FCM-Generator Interconnection Process Study Group

Stakeholder Meeting #6
January 10, 2008
Springfield, MA

ISO new england

Review of Survey Responses and Discussion of Stakeholder Principles

Stakeholder Surveys

- Objective
  - Stakeholders were asked to rank their top five priorities among principles identified at the November 27, 2007 meeting
- Results
  - *See Handout*: Key Elements of Suggested Principles by Category, January 10, 2008 (color-coded)
  - 15 stakeholders provided survey responses
  - Most of the principles were ranked as a priority by at least one stakeholder

Top Five Priorities Identified in Surveys

1. The queue and transmission delivery study processes should be better coordinated with the Forward Capacity Market (FCM) process
2. Changes to the queue process should address the intra-zonal deliverability of new capacity resources (Tie)
2. Changes to the queue process should be consistent with the FCM settlement (Tie)
3. The process for sharing market information on potential overlapping impacts should provide results to developers in a timely manner to expedite the development of resources
4. The rules governing the interconnection and qualification of resources and the process and standards for determining overlapping impacts should be transparent prior to the deadline to participate in the auction to which the rules apply
5. What rights should a new qualified resource not selected in the Forward Capacity Auction (FCA) retain?

Intra-zonal Deliverability

Principal: "Deliverability"

Item I.A

"Changes to the queue process should address the intra-zonal deliverability of new capacity resources"

Ranked the 2nd highest priority by the Study Group*

* *Tied with priority IV.A which states: "Changes to the queue process should be consistent with the FCM settlement."*

Plan For Discussion

- Overview of discussion and Background (5 minutes)
- Identify issues that need to be addressed (40 minutes)
- Recap and Prioritize the issues (10 minutes)
- Next Steps (5 minutes)

Rules of Brainstorming

- All ideas are welcome no matter how silly or far out - be creative
- Do not criticize or judge - don’t even frown, groan or laugh
- No discussion of ideas during brainstorming
- Do build on others’ ideas

Background

Minimum Interconnection Standard (MIS)

"The minimum criteria required to permit the Interconnection Customer to interconnect in a manner that avoids any significant adverse effect on the reliability, stability, and operability of the New England Transmission System, including protecting against the degradation of transfer capability for interfaces affected by the unit."

Open Access Transmission Tariff, Schedules 22 & 23

FCM Overlapping Impact Standard

- Must be incrementally useful; must provide an additional capacity benefit
  - New Generating Capacity will be qualified at the level at which it can operate without re-dispatch of other capacity resources
- Where multiple New Generating Resources cannot be selected because they overlap with each other
  - Interconnection Queue order is used to choose between the overlapping generators
  - The new generator under study, will be responsible for those overloads within or neighboring the Load Zone to which it is electrically connected but will not be responsible for upgrading interfaces that form the boundaries between existing Load Zones

Planning Procedure No. 10, Section 5.7

From the Settlement Agreement

"While a full and completed System Impact Study (SIS) is not a requirement to participate in the FCA, at a minimum, initial interconnection analysis is required. The ISO and the Reliability Committee shall work out specifics with respect to the performance of such initial interconnection analysis and selection criteria (including auction details) for multiple projects when only a subset of such projects can be selected in the FCA due to overlapping interconnections impacts".

