STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Proceeding on Motion of the Commission to Implement Transmission Planning Pursuant to the Accelerated Renewable Energy Growth and Community Benefit Act	:	Case 20-E-0197

Petition Of
Niagara Mohawk Power Corporation d/b/a National Grid
For Authority To Modify Its List Of Phase 1 Projects and Other Relief

I. INTRODUCTION

In the New York State Public Service Commission's ("Commission") "Order Authorizing Development of Phase I Transmission Projects And Cost Recovery Measures" issued and effective July 14, 2022 in this proceeding (hereinafter "NG Phase 1 Order"), the Commission determined that 26 transmission projects proposed by Niagara Mohawk Power Corporation d/b/a National Grid ("National Grid" or "Company") qualified for treatment as Phase 1 investments[1] and authorized the Company to use its existing net regulatory liabilities to offset the estimated $8.9 million in revenue requirement associated with 19 of "Initial Phase 1" projects that would be placed in service during the term of the Company's current rate plan which runs through March 31, 2025. With respect to seven "Subsequent Phase 1" projects that are expected to be placed in service beyond the term of the Company's current rate plan, the Commission determined that it was appropriate for the Company to continue to develop the projects as Phase 1 projects, but capped the amount that the Company was authorized to spend on developing the Subsequent Phase

[1] By its "Order on Phase 1 Local Transmission and Distribution Project Proposals" issued and effective February 11, 2021 in this proceeding ("Phase 1 Order"), the Commission confirmed the Joint Utilities' definition of Phase 1 projects as investments needed to meet traditional reliability, safety and compliance objectives but that also address bottlenecks or constraints that limit the delivery of renewable energy.

1 projects through March 31, 2025 at $68 million,[2] and further authorized the Company to defer up to $886,000 of operations expense associated with the subsequent seven projects through March 31, 2025.[3]

As Niagara Mohawk has proceeded with the analyses and development of its Phase 1 projects, it has determined, as discussed more fully below, that:

(1) It is reasonable and prudent to cancel three of the original Initial Phase 1 projects that were originally estimated to cost $12.8 million[4] because the need for those projects has been displaced by the New York Energy Highway Initiative or planned Phase 2 projects;[5]

(2) It is also reasonable and prudent to proceed with three new Initial Phase 1 distribution projects that are estimated to cost $13.4 million[6] to enable constructability of Subsequent Phase 1 projects, specifically to address certain "Load-at-Risk" (*e.g.*, N-1 outage) issues that were identified during National Grid's detailed review of the outages needed for construction of Inghams – Rotterdam 115kV Line Upgrades; and

(3) It is also reasonable and prudent for the Company to accelerate its spending on the seven Subsequent Phase 1 projects to avoid major delays due to having to pause external support for design/pre-construction tasks associated with the seven Subsequent Phase 1 projects.

Based on these determinations, National Grid seeks authority, to the extent necessary, to (i) use its existing net regulatory liabilities to offset the revenue requirement associated with the

[2] NG Phase 1 Order at 19.
[3] *Id.* at 21.
[4] This estimate was based on current project maturities with all estimates at +50%/-25%.
[5] As set forth in the Company's Phase 1 and Phase 2 Semi-Annual Report, filed on June 30, 2023 in this proceeding, the Coffeen-Black River 115kV Terminal Upgrades (Project C082185), the Churchtown-Pleasant Valley Rebuild (Project C088401), and the LHH-Clay LN& Clearance (Project C088408) have been cancelled, as they have become obsolete as a result of planned Phase 2 and/or Energy Highway Initiative projects. The New York Energy Highway initiative includes a wide range of measures to provide up to 3200 MW of electric generation and transmission capacity.
[6] This estimate is also at +50%/-25%.

three distribution projects that will substitute for the three Initial Phase 1 projects the Company canceled, and (ii) modify the previously established $68 million cap on the Company's spending on Subsequent Phase 1 projects through March 31, 2025 to permit an increase up to a total cap of $100 million.

As more fully discussed below, granting this requested relief to allow for three distribution upgrades will enable the Company to enhance the safety and reliability of its electric transmission and distribution system during and after construction of the Inghams – Rotterdam 115 kV Line Upgrades project. Likewise, allowing for a modification in the $68 million cost cap will mitigate the risk of significant delays or overall cost increases related to construction of the seven Subsequent Phase 1 projects. The requested authorizations are in the public interest and should be granted expeditiously.

