

Learning from the Experts Webinar Series

How Offshore Wind Connects to New York's Electric Grid



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Senior Manager of Interconnection
Projects

New York Independent System Operator
(NYISO)

June 12, 2024

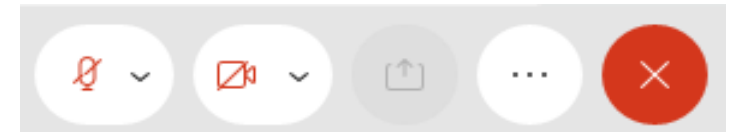
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Learning from the Experts

This webinar series is hosted by NYSERDA's offshore wind team and features experts in offshore wind technologies, development practices, and related research.

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NYSERDA



NYISO Cluster Study Process

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NYSERDA Webinar

June 12, 2024

Agenda

- **Purpose/Mission**
- **Types of Interconnection Service**
- **Roles of Entities**
- **Cluster Study Process Steps and Timeline**
- **Questions**

Purpose/Mission

- Evaluate impacts proposed generation, transmission and load projects on the system.
- Identify and cost allocate upgrade facilities for reliable interconnection and capacity deliverability.

Types of Interconnection Service

- **Two types of interconnection service:**
 - Energy Resource Interconnection Service (ERIS) – needs to comply NYISO Minimum Interconnection Standard
 - Capacity Resource Interconnection Service (CRIS) – needs to comply with NYISO Deliverability Interconnection Standard
- **A facility that obtains ERIS will be eligible to participate only in the Energy and applicable Ancillary Services markets.**
- **If such facility also wishes to be eligible to become an eligible Installed Capacity Supplier or to receive Unforced Capacity Deliverability Rights, such facility must also obtain CRIS.**

Roles of Entities Involved in the Cluster Study Process

Interconnection Customer

- Decides where a proposed Project will be interconnected and submits an Interconnection Request for such proposal or CRIS-Only Request during the Application Window
- Ensures all Application requirements, e.g., Site Control, application fee, study deposit, etc. for the IR are met during the Application Window and throughout the Cluster Study Process
- Is financially responsible for the Study Costs and Commercial Readiness Deposits associated with the Cluster Study Process and system upgrade costs
- Participates in studies and discussions with the NYISO and/or the CTO
- Works with the NYISO and TO to develop and execute the Interconnection Agreement
- Main entity involved in construction of its owned interconnection facilities

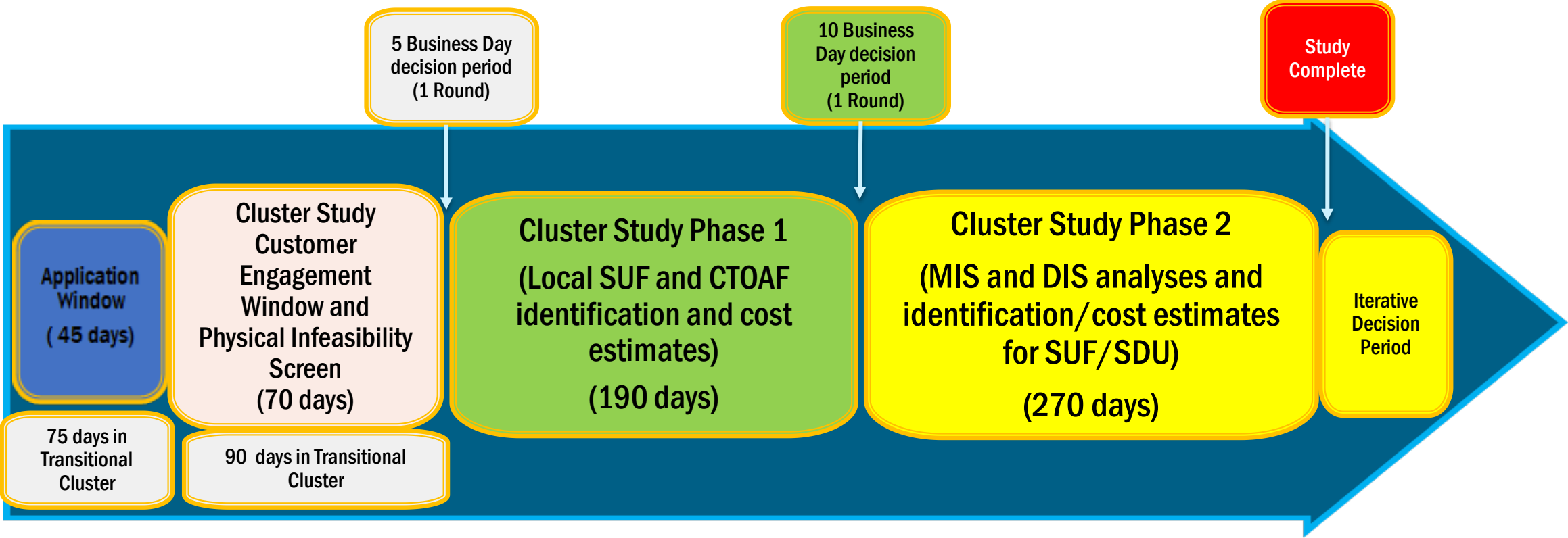
NYISO

- Coordinates the interconnection process
- Identifies CTO and ATO for each IR or CRIS-Only Request
- Conducts and coordinates the Cluster Study to reliably interconnect proposed projects
- Coordinates the stakeholder process (Operating Committees and working groups) Works with the IC and TO to develop and execute the Interconnection Agreement
- Files the Interconnection Agreement with FERC

Transmission Owner

- Participates in Cluster Study to ensure proposed projects meet all Applicable Reliability Requirements
- Involved in construction of the interconnection facilities
- Works with the IC and NYISO to develop the Interconnection Agreement

