



NYSEG Stillwater NWA Implementation Plan, Benefit Cost Analysis, and Incentive Compliance Filing

New York Non-Wires Alternatives

January xx, 2024



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1. NWA Program and Project Overview

1.1. REGULATORY FRAMEWORK

The regulatory framework for the consideration of Non-Wires Alternatives (“NWA”) was initiated in Case 14-M-0101, Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision and was later updated in Case 16-M-0411, In the Matter of Distributed System Implementation Plans. The Order Adopting Joint Proposal, in Cases 20-E-0317 et al. (“the Order”), contains New York State Electric & Gas Corporation (“NYSEG” or the “Company”) current electric rate plan which further updates the authorization for NWA programs including providing direction regarding NWA projects, expenditures, incentives and filing and reporting requirements.

The Companies' NWA projects allow NYSEG to defer, reduce, or avoid conventional electric infrastructure investments while maintaining or improving system reliability and potentially lowering greenhouse gas (“GHG”) emissions.

1.2. COMPLIANCE REQUIREMENTS

The current NWA filing requirements as described in the Order are listed below.

- Detailed project implementation plan and benefit cost analysis (“BCA”) for each NWA project ;
- NWA incentive compliance filing for each NWA project ;
- Annual updates to the Implementation Plan; and
- Quarterly NWA status update reports.

NYSEG submits this Stillwater NWA implementation plan (“Implementation Plan”) and incentive filing in compliance with the Order. Specifically, this Implementation Plan provides information on the components of the NWA program, including: a process for identifying NWA projects, an overview of the Stillwater project, a description of the cost and incentive recoveries, a customer and community outreach plan, detailed measurement and verification procedures, reporting requirements, BCA results, and incentive calculation.



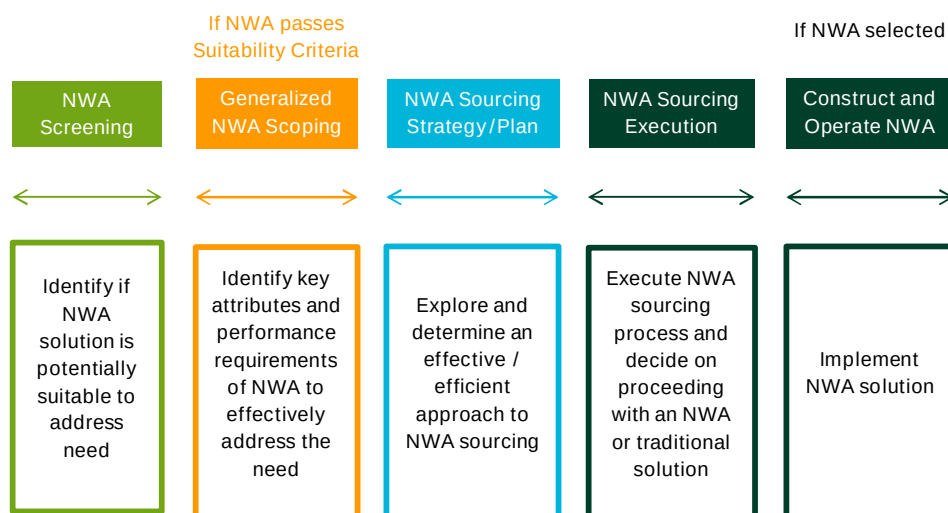
2. Project Identification and Implementation Process

An NWA is a project, or portfolio of projects, that defers or avoids a traditional “wires” capital investment in the electric system for a period of time through a non-traditional technology that addresses the same identified system need. Examples of NWA technologies include, but are not limited to, distributed generation (“DG”), energy storage (“ES”), demand response (“DR”), energy efficiency (“EE”), or any other distributed energy resources (“DER”) or innovative technologies. NYSEG’s strategy is to pursue NWA projects which are cost effective for customers, provide reliable alternatives to traditional capital investment projects, and realize full cost recovery and earnings opportunities, while complying with regulatory directives and environmental policies.

2.1 PROJECT IDENTIFICATION PROCESS

The process of identifying potential NWA project locations has been integrated in to NYSEG’s planning process. Reliability and load relief projects are the most applicable project types for an NWA solution. A review of the substation asset health conditions is also performed during the project identification process. Once projects are prioritized, other important criteria are identified and defined, such as, but not limited to, performance requirements, eligible resources, potential impact on disadvantaged communities and deferral value.

This prioritized list will represent projects where competitive procurement can be utilized and shall be used to schedule request for proposals (“RFP”) development and release. An overview of the NWA process is shown below.



