NYISO DER Pilot Program Application Form

Distributed Energy Resource (DER) Pilot Projects

This application form is a tool for the New York Independent System Operator, Inc. (NYISO) to collect Pilot Project Proposal information, and it will be used by NYISO staff to evaluate the ability for the proposal to meet the NYISO Pilot Program eligibility requirements.

Receipt of this application form by the NYISO initiates NYISO's internal review and evaluation of the proposal. Please provide comprehensive and accurate answers to each question to expedite the review process. Applicants may supplement this application form with supporting documentation as needed in response to the questions contained herein.

NYISO receipt of this Application Form does not guarantee acceptance of the proposal. If, in addition to the information required by this Application Form, the NYISO determines it needs further information on the Pilot Project proposal, the applicant must submit the additional information if it wishes to remain in consideration.

Accepted Pilot Project proposals will be required to agree to all terms and conditions of the Pilot Project Registration Agreement and the Pilot Participation Agreement prior to initiation of the Pilot Project.

Note: A proposed Pilot Project must be an aggregation of 2 or more DER connected at different utility interconnections. However, the NYISO may make an exception to test a single DER if the primary objective of a proposed Pilot Project is to test new concepts such as alternative communication technologies, measurement & verification methodologies, etc. where there is significant learning value despite testing only one DER. All DER in an aggregation must be connected to the same transmission node. Please check with your local Utility to determine whether the DER are located behind the same transmission node.

Section 1 - Applicant Information

1. Company name

2. Company address

3. Company website

4. Primary company contact name

5. Primary company contact address

6. Primary company contact phone number and email address

7. Brief description of company

8. Is your company currently a registered NYISO Market Participant?

9. Briefly describe any resources that your company has currently participating or previously participated in the NYISO markets (include which market such as regulation, capacity, etc.)

Section 2 - Pilot Project Proposal Description

1. Proposed Pilot Project Name

2. Please provide by attachment an executive summary of your Pilot Project proposal

3. Check all services the Pilot Project proposal will demonstrate:

____ Dispatch Energy ____ 10-min Spinning Reserve

____ Regulation Service ____ 30-min Spinning Reserve

4. Preference will be given to Pilot Project proposals that can meet existing infrastructure and performance requirements. Check all applicable infrastructure and performance capabilities of the proposed Pilot Project. If the proposed Pilot Project cannot meet one or more of the infrastructure and performance requirements below, explain why and the proposal's alternative capability, if any.

____ 5-min energy dispatch
____ 6-second regulation dispatch
____ At least one-hour continuous dispatch at Upper Operating Limit (UOL)
____ 6-second telemetry
____ Hourly interval metering

5. Describe the Applicant's plan to communicate NYISO dispatch instructions to each DER in the Pilot Project and its general strategy of using various DER to achieve the aggregated dispatch instruction (e.g. what is the load reduction plan, is there a specific order of dispatch or will all DER equally share the dispatch need, etc). Attach any diagrams and/or descriptions of the proposed communication architecture as applicable, including individual DER metering and telemetry configuration (*e.g.,* interval, accuracy, submetering, etc.)

6. Has the Applicant communicated to the Utility its intent to have its DER participate in the NYISO Pilot Program?

   ____ Yes ____ No

7. Has the Applicant communicated to all DER in its proposed Pilot Project of its intent to have the DER participate in the NYISO Pilot Program?

   ____ Yes ____ No

8. What objectives, listed in Attachment B to this document will the Pilot Project test?

9. Describe the company's plan to test those objectives? Include in your description how the Pilot Plan aligns with the NYISO's focus on testing DER integration concepts to inform market design.

10. Please describe all non-wholesale and non-pilot obligations that any DER being proposed may have while in the Pilot Program.

11. How will your company fund the full cost of the Pilot Project?

Section 3 - Proposed Pilot Project Timeline

1. What is the current status reported by the Utility of the utility interconnection process and what is the estimated interconnection completion date of each DER included in the Pilot Project proposal? If an individual DER is not required to participate in the applicable utility's interconnection process, explain why.