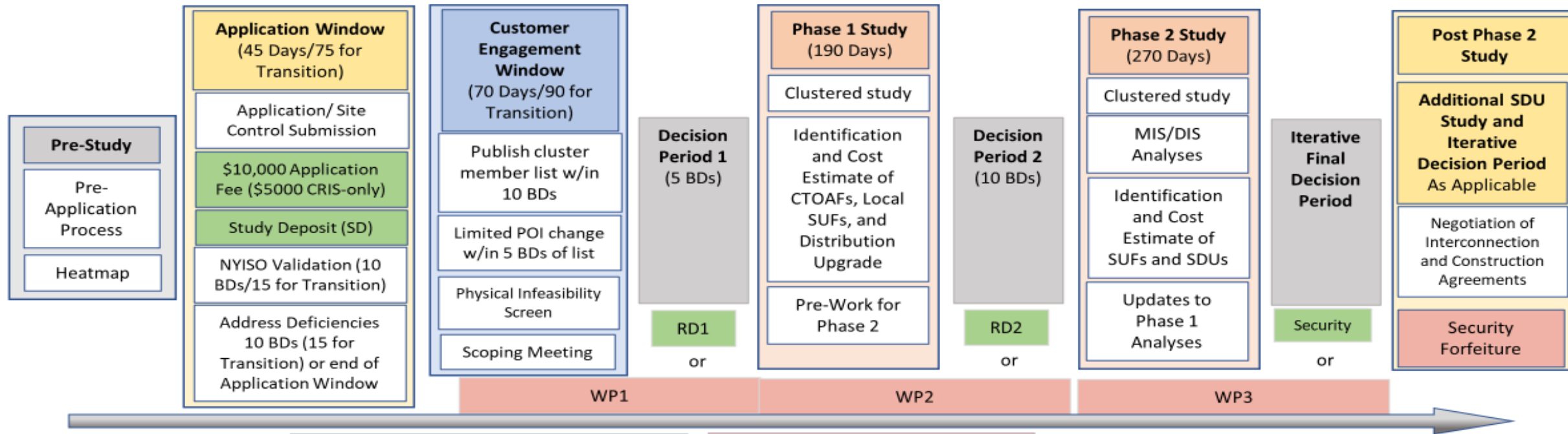
Cluster Study Process



Total Timeline: 590 days (1.6 years)

Total Timeline in Order No. 2023: 495 days to 585 days (1.4 – 1.6 years)

NYISO Cluster Study Process Overview



Study Deposit (SD) Amounts

Size	Amount
< 80 MW	\$100,000
≥ 80 < 200 MW	\$150,000
≥ 200 MW	\$250,000
CRIS Only	\$50,000

Readiness Deposits (RD) /Security Amounts

Deposit	Amount
RD1*	\$4,000/MW
RD2*	The greater of (i) RD1, and (ii) 20% of cost estimate determined in Phase 1 for Local SUF and CTOAF
Security	100% of cost estimate of SUFs, SDUs, and CTOAFs identified in Phase 1 and Phase 2

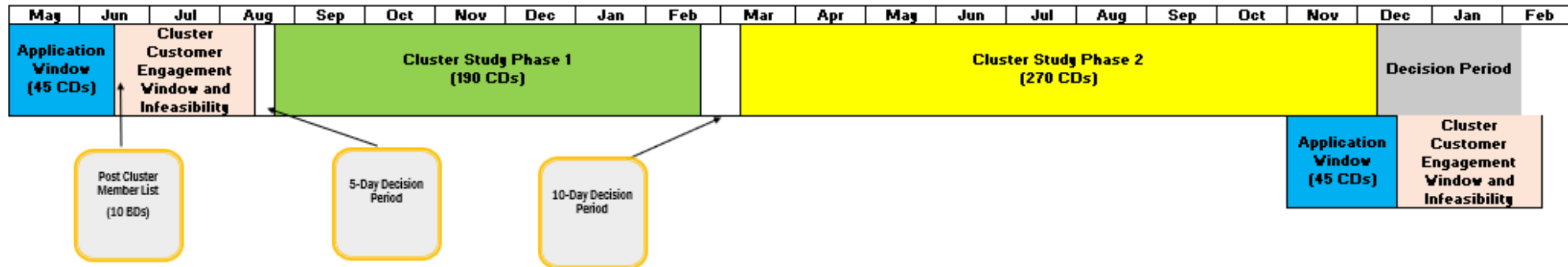
* N/A to CRIS only projects

Withdrawal Penalty (WP) Amounts

Penalty	Amount
	If a project withdraws during the Application Window or up to within 5 Business Days of the NYISO publishing the cluster member list in the Customer Engagement Window, there is no withdrawal penalty. Also, no withdrawal penalty for contingent projects and projects that withdraw due to physical infeasibility
WP1	25% of SD, except if withdrawal is of a contingent project or due to physical infeasibility
WP2	50% of SD + 10% of RD1, except if withdrawal is due to physical infeasibility
WP3	100% of SD + 20% of RD2, except if withdrawal is due to physical infeasibility or if there has been a 50% cost increase between Phase 1 and Phase 2 (non SDU) costs.
Security Forfeiture	Up to 100% of Security subject to forfeiture if other projects relying on the upgrades identified for its project

Sequencing of Cluster Studies

- Clusters begin approximately every 18 months with slight overlap, but not overlap that would cause rework or inefficiencies



Questions?

Next Webinars

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**The Commercial Sale of Offshore
Wind Power Generation
Power Advisory**

July 31, 1:00 p.m. ET

**How Remote Technology
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