2.2 SUITABILITY CRITERIA

Suitability criteria are used to evaluate capital projects for potential NWA solutions. The NWA team reviews each project submitted through this process to help identify if an NWA solution is a suitable alternative to the traditional solution. NYSEG, along with the other electric utility companies in the state of NY (together called Joint Utilities or “JUs”), jointly filed their utility-specific Suitability Criteria with the NY Public Service Commission (“PSC”).¹ NYSEG suitability criteria is shown below.

¹ Case 16-M-0411, In the Matter of Distributed System Implementation Plans (DSIP Proceeding), Order on Distributed System Implementation Plan Filings (issued March 9, 2017) (DSIP Order). Pursuant to the DSIP Order, the Joint Utilities (i.e., the Utilities, excluding LIPA) filed utility-specific NWA Suitability Criteria matrices on March 1, 2017. In addition, the Joint Utilities filed additional information on NWA identification and sourcing practices in 2017. (See DSIP Proceeding, Supplemental Information on the Non-Wires Alternatives Identification and Sourcing Process and Notification Practices (May 8, 2017) (NWA Filing). The Joint Utilities revise company-specific NWA process matters in periodic Distributed System Implementation Plan (DSIP) filings in proceeding 16-M-0411 (In the Matter of Distributed System Implementation Plans).



Suitability Criteria	Potential Elements Addressed
Project Type Suitability	• Load Relief projects that do not involve a customer contribution or have a specific customer in-service date that is sooner than the timeline suitability criteria of 36 months. • Reliability projects and /or a combination of reliability and load relief projects.
Timeline Suitability	• Minimum of 36 months to time of need.
Cost Suitability	• Projects with construction cost greater than \$1M.

2.3 DESCRIPTION OF STILLWATER PROJECT NEED

NYSEG's Stillwater substation (located in NYSEG's Mechanicville Division, Town of Stillwater), serves approximately 1,270 residential and small commercial customers via (3) 933kVA transformers (2.8 MVA bank) and one (1) 4.8 kV distribution circuit where overload conditions and power quality (i.e., low voltage) issues are identified system needs. Figure 1 illustrates the geographic area affected by the projected infrastructure overload.

Figure 1: Map of the Stillwater Geographic Area

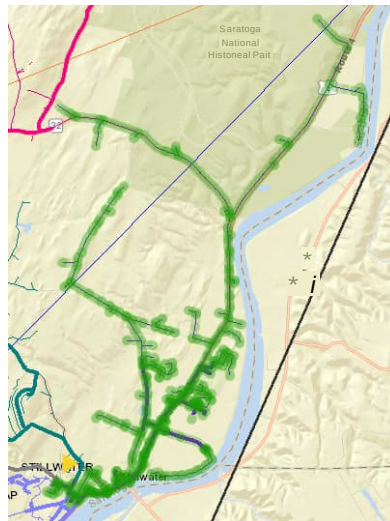




Table 1 below shows the combined year-over-year projected overloads at the Stillwater substation based on the 2023 load forecast.

Table 1: Projected Incremental Yearly Overloads (MW) on Stillwater Substation

Year	MW
2023	0.25
2024	0.32
2025	0.39
2026	0.44
2027	0.50
2028	0.55
2029	0.60
2030	0.66
2031	0.71
2032	0.72

The proposed traditional wires solution alternative was to upgrade and replace the existing transformer bank with a new (1) 14 MVA LTC 34.5-12.5 kV transformer and convert approximately 2.5 miles of the distribution circuit to 12.47 kV and establish in-field adjacent circuit ties, with an estimated cost of \$13.70 million. With the Stillwater NWA project, NYSEG plans to defer for 10 years the implementation of this traditional wires solution. The requirements of the NWA solution are to:

- Introduce sufficient quantities of DER into the area served by the Stillwater substation to reduce the peak loading on the substation transformer bank and distribution circuit to below their applicable rating limits ; and
- Establish sufficient quantities of DER to address power quality (i.e., low voltage) issues that exist on the Stillwater circuit.



2.4 PROCUREMENT FOR STILLWATER NWA SOLUTION

NYSEG began the Stillwater NWA RFP development process after completion of the NWA suitability review and confirmation that an NWA solution is feasible. An RFP was prepared based on the needs case developed in the planning process. The RFP included a detailed project overview, which has a description of the specific need, performance requirements, eligible resources, the deferral value and high-level customer information, in order to provide the detail necessary for respondents to develop solutions and submit a proposal. The RFP was released to potential bidders via email and the RFP was also available on the Company's NWA webpage.