II. BACKGROUND

The Climate Leadership and Community Protection Act ("CLCPA") established aggressive climate and emissions goals for New York State, including: (i) a minimum of 70 percent of statewide electricity being generated from renewable sources by 2030 ("70 x 30"); (ii) a 100 percent reduction in greenhouse gas emissions from the electricity sector by 2040 ("100 x 40").[7] Recognizing the need to enhance the State's transmission infrastructure to support CLCPA goals, New York subsequently enacted the Accelerated Renewable Energy Growth and Community Benefit Act ("AREGCBA" or the "Accelerated Renewables Act") on April 3, 2020.[8] Among other things, the Accelerated Renewables Act required the Commission to commence a proceeding to establish a distribution and local transmission capital plan for each utility in whose service territory the power grid study identified distribution upgrades and local transmission upgrades that the

[7] CLCPA §1(12)(d); *see also* §4(2) (codified at N.Y. Pub. Serv. Law §66-p(2)).
[8] N.Y. Laws 2020, ch. 58 (Part JJJ).

[Commission] determines are necessary or appropriate to achieve the CLCPA targets.[9] Accordingly, the Commission initiated the instant proceeding to implement the mandates of the legislation.

In the Phase 1 Order, the Commission acknowledged that, in the short-term, relying on rate case cycles for cost recovery of Phase 1 projects could delay achievement of CLCPA goals and, therefore, the Commission authorized utilities to petition for authority to recover carrying costs and expenses of such projects. In response to the Phase 1 Order, National Grid submitted a petition and addendum that set forth its Phase 1 proposals.[10] In the NG Phase 1 Order, the Commission, in authorizing 26 of the Company's proposed Phase 1 projects, addressed the requirements applicable to utility requests for cost recovery for Phase 1 projects needed to meet CLCPA deadlines sooner than can be achieved through a utility's next rate filing. Specifically, the Commission determined that:

(1) A utility seeking funding for Phase 1 investments via a petition must establish that the proposals qualify as Phase 1 projects, meaning that they must "arise from one or more traditional infrastructure planning considerations, such as reliability, resilience or the need for increased system capacity, while also addressing bottlenecks that limit the deliverability of renewable energy to the bulk system."[11]

(2) A utility seeking cost recovery through a petition must show that CLCPA deadlines require moving forward with the proposals outside of the utility's normal rate case cycle.[12]

---

[9] *See Case 20-E-0197*, "Order On Transmission Planning Pursuant To The Accelerated Renewable Energy Growth Act And Community Benefit Act" (May 14, 2020) at 2-3.
[10] *See* "Petition of Niagara Mohawk Power Corporation d/b/a National Grid for Cost Recovery of Phase 1 Local Transmission Projects" filed November 8, 2021 in this proceeding; *see also* "Addendum to Petition for Cost Recovery of Phase 1 Local Transmission Projects" filed April 8, 2022 in this proceeding.
[11] NG Phase 1 Order at 13.
[12] *Id.* at 14.

(3) A utility must provide for each proposed project, a description of "(i) the existing electric system, including single line drawings and a geographical map of the affected area; (ii) existing and forecast local loads, non-renewable generation; renewable generation, and import/export transfer capability to and from the bulk electric system; (iii) other planned relevant transmission and distribution projects; (iv) the proposed project, including single line drawings, construction schedule, capital and operating cost estimates, and the project's contribution toward CLCPA goals; (v) viable alternatives and approaches, as well as the risk of no action; … (vi) a justification for [the] prioritization of the project, including an explanation as to why capital spending cannot be reduced to accommodate the proposed project; and (vii) an analysis of the applicability of advanced technologies to [the] proposed project."[13]

III. NATIONAL GRID'S SPECIFIC PROPOSALS

A. Proposed Phase 1 Projects

Since the issuance of the NG Phase 1 Order, National Grid has continued to evaluate its needs for transmission/distribution upgrades that arise from traditional planning considerations and will also address bottlenecks that limit the deliverability of renewable energy into the bulk system. Based upon these analyses, the Company determined that due to the development of the New York Energy Highway Initiative and planned Phase 2 projects, it is no longer necessary for the Company to proceed with the development of the following three projects that were authorized in the NG Phase 1 Order:

1. Coffeen-Black River 115 kV Terminal Upgrades (Project C082185);
2. Churchtown-Pleasant Valley Rebuild (Project C088401); and
3. LHH-Clay LN& Clearance (Project C088408).

