

Order 2023 - Improvements to Generator Interconnection Procedures and Agreements



Capacity Interconnection Service Considerations

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Presentation Overview

- This presentation focuses on the implications of FERC Order No. 2023 on the capacity interconnection process in New England
- Describes the current capacity interconnection process
- Explains why Order No. 2023 warrants changes to the capacity interconnection process
- Presents the ISO proposal for the capacity interconnection process under Order No. 2023



CAPACITY INTERCONNECTION PROCESS TODAY

History and Description



FCM/Queue Filing

- The ISO's October 31, 2008 FCM/Queue Filing was approved by FERC on January 30, 2009
 - ER09-237, 126 FERC ¶ 61,080
- The filing addressed three different Tariff compliance requirements regarding the interconnection process for Generating Facilities in New England:
 1. FERC compliance requirement to implement an intra-zonal deliverability standard
 2. The reliance on interconnection queue position to determine qualification for the FCM
 3. FERC review of interconnection process management efficiencies
- The FCM/Queue filing established the mechanism that is currently used to coordinate the interconnection process with Forward Capacity Market (FCM) participation



FCM/Queue Filing: Key Elements

- Established two types of Interconnection Service
 - Capacity Network Resource Interconnection Service (CNRIS)
 - Network Resource Interconnection Service (NRIS)
- A valid Interconnection Request (IR) for CNR Interconnection Service was now required before submitting a Show of Interest (SOI) form to the FCM
- Incorporated the overlapping impacts analysis in the form of a CNR Group Study as the intra-zonal deliverability standard and other FCM-related milestones for CNRIS
- Replaced the “first-come, first-served” approach with a combination of a “first-come, first-served” and “first-cleared, first-served” approach for CNRIS



FCM/Queue Filing: Key Elements (cont.)

- Created an option for a preliminary, non-binding analysis of overlapping impacts under the existing Interconnection Feasibility Studies and System Impact Studies (FS & SIS)
- Established a Conditional Qualified New Generating Capacity Resource treatment for resources with lower Queue Positions in instances of limited overlapping interconnection impact space
- Established a Long-Lead Facility construct for inclusion of such resources in CNR Group Studies prior to the applicable Forward Capacity Auction (FCA)
- Established a restudy for determining final upgrade responsibility for CNRIS subsequent to each FCA
- Increased the milestones and deposits in the Large Generator Interconnection Procedures (LGIP)



Capacity Interconnections

- CNR Interconnection Service is available for Interconnection Customers that wish to provide capacity to New England at their established CNR Capability
 - CNR Interconnection Service must meet the Capacity Capability Interconnection Standard (CCIS)



Capacity Interconnections – Milestones

- Capacity Interconnections have to meet the following requirements (milestones) to achieve CNRIS
 - Complete Interconnection Process for CNR Interconnection Service
 - Participate in FCM Qualification
 - Show of Interest
 - New Capacity Qualification Package
 - Provide FCM Financial Assurance (FA)
 - Clear in the FCA
 - Or obtain a Capacity Supply Obligation through an annual reconfiguration auction or annual bilateral transaction
 - Participate in post-FCA restudy
 - Critical path schedule monitoring
 - Commercial Operation



What is Initial Interconnection Analysis?

- Part of FCM Qualification for proposed New Generating Capacity Resources
 - Assess the ability of a proposed generator to interconnect and provide capacity by the start of the Capacity Commitment Period (CCP)
 - Includes analysis of overlapping interconnection impacts (in the form of a CNR Group Study) and initial interconnection analysis under the Network Capability Interconnection Standard
 - Includes, but not limited to power flow and short circuit analyses
- For the FCM, if qualification of a proposed New Generating Capacity Resource is restricted due to initial interconnection analysis, the threshold is:
 - Where the upgrade(s) cannot be completed in time for the start of the CCP
- Where upgrades can be completed in time, the generator's New Generating Capacity Resource will be qualified and the generator will be responsible for the upgrades
 - If applicable, the generator's New Generating Capacity Resource may be partially qualified to participate in the FCA up to the amount that the generator can operate without fixing the observed violations



Initial Interconnection Analysis:

Network Capability Interconnection Standard Testing

- Test to ensure that, for the purposes of interconnection, the proposed generator does not cause overloads that cannot be fixed in time for the start of the CCP
 - Performed at the requested Network Resource Capability
 - Allows re-dispatch of existing resources to relieve overloads
- Uses interconnection study results, whenever available
 - Otherwise uses [PP-10](#) methodology to anticipate the interconnection process outcomes, based on Queue Position



Initial Interconnection Analysis:

Capacity Capability Interconnection Standard Testing

- Test to ensure that the proposed generator does not cause overloads that cannot be fixed in time for the start of the CCP when delivering capacity within its Load Zone
 - Performed at the requested SOI value (up to the related IR's requested CNR)
 - Re-dispatch of existing resources is restricted
- Accomplished through a CNR Group Study to examine overlapping interconnection impacts
 - Proposed New Capacity Resources analyzed in Interconnection Queue order during FCA qualification
- Uses PP-10 methodology



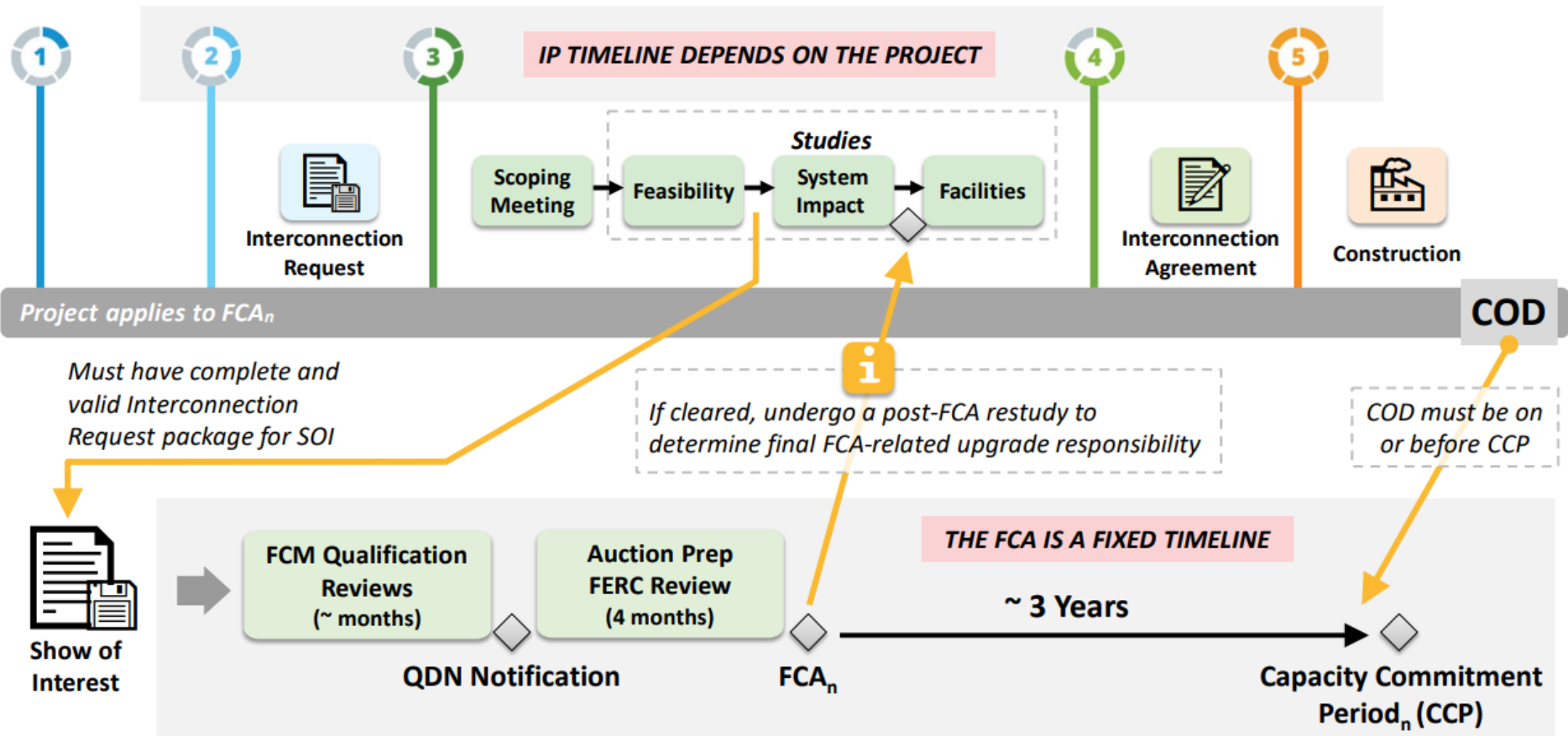
CNR Restudy

- After each FCA, the New Generating Capacity Resources that cleared in the FCA will undergo a restudy of the relevant interconnection study to memorialize the final upgrade responsibilities for each cleared resource
 - True-up for other new resources that cleared & retirements



Current Process Coordination

Important FCM Impacts to the Interconnection Process (IP) Timeline



Reflections on the Current Process

- The first-cleared-first-served process was helpful, especially in earlier FCAs, in achieving queue discipline and outcome certainty, while allowing competitive participation
 - This performance has been less observable as the new resource mix has changed
- Project Sponsors have expressed that the fixed forward calendar can be a challenge to coordinate with the project development process
 - Difficult to align in-service date with the applicable CCP
- It has been challenging to predict interconnection process outcomes, especially for projects that are early in the process

ORDER NO. 2023 IMPLICATIONS FOR THE CAPACITY INTERCONNECTION PROCESS



Key Aspects of Order No. 2023

(Relevant to capacity interconnection process)

- Single annual interconnection cluster study (the following points also apply to the Transition Cluster)
 - Increased requirements to enter and remain in cluster
 - Outside the annual cluster window there is no ability to establish or maintain an IR
 - Within each annual cluster, all projects are considered equally queued
 - Projects share the costs of shared upgrades (not first-come-first-served)
 - Final upgrade responsibility will depend on which projects remain in the cluster
 - Cluster will include IRs with different in-service dates