2. Provide your company's anticipated Pilot Project timeline:

Target Pilot Qualification Period (*i.e.,* setup and initial testing prior to Pilot Demonstration Period):	
Target start date of Pilot Demonstration Period (*i.e.,* regular pilot testing):	
Target end date of Pilot Demonstration Period:	

3. The NYISO expects to test DER Pilot Projects Tuesday through Friday from the hours HB8 to HB16. If the Pilot Project Proposal will not be generally available during these periods, please explain the days and hours the proposed Pilot Project is expected to be available for testing (*e.g.,* Tuesday – Wednesday, HB10-HB18). Include any operational, seasonal/weather, and/or technological limitations that limit the Pilot Project's test availability. Also include any desire of the Applicant to test its proposed Pilot Project outside of the days and hours that NYISO expects to test DER Pilot Projects.

Section 4 – Supporting Details

1. What technical assistance or training will your company need from the NYISO to prepare or implement your proposed Pilot Project?

2. Is the Pilot Project receiving funding from, or partnering with, any government agency or other entity in order to further the agency or entity's initiatives or programs (e.g., receiving funding from NYSERDA in order to test developing technology)?

3. Provide any additional supporting documentation the company believes will help the NYISO understand the Pilot Project proposal, including:
    a. Technology brief
    b. White paper
    c. Product brochure
    d. Case study of similar existing deployment

NYISO Pilot Program Contact Information

Please submit the completed application form and supporting documentation via email or mail to the contact below. The NYISO will contact you to confirm receipt of the application.

Contact: NYISO Pilot Administrator
Address: 10 Krey Boulevard, Rensselaer, NY 12144
Email: pilots@nyiso.com

Attachment A: Preliminary NYISO DER Pilot Program Registration Form

Note: Applicants are required to fill out the required data fields below for consideration in the NYISO Pilot Program selection process. Applications that are chosen as finalists will be asked to finalize the Registration Form before formally being accepted into the Pilot Program.

Date	
Applicant/Customer Name	
Pilot Project Name	

Pilot Project Contact(s)

1) Lead Project Manager

First Name		**Last Name**	
Title			
Address Line 1			
Address Line 2			
City		**State/Province**	
Zip Code		**Country**	
Primary Phone		**Cell Phone**	
E-mail Address			
24/7 Contact Phone			

2) Primary Operator

First Name		**Last Name**	
Title			
Address Line 1			
Address Line 2			
City		**State/Province**	
Zip Code		**Country**	
Primary Phone		**Cell Phone**	
E-mail Address			
24/7 Contact Phone			

3) Alternate Operator

First Name		**Last Name**	
Title			
Address Line 1			
Address Line 2			
City		**State/Province**	
Zip Code		**Country**	
Primary Phone		**Cell Phone**	
E-mail Address			
24/7 Contact Phone			

4) Utility Contact

First Name		**Last Name**	
Utility Company			
Title			
Address Line 1			
Address Line 2			
City		**State/Province**	
Zip Code		**Country**	
Primary Phone		**Cell Phone**	
E-mail Address			

5) Utility Alternate Contact

First Name		**Last Name**	
Utility Company			
Title			
Address Line 1			
Address Line 2			
City		**State/Province**	
Zip Code		**Country**	
Primary Phone		**Cell Phone**	

E-mail Address	

Pilot Project Details

Pilot Project Name*	
Utility *	
Meter Service Provider (MSP)	
Meter Data Service Provider (MDSP)	
Load Zone*	
Interconnection Point (Name of Nearest 115kV or above Transmission Station)[1]*	
ICCP Communications Installed (Y/N)?*	
If no, list estimated installation date	

Pilot Project DER Aggregation Parameters

RESPONSE RATES		**SERVICES TO BE TESTED[2]**	
Emergency Response Rate (MW/Min)*		**Fixed Energy**	**yes/no**
Regulation Capacity Response Rate (MW/Min)*		**Dispatch Energy**	**yes/no**
Normal Response Rate 1 (MW/Min)*		**10 Min Spinning[3]**	**yes/no**
Normal Response Rate 1 (MW)		**30 Min Spinning**	**yes/no**
Normal Response Rate 2 (MW/Min)		**Regulation Control**	**yes/no**
Normal Response Rate 2 (MW)			
Normal Response Rate 3 (MW/Min)			
PHYSICAL ATTRIBUTES			
Estimated Summer Operating Capacity (MW)*		**Start-Up Time (0-60 min)**	
Estimated Winter Operating Capacity (MW)*		**Shutdown Time**	
Physical Min Generation (MW) *		**Minimum Run Time**	
Physical Min Load (MW) *		**Minimum Down Time**	

***Required.**

[1] Applicant should contact their Utility to understand how the DER in the proposed Pilot Project aggregation map to a NYISO transmission node.