NYSEG issued the Stillwater NWA RFP in July 2017, for NWA resources to defer the costs of the planned Stillwater substation upgrades for 10 years.

3. NWA Portfolio and Timeline

3.1 RESOURCES SELECTED

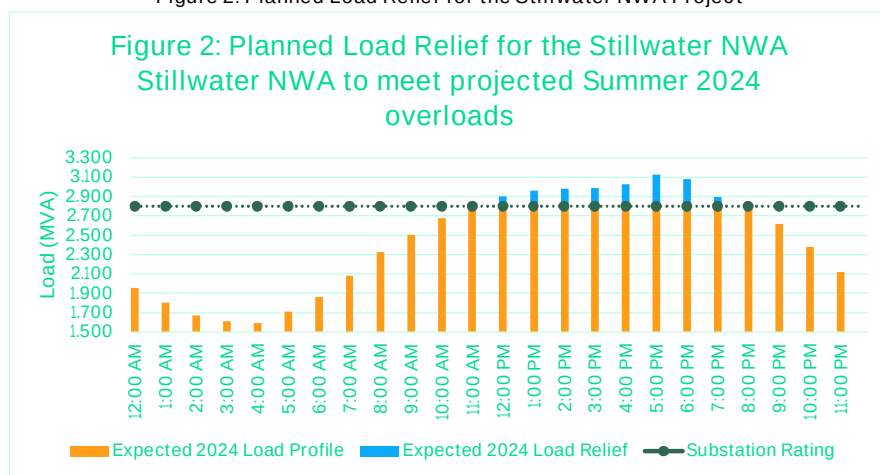
NYSEG received 13 proposals from 11 developers in response to the RFP. NYSEG evaluated the NWA solution bids proposed by developers using a systematic approach which considered both technical and economic feasibility. In reaching a decision regarding the suitability, viability, and cost-effectiveness of an NWA, a BCA is performed using the Company's BCA Handbook.² NWA projects must provide a safe, reliable, and affordable solution when compared to the wires solution. The selected bidder's proposal consisted of a 1 MW/2.9 MWh battery storage solution to address the issue of the peak loading on the Stillwater substation transformer bank. The project will be interconnected to the existing 4.8kV NYSEG distribution system less than 2 miles from the Stillwater substation. The location of the project had to be adjusted to a location further away from the substation transformer bank than was originally planned in order to better address power quality issues.

The chart below illustrates the projected 2024 overload and planned load relief for the Stillwater NWA project.

² <https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={A06B0C89-0000-C4DF-BCB8-03F8EC11F813}>



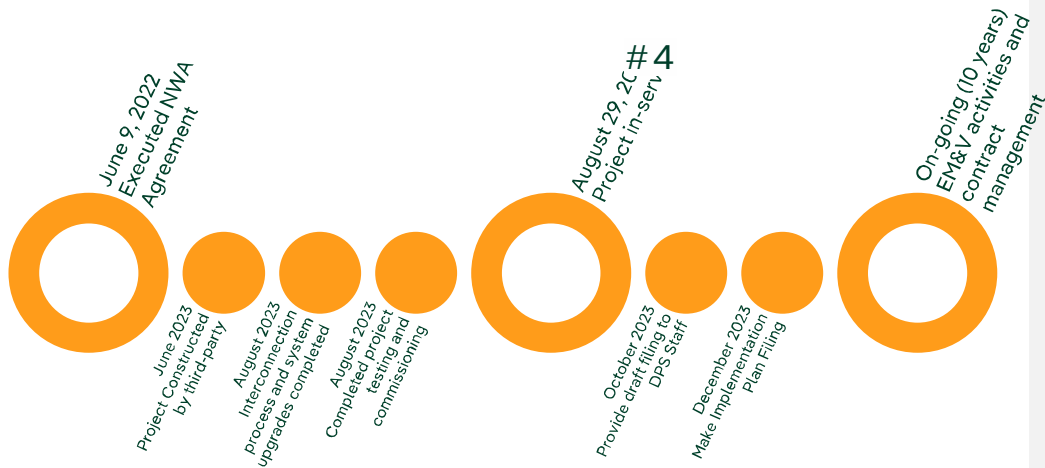
Figure 2: Planned Load Relief for the Stillwater NWA Project



As shown in Figure 2, by summer 2024, the Stillwater substation is expected to exceed its capacity with projected overloads between 12PM and 8PM. The battery energy storage system (“BESS”) resource dispatched through the Stillwater NWA is expected to alleviate these overloads, allowing the substation to operate within its current capability through summer 2033. Throughout the 10-year deferral period, the Company will monitor system constraints identified in its 10-year load relief plan and, if needed, address any projected overloads.



