



APPLICATION PROCESS FOR ENERGY STORAGE AND DISTRIBUTED GENERATION GREATER THAN 5 MW

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INTRODUCTION

This guide is designed to aid developers with the application and study process for distributed energy systems that do not fall under the jurisdiction of the New York State Standardized Interconnection Requirements (NYSSIR) or the New York Independent System Operator (NYISO). This includes solar photovoltaic (PV), battery energy storage, and other distributed energy resources with an AC nameplate greater than 5MW. This document will provide a high-level overview of the requirements that the customer must meet for Central Hudson to process an application as well as set general expectations for the customer throughout the process. Please see Table 1 to determine which application must be submitted.

This document is for informational purposes only. It should not be used in place of any governmental regulations or other filed Central Hudson procedures. Central Hudson shall not be held liable for indirect, special, incidental, punitive, or consequential damages of any kind including loss of profits, arising under or in connection with the use of this informative guide.

For distribution connected projects, Central Hudson will extend service via a dedicated feeder to a manhole at the customer property line (or to a pole at the customer property line). The utility owns and maintains its feeders up to the property line manhole (or Pole) and the Customer will design, install, own, operate, and maintain all equipment from the property line termination point (manhole or Pole), including cables, circuit breakers, transformers, and associated equipment.

Central Hudson's contribution to the project is primarily focused on service extension, system re-enforcement to facilitate service, performance and acceptance of customer design based on adherence to applicable standards. The customer is expected to understand and comply with all applicable local, state, and federal requirements to build their facility. The Company cannot waive any requirements stipulated by governmental oversight entities. The Company works with the customer to select a convenient position for the property line manhole or pole to minimize the amount of construction needed to extend service to the customer.

The study process applicable to an interconnection to the distribution system is determined based on: (i) whether the developer proposes to interconnect to a distribution circuit that is or is not FERC-jurisdictional (*i.e.*, the distribution circuit is FERC-jurisdictional if an existing or retired resource previously interconnected to that circuit for purposes of participating in the NYISO's wholesale markets), and (ii) whether the developer intends to participate in the NYISO's wholesale market.

Intended Market	Interconnection Point *	Project Size	Study Process
Wholesale	NYS Transmission System or Distribution subject to NYISO's OATT Interconnection Procedures	> 5MW	NYISO
		≤ 5MW	NYISO
	Distribution not subject to NYISO's OATT Interconnection Procedures	> 5MW	Utility
		≤ 5MW	NYSSIR
Retail	NYS Transmission System	Any Size	Utility
	Distribution	> 5MW	Utility
		≤ 5MW	NYSSIR

Table 1: Responsible entity by project criteria

* Interconnection Point: Central Hudson considers voltage levels below 69 kV to be distribution; all other voltage levels (i.e., 69 kV, 115 kV, 345 kV) are transmission.

DISTRIBUTION GRID CHARACTERISTICS

Central Hudson generally maintains a nominal distribution voltage of 13.8 kV operating in a 4-wire grounded wye configuration; actual voltage may vary from this level. If a circuit operates differently, the circuit characteristics will be provided during the application process. The average circuit within Central Hudson's territory can support a maximum load of 6 MVA under ideal conditions. Most Central Hudson circuits run overhead on pole top construction; however,

Central Hudson supports the use of underground construction and maintains several undergrounded distribution networks. For information on construction standards please reference "[Electric Specifications & Requirements \('Blue Book'\)](#)"

The primary voltage will be confirmed with the developer when an application is submitted. When a project is proposed to be installed in an area that has the potential to be upgraded to a higher voltage, the developer may be required to install equipment at the standard for the higher voltage. The project manager will provide the new specifications to the developer.

APPLICATION PROCESS

As the projects covered by this document fall outside of the guidelines put in place by the NYSSIR and the NYISO, the timelines set by state regulators may not apply to these projects. Projects of this scale require a more in-depth engineering and protection review. As such, timelines may vary based on size, technology, and scope of each individual project.

