

Resource Modeling and Start-Up Testing

Modeling of a new ESR within NYISO Operational Systems

To enable accurate system representation, the new ESR must be modeled in the NYISO MIS and Operational systems, based on resource-specific Registration parameters and metering configuration setup. A completed Registration packet, including Section BB, must be submitted to the NYISO. For timely modeling to be completed and for timely modeling to be completed and for start-up testing and participation in the NYISO markets, the recommended timeframe for modeling a new resource is 4-6 months prior to the intended start date. Resource specific Object IDs, meter configuration and appropriate MIS flags (Energy and Ancillary Services participation) are attributed to the resource within the NYISO's MIS and operational systems.

Section BB includes:

- ✓ Generator size
- ✓ Operating restrictions
- ✓ State of Charge Information
- ✓ NYS Transmission System injection point and voltage level
- ✓ VAR Capability of ESR
- ✓ Indication of ICAP Market Participation
- ✓ Indication of Reserve and Regulation Market Participation

End-to-end communications testing

Real-time communication protocols and the communications path must be established with the respective Transmission Owners (TOs) prior to the onset of start-up testing. The typical path is a three-way communication path from the NYISO Control Computer System to the Transmission Owner Control Computer system, and from there to the generator. Requirements and procedures are detailed in the [Control Center Requirements Manual](#). Generators requesting direct communication with the NYISO for transmitting data and basepoint information must follow the procedures outlined in the [Direct Communications Manual](#), as well as reach out to NYISO Stakeholder Services.

End-to-end communications testing including 5-min, 6-second basepoints, breaker status, generator MW & MWH measurement (telemetry testing) must be completed prior to scheduling start-up testing and must be coordinated with the NYISO using the customer_registration@nyiso.com email address.

Pre-commercial Start-up testing

Start-up testing covers various aspects of operating, scheduling, and bidding of new ESRs prior to commercial operation and participation in NYISO Energy, Installed Capacity Markets and Ancillary

Services. Start-up testing must be coordinated with NYISO Customer Registration as well as the Outage Scheduling department and NYISO's Operations Generation desk.

Start-up testing includes:

- Operating details of the New Generator
- Synchronization to the grid
- Meter data coordination for various phases of metering, based on MW output of Generator
- ICAP specific resource capability testing (DMNC), and
- Testing for providing any selected Ancillary Services products e.g., Regulation, Operating Reserve, VSS etc.

Details about pre-commercial start-up testing can be found in [Technical Bulletin 116: New Generation Units Operating During the Start-UP Testing Phase](#). Details about pre-qualification testing for ancillary services can be found in the [Ancillary Services Manual](#).

Once start-up testing is completed without any issues, the operational onboarding process of the new ESR is complete. The resource can now start participating in the various NYISO markets and services that it qualifies for.

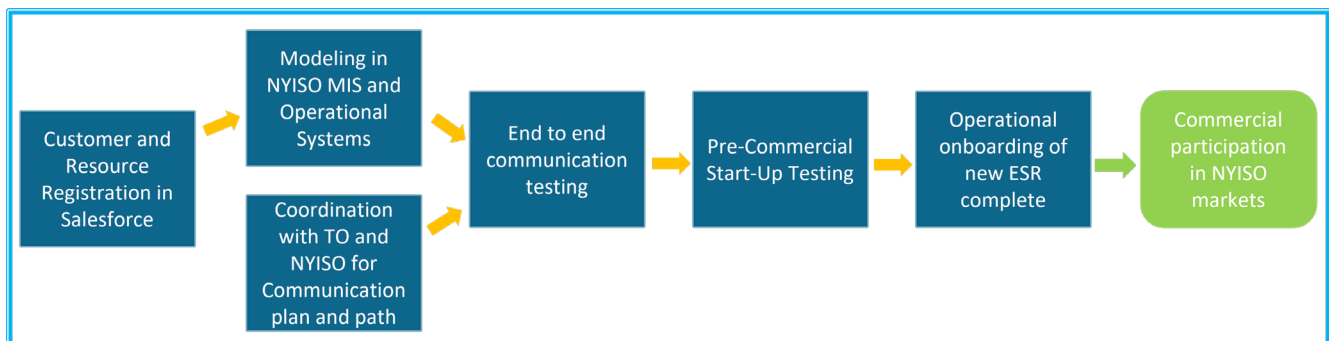


Figure: Process for resource modeling and Start-Up testing for a new ESR