Harvard Electricity Policy Group
Can we mitigate utilities’ “self-build” bias?
Regulatory Treatment of Purchased Power

Robert Kahn, Executive Director
Northwest & Intermountain Power Producers Coalition
October 3, 2008
Defending the Paradigm of Competitive Wholesale Markets

- Represents 5000 MW thermal (coal, gas) and 1000 MW renewable generation (wind, biomass)
- Active in Oregon, Washington, Idaho, Utah
- Advocates for fair, transparent markets in generation and ancillary services
- Supports transmission policy that expands total transmission capacity
- Promotes competitive procurement to help utilities secure lowest cost/lowest risk power
Northwest & Intermountain Power Producers Coalition

- Calpine
- Constellation Energy Control & Dispatch
- ENMAX Corporation
- enXco
- EPCOR
- EverPower Renewables
- Horizon Wind Energy
- Invenergy
- Mint Farm Energy Center
- Shell Energy/Shell Wind Energy
- Sierra Pacific Industries
- TransAlta Energy Marketing, Inc.
- Transcanada Power
- Sea Breeze Power Corp.
Western Generation Additions
(non-California)

Source: Derived from Energy Velocity data.
Flip the Switch on Competition?

"Yup. I’m guessing there’s your problem."
What do IPPs do for ratepayers?

• IPPs deliver power at least cost/least risk
  - IPPs pioneer utility-scale generation technology
    Examples: CCCT, wind turbine technology, etc.
  - Assume “dry hole” under-performance risk
  - Assume technology, compliance, O&M risk
  - Leverage construction experience
  - Tap economies of scale

• Provide ratepayers a “competitive check” on utility self-build, ownership
Balancing Development Risk
# Project Risk Allocation & Potential Impact on Rate Payers

## Who Bears Risk - Typically

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>$ Impact IPP Build</th>
<th>$ Impact Utility Build</th>
<th>$ Impact Ratepayers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fixed Costs:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital Cost Overrun – 5%</td>
<td>IPP Ratepayers/EPC</td>
<td></td>
<td>$24M</td>
</tr>
<tr>
<td>Fixed Operation &amp; Maintenance Expense (5% higher than utility projection)</td>
<td>IPP Ratepayers</td>
<td></td>
<td>$3M</td>
</tr>
<tr>
<td>Cost of debt increases (1% higher than projection)</td>
<td>IPP Ratepayers</td>
<td></td>
<td>$13M</td>
</tr>
<tr>
<td>ROE increases (1% higher than projection)</td>
<td>IPP Ratepayers</td>
<td></td>
<td>$20M</td>
</tr>
<tr>
<td>Equity portion of capital structure increases (equity 1% higher than projection)</td>
<td>IPP Ratepayers</td>
<td></td>
<td>$3M</td>
</tr>
<tr>
<td>Fixed O&amp;M Inflation rate changes (2.5% to 3.5%)</td>
<td>IPP Ratepayers</td>
<td></td>
<td>$7M</td>
</tr>
<tr>
<td>Capital recovery during outage (6 months)</td>
<td>IPP Ratepayers</td>
<td></td>
<td>$8M</td>
</tr>
</tbody>
</table>

**Total Cumulative Charge**

- Base NPV of $350M Plant Investment: $78M
- Fixed Cost Risk Percentage: 14%

## Assumptions:
- $-NPV per $350 million investment, discount rate = 7.5%. Typical 2x1 525 MW CCCT.
- 35 year plant life
- IPP has capability to bear risk.
### Project Risk Allocation & Potential Impact on Rate Payers

**Who Bears Risk - Typically**

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>IPP Build</th>
<th>Utility Build</th>
<th>$ Impact to Ratepayers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Variable Costs:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural Gas Price Risk (Tolling Agreement)</td>
<td>Ratepayers</td>
<td>Ratepayers</td>
<td>N/A</td>
</tr>
<tr>
<td>Heat Rate 5% &gt; than Projected</td>
<td>IPP</td>
<td>Ratepayers</td>
<td>$68M</td>
</tr>
<tr>
<td>Heat Rate Degrades .25%/yr.</td>
<td>IPP</td>
<td>Ratepayers</td>
<td>$36M</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td>$104M</td>
</tr>
<tr>
<td>Base NPV of Fuel Costs</td>
<td></td>
<td></td>
<td>$1,355M</td>
</tr>
</tbody>
</table>