[13] *Id* at 16. If a utility proposes a project without incorporating advanced technology, the utility is required to explain why the use of such technology is not justified for the project. *Id*.

The removal of these projects from the Phase 1 portfolio is forecast to reduce the overall investment in National Grid's Phase 1 projects by $12.8 million (+50%/-20%).

At the same time, in developing a detailed review of the outages needed for the Inghams – Rotterdam 115 kV rebuild project – one of the seven Subsequent Phase 1 projects authorized in the NG Phase 1 Order – the Company determined that to allow for safe conditions during construction and meet the 2030 in-service date, the preferred outage plan put 5,000 customers served from the Company's St. Johnsville, Marshville and Clinton substations at risk of an N-1 outage. To address this "Load-at-Risk" issue and support future maintenance of transmission in the area, the Company determined that there was a need for three distribution projects to support outages. The projects consist of:

1. A new 69 kV:13.2 kV substation located next to Marshville substation with a new 13.2 kV feeder running from the new substation to Clinton;
2. Rebuild and partial conversion of St. Johnsville feeder 33551 to extend a new feeder tie to Salisbury substation; and
3. Rebuild and partial conversion of St. Johnsville feeder 33554 to extend a new feeder tie to Inghams substation.

The total estimated cost of these projects is $13.4 million (+50%/-25%) which is approximately the same as the estimated cost of the Initial Phase 1 projects being removed from the Phase 1 portfolio. The Company plans to complete these distribution projects by the end of 2025 to support the Inghams – Rotterdam construction schedule.

These proposed distribution upgrade projects fit within the requirements for CLCPA Phase 1 projects, because they are multi-value in nature. Not only will the projects enable renewable deliverability by facilitating the construction of transmission needed to unbottle over 100 MW of

renewable energy, but the projects will also improve local reliability, resiliency, and capacity. These upgrades include creation of several feeder ties in areas with relatively few, including to the St. Johnsville station, which currently has one very limited tie to the Clinton substation to provide a secondary source in the event of a local outage. The proposed manual and automated ties will improve reliability for decades to come; for example, had these feeder ties been available for the past 5 years, as many as 17 outages on the Clinton and St. Johnsville distribution feeders affecting 500 or more customers could have been reduced or avoided.

This set of distribution projects will improve renewable energy deliverability by enabling cost effective, efficient, and reliable construction of the Inghams-Rotterdam Phase 1 project. The projects allow for continuous construction of Inghams- Rotterdam projects by reducing the need for alternative mitigation measures (*e.g.*, modification of the construction configuration using temporary structures and adopting a protracted construction sequence) designed to minimize the risk of potentially lengthy customer outages during the Inghams – Rotterdam project construction. Without the proposed distribution upgrades, over 5,000 customers would be at risk of becoming stranded load (*i.e.*, load that cannot be re-energized until the outage is repaired due to lack of redundant sources) in the event of an outage while the local transmission system is in a more vulnerable construction-driven configuration. Alternative outage mitigation measures that allow construction while mitigating reliability risks to distribution substations would add significant cost for work that does not provide enduring reliability or CLCPA benefits and would lead to increased delivery timelines. Construction would also be at risk of unpredictable pauses during times of high load or potential storms to avoid extended high impact outages due to loss of supply without an alternate reliability solution. The three proposed new Initial Phase 1 projects mitigate this risk while also providing long-term resiliency and reliability benefits through conversion and addition

of feeder ties. This is discussed in detail in Appendix 1. Because of their multi-value benefits (*i.e.*, reliability, resiliency, and enabling CLCPA Phase 1 construction and renewable deliverability), the proposed distribution upgrades fall squarely within the definition of CLCPA Phase 1 projects. Additional information that supports a finding that the proposed distribution projects qualify as Phase 1 projects under the Phase 1 Order is attached as Appendix 1.

1. Cost Recovery

National Grid respectfully requests that, as is the case with other authorized Phase 1 projects, the Company be permitted to use its net regulatory liability balance to offset the revenue requirement associated with the proposed additional projects during the term of the Company's current rate plan which runs through March 31, 2025.

