Restructured Regional Power Market

Major Premise

Pressure for competitive power market and FERC 211 orders will lead to unbundling of transmission from generation and loads.

Objectives of New Regional Structure

1. Preserve reliability - transmission and generation.
2. Unbundle transmission without requiring utilities to forego vertical integration.

Expected Necessary Features of New Regional Structure

1. Continuation of roles for NERC and MAAC.
2. Centralized regional planning.
3. Centralized grid operations and coordination of transmission and generation maintenance scheduling.
4. Transmission services provided on a common basis to all market participants within the region.
5. A market structure that accommodates bilateral transactions as well as grid dispatch functions.
6. Permit franchise holders to fulfill obligation to serve.
ORGANIZATIONAL RELATIONSHIPS
IN BULK POWER MARKET

MEMBERSHIP AGREEMENT
DEFINES OBLIGATIONS & RIGHTS

REGIONAL RELIABILITY COUNCIL

POWER PROVIDERS

TRANSMISSION OWNERS

POWER CONSUMERS

GRID OPERATOR

Neutrality and Reliability Compliance Oversight

Agency & Operating Contract

Tariffs and Services Agreements for Entities That Buy From Grid

Services Agreements for Entities that Sell to Grid
RELIABILITY COUNCIL

- Sets planning and operating criteria for generation, transmission and transactions.
- Does transmission planning analyses and studies.
- Identifies needed enhancements and expansion of grid.
- Determines reserve obligation for firm load.
- Governance procedures provide voice for all market participants that are members, regulators and public interest groups.
- Agreement among members subject to FERC regulation.
- Resolves conflicts concerning maintenance schedules for generation and transmission.
- Audits Grid Operator for neutrality in operations and compliance with reliability criteria.

GRID OPERATOR

- Operates to reliability council criteria.
- Schedules and dispatches generation and ancillary services.
- Coordinates maintenance schedules.
- Maintains MWHR & $'s accounting and billing.
- Collects transmission reservation and use charges to cover fixed and operating costs of grid as approved by FERC.
- Oversight of management determined by contract with owners.
- Rights and obligations of users determined by FERC approved tariffs, contracts and reliability council criteria.

TRANSMISSION OWNERS

- Contract with Grid Operator to operate facilities.
- Maintain the grid facilities.
- Enhance and expand the grid facilities as necessary to meet needs identified by MAAC.
- Compensated through FERC approved tariffs and contracts.
POWER CONSUMERS

- Commit generation resources and pay for transmission to reliably serve firm load on a planning basis.
- Pay reservation fee for additional transmission rights for transactions relating to specific energy source locations.
- Pay grid operating costs through charges assessed for each MWH of load.

POWER PROVIDERS

- Cover fixed and variable costs of generation by combination of reservation charges from power consumers, energy sales to grid and "contracts for differences" with consumers.
- Marketers may participate through bilateral arrangements or sales to grid or combinations thereof.

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<table>
<thead>
<tr>
<th>CLASS I-A DEFINED LOAD</th>
<th>CLASS I-B DEFINED GENERATION</th>
<th>CLASS II FIRM ENERGY</th>
<th>GRID SERVICES</th>
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</thead>
<tbody>
<tr>
<td>• Firm loads to be served by pool on a planning basis.</td>
<td>• Identified loads served by identified generation to the extent such generation is available.</td>
<td>• Identified loads served by identified generation to the extent transmission permits.</td>
<td>• All Class I-A, I-B and II are automatically subject to requirements related to being served by grid.</td>
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<tr>
<td>• Commit generation to pool to serve forecast load plus provide generation reserve.</td>
<td>• Pays pro-rata share with Class I-A of fixed costs portion of revenue requirements for transmission facilities as a reservation fee based upon MW-MI modelling.</td>
<td>• Pays discounted pro-rata share of fixed cost portion of revenue requirements for transmission facilities as a reservation fee based upon MW-MI modelling.</td>
<td>• All providers and consumers can supply energy to or receive energy off the grid.</td>
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<tr>
<td>• Pays pro-rata with Class I-B of fixed costs portion of revenue requirements for transmission facilities as a reservation fee based upon MW-MI modelling.</td>
<td>• Generation is delivered unless transmission constraint requires curtailment of deliveries across constraint for classes I-A and I-B; share pro-rata in reduction.</td>
<td>• Reservation fees distributed pro-rata to Classes I-A &amp; I-B users.</td>
<td>• Two-party transactions may have zero energy payments from and to the grid operator.</td>
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<tr>
<td>• Firm load is served unless generation shortage then pro-rata curtailment (rolling blackouts).</td>
<td>• Transactions can be independent of pool dispatch but not of scheduling and operational control.</td>
<td>• Share available transmission with other Class II users after serving class I-A &amp; I-B.</td>
<td>• Interchange energy is bought from providers and sold to consumers at locational prices.</td>
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<td>• Entitled to buy energy off the grid at prices determined by location of committed generation.</td>
<td>• Future commitments of Class I-A and I-B service would not reduce MW capability of existing commitments.</td>
<td>• Can only reserve Class II service through end of fixed planning period.</td>
<td>• Transmission rights entitle holder to appropriate share of overpayments from consumers compared with payments to providers (Hogan Model).</td>
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<td>• Future commitments of Class I-A and I-B service can not reduce MW capability of existing commitments</td>
<td></td>
<td></td>
<td>• Each MWH carries pro-rata charge for variable cost of grid operation and maintenance, portion of fixed costs of facilities, and contribution to generation fixed costs.</td>
</tr>
</tbody>
</table>
EXAMPLE UTILIZATION OF CONSTRAINED INTERFACE

 Operational Limit
 (excessive energy payments
 rebated to loads as appropriate)

All loads on load side of constraint
enjoy benefit of lower energy cost

Class II Service

Class I-A and I-B Reservations

Hours per Year

8760
OTHER ISSUES

TIE BENEFIT

The benefit of ties would be a factor in MAAC’s determination of the reserve requirement for firm loads. MAAC could continue to require class I-A and I-B users to provide capacity off-sets to prevent increasing the reserve requirements for firm loads subject to FERC’s approval.

"RE" ENTITLEMENT

Reserved economy (RE) is only a factor during constrained conditions. Reservations would, in effect, result from reserving Class II service. Its priority would always be subordinate to Class I-A and I-B service.

INTERFACE MANAGEMENT

Out-of-merit generation for interface management is expected to be infrequent and may be addressed most effectively on an ad hoc basis.