



**Distributed Generation Interconnection
REV Demonstration Project
Case 14-M-0101**

Quarterly Report – Q3 2017

Dated: November 17, 2017

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1.0 Executive Summary

On February 14, 2017, Niagara Mohawk Power Corporation d/b/a National Grid (“National Grid” or the “Company”) filed a proposal for the Distributed Generation Interconnection REV Demonstration Project (the “Project”) in Case 14-M-0101.¹ The Project is designed to test alternative solutions for increasing the pace and scale of interconnecting distributed generation (“DG”) systems above 50 kW through upfront investments by the Company coupled with a cost-allocation methodology aimed at removing barriers for DG interconnection applicants. The Company proposed to test these solutions at two of its substations, Peterboro and East Golah (the “Demonstration Areas”). By letter dated April 24, 2017, New York State Department of Public Service Staff (“DPS Staff”) approved the Project with modifications, and directed the Company to file an implementation plan, which the Company subsequently filed on May 24, 2017 (the “Implementation Plan”). The Company filed a quarterly update for the second quarter of 2017 on August 25, 2017, indicating that the Project was proceeding on schedule. The purpose of this quarterly report is to provide an update on the Project for the third quarter of 2017, ended September 30, 2017. As explained below, the Project is continuing to proceed on schedule, with civil construction work completed in September 2017 and overall construction completion anticipated in December 2017.

2.0 Highlights Since Previous Quarter

2.1 Major Task Activities

The Project is proceeding on schedule. Provided below are project milestones included in the Implementation Plan updated to include changes and adjustments reflected in the Q2 report and this report, as well as the current status of each milestone.

General Project Milestones		
Date	Milestone	Status
March 2017	Begin general outreach	Commenced
April 2017	Provide funding numbers	Completed
	Begin marketing the Project	Commenced
May 2017	Order long-term materials	Completed
	Develop cost per kW	Completed
August 2017	Begin site-specific outreach to developers	Commenced
October 2017	Mapping Portal (feeder)	Completed
	Develop mapping portal (land use)	Commenced
	Design Developer Survey	Completed

¹ Case 14-M-0101, *Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision* (“REV Proceeding”), “Proposed Distributed Generation Interconnection REV Demonstration Project” (filed February 14, 2017).

December 2017	Administer Developer Survey	Awaiting construction completion
June 2018	Project term ends	
Peterboro Substation Milestones		
Date	Milestone	Status
February 2017	Complete initial cost estimate	Completed
July 2017	Complete 3V ₀ design and engineering	Completed
	Determine needs for switching and/or mobile substation	Completed
September 2017	Schedule civil work	Completed
	Schedule electrical work	Commenced
November 2017	Schedule relay work	Commenced
December 2017	Anticipated completion date	December 22, 2017
June 2018	Project term ends	
East Golah Substation Milestones		
Date	Milestone	Status
February 2017	Complete initial cost estimate	Completed
June 2017	Determine needs for switching and/or mobile substation	Completed
August 2017	Complete 3V ₀ design and engineering	Completed
	Schedule civil work	Completed
	Schedule electrical work	Commenced
October 2017	Schedule relay work	Commenced
December 2017	Anticipated completion date	December 21, 2017
June 2018	Project term ends	

The Company has completed civil construction work; above-grade electrical work continues at both sites. By December 2017, the Company anticipates completing construction.

The Company’s Customer Energy Integration - NY (“CEI”) department continues to actively market the Project to distributed energy resource (“DER”) developers seeking to interconnect in the Demonstration Areas. To assist in those efforts, CEI recently completed a feeder-level mapping portal to help identify locations that should have minimal impact on the National Grid distribution system. Additionally, the Company’s Economic Development department is identifying parcels in the Demonstration Areas that have the potential to accommodate large-scale DG projects.

As set forth in the Implementation Plan, the Company must adjust its billing for DG applicants based on the specifics of their respective projects. To do that, the Company initiated an effort to automate the billing process. This includes adjustments for remote net metering, which the Company implemented in July 2017. In October 2017, the Company also began converting

manually billed accounts into its billing system. The Company anticipates it will complete this system automation work and the billing system conversion by the time it completes construction at both substations.

2.2 Challenges, Changes, and Lessons Learned

The table below lists the challenges, changes, and lessons learned since submittal of the Implementation Plan and the Q2 report.

