant specific fueling strategies (Dave Johnston and Wyodak)
- Near-term
  - Leverage postage stamp rail rate to access North Gillette mines
  - Integrate and leverage supplies where possible
- Long-term
  - Optimize supply sourcing based on new rail rate economics
  - Mitigate impacts of price re-openers
- Portfolio supply
  - Dry Fork contract – Dave Johnston
  - Rawhide contract – Dave Johnston
  - Black Hills contract - Wyodak
- Transportation
  - Multiple sourcing for Dave Johnston diversifies transportation risk
  - Conveyor to Wyodak minimizes transportation risk
Coal Inventory Strategies – Wyoming PRB Plants

- Plant Specifics
  - Dave Johnston – BNSF rail captive, sensitivities to elevated sodium and calcium and compatible with lower heat content coals
  - Wyodak – conveyor from mine, no rail or unloading facilities; limited surface footprint

- Long-Term Inventory Drivers
  - Rail and weather disruptions
  - Mining disruptions
Wyoming PRB Plants Specifics

- **Dave Johnston plant:** (3.5m tons annually – 2027 estimated depreciation life)
  - Compatible with lower heat content coals (8,000 btu/lb – 8,400 btu/lb)
  - Sensitivities to elevated sodium and calcium content
  - BNSF captive rail
  - Multiple supply sourcing: Rawhide, Dry Fork and Wyodak

- **Wyodak plant:** (1.6m tons annually – 2039 estimated depreciation life)
  - Conveyor from Wyodak mine
  - No rail or unloading facilities; limited surface footprint
  - Single supply source: Wyodak mine
Fueling Strategy — Joint Owned (NW Colorado)

Supply Basin and Dynamics
- Primarily three active mines (*Trapper, Colowyo and Twentymile*)
- Reduced demand impacting production levels
- Transportation costs impede imports and exports
- Supply primarily consumed locally
- Existing reserves depleting
- State energy policies creating uncertainty for operators and consumers which is impeding expansions to adjacent reserves

Supply Risks
- Reserve expansions lag reserve depletion
- Mine closures
- Mining disruptions
Fueling Strategy — Joint Owned (NW Colorado cont.)

- NW Colorado Plants Fueling Strategy
  - Plant specific fueling strategies (*Craig and Haden*)
  - Near-term
    - Contract supplies through current reserves (*Colowyo and Twentymile*)
    - Optimize Trapper reserves
    - Integrate, leverage supplies where possible
  - Long-term
    - Pursue captive reserve expansion
    - Pursue opportunities (*contractual, ownership*) (*reserves/mine*)
  - Portfolio supply and diversification
    - Trapper, captive supply, surface
    - Colowyo contract, surface
    - Twentymile contract, underground
  - Transportation Diversification
    - Haul truck from Trapper mine to plant
    - UP rail contract (*Colowyo*)
    - Truck (*Twentymile to Hayden*)
    - UP rail and unloading facility (*Hayden*)
Fueling Strategy — Joint Owned (NW Colorado cont.)

- NW Colorado Plants Specifics
  - **Craig plant:** (19.28% ownership) (Units 1&2) 0.65m tons annually – 2034 estimated depreciation life) (total plant requirements 5.3m tons annually)
    - Adjacent to Trapper mine
    - Truck receiving facility, rail unloading hopper (limited capacity)
    - UP captive rail (3.5m annual capacity)
    - Sensitive to low heat content coals
    - Multiple supply sourcing: Trapper and Colowyo
  - **Hayden plant:** (17.5% ownership 0.3m tons annually – 2030 estimated depreciation life) (total plant requirements 1.65m tons annually)
    - Truck unloading facilities
    - Rail facilities
    - Single supply source: Twentymile mine
Fueling Strategy — Joint Owned (Arizona)

- Arizona Plant Fueling Strategy
  - Plant specific fueling strategy *(Cholla)*
  - Near-term
    - Supply contracted long-term
    - Rail contract
  - Long-term
    - Extend rail agreement
    - Evaluate replacement supplies (Star Lake, PRB)

- Cholla Plant Specifics *(100% Unit 4 ownership 1.6m tons annually – 2042 estimated depreciation life) (total plant requirements 4.3m tons annually)*
  - Retrofitted to burn lower heat content and higher sulfur coal
  - BNSF captive rail
  - Single supply source: Lee Ranch/El Segundo
Fueling Strategy — Joint Owned (Montana)

- Montana Plant Fueling Strategy
  - Plant specific fueling strategy (Colstrip)
  - Near-term
    - Supply contracted through current reserves
  - Long-term
    - Potential third party coal sourcing
    - Reserve expansion

- Colstrip Plant Specifics (10% ownership) (Units 3 and 4 - 0.7m tons annually – 2046 estimated depreciation life)
  - Conveyor to plant
  - No rail unload facilities
  - Captive to BNSF
  - Approval authorities over mine plan, capital investments and third party coal sale decisions. Budget oversight authority.
  - Single supply source: Rosebud mine (Area C reserves)
Coal Inventory Strategies – Joint Owned Plants

Plant Specifics
- Cholla – BNSF rail captive, significant distance from alternative suppliers
- Colstrip – conveyor from mine, no rail or unloading facilities; captive to BNSF
- Craig – truck receiving and rail unloading hopper, UP captive, sensitive to low heat content coals, adjacent to Trapper mine
- Hayden – truck unloading facilities, rail facilities being constructed

Long-Term Inventory Drivers
- Access to alternative supplies
- Mining methods and disruptions
- Rail and weather disruptions
### COAL & TRANSPORTATION CONTRACTS: REOPENER & TERMINATION DATES

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**Notes:**
- Dave Johnston rail, Dry Fork, Rawhide agreements expire in 2013; West Ridge, Black Butte, UP and Coal Creek expire in 2014.
- Contract price reopeners/price resets at Cholla, Naughton and Wyodak in the next three years.
- Current negotiations - Hayden, Dave Johnston and Utah.