3.2 PROJECT IMPLEMENTATION SCHEDULE



4. Anticipated Costs of the NWA

The anticipated costs of the NWA include incremental transmission and distribution ("T&D") and distributed system platform ("DSP") costs which include interconnection costs, communication costs and dispatch system costs. NYSEG will pay for all system upgrade costs associated with interconnecting the NWA and these costs will be included in the BCA as outlined in the Order.

There will be contractual costs owed to the developer for design, construction, labor, and NYSEG's use of the BESS, once fully operational. Additional anticipated costs are related to program administration costs, which are costs to administer and measure the effectiveness of the required program. These costs include items such as NYSEG internal labor costs related to evaluation, measurement and verification of the operation of the BESS and invoicing responsibilities.



5. BCA Results

In consultation with Department of Public Service (“DPS”) Staff, NYSEG developed and filed a BCA handbook, which is used to provide and calculate the benefits and costs of potential projects and investments.³ The handbook is used to evaluate the cost-effectiveness of NWA solutions. The BCA Order⁴ positions the societal cost test (“SCT”) as the primary cost-effectiveness measure because it evaluates impact on society as a whole. The SCT compares the costs incurred to design and deliver projects, and customer costs with avoided electricity and other supply-side resource costs (e.g., generation, transmission, and natural gas), while also including the cost of externalities (e.g., carbon emissions, and net non-energy benefits) as they impact society as a whole.

The BCA SCT ratio result for the Stillwater NWA project is 1.33. Benefits considered in the BCA consist of avoided generation capacity costs, avoided transmission capacity infrastructure and avoided distribution capacity infrastructure. Costs considered in the BCA consist of infrastructure T&D and DSP costs, administration costs and developer resource costs. A high-level summary of the BCA is found in Table 2 below.

Table 2: Stillwater NWA Project BCA Summary

Peak Load Relief (MW)	Load Relief Period	Total Benefits (NPV)	Total Costs (NPV) ⁵	Total Net Benefits (NPV)	BCA SCT Ratio
0.72	2023-2033	\$6.79M	\$5.10M	\$1.69M	1.33

Assumptions made applicable to the BCA are that benefits realized from participation in New York Independent System Operator (“NYISO”) markets or any other revenue streams are not included at this time. Estimated demand charge for battery charging was not included as they are seen as a passthrough cost. The deferral value is calculated using a 10-year deferral associated with the original in-service date and the deferred in-service date of the traditional solution.

³ <https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={A06B0C89-0000-C4DF-BCB8-03F8EC1F813}>

⁴ Case 14-M-0101 – Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision, Order Establishing the Benefit-Cost Analysis Framework (issued January 21, 2016)

⁵ Includes planned expenditures for NWA incentives and non-incentive related costs.



Pursuing the Stillwater NWA project over the traditional solution yields the following benefits:

- Avoiding costs associated with generation capacity at the network peak;
- Avoiding costs associated with transmission capacity infrastructure; and
- Deferring the need to build the traditional solution, resulting in avoided distribution capacity infrastructure costs.

The Company identified the following costs associated with implementing the NWA project:

- Developer resource costs owed to the third-party developer for design, construction, labor, and NYSEG's use of the BESS;
- Administrative costs associated with NYSEG's internal labor costs related to evaluation, measurement and verification of the operation of the BESS and invoicing responsibilities; and
- Incremental T&D and DSP costs which include interconnection costs, communication costs and dispatch system costs.

6. Stillwater NWA Incentive

In accordance with the Company's current Joint Proposal, the NWA incentive mechanism establishes a methodology for determining incentives applicable to all NWA projects. Through the NWA incentive mechanism, NYSEG may retain a share of the present value of net benefits identified by comparing a NWA project to the traditional infrastructure project it would defer or replace based on BCA results. The incentive amount available to NYSEG will be adjusted based on the difference between the forecasted cost of achieving deferral and the actual costs of such. In the event the number of MWs required to defer or avoid the traditional project increases or decreases, the incentive amount would be further adjusted. The NWA incentive mechanism provides an incentive floor of \$0 and a cap of 50% of the initially-identified net benefits.

This compliance filing is intended to establish the initial incentive NYSEG is eligible to receive for successfully implementing the Stillwater NWA project. The initial incentive is calculated at 30% of the present value of net benefits at the time NYSEG entered into a contract with the third-party NWA project developer.

NYSEG collaborated with DPS Staff prior to submitting this compliance filing to set the initial incentive. Table 3 shows the initial incentive results.