2017	Issue or Change	Resulting Change to Project Scope/Timeline?	Strategies to Resolve	Lessons Learned
Q3	Mapping Portal	The Company developed a mapping portal to assist developers seeking to interconnect in the Demonstration Areas by providing feeder and land-use information.	The feeder portion of the portal has been completed and is available to developers. The Economic Development department is continuing work on the land-use portion.	Additional information and tools may facilitate interconnections.
Q3	Quarterly report filing	None.	Put quarterly reports on the same schedule as the Company's other REV demonstration projects.	Better communication and coordination.
Q4	Disseminate information about the Project to a broader audience.	Additional efforts to engage with developers regarding the Project.	Host webinar in December 2017 and participate in New York State Energy Research and Development Authority ("NYSERDA") call to provide additional information and	The Company is seeking new and innovative opportunities to make the developer community aware of the Project and its potential benefits.

			facilitate interconnections in the Demonstration Areas.	
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3.0 Next Quarter Forecast

During the fourth quarter of 2017 the Project team will move construction forward to completion in the Demonstration Areas, while continuing outreach efforts.

3.1 Checkpoints/Milestone Progress

All construction activities are forecast to be completed by the end of December 2017. A revised schedule is provided in section 4.0.

Project participation will be reviewed at the end of December 2017 to evaluate the level of developer interest in the Project, the number of contacts made with developers, and the MWs in the queue for the Peterboro and East Golah substations. Based on that review, the Company will determine if additional efforts are required to market capacity in the Demonstration Areas.

3.2 Outreach and Survey

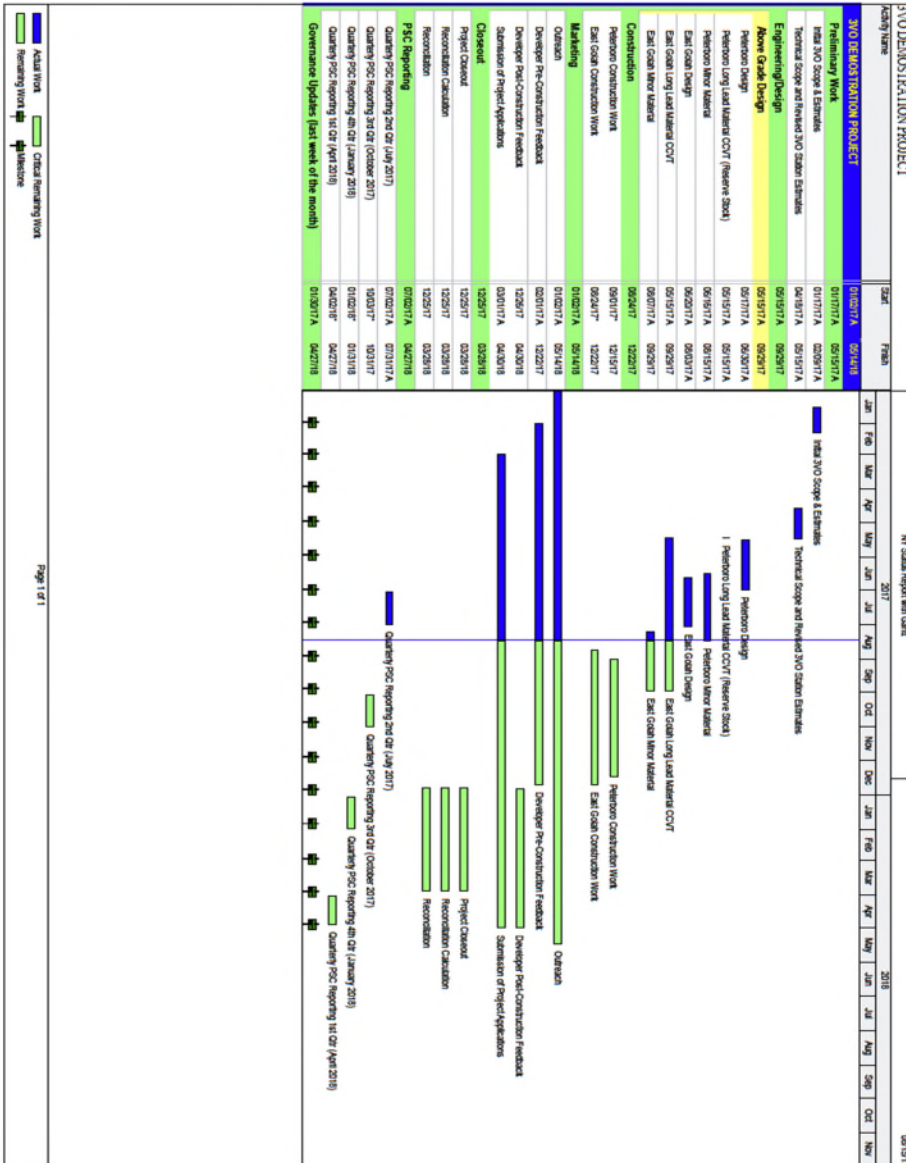
As construction continues, the Company continues to discuss the Project with the Interconnection Policy Working Group. Likewise, the CEI department communicates with DER developers, answering questions and using specific locational information to guide siting decisions. CEI also plans to send an outreach email to developers. The email, a draft of which is included as Appendix 1, will include a one-page project narrative, as well as attachments with a description of the cost-allocation mechanism and substation maps with associated feeder information.

