HARVARD ELECTRICITY POLICY GROUP

SPECIAL SEMINAR

ON

RELIABILITY, CAPACITY REQUIREMENTS AND THE
OBLIGATION TO SERVE IN A MORE COMPETITIVE MARKET

REMARKS

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RELIABILITY: HOW AND HOW MUCH?

"HOW MUCH" is an important concept

- All energy services have reliability attributes

- Tendency to think of reliability in historical context clouds the discussion

- Customer needs to decide reliability requirements

- Two problems:
  - Visibility to the customer of the reliability characteristics of potential supplies
  - Prevent "leaning"
RELIABILITY CHARACTERISTICS

Distribution; depends upon:

- Facilities and their maintenance
- Availability of transmission and power sources

Transmission; depends upon:

- Facilities and their maintenance
- Availability of power sources

Availability of transmission and generation; depend upon:

- Long range - planning and resource commitments
- Short range - scheduling, maintenance and system conditions
BULK POWER RELIABILITY: HOW MUCH?

HISTORICALLY

- Planning based upon 1 day in 10 year loss of load exception
- Operations managed available generation and transmission to protect integrity of bulk system on a deterministic protocol

FUTURE

Customer should have choice. However;

- Benefits of resource pooling need to be available and they require a planning structure
- Entities with obligation to serve (by franchise or contract) must be able to assure compliance
- Entities not participating in pooling commitment must not undermine attaining pooling objectives
• My remarks are in the context of the PJM Power Pool

• ASSUMPTIONS:
  
  - Regional grid transmission services

  - Independent regional grid operator (ISO) that economically dispatches resources available to participate in economic interchange

  - Regional operations permits bi-lateral transactions and self-scheduling of owned resources

• REGIONAL LOADS ARE SELF DEFINING AS EITHER FIRM LOADS OR NON-FIRM LOADS

• REQUIREMENTS FOR FIRM LOADS:

  - Commit sufficient generation to meet firm load customers' requirements for reliability

  - Reserve transmission services sufficient to deliver (under planning conditions) from committed generation to firm load
RELIABILITY: HOW?  
(continued)

- Go it "alone"; i.e., not take part in regional pooling (reserve sharing) agreement - load must match output of designated generation during generation shortages, or

- Participate in Regional Pooling Agreement whereby signatories agree on:
  
  = Reliability objectives
  = Obligations to participate in planning process
  = Generation and transmission obligations
  = Reserve sharing obligations
  = Coordination of maintenance
  = Sharing of load shedding when required

- NON-FIRM LOADS MUST BE FULLY CURTAILED/ INTERRUPTED AT A PRE-DETERMINED PRICING SIGNAL

- TRANSMISSION OWNERS OBLIGATED TO EXPAND REGIONAL GRID WHEN NECESSARY TO SUPPORT RELIABILITY OBJECTIVES OF FIRM LOADS