

Order Nos. 2023/2023-A Conforming Changes to ISO Planning Procedures



*Affected System Operator (ASO) Study
Coordination*

Brad Marszalkowski

SUPERVISOR, RESOURCE INTEGRATION

SYSTEM PLANNING



Order Nos. 2023/2023-A - Conforming Changes to ISO Planning Procedures (ASO Study Coordination)

Proposed Effective Date: After FERC action on ISO's Order No. 2023 Filing (for PP5-6)

- The ISO identified the need for several conforming changes to Planning Procedure 5-6: Interconnection Planning Procedure for Generation and Elective Transmission Upgrades (PP5-6) and Planning Procedure 10: Planning Procedure to Support the Forward Capacity Market (PP10)*, as a result of Order Nos. 2023/2023-A
 - Order Nos. 2023/2023-A result in significant reforms to the interconnection process to move to a “first ready, first served” Cluster Study construct with clustered Interconnection Requests equally queued
- The ISO will discuss the PP5-6 modifications to describe **ASO Study Coordination**
 - This presentation includes additional PP5-6 modifications to address stakeholder feedback

*Conforming changes to PP10 will be introduced in Q4 2024



STATE JURISDICTIONAL INTERCONNECTIONS

Section 1.3.9 Reviews



State Jurisdictional Submittals

- Pursuant to Section I.3.9 of the ISO New England Transmission, Markets, and Services Tariff, Market Participants (MP) are required to submit notice to the ISO for additions or changes to any generating resource at least 60 days prior to the project's planned in-service date
 - In many cases, the Transmission Owner (TO) submits these applications on behalf of a developer because they are not yet, or will not be a Market Participant
- Review of these applications is implemented through ISO-NE [Planning Procedure 5-1 \(PP5-1\)](#)
 - In accordance with PP5-1, any new or increased generation with a nameplate capability greater than 1 MW must either submit a Generator Notification Form (GNF) or a Proposed Plan Application (PPA)



State Jurisdictional Submittals (cont'd)

- The ISO reviews these GNFs and PPAs and provides a response on the level of analysis required pursuant to [Planning Procedure 5-3 \(PP5-3\)](#)
 - Level 0 indicates concurrence of a project's Generator Notification Form proceeding to the Reliability Committee Consent Agenda
 - No study is required for these projects under Planning Procedure 5-1
 - Level III requires that the project undergo a transmission System Impact Study (SIS), consistent with Planning Procedure 5-6, to support the PPA, prior to it proceeding to the Reliability Committee for an advisory vote



ASO Study Coordination – Roles & Responsibilities

- The ISO serves as an affected party to Distributed Energy Resource (DER) ASO studies, and helps to coordinate project approvals through Section I.3.9 of the Tariff
- The Interconnecting TO is responsible for conducting the Transmission System Impact Study on the developer's behalf for state jurisdictional projects
- The ISO's role in these studies is to provide hands-on guidance on study practices and modeling methods to ensure the study is in compliance with the applicable Tariff and Planning Procedure requirements in support of I.3.9 approval



ASO Study Coordination – Roles & Responsibilities (cont'd)

- The ISO's participation includes, but is not limited to:
 - Providing written input to the TO regarding study scopes
 - Providing cases and the relevant EMT/stability models to the TO for use in the study
 - Facilitating PSCAD model sharing between TOs and GOs for relevant projects in the study
 - Providing feedback and guidance on any issues that are found during the course of the study
 - Ensuring the study will meet the study and modeling requirements of Planning Procedure 5-6 and the Technical Planning Guide to be inclusive of, but not limited to:
 - Steady state, stability, short circuit, and EMT study methodologies
 - Modeling requirements
 - Studied load levels
 - Case definitions
 - DER modeling methodology
 - Identified transmission and generation projects relevant to the study
 - Performance requirements
 - Ensuring study is coordinated with relevant FERC jurisdictional projects



AFFECTED SYSTEM OPERATOR STUDY COORDINATION

*Alignment with the new Order No. 2023 interconnection
process*



Coordination of ASO Studies with FERC Jurisdictional Studies – Post-Order No. 2023

- FERC Order No. 2023 mandates that cluster studies must be used to study FERC jurisdictional interconnection requests
 - The Order No. 2023 cluster study process requires fixed, targeted timeframes for the initiation and completion of cluster studies
 - These fixed timeframes necessitate coordination of ASO study initiation and completion
- In order to better coordinate between ASO studies and FERC Order No. 2023 Clusters, ISO-NE is seeking to update the process by which ISO-NE reviews and approves state jurisdictional projects through the I.3.9 process
 - ISO-NE is seeking to create windows for these I.3.9 reviews to ensure efficient alignment of the processes