To submit an application for a system outside of the SIR and NYISO processes, please email all documents and \$1,500 payment to CMullin@cenhud.com. A complete application will include the following documentation:

- NYSSIR Appendix B: Application
 - NYSSIR Appendix H: Property Owner Consent
 - NYSSIR Appendix J: Site Control Certification
 - NYSSIR Appendix K (if applicable): Operating Characteristics, etc.
 - One Line Diagram *
 - Site Plan
 - Inverter Cut Sheet
 - Inverter UL Certification
 - Energy Storage Data Sheet (if applicable)
 - Proposed relay and inverter settings *
- * Note that these are subject to Central Hudson review and approval.

Upon receipt of all relevant documents listed above, Central Hudson will begin an initial review for accuracy and completeness. This will be a cursory review to ensure that all information is consistent, compliant with Central Hudson standards, and that all documents are submitted properly.

Once a completed application is received and reviewed for accuracy, Central Hudson will perform a high-level system review; this is not a full feasibility study but intended to provide the project with basic information about the proposed interconnection point. This study will provide the applicant with information such as the distance from the substation, anticipated allowable

fault current at the site, if the existing substation transformer can accommodate the load/generation, and any physical space restriction within a specific substation. As all costs must be covered by the developer, this study will provide a high-level summary for interconnection upgrade costs which will assist the developer with an early indication of the financial viability of the project. The developer will have the option to speak with the engineer(s) that performed the study regarding the results which will be scheduled upon request. As the distribution system is subject to constant change in load and operation, the results provided by this study only will be valid for a period of 90 days. If the developer does not decide to move forward with a feasibility study within this time frame, the project will be withdrawn.

FEASIBILITY STUDY

Upon selecting to move forward, Central Hudson will provide the applicant with the estimated fee for a feasibility study and a standardized interconnection study agreement. The fee and the timeline for the study will be dependent on the technologies proposed by the applicant and the scope of study needed. This information will be disclosed to the applicant prior to the beginning of the study. Actual costs for the feasibility study will begin reconciliation once the project is either withdrawn or receives final interconnection approval. Please see under “Final Interconnection” for the reconciliation process.

The study will determine how the project will affect the utility system and will outline any adverse system impacts, identify corrective actions and provide costs estimates related to mitigation of these items. Examples of items to be studied include fault current, voltage regulation, transformer loading, etc.

It is possible that additional information may be required from the developer to assist with the feasibility study, such as PSS/E dynamics or equivalent models.

The study will provide the customer with a +/- 30% estimate of the cost of the project and will be absent permitting and design estimates. The costs will be presented in line items categorized by substation, distribution, transmission, etc. These estimates are subject to change based on field conditions and constructability for each line item. The customer is entitled to request a meeting with the engineering and design groups to discuss the results of the study and these will be scheduled upon request.

As the distribution system is subject to constant change in load and operation, the results provided by this study only will be valid for a period of 180 days. At this point in time the customer must choose to move forward or have their project withdrawn.

ADDITIONAL CONSIDERATIONS

For some projects, additional studies (stability analysis, low voltage ride-through, etc) may be required by Central Hudson or other agencies. The developer is responsible for any cost of performing these studies. These studies will be determined on a case by case basis and may change due to location or proposed technology. Should the project intend to become an NYISO Market Participant, it is the project's responsibility to ensure that the study contains any NYISO required analyses, and their design contains any characteristics that the NYISO may require.

Should the developer choose to change their design or equipment, there is the potential for stranded costs and a resetting of the project review timeline. Central Hudson considers the following changes to be material:

- Change of point of interconnection
- Increase in fault current supplied by the project
- Increase in project MW or MVA (input or output)
- Change in operating characteristics

Such material changes will require some level of re-study up to and including a complete new feasibility study.

RESULTS PROCESSING

Upon study completion, Central Hudson will begin design work for the required upgrades.