To further assist in the marketing efforts, CEI, along with NYSERDA, will present information on the Project as part of NYSERDA’s regularly scheduled call with developers. In addition, the Company is scheduling a webinar in December to educate potential and existing DER developers on the Project. The survey team completed its survey design, which is aimed at capturing details on why developers chose to participate in the Project, as well as opinions on the overall experience. Survey administration will begin upon completion of construction at the two substations.

4.0 Work Plan and Budget Review

4.1 Updated Work Plan

Please refer to the updated Gantt chart below.



4.2 Current Budget

A current budget is provided in the table below.

Expense Type	2017 Plan	Actual YTD	2018 Plan
Engineering & Material Procurement & Construction ²	\$1,237,100	\$735,202	
Marketing	\$12,000	\$0	\$8,000
In Service Liabilities & Closeout	\$188,700	\$0	\$40,000
Total³	\$1,437,800	\$735,202	\$48,000

5.0 Quarterly Report Template

The quarterly report template is provided below.

Quarterly Report Template	
Milestones:	
Last Project Milestone:	Civil construction completed.
Next Project Milestone:	Complete electrical construction.
Tasks/Timeline:	
Completed Project Tasks Since Last Quarterly Report:	Completion of civil construction for both projects.
Changes or Impacts to Schedule Since Last Quarterly Report:	No changes. The Project remains on schedule.
Lessons Learned:	More outreach is necessary to raise awareness of the Project.
Work Stream Coordination:	The Project team is improving coordination to ensure timely report filing.
Risks:	
Identified Risks:	Low participation of DER developers in the

² For ease of reporting, the construction line item has been consolidated with the engineering, material, and procurement line item from the Q2 report.

³ The total does not include sales taxes.

	Project.
Risk Mitigation Plan:	Aggressive marketing of the Project.
Finance:	
Total Spend to Date:	\$735,202
Forecast Spend:	\$1,485,800
Queue Status Update:	
East Golah	One 2 MW unit is under construction. A second 2 MW unit application remains in preliminary study phase pending resolution of application deficiencies. A third 2 MW application has been submitted; the Company is awaiting further direction from the developer.
Peterboro	One 2 MW unit is under construction. A 66 kW unit application is in supplemental review stage.
Additional Notes:	None.

Appendix 1

National Grid Distributed Generation Interconnection REV
Demonstration Project – Draft Outreach Email With Attachments

Distributed Generation

nationalgrid
HERE WITH YOU HERE FOR YOU

National Grid Distributed Generation Interconnection REV Demonstration Project – Draft Outreach Email With Attachments

Dear Distributed Generation Stakeholder,

National Grid would like to inform you of a great opportunity to site your next DG facility in a “Demonstration Project” area intended to interconnect projects in a more timely and cost effective manner than in other areas across our system. This opportunity is the result of a recently approved “Demonstration Project” whereby National Grid is testing alternative solutions for increasing the pace and scale of interconnecting distributed generation systems above 50 kW.

The “Demonstration Areas” include those areas serviced by our Peterboro (Canastota, NY) and East Golah substations (Rush, NY). These substations are presently being upgraded with $3V_0$ ground fault protection. These upgrades will help make the system “DG ready,” capable of interconnecting current as well as future, DG projects in the respective Demonstration Areas.

To recoup the investment costs, National Grid will charge a pro-rated fee to all applicants with DG systems above 50 kW who connect to the upgraded substation transformer banks in the Demonstration Areas. Further details on this cost recovery approach can be found on the [National Grid Portal](#).

The transformer bank capacity that has been set aside for DG is 20 MVA at each location and plenty of capacity presently remains. DG applicants will still bear full responsibility for their respective site-specific and any other distribution line upgrade costs that are outside of the common system upgrade charge under this Demonstration Project.