Coordination of ASO Studies with FERC Jurisdictional Studies

- There will be a delineation between projects that are relevant* to FERC jurisdictional studies, and those that are not
 - ASO studies taking place in an electrical part of the system that are not relevant will be able to complete their studies without respecting an ongoing FERC study
 - ASO studies taking place in an electrical part of the system that are relevant will need to respect and coordinate with an ongoing FERC study
- These ASO studies will need to model all relevant FERC jurisdictional projects and associated upgrades in the ASO base cases
 - Depending on the in-service date of the projects, the ASO study may need to run both pre- and post-FERC project cases

*The determination of relevance is based upon a review of electrical proximity, the likelihood of causing common violations, and whether identified upgrades of FERC Interconnection Requests may impact the performance of the proposed projects



WHY CHANGES TO TIMING OF DETERMINATION REQUESTS ARE NECESSARY

*Alignment with the new Order No. 2023 interconnection
process*



Why ISO is Proposing to Change the Timing of Determination Requests

- As described earlier, ASO studies will have to coordinate with and respect ISO Cluster Studies
 - This will naturally establish windows for the start and completion of ASO studies
- Note that coordination has always been required between ISO Interconnection Studies and ASO studies
 - Under the first-come-first-served approach (pre-Order No. 2023), ASO studies have always been required to respect any ISO Interconnection Study that had started
 - This has always had the potential to cause ongoing ASO studies to require additional time to complete while the new ISO study was incorporated
 - Post-Order No. 2023, the potential to be affected by a newly starting ISO study is eliminated by the clustering windows for ISO Interconnection Requests
- **The Trade-off:**
 - The **set of ISO requests for an ASO study to coordinate with is fixed** upon the close of the ISO Cluster Request Window
 - However, **the ASO process must coordinate with these windows**



Why ISO is Proposing to Change the Timing of Determination Requests – Example

- If the ISO continued to process determinations for DER projects on a rolling monthly basis, the following could occur in the months after the ASO coordinated studies are initiated
- Example Substation with no existing DERs in electrical proximity

Months After Closing of Cluster Windows	DER Project Proposed at the Example Substation (MW)	ISO Determination Under the Current Rolling Monthly Process
Month +1	4.9	Level 0
Month +2	4.9	Level 0
Month +3	4.9	Level 0
Month +4	4.9	Level 0
Month +5	4.9	Level III*

*A Level III study of the 4.9 MW proposal in Month +5



Why ISO is Proposing to Change the Timing of Determination Requests – Example (cont'd)

- If the ISO continued to process determinations for DER projects on a rolling monthly basis, the example on the previous slide would result in a Level III study of the individual 4.9 MW project submitted in Month +5
 - By itself, this Level III study will be time consuming, but may not show any adverse impacts because the 4.9 MW size is small relative to the adverse impact thresholds
- If all of the proposals had been submitted in the period prior to the closing of the clustering windows, then a Level III study would have been identified for the aggregated 24.5 MW at the example substation
 - A Level III study of the aggregated 24.5 MW may have identified adverse impacts



NEW ASO COORDINATION PROCEDURES

Alignment with the new Order No. 2023 interconnection process



Coordination of ASO Studies with the Transitional Cluster Study (TCS)

- Timing
 - ASO studies comprised of state jurisdictional projects that are expected to achieve I.3.9 approval within 90 days of the start of the FERC Transitional Cluster Study, will be respected within the FERC Transitional Cluster Study
 - These ASO studies will **not** be required to wait to complete until after the Transitional Cluster Study
 - These ASO studies will not have to respect the Transition Cluster Study – they will be included in the base case for the Transition Cluster Study
 - ASO studies comprised of state jurisdictional Projects that are **not** expected to achieve I.3.9 approval within 90 days after the Transitional Cluster Study starts will need to respect the relevant FERC Cluster Study
 - These ASO studies will then be studied in parallel with the Transitional Cluster Study



Coordination of ASO Studies with the Transitional Cluster Study (TCS) (cont'd)