Table 3: Stillwater NWA Initial Incentive Results

Peak Load Relief (MW)	Load Relief Period	Total Benefits (NPV)	Total NYSEG Costs (NPV) ⁶	Customer Portion of Net Benefits	NYSEG Incentive
0.72	2023-2033	\$6.79M	\$5.10M	\$1.18M (70% of Net Benefits)	\$0.51M (30% of Net Benefits)

Once the NWA project is fully implemented, NYSEG will calculate the difference in NWA Project Cost, which will be equal to the initially forecasted cost of the NWA project, less the actual cost of the NWA project. The final incentive will equal the sum of the initial incentive and 50% of the difference in the NWA project cost. In accordance with the NWA incentive mechanism, the final incentive is subject to a floor of \$0 and a cap of 50% of the initial net benefits.

Should additional MWs be needed to achieve the initially proposed deferral of a traditional infrastructure project, or to increase the duration of the deferral, the Company will make a subsequent compliance filing and seek incremental MW procurements accordingly.

7. NWA Cost and Incentive Recoveries

Project costs will be treated in accordance with the NWA cost recovery mechanisms included in the Companies' approved Joint Proposal.⁷ Costs associated with assets owned by NYSEG will be treated as capital expenditures ("CAPEX"). The Companies will amortize NWA project costs over a rolling ten-year period. The ten-year recovery period will begin when NWA project costs are realized. Any unamortized costs plus carrying charges will be incorporated into base rates when electric base rates are reset. Other costs associate with NWA project

⁶ Includes planned expenditures for NWA incentives and non-incentive related costs (e.g., interconnections, communications, labor, developer-payments, etc.).

⁷ Cases 22-E-0317 and 22-E-0319, Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of New York State Electric & Gas Corporation for Electric Service and Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Rochester Gas and Electric Corporation for Electric Service, October 12, 2023, Order Adopting Joint Proposal.



implementation including payments to the third party developer will be treated reconcilable operating expenditures ("OPEX") and recovered accordingly. Stillwater NWA project CAPEX and OPEX spending will be detailed in the NWA status reports filed by the Company on a quarterly basis.

8. Customer and Community Outreach Plan

The objective of the outreach plan is to generate interest and awareness of the Stillwater NWA project with local media and the public. The communications strategy is broken into two phases: construction and energization.

In February 2023, upon the start of construction, communications developed content for internal channels in the company's internal newsletter to provide project information to the customer-facing call centers and customer service representatives. The article included a photo of the construction site and highlights of the project status and benefits to the Town of Stillwater and surrounding areas. A fact sheet for the project was also created and posted to NYSEG's website containing similar project details and highlights. It also included contact information for customer's to utilize if they had questions related to the project.

With the project in-service and energized, the communications team is developing an external press release containing photos, quotes and and project highlights to be distributed to the appropriate external media outlets. The developer will leverage NYSEG's press release to promote the project as well.

9. Detailed Measurement and Verification ("M&V") Procedures

NYSEG is partnering with a third-party vendor to develop the BESS dispatch and monitoring system. The proposed system will be capable of performing appropriate measurement and verification of the BESS operations according to the details outlined in the M&V plan. The BESS dispatch and monitoring system will monitor the peak load on the transformer bank at the Stillwater substation and dispatch the BESS accordingly. Measurement and verification of the dispatch of the BESS will be performed periodically, and periodic adjustments will be made to the BESS dispatch requirements based upon the findings.

In addition, this M&V plan will describe the process NYSEG proposes to track and report on the operation of the peak shaving project, to document each aspect of the project and to include progress reports.



To maintain the best plan for the operation of the BESS, NYSEG will periodically review and update the M&V plan and will continue to follow the NWA agreement between NYSEG and the developer.

Audits will be performed by NYSEG on an annual basis, whether by metering verification or on-site inspection. NYSEG will conduct a minimum of two audits each year of the operations of the Stillwater BESS. The performance of the BESS will be determined by NYSEG based on either generation or load data obtained by NYSEG directly from the meters installed at the BESS site.

10. Reporting

10.1 IMPLEMENTATION PLAN UPDATES

As noted in Section 1.2. above, NYSEG will file updates to this Implementation Plan annually, by January 31st of each year, and more frequently if needed because of changes to the MW(s) required to meet the system need or the deferral value used for the project.

10.2 QUARTERLY NWA REPORTS

As noted in Section 1.2. above, NYSEG files quarterly NWA reports, no later than 60 days after each quarter. The quarterly NWA reports include details related to the Stillwater project such as current project costs and expenditures, project activities, incentive recoveries, and operational savings and other benefits.