[2] Each Pilot Project must declare which wholesale market products it will demonstrate. The company is expected to understand the different wholesale market services and to understand the obligations associated with providing those services. If the Applicant has questions regarding the expectations of the Pilot Project when tested by the NYISO within the Pilot Program, please contact the NYISO Pilot Administrator.

[3] Pilot Projects will not be able to provide Non-synchronous operating reserve because DER will be considered online at all times.

Please list any Pilot Project or individual DER operational limitations or constraints that may limit participation in the DER Pilot Program:

Individual DER Information

Complete the following for each DER within the Pilot Project

Distributed Energy Resource Name *		
Utility Account Number *		
Geographic Location (i.e. city) *		
Resource Type (Generation, Storage, Demand Response) *		
Maximum Operating Limit (kW) *		
Interconnection Voltage (kV) *		
Total Facility Load (if applicable)		
Engineering Diagrams Submitted (i.e. One-Line) (Yes/No)? *		
Hourly Interval Metering Installed (Yes/No)? *		
If yes:		
Meter number		
Is it revenue grade quality?		
If no:		
Estimated Hourly Interval Meter installation date		
Is There a Signed Interconnection Agreement for this DER (Yes/No)? If yes, a copy must be provided to NYISO for review. ***(NOTE: NYISO prohibits Pilot Project participation of individual DER that fail to comply with applicable utility interconnection requirements.)*** *		
Target Initial Synchronization to Grid Date (approx.)[4] *		
Target Full Operation Date (approx.) *		
Resource Specific Parameters (complete as applicable)		
	Generation Type	
	Nameplate Rating (kW)	
	Fuel Type	
	Start-Up Time (min)	
	Shutdown Time (min)	
	Storage Type	
	Nameplate Rating (kW)	
	Nameplate Capacity (kWh)	
	Transition Time Between Charge and Discharge (min)	
	Load Type	
	Direct Load Control (Y/N)	

***Required.**

[4] The initial synchronization date represents the date in which the resource is first electrically connected to the local utility network, whether generation, storage or load resource.

Attachment B: NYISO DER Pilot Objectives

1. Assess the capability of homogeneous and heterogeneous DER aggregations to provide energy and ancillary services and the associated benefits to the wholesale markets
   - Can a DER aggregation meet its instructed base point?
   - Can the DER aggregation remain within an acceptable output tolerance even when ramping within its full operating range?
   - Does performance depend on whether it is a homogeneous or heterogeneous DER aggregation?
   - Which existing market products (i.e. energy, regulation, and spinning reserves) can DER aggregation effectively provide?
   - Can a Pilot Participant provide a set of aggregated operating parameters (e.g. ramp rate, upper operating limit, etc.) that accurately characterize the capability of its DER aggregation?

2. Develop and evaluate DER and DCEA measurement and verification (M&V) and monitoring and control (M&C) requirements
   - Can Pilot Projects achieve a specific one-way and round trip latency requirements for telemetry?
   - Does a Pilot Project's aggregated telemetry and metering data deviate from the individual DER metering data (after-the-fact review)? If there is significant deviation, what were the causes?
   - Are there alternative technologies or solutions that DER can utilize to meet NYISO's proposed metering and telemetry requirements for DER/DCEAs?
   - Are specific baseline methodologies more effective for performance evaluation of demand side resources within a DER aggregation than others?
   - Are specific DER metering configurations more effective for performance evaluation of DER than others?
   - Does the performance of a statistically sampled population reflect the actual performance of an entire aggregation?

3. Establish and evaluate an operational coordination framework between NYISO, utilities, DCE, and DER
   - What does NYISO need to consider for its DER coordination framework to provide effective and timely communication to all involved parties?
   - What does NYISO need to consider to make its market process feasible for DCEAs?
   - What concepts are there that can address potential challenges for DER to simultaneously provide wholesale and non-wholesale (e.g. retail, end-use) market services? If so, how do they seek to resolve the challenges?

4. Establish and evaluate DER and DCEA registration processes
   - What registration information is required for each DER aggregation?
   - What registration information is required for an individual DER within a DER aggregation?
   - What is an effective process for reviewing distribution mapping, interconnection, and utility account information of DER within a DER aggregation registering with the NYISO?