Demonstration Project Advantages

- ***Reduced construction lead time – Both stations will be “DG ready” December 2017 vs the typical $3V_0$ installation time of over 12 months.***
- ***Cost savings – Estimated $3V_0$ cost of \$32/kW at East Golah substation and \$56/kW at Peterboro substation represent a significant cost savings versus the current cost recovery mechanism per the NYS SIR (attached).***

Construction has already started at both station sites and completion is expected December 2017. Please note we have also recently completed a mapping portal to help you identify locations within the Demonstration Areas that should have minimal impact on our distribution system. Additionally, we are in the process of identifying vacant land in the Demonstration Areas that could accommodate large scale DG projects. The company is actively seeking participants for this Demonstration Project and we would be happy to talk to you further to answer any questions.

If you have any questions or would like to participate in the Demonstration Project, please contact Ron Lelonek at (716) 831-7751 or email at Ronald.Lelonek@nationalgrid.com.

Reforming the Energy Vision (REV) Distributed Generation Interconnection Project

Case 14-M-0101 Reforming the Energy Vision (REV) – Distributed Generation Interconnection Project.

Developer Contribution towards 3V0 under Current NYSIR cost sharing mechanism Peterboro Substation, Transformer Bank 1

Based on 3V0 cost of \$425,000
Customer 1 pays full cost of 3V0 until second customer arrives.
Customer 2 required to pay their pro-rata share which is refunded to Customer 1.
If Customer 3 arrives, they would pay their pro-rata share which would be refunded to Customer 1 and 2 accordingly.

Customer No	Size (kW)	Pro-Rata Share (%)	Calculated Collected Amount (\$)	Initial Collected Amount (\$)	Refund	Final Cost
1	2,000	66.67%	\$425,000	\$425,000	\$140,250	\$284,750
2	1,000	33.33%	\$140,250	\$140,250	-	\$140,250

Developer Contribution towards 3V0 under Pilot Demonstration Project Peterboro Substation, Transformer Bank 1

Savings based on 3V0 cost of \$425,000 at this location
*Customer 1 savings remain the same with or without Customer 2 participation.

Customer No	Size (kW)	Developer Contribution towards 3V0 under current SIR cost sharing mechanism	Developer Contribution towards 3V0 under Pilot	Pilot Savings*
1	2,000	\$425,000	\$110,520	\$314,480
2	1,000	\$140,250	\$55,260	\$84,990

Developer Contribution towards 3V0 under Pilot Demonstration Project East Golah Substation, Transformer Bank 1

Savings based on 3V0 cost of \$365,500 at this location
*Customer 1 savings remain the same with or without Customer 2 participation.

Customer No	Size (kW)	Developer Contribution towards 3V0 under current SIR cost sharing mechanism	Developer Contribution towards 3V0 under Pilot	Pilot Savings*
1	2,000	\$365,500	\$64,000	\$301,500
2	1,000	\$120,615	\$32,000	\$88,615



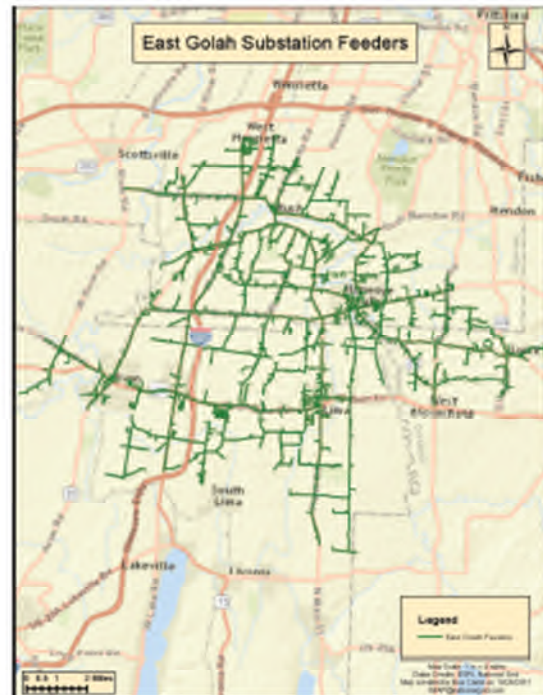
Reforming the Energy Vision (REV) Distributed Generation Interconnection Project

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PETERBORO STATION - CANASTOTA, NY 13032



EAST GOLAH STATION - RUSH, NY 14543