Assumptions:
- $-NPV per $350 million investment, discount rate = 7.5%. Typical 2x1 525 MW CCCT.
- 35 year plant life
- IPP has capability to bear risk.
“This is our most successful project. When we dug the footing, we struck oil.”
“Dry Hole” Risk
Source: Garrad Hassan, 2007

Wind farm years = 510
Average = 93.3%
Under-performance Risk

150 MW utility-owned project with 20% overestimation => $21 million cost overruns to utility’s consumers

Source: Horizon Wind Energy, 2007

P25 = $66 per MWh
P75 = $79 per MWh
P99 = $100 per MWh
P50 = $72 per MWh
P25 = $61 per MWh
P75 = $87 per MWh
P99 = $154 per MWh

Cost to Ratepayers ($/MWh, Levelized)
Wind Turbine Technology

• DEWI report findings
• Component failures
  – Gearboxes
  – Bearings
  – Shafts
  – Blades
• LT service agreements
  – Typically ≤ 5 years
  – Risk borne by owner/insurer/rate-payer/shareholder
Monopsony Market Power in action

Distort competitive procurement

- Extract BOT commitments
- Finesse regulatory regimes
- Revive “CWIP” for turbine deposits
- Direct landowners toward preferred IPPs
- Limit provision of transmission ancillary services
- Exaggerate debt equity impact
- Advance shareholder value…
**Sweet Spot: Balance Shareholder Value with Ratepayer Protection**

- PPAs don’t sufficiently benefit utility shareholders
  - Unbalanced regulatory policy
  - Innovation warranted
  - Competitively-procured PPAs benefit ratepayers

- NIPPC’s dual objectives
  - Fair procurement rules
  - Reward utility for PPAs with risk assumption
OPUC UM 1182: Bidding Guidelines

- Minimize long-term energy costs, subject to economic, legal and institutional constraints
- Complement IRP process
- Not unduly constrain utility’s prerogative
- Be flexible, allowing the contracting parties to negotiate mutually beneficial agreements
- Be understandable and fair
• RFP Requirement:
Utility must issue an RFP for all Major Resource acquisitions identified in its last acknowledged IRP. “Major Resources” are resources with durations greater than 5 years and quantities greater than 100 MW. Provisions for exceptions are provided.

• Utility Ownership Options:
Utility may use a self-build option in an RFP. A site-specific, self-build option is known as a “Benchmark Resource.” A utility may also consider ownership transfers within an RFP solicitation.
Key Elements II

• Independent Evaluator (IE):
  Must be used in each RFP.
  Commission Staff, with input from parties, will recommend an IE.
  IE must be truly independent and experienced.
  IE will contract with and be paid by the utility.
  IE assists Commission staff.
  Oversee all aspects of bid from prep of RFP - short list negotiations.
OPUC Proceeding UM 1276
Oregon’s Pursuit of a Win/Win Solution to Build/Own Bias

“…we intend to open an additional investigation docket later this year to consider the use of performance-based ratemaking to offset utility bias in favor of owning its own resources.”

Order No. 05-133, signed by Commissioners Lee Beyer, John Savage, and Ray Baum, 3/17/05
A Work in Progress I: UM 1276

• NIPPC Proposal
  – Utility incentive: rate base 10% post-tax on Oregon’s share of total costs of “eligible” PPAs
  – “Eligible”
    • PPAs selected via competitive bid & “Benchmark” resource
    • Contracts 25 MW or greater, three years or longer
    • PPAs associated with specific assets
    • IPP explicitly assumes risks confirmed by IE and acknowledged by OPUC

QF projects are not eligible
A Work in Progress II: UM 1276

- NIPPC Proposal, continued
  - Utility should not consider incentive in RFP
  - Annual reporting to OPUC
  - Review incentive after three years

Other stakeholders covered “the waterfront”

Docket closed 1Q 2008 with no decision rendered
Summary

• Monopsony power in traditionally regulated states is real
• Utility self-build/ownership preference real
• Consumer interests best served by robust competition at wholesale level
• IPPs pioneered renewables and offer willing to assume substantial risks through PPAs
• Shareholders need to see some benefit for utilities off loading rate payer risks through PPAs
Northwest & Intermountain Power Producers Coalition

1117 Minor Avenue, Suite 300
Seattle, WA 98101
206.624.1235 | www.nippc.org