- ASO studies that are not completed in advance of the TCS and that the ISO has determined are relevant to the TCS, shall respect and coordinate with the TCS over the next 240 days
- TOs will have until the start of the first ISO Cluster Study, which is expected to begin in late 2025/Early 2026, to advance the ASO study to a point at which ISO-NE expects that it will be ready to seek an RC advisory vote within 90 days of the FERC Cluster Study start date
- ASO studies will only need to respect FERC Interconnection Requests-and associated upgrades that are relevant
 - These studies will need to model all relevant FERC jurisdictional projects that are present within the cluster study
 - Depending on the in-service date of the projects, the ASO study may need to run both pre- and post-FERC project cases
 - The ASO study will use the FERC Cluster Study cases and incorporate all models of the proposed FERC jurisdictional projects within that relevant FERC Cluster Study
 - If upgrades are identified as part of the FERC Cluster, the appropriate TO(s) will receive modeling files for those upgrades



Coordination of ASO Studies with the Transitional Cluster Study (TCS) (cont'd)

- At the beginning of the Transition Cluster Study phase, the study case for ISO-queued projects is established
 - All ISO-queued modeling information has been provided by Interconnection Customers
 - No new ISO Interconnection Requests can be added to the study case until the beginning of the next Cluster Study
- ISO will make the study case and modeling information available to Transmission Owners (TOs) to conduct ASO studies
- TOs can conduct ASO studies in parallel with the Transition Cluster Study
 - As long as the ASO studies are within 90 days of achieving I.3.9 approval (and all modeling information is provided) by the beginning of the next ISO Cluster Study, the ASO studies can complete
 - These ASO studies will not have to respect the next Cluster Study – they will be included in the base case for the next Cluster Study
 - ASO studies can complete when they have sufficiently represented relevant projects in the ISO Cluster Study that is nearing completion
 - ASO studies do not have to wait for ISO projects to be sufficiently completed when those projects are not relevant to the ASO studies
- TOs shall provide an ASO Study scope of work for ISO review
 - The ISO will provide feedback on the scope within 10 business days
 - The approval of the scope of work shall apply for the ISO cluster phase with which the ASO study is attempting to coordinate
 - If the ASO study is not completed in this timeframe, the scope of work must be re-developed for review

ASO Studies Completing Before the Beginning of the Transitional Cluster Study (TCS)

- Starting on the beginning date of the TCS, ISO-NE will make Level 0/Level III determinations in accordance with appendix I of PP5-6
- During the TCS, ISO-NE will work with the TOs to complete all in progress ASO studies
- Approximately one week prior to the start of the TCS, the ISO will have reviewed the progress of all known ongoing ASO studies and will make a determination on whether the ASO study is relevant to the TCS and in a position to seek an RC advisory vote at or before the last Reliability Committee meeting within the 90 window
- For those projects relevant to the TCS that are expected to be completed in this timeframe, ISO-NE will need to have received vetted and working Steady State, Short Circuit, Stability, and PSCAD models for those projects by COB the day before the start of the TCS
- If models for projects relevant to the TCS are not received by this time, the projects within the ASO will move to the grouping of projects that need to respect the TCS

Projects Submitted During the TCS

- The ISO will make Level 0 and Level III determinations for the duration of the TCS
- For the purposes of the determination, the project(s) submitted will be aggregated with those submitted before the transition
- After the determination is made, the following applies:
 - If the project(s) is determined to be Level 0, the project(s) can submit a notification form immediately
 - If a project(s) is determined to be Level III, and the project(s) in aggregate are less than 20 MW, the project(s) will be moved to the next project submission window for review
 - If the project(s) is determined to be Level III, and the project(s) in aggregate are greater than or equal to 20 MW, a new ASO study can begin
 - Projects relevant to the ongoing ISO Cluster Study will need to coordinate with the ongoing ISO Cluster Study



