Compliance with I-R3 for New York City

Energy, Ancillary Service, or Hybrid?

MSWG

June 23, 2006

Two Proposed Approaches to NYISO Market Implications of NYC I-R3

- This is just energy—get the prices right and everything will follow; bids, reference prices, and energy prices should simply reflect fuel mix.

  Not just MW's; MW's of a different color, say amber

  – Generated with specific fuel dictated by reliability concerns
  – Potentially generated with uneconomic fuel
  – Need to limit price impact to zone affected by I-R3
- This is an ancillary service which fulfills a specific reliability need.
  – Fixed component recovers cost to maintain fuel switching ability.
  – Variable component recovers differential fuel costs and lost opportunity costs.

Comparison of two Approaches

Attribute	**Energy**	**Ancillary Service**
Energy offers and prices reflect fuel oil costs	Yes, but cost impact can creep into other zones.	No, but cost impact limited to Zone J.
Fuel cost impact limited to Zone J.	No; multiple passes of commitment and dispatch software would be required to separate impact.	Yes; variable cost component directly limits cost impact to affected units.
Captures lost opportunity costs	No; multiple passes of commitment and dispatch software would be required to separate impact.	Yes; dispatch based on economic fuel; variable cost component captures lost opportunity cost directly.

Comparison of two Approaches, Cont'd

Attribute	**Energy**	**Ancillary Service**
Fuel costs drive dispatch	Yes, but effect could be limited or even undesirable, e.g., oil burning on steam units limited to discrete levels, CC units have limited turndown, which may drive up emissions; re-dispatch may not be desirable for reliability.	No, but considering underlying reliability requirement, dispatch alteration may not be desirable. I-R3 application specifically counts on the oil-fired generation.
Discriminatory	Yes, units with fuel oil capability earn less than those that do not; threatens reliability in long run.	No, all units treated competitively on most economic fuel.

Comparison of two Approaches, Cont'd

Attribute	**Energy**	**Ancillary Service**
Feasibility of implementation for 2006 Summer Capability Period	NYISO assessment required; potential solutions—multiple passes to separate impacts on other zones, lost opportunity costs; possibly pre-commitment of reliability-required generation or incorporation of local reliability requirements into SCUC, which would also follow recommendation of Dr. Patton.	Yes; tariff, software changes not required for variable cost component; differential fuel costs, lost opportunity costs captured on monthly spreadsheet; handled under BPCG or comparable mechanism. Fixed component to be developed, paid retroactively after tariff change.

Possible Hybrid Approach

- Use ancillary service proposal and manually adjust market prices to reflect cost of fuel oil.
- In the alternative, a first pass would be run with least cost fuel to determine lost opportunity cost basis. A second pass would be run with fuel oil to determine dispatch and prices.