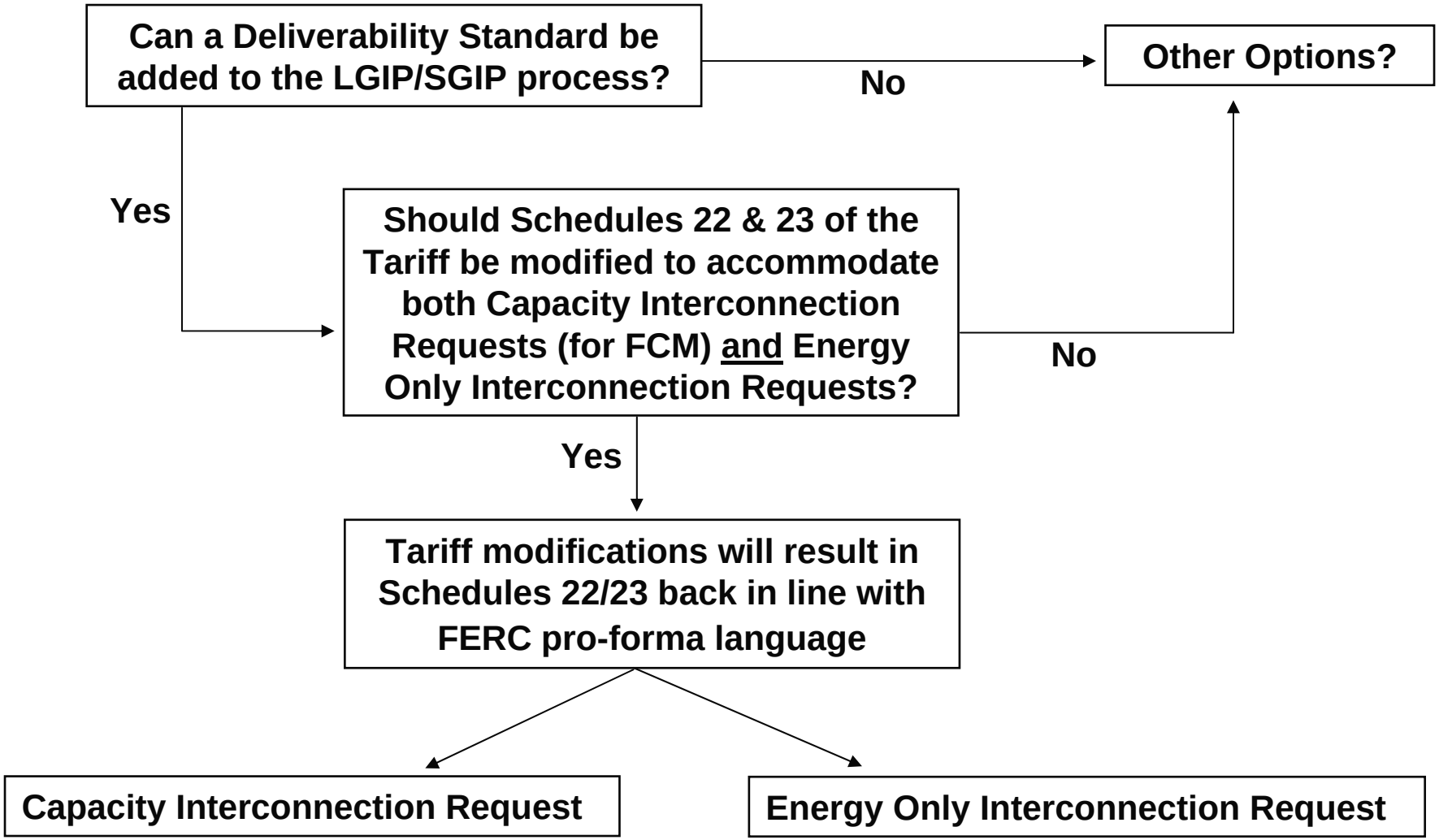
Settlement Agreement II.B.3.c

Discussion

Options for Consideration

1. Incorporate a Deliverability Standard into the Large Generator Interconnection Procedure (LGIP) / Small Generator Interconnection Procedure (SGIP) process
2. Others?

Option #1



Option #1 (cont.)

To accommodate the two types of interconnection requests, what changes might be necessary?

Capacity Interconnection Request

- What is the interconnection standard?
  - Is it MIS plus Overlapping Impact or something else?
  - Should we coordinate with interconnection of non-FCM resources? If yes, how?
  - What rights are associated with system upgrades to achieve deliverability?
- When applying this standard, how do we apply to long lead time resources vs. short lead time resources?
- How would the State of Connecticut concerns be addressed?

Energy Only Interconnection Request

- What is the interconnection standard?
  - Is it MIS, or something less stringent?
- If a New Resource initially interconnects as "Energy Only", what is the path to become a "Capacity" resource?
- When applying this standard, how do we apply to long lead time resources vs. short lead time resources?

Option #1 (cont.)

To accommodate the two types of interconnection requests, what changes might be necessary?

Capacity Interconnection Request

- Would this criteria apply to other types of "Capacity" resources?
  - Behind the meter generation
  - Settlement Only resources
  - Resources interconnecting via the State Processes
- Are there affects if the FCM Capacity Zone definitions change?