Timelines for Transition

Transition Order 2023 Timeline Transitional Cluster Study

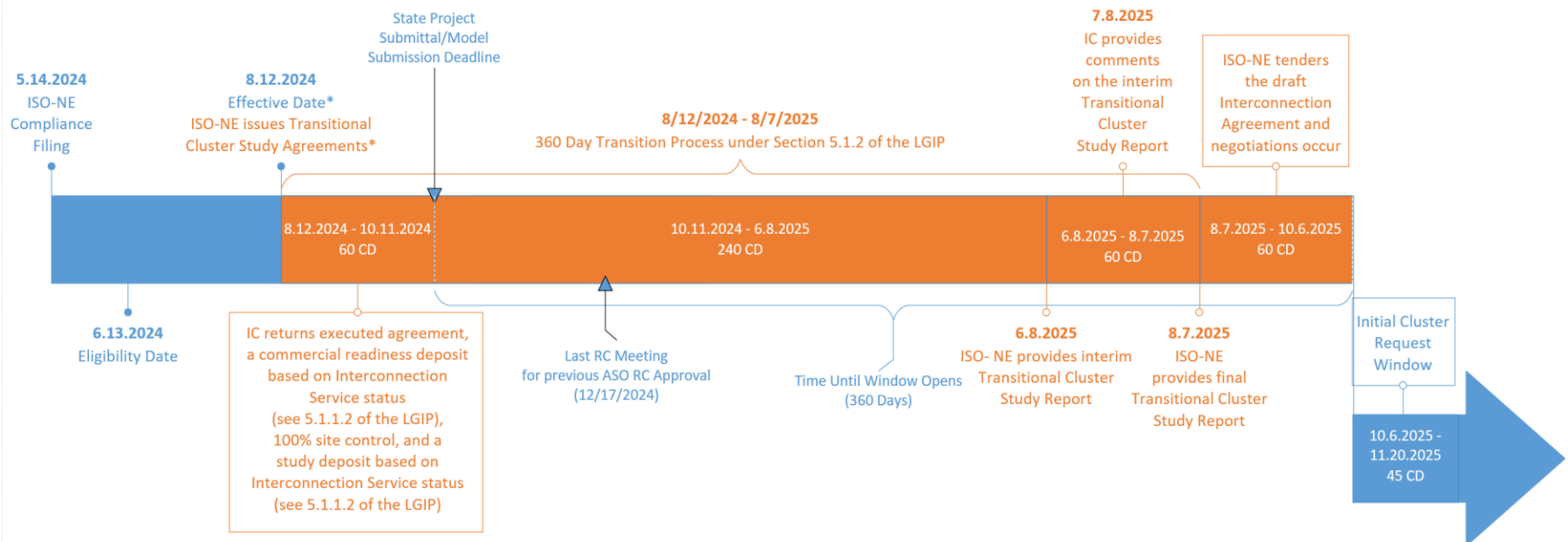
Key

LGIP = Large Generator Interconnection Procedures

IC = Interconnection Customer

CD = Calendar Days

***Dates are subject to change given ISO has not received an order on the FERC Order 2023 Compliance Proposal**



*Late stage System Impact Studies have until 8/30/2024 to have comments addressed and to be finalized. Interconnection Customers for which the System Operator projects to complete the system impact studies between 6/13/2024 and 8/30/2024, shall be tendered a Transitional Cluster Study Agreement no later than the Commission-approved effective date of this LGIP. However, if the Interconnection Customer accepts the results of its system impact study on or before 8/30/2024, the System Operator shall not include the Interconnection Request in the Transitional Cluster Study, and instead will tender a Large Generator Interconnection Agreement pursuant to Section 11 of this LGIP, and refund any deposits associated with participation in the Transitional Cluster Study.

*This will be the requested Effective Date in ISO-NE's compliance filing, but it will actually be determined by the FERC approval.

ASO Coordination Post-TCS

- After the completion of the Transition Cluster Study, ASO studies will be coordinated with current ISO Clusters
- There will be a 270 Calendar Day (CD) revolving window for making determinations dependent on whether or not there is a FERC Cluster Restudy
- As the ASO study progresses, the ISO will coordinate between the FERC Cluster and any ongoing ASO studies
- ISO-NE will provide FERC Cluster Study base cases to the TOs for ASO studies, and provide updates to the TOs on model changes, upgrades, and results in the form of coordination calls and modeling files



ASO Coordination After Transition – Timing

- At the start of the Cluster Request Window, there will be a 20 day submission window in which TOs will submit all state jurisdictional projects they are requesting determinations for
- At the end of the submission window, the ISO will move into the 30 day determination time frame
 - During this time, the ISO will reach out to the submitters as needed for any further information or clarifications, and by the end of the 30 days, will have sent out determinations for all projects requested on the level of analysis required
 - The ISO will not advance any Generator Notification Forms, or Proposed Plans Applications until determinations are made following the ISO's determination time frame
- Projects that are determined to be Level 0 will be able to receive approval at the next available RC meeting, and projects that are determined to be Level III will proceed to ASO scoping
- For the next 55 days (ASO Scoping Period), ISO-NE will coordinate with all TOs to decide on relevancy to FERC Cluster projects and to jointly develop ASO Study Scopes
 - Studies will be scoped to match relevant FERC study scopes, initially with changes made using engineering judgment based on differences in the studies