 - Upgrades could be shared by a project that will be in-service within two years and another project that will be in-service in four years

Implications of Order No. 2023

(Relevant to capacity interconnection process)

- Existing CNRIS constructs will no longer work/apply
 - Currently, initial interconnection analysis and overlapping interconnection impacts (and upgrade responsibility) determined in queue order
 - Under Order 2023, there will be no ability, separate from the annual interconnection cluster, to evaluate the ability to interconnect, or estimate the required upgrades
 - Final upgrade responsibility will depend on which projects remain in the cluster
 - IR establishment no longer aligns with FCM application
 - IRs can only be submitted in annual interconnection cluster windows
 - Projects in the cluster study may have different projected in-service dates
 - Conditional Qualification & Long Lead Treatment no longer workable
 - Both designs relied on individual serial queue positions

ISO PROPOSAL

Capacity Interconnection Process under Order No. 2023



ISO Proposal

- Move all steps of the capacity interconnection process into the overall interconnection process mandated by Order No. 2023
 - Consistent with interconnection approach in other ISOs
 - ISO-NE was unique in the FCM-Queue approach
 - Consistent with Order No. 2023
 - Contemplates that annual clusters would consider energy and capacity interconnection requests
 - External process to administer capacity interconnections is not included in the FERC pro forma
- Begin with the Transition Cluster Study which will initiate in 2024
 - After the completion of FCA 18 (the final FCA to use the current approach)
 - Allows for continued pursuit of CNRIS after FCA 18

CNRIS Implementation

- CNRIS requests will be evaluated in each annual Order No. 2023 cluster
 - Using the existing CCIS standards in PP-10
 - Conforming changes may be needed to address the departure from the serial queue approach, but the standards and criteria would remain as they are today
 - Using the required Order No. 2023 cost allocation methodologies
 - CCIS testing will be performed in addition to the other testing required in the interconnection process
 - NCIS testing described in [PP5-6](#)
- In Forward Capacity Market qualification
 - Instead of performing interconnection study reviews as part of the qualification process, the qualification process will review the progress of the project in the interconnection process
- CNRIS would be achieved by completing the interconnection process and entering commercial operation
 - Achieving a CSO in the Forward Capacity Market would no longer be a milestone to achieving CNRIS

Non-ISO Queue Projects

- ISO is still assessing approaches to evaluate deliverability for non-ISO queue projects
 - Projects connecting to the distribution system under state interconnection rules



Questions