Energy Only Interconnection Request

- Would this criteria apply to other types of "Energy Only" resources?
  - Behind the meter generation
  - Settlement Only resources
  - Resources interconnecting via the State Processes
- What impact, if any, would "Energy Only" resources have on the Installed Capacity Requirement (ICR)?

Option #1 (cont.)

To accommodate the two types of interconnection requests, what changes might be necessary?

Capacity Interconnection Request

- What clarifications, if any, need to be made to Market Rule 1 for the rights and obligations for “Capacity” resources?
  - Listed vs. De-listed
  - Is “grandfathering” required?
- What clarifications need to be modified to accommodate “Capacity” resources?
  - Planning/Operating Procedures
  - Others?

Energy Only Interconnection Request

- What are the rights and obligations of “Energy Only” resources under Market Rule 1?
- Should “Energy Only” resources participate in or receive any compensation under
  - Schedule 2 (VAR)
  - Schedule 16 (Black Start)
  - Locational Forward Reserve Market
  - Others?
- What procedures need to be modified to accommodate “Energy Only” resources?
  - Planning/Operating Procedures
  - Others?

Next Steps

- Is there concurrence to incorporate a Deliverability Standard into the LGIP/SGIP process
- Are there other approaches this stakeholder group would like to consider further?
- Anything else?

FCM/Interconnection Queue Process Improvements

Principle: Efficiency of the Process

- The queue and transmission delivery study process should be better coordinated with the Forward Capacity Market (FCM) process. (Item II.A.)
- *Ranked the highest for 1st priority by the Study Group*

Plan For Discussion

- Overview of discussion (5 minutes)
- Identify opportunities for better coordinating the generator interconnection and FCM processes (15 minutes)
- Identify issues that need to be addressed in implementing an opportunity (30 minutes)
- Prioritize the opportunities (10 minutes)

Examples of Opportunities

- Can site control be submitted only once?
- Can the initial FCM meeting and the generator interconnection scoping meeting be combined?
- Can the deposits for FCM and the generator interconnection processes be consolidated?
- Can the generator interconnection studies and the FCM interconnection studies be combined?
- Can the milestones in the FCM and the generator interconnection processes be consolidated?

Can site control be submitted only once?

- Examples of Issues
  - LGIP allows interconnection requests without site control
  - How do we deal with projects in the State processes?
  - How do we deal with timing differences between the FCM and the generator interconnection processes?

Can the initial FCM meeting and the scoping meeting be combined?

- Examples of Issues
  - How do we deal with projects in the State processes?
  - How do we deal with timing differences between the FCM and the generator interconnection processes (e.g. Schedules 22 & 23 timelines)?
  - Who will attend the combined meeting (developer, interconnecting transmission owner, ISO's consultant, affected parties)?
  - How do we handle projects that apply only to the queue or only to FCM?
  - How do we deal with staffing impacts of having many meetings in a short period of time?

Can the deposits for FCM and the queue be consolidated?

- Examples of Issues
  - Each deposit associated with the queue has a defined purpose in the generation interconnection process
  - How will we handle final accounting of study costs?
  - When will interest be paid on deposits?

Can the Feasibility Study and the FCM Interconnection Studies be combined?

- Examples of Issues
  - Generator interconnection process allows evaluation of multiple interconnection points
  - FCM does not require determination of cost of interconnection or system upgrades
  - Can ISO and Transmission Owners agree on common software (PSSE, PSLF, TARA, MUST)?
  - Can ISO and Transmission Owners agree on common set of study assumptions?

Can the milestones in the FCM and the generator interconnection processes be consolidated?

- Examples of Issues
  - Can milestones in FCM be included in the Interconnection Agreement?
  - Can milestones be tracked in only one process?

Background Information

Differences between the Processes

Generation Interconnection Meetings

1. Scoping Meeting is held to determine level of study and choice of studies
2. Study results meetings held for Feasibility, System Impact and Facilities Studies

FCM Qualification Meetings

1. No Requirement for initial meeting, however, often a meeting is held to discuss details of the Show of Interest (SOI) submittal
2. Direct Connect
3. Critical Path Schedule Review
4. Review results of Interconnection Analyses
5. Review results of determination

Differences between the Processes, cont.