The developer will be required to make full construction payment for the project to be placed formally into the queue and prior to Central Hudson beginning any construction work or procurement of materials/equipment. There is the potential for construction costs to change due to unforeseen circumstances and changes by the developer (permitting, easement approvals, materials and labor resource availability, etc). These scope and cost changes will be communicated to the developer, any costs anticipated to exceed the initial payment will need to be paid in full prior to the project moving forward.

INTERCONNECTION AGREEMENT

Upon finalizing all study requirements, the customer will be required to enter into a custom Interconnection Agreement. This agreement is a contract that addresses issues such as rates, termination, scope, installation, operation and maintenance of the unit, disconnection of the unit

(including emergency and non-emergency disconnection), access, dispute resolution, and liability.

This document is unique to the operating characteristics of each system and will go through a negotiation stage before the final contract can be executed which can take multiple iterations and several weeks to months. The interconnecting customer and the Central Hudson legal team will have the opportunity to review and suggest edits until a document can be agreed upon by all parties. Receipt of the signed Interconnection Agreement and Central Hudson approval of the final documents are required before the project can operate. It is the interconnecting customer's responsibility to ensure that the Interconnection Agreement allows participation in NYISO markets should they desire such participation.

Central Hudson maintains the right to verify that an applicant has appropriate financial viability and resiliency.

DESIGN REVIEW

All projects must be designed and constructed in accordance with all Central Hudson technical requirements. Please see Central Hudson's [Interconnection Guidelines](#) for specific technical requirements.

The customer will be required to submit a final set of design drawings, specifications, and descriptions of all protection devices and auxiliary equipment to be installed; these are subject to Central Hudson review and approval.

FINAL INTERCONNECTION

Once construction is complete, the final interconnection process can be initiated by submitting a certificate of electrical inspection and proof that the system passed verification testing. Upon submission, Central Hudson will review the final application for consistency and compliance. The applicant also will be responsible for the submission of all appropriate forms to set up a utility account. The developer will be responsible for submitting business papers such as tax EIN, articles of origination, and a deposit that is equal to two months' worth of the highest bills. Once appropriate business paperwork and an electrical inspection are submitted, the meter can be set and the account will be fully activated.

If the final application is deemed acceptable and complete, Central Hudson will coordinate the self verification testing of the system and the protective devices with the developer. Upon satisfactory completion of self verification testing and receipt of completed documentation, the

final witness test will be scheduled and the data reviewed. Following the final witness test, a list of deficiencies or a formal letter of authorization to operate will be issued.

If the system passes all testing and is given permission to operate, the project will enter reconciliation. A reconciliation statement will be provided whether a credit is owed to the customer or additional payment is due to Central Hudson. The statement will show the total actual cost of the project as well as payments previously made to Central Hudson. If a credit is owed to the customer, payment will be executed within 60 business days. If a balance is due to Central Hudson, the customer will have 60 business days to submit payment. If payment is not received, the system will be locked off until the final payment has been received.

RATES

For information on Central Hudson's rates, please see the Company's tariff filed with the New York State Department of Public Service. Projects may be eligible for specific rates based on technology and operating parameters.

DEMAND RESPONSE AND NON-WIRES ALTERNATIVES

Central Hudson maintains a demand response program, as well as a Non-Wires Alternative program. The demand response program incentivizes generation during periods of high load. Customers can apply to participate by visiting <https://www.cenhud.com/my-energy/save-energy-money/commercial-demand-response/>.

Central Hudson is actively pursuing distributed energy resource (DER) alternatives to traditional utility projects, known as "Non-Wires Alternatives." Through Non-Wires Alternatives, Central Hudson can defer or eliminate the need for transmission & distribution infrastructure upgrades, meeting the dynamic needs of the electric system while reducing future rate pressure. For more information on the Non-Wires Alternative, please visit <https://www.cenhud.com/contractors/non-wires-alternative-opportunities/>.