



Behind the
Wheel:
Management
Focus

Fundamentals of Asset Mixing Decisions

Buster Barksdale
Primary Integration Energy
8 Aug 2006



Fundamentals of Asset Mixing Decisions



Behind the
Wheel:
Management
Focus

- What are your assets?
- What drives the decisions?
- How do you start?
- Start on a goal today!



Fundamentals of Asset Mixing Decisions



Behind the
Wheel:
Management
Focus

- What are your assets?
 - Load side
 - Supply side

We will address the supply side today

Fundamentals of Asset Mixing Decisions



Behind the
Wheel:
Management
Focus

- What are your assets?
 - Supply side
 - Self-generated
 - Generators
 - CHP
 - Automatic or proactive load reduction strategies (“negawatts”)
 - Green (wind, PV, etc.)
 - Utilities
 - T&D side
 - Generation



Fundamentals of Asset Mixing Decisions



Behind the
Wheel:
Management
Focus

- Decision drivers:
 - Forecasting
 - Power Reliability Requirements
 - Power Quality Requirements
 - Economics



Step 1 - Forecasting

- Determine the time window
- Review projected growth in demand and consumption
- Review projected energy cost changes
- Review the reliability record of incoming utilities and fuel suppliers

Step 2 - Reliability

- Determine required level of reliability across the time window
- Determine power quality specifications across the time window
- Determine best asset mix to meet that need
- This asset mix and costs for demand and usage become the baseline

Step 3 – Economics

Using the reliability mix
as the baseline...

- Investigate additional investments that
 - Do not degrade the reliability/PQ levels
 - Provide additional savings
 - Provide acceptable payback



Fundamentals of Asset Mixing Decisions



Behind the
Wheel:
Management
Focus

Starting Point:

- Evaluate rate and tariff options
 - Are you deregulated?
 - Can you lock purchases?
 - Does rate options reward secondary generation or alternative?
- Do you have flexibility?
 - Fuel switching
 - Fuel choices
- Determine cost options
- Lock rates for selected option



Fundamentals of Asset Mixing Decisions



Behind the
Wheel:
Management
Focus

- Plan ahead
 - Contract expiration dates
 - Purchase cycles
- Use an expert
 - GSA
 - DESC
 - Private Consultants



Fundamentals of Asset Mixing Decisions



Behind the
Wheel:
Management
Focus

- Alternative “green” energy sources
 - PV
 - Wind
 - Geothermal
- Justified by economics or PR?
- Can it supplement other options?
- State/Federal incentives?



Fundamentals of Asset Mixing Decisions



Behind the
Wheel:
Management
Focus

- On site generation
 - Hard to justify on pure economics
 - Based on power availability
- CHP
 - Requires large domestic hot water or other heat requirement
 - Absorption chillers – reliability?



Fundamentals of Asset Mixing Decisions



Behind the
Wheel:
Management
Focus

- Economics drives decision unless there are operational requirements
- Economics are often complex:
 - Mix fuel types
 - Rate structures
 - Offsets
 - Secondary uses



Fundamentals of Asset Mixing Decisions



Behind the
Wheel:
Management
Focus

- Start on a Goal Today!
 - Can be complex matrix to build – get started
 - Site, unit or company specific- understand all variables
 - Balance rates for electric and gas
 - Balance availability with cost
 - As minimum, lock rates at the right time



Fundamentals of Asset Mixing Decisions



Behind the
Wheel:
Management
Focus

*Complex problem where there
are no "canned" answers*

Get Smart and/or hire experts

Do something now!!