Generation Interconnection Request

1. Applies to all new generators under FERC jurisdiction
2. Applies to any increase in an existing generator
3. Applies to existing generators commencing participation in the wholesale market
4. Applies to retired units returning to service
5. Does not apply to deactivated generators returning to service within three years
6. Separate State processes for generators not under FERC jurisdiction

FCM Qualification Application

1. All new (never been “listed”) generators greater than 100 kW (MR 1, Section 13.1.1.1.1)
2. Where there has been an increase in output:

   By an amount equal to or exceeding the greater of: (i) 20 percent of the summer Qualified Capacity of the resource at the time of the qualification process for the Forward Capacity Auction; or (ii) 40 MW above the summer Qualified Capacity of the resource at the time of the qualification process for the Forward Capacity Auction (MR 1, Section 13.1.1.12.a)
3. Retired units returning to service

Differences between the Processes, cont.

Generation Interconnection Analyses

1. Multiple interconnection points may be requested for study
2. Can make changes to interconnection plan*
3. Can make minor changes to generator characteristics*
   - Reduction in MWs
   - Unit type

* *Significant changes to interconnection plan or generator characteristics may result in a "material modification" resulting in loss of queue position*

FCM Qualification Analyses

1. Single interconnection point per SOI application
2. Cannot make changes to interconnection plan**
3. Can make minor changes to generator characteristics**
   - Reduction in MWs
   - Unit type

** *A change to interconnection plan or a significant change in generator characteristics may result in a "material modification" resulting in disqualification*

Differences between the Processes, cont.

Generator Interconnection Site Control

- **Site Control** shall mean documentation reasonably demonstrating: (a) that the Interconnection Customer is the owner in fee simple of the real property for which new interconnection is sought; or (b) that the Interconnection Customer holds a valid written leasehold interest in the real property for which new interconnection is sought; or (c) that the Interconnection Customer holds a valid written option to purchase or leasehold property for which new interconnection is sought; or (d) that the Interconnection Customer holds a duly executed written contract to purchase or leasehold the real property for which new interconnection is sought; or (e) that the Interconnection Customer has filed applications for required permits to site on federal or state property.

  (LGIP/SGIP, Schedules 22 and 23)

FCM Qualification Site Control

- "Project Sponsor has already achieved control of the **project site** for the duration of the relevant Capacity Commitment Period. Site Control shall mean that: (i) the Project Sponsor is the owner in fee simple of the real property on which the project will be located; (ii) the Project Sponsor holds a valid written leasehold interest in the real property on which the project will be located; (iii) the Project Sponsor holds a valid written option, exercisable solely by the Project Sponsor or its assignee, to purchase or lease property on which the project will be located; or (iv) the Project Sponsor holds a duly executed written contract to purchase or lease the real property on which the project will be located."

  (MR1 Section 13.1.1.2.2.1)

Differences between the Processes, cont.

Generator Interconnection Milestones

1. Initial Synchronization Date
2. Commercial Operations Date
3. Additional milestones included in Interconnection Agreement

FCM Qualification Milestones

1. Major Permits
2. Project Financing Closing
3. Interconnection Request (Queue Position Received)
4. Major Equipment Orders
5. Substantial Site Construction
6. Major Equipment Delivery
7. Major Equipment Testing
8. Commissioning
9. Commercial Operation

(MR1 Section 13.1.1.2.2.2)

Differences between the Processes, cont.

Generation Interconnection Deposits

1. Interconnection Request deposit: $10,000 for a large generator and $1,000 for a small generator
2. Feasibility Study deposit: $10,000 or monthly cost
3. System Impact Study deposit: $50,000 or monthly cost
4. Facility Study deposit: $100,000 or monthly cost

FCM Qualification Deposits

1. Qualification Cost Reimbursement Deposit
   - Up to $25,000 (Reduced if generator interconnection studies complete)
   - Due with SOI and Project Sponsor billed only if over
   - Remaining funds returned
   - MR 1, Section 13.1.9.3
2. Financial Assurance
   - MR 1, Section 13.1.9
   - $2/kw x Qualified MW
   - Three deposits of CONE x Cleared MW after FCA

Differences between the Processes, cont.

Generation Interconnection Types of Analyses

1. Feasibility Study
2. System Impact Study
3. Optional Studies
4. Facilities Studies
5. Clustering allowed, but not used in New England

FCM Qualification Types of Analyses

1. Direct Connect
   - Uses generator interconnection study results when possible
2. Interconnection Analyses
   - Uses generator interconnection study results when possible
3. Overlapping Impact Test