ASO Coordination After Transition – Timing (cont'd)

- Both the FERC Cluster Study and ASO study timeframes will start at the same time
- If upgrades are identified as part of the FERC Cluster, the TOs will receive modeling files for those upgrades as soon as they are available
- TOs will have until the start of the next Cluster Study (at a minimum 175 CDs) to advance the ASO study to a point at which ISO-NE expects that it will be ready to receive RC approval within 90 days
- ASO studies will only need to respect upgrades for projects that are relevant
 - If no upgrades are identified during the study period, then the ASO projects will be free to complete unencumbered



ASO Coordination After Transition – Interim

- 270 days after the close of the previous submission window, a new submission window will open
- The new submission window will also be 20 days, and then again followed by a 30 day determination timeframe
- Projects that are Level 0 can progress and receive their approval at the next available RC meeting, whereas projects that are determined to require Level III analysis will progress to another ASO Study Scoping Period
- For the subsequent 55 days (ASO Scoping Period), ISO-NE will again coordinate with all TOs to decide on relevancy to FERC Cluster projects and jointly develop the ASO Study Scopes
- After this ASO scoping period, there will be different timelines for projects dependent on whether there is a restudy after the FERC Cluster completes



Projects Submitted Outside of Submission Windows

- The ISO will make Level 0 and Level III determinations outside of the project submission windows
- For the purposes of the determination, the project(s) submitted outside of the submission windows will be aggregated with those submitted within the windows
- After the determination is made, the following applies:
 - If the project(s) is determined to be Level 0, the project(s) can submit a notification form immediately
 - If a project(s) is determined to be Level III, and the project(s) in aggregate are less than 20 MW, the project(s) will be moved to the next project submission window for review
 - If the project(s) is determined to be Level III, and the project(s) in aggregate are greater than or equal to 20 MW, a new ASO study can begin
 - Projects relevant to the ongoing ISO Cluster Study will need to coordinate with the ongoing ISO Cluster Study

ASO Coordination After Transition – Restudies

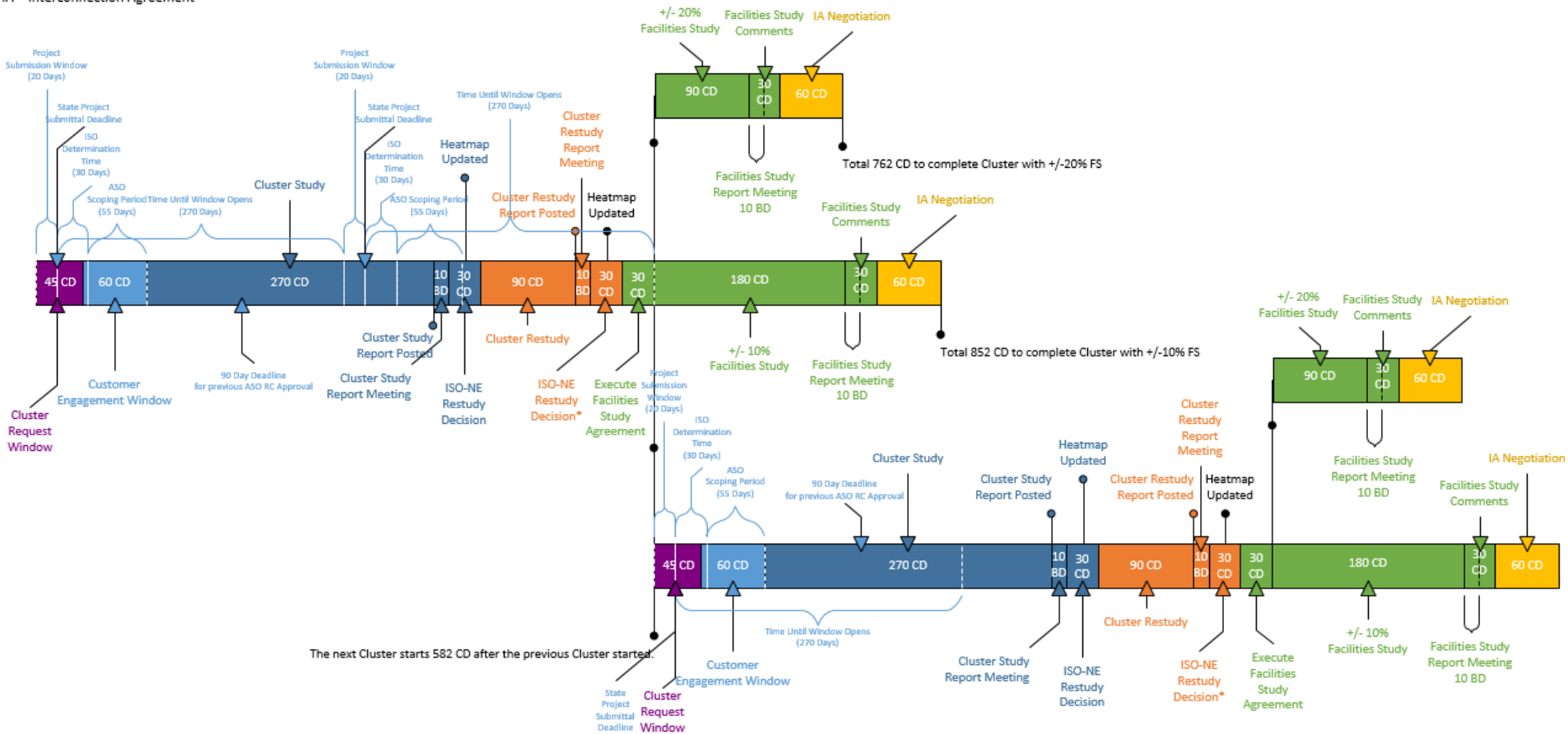
- If there is a FERC Cluster Restudy:
 - TOs will be able to progress projects from the ongoing ASO Study, that are not relevant to the restudy, as normal towards RC approval
 - Projects from the ongoing ASO, that are relevant to the Restudy, will need to undergo further analysis to respect the restudy, and will be coordinated in the same manner as the Cluster Study coordination
 - New projects that were determined to require Level III analysis, and are relevant to the FERC Cluster/Restudy, will have the opportunity to either be included in the current ASO Study, or start their own ASO study that respects the FERC Cluster/Restudy and the current ASO Study
- Projects that were determined to be Level III that were not relevant to the FERC Cluster/Restudy will be able to proceed through scoping without respecting the FERC Cluster
- Should there be no restudy, TOs will be able to progress projects from the ongoing ASO Study as normal towards RC approval, or the TOs will have the opportunity to either integrate the new proposals into the ongoing ASO Study, or wait until the start of the next FERC Cluster Study

Timelines Post-Transition

Key

CD = Calendar Days
BD = Business Days
FS = Facilities Study
IA = Interconnection Agreement

ISO-NE Order 2023 Timeline



*If additional restudies are necessary, go back to Cluster Restudy.

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CHANGES TO CURRENT DETERMINATION PRACTICE



Changes to Determination Practice

- Updates to the current determination procedure are required as part of coordination with FERC Order No. 2023
- At the end of the screening:
 - If the aggregation at the station under review plus the electrically close stations is <20 MW, and the newly proposed addition of individually <5 MW DERs at that station plus those at electrically close stations is <20 MW, then the projects will be determined to be Level 0
 - If the aggregation at the station under review plus the electrically close stations is 20 MW or greater, and the newly proposed addition of individually <5 MW DERs at that station plus those at electrically close stations is <20 MW, then the projects will be determined to be Level 0
 - If the aggregation at the station under review plus the electrically close stations is <20 MW, and the newly proposed addition of individually <5 MW DERs is >20 MW, then the projects will require Level III analysis

*ISO-NE will no longer consider one-at-a-time project additions. Determinations will be made solely based on the total aggregate of all projects submitted during the submission windows that are electrically close based on the screening criteria.



CONCLUSION



Stakeholder Feedback

- The ISO's determination process proposal was introduced at the June 18, 2024 RC and redlines were initially presented at the July 16, 2024 RC
- The ISO held several meetings with affected entities to gather feedback
- The ISO received further stakeholder input at the July 25, 2024 RC
- The ISO considered various approaches to address the concerns of affected parties, while considering reliability requirements and achieving the goal of improved coordination with the new Order No. 2023 construct
- With stakeholder input, the ISO developed modifications that addressed concerns while maintaining the clustering construct leading to approval at the August RC and September PC



Questions

BMarszalkowski@ISO-NE.COM