B. The Company's Request To Modify The Fiscal Year 2025 Cost Cap For The Seven Subsequent Phase 1 Projects.

In addition to seeking authorization for its additional Phase 1 projects, the Company also requests that the Commission modify the $68 million cap on spending on the seven Subsequent Phase 1 projects through March 31, 2025 to permit an increase in additional costs of up to $100 million. The increase in the short-term is driven by updated estimates for the seven Subsequent Phase 1 projects (*see* table below). These estimates include funding for partial pre-payment of long-lead items to ensure timely delivery and reserve manufacturing spots, land rights procurement, design and permitting resources, and other pre-construction activities. Note this request only relates to near-term funding needs, not a change in total long-term CLCPA Phase 1 portfolio costs. The Company's request to increase the allowed spending for the Subsequent Phase 1 projects through March 31, 2025 is driven primarily by the need to meet the 2030 in-service date with available resources and materials. Specifically, National Grid anticipates requiring at least 100 incremental personnel resources during engineering and design of the CLCPA projects, and

another nearly 250 during construction. Increasing the spending cap will allow the Company to manage its resource plan in in a manner that will best position the Company to meet the CLCPA goals at the lowest reasonable cost to customers, based on updated estimates as reflected in the table below.

Project Name	**Region**	**Project Type**	**Requested Modified Spending Cap Forecast Thru March 2025 ($Millions)**	**PSC Approved Spending Cap Forecast Thru March 2025 ($Millions)**
Dunkirk-Laona Rebuild	West	Transmission Line	12	2.8
Golah Substation	West	Transmission Substation	8	1.4
Inghams-Rotterdam Rebuild	East	Transmission Line	60	55.7
Mortimer Substation Rebuild	West	Transmission Substation	0.5	0
Meco Substation	East	Transmission Substation	6	3.7
Saltsman Road Greenfield Substation	East	Transmission Substation	6	1.5
Southeast Batavia - Golah 119 Rebuild	West	Transmission Line	7.5	2.9
Total			100	68

IV. APPENDIX

Attached hereto and made a part of this petition is Appendix 1 which provides Information concerning the proposed new Initial Phase 1 projects as required by the Phase 1 Order.

V. CONCLUSION

National Grid remains committed to providing cost-effective solutions to enable New York State to achieve the goals of the CLCPA. To that end, the Company submits that the investments

and proposals outlined in this petition are in the best interests of customers and necessary for the State to achieve the CLCPA goals in a safe, reliable, and timely manner. The transmission and distribution investments previously approved by the Commission as well as those outlined in this petition require significant amounts of planning, coordination, and construction time. As such, the Company respectfully requests that the Commission continue to proceed with the urgency needed to meet its 2030 goals for the benefit of the State and its residents.

For the foregoing reasons, National Grid respectfully requests that the Commission: (i) find that the Company should pursue the three proposed new Initial Phase 1 projects described herein; (ii) grant National Grid the ability to use its existing net regulatory liability balance to recover of the costs of the proposed new Initial Phase 1 projects until they are reflected in base rates; (iii) modify the previously established $68 million cap on the Company's spending on Subsequent Phase 1 projects through March 31, 2025 to permit a new total cap of $100 million; and (iv) grant National Grid such other and further relief as may be required to advance the CLCPA goals and protect the Company's interests.

Respectfully submitted,

Kenneth T. Maloney

Carlos Gavilondo
Assistant General Counsel
NY Clean Energy and Regulatory
National Grid
300 Erie Boulevard West
Syracuse, NY 13202
Carlos.Gavilondo@nationalgrid.com

Kenneth T. Maloney
Terrence W. Regan
Cullen and Dykman LLP
1101 14th Street, NW
Suite 750
Washington, DC 20005
kmaloney@cullenllp.com
tregan@cullenllp.com

Attorneys for Niagara Mohawk Power Corporation d/b/a National Grid

Date: September 22, 2023

Appendix 1 to Niagara Mohawk Power Corporation d/b/a National Grid's September 2023 Petition

For consideration as a CLCPA Phase 1 project, a utility must provide for each proposed project, a description of: "(i) the existing electric system, including single line drawings and a geographical map of the affected area; (ii) existing and forecast local loads, non-renewable generation, renewable generation, and import/export transfer capability to and from the bulk electric system; (iii) other planned relevant transmission and distribution projects; (iv) the proposed project, including single line drawings, construction schedule, capital and operating cost estimates, and the project's contribution toward CLCPA goals; (v) viable alternatives and approaches, as well as the risk of no action; … (vi) a justification for [the] prioritization of the project, including an explanation as to why capital spending cannot be reduced to accommodate the proposed project; and (vii) an analysis of [the] applicability of advanced technologies to the proposed project. The sections below detail this information for the three proposed new Initial Phase 1 projects described in the Company's September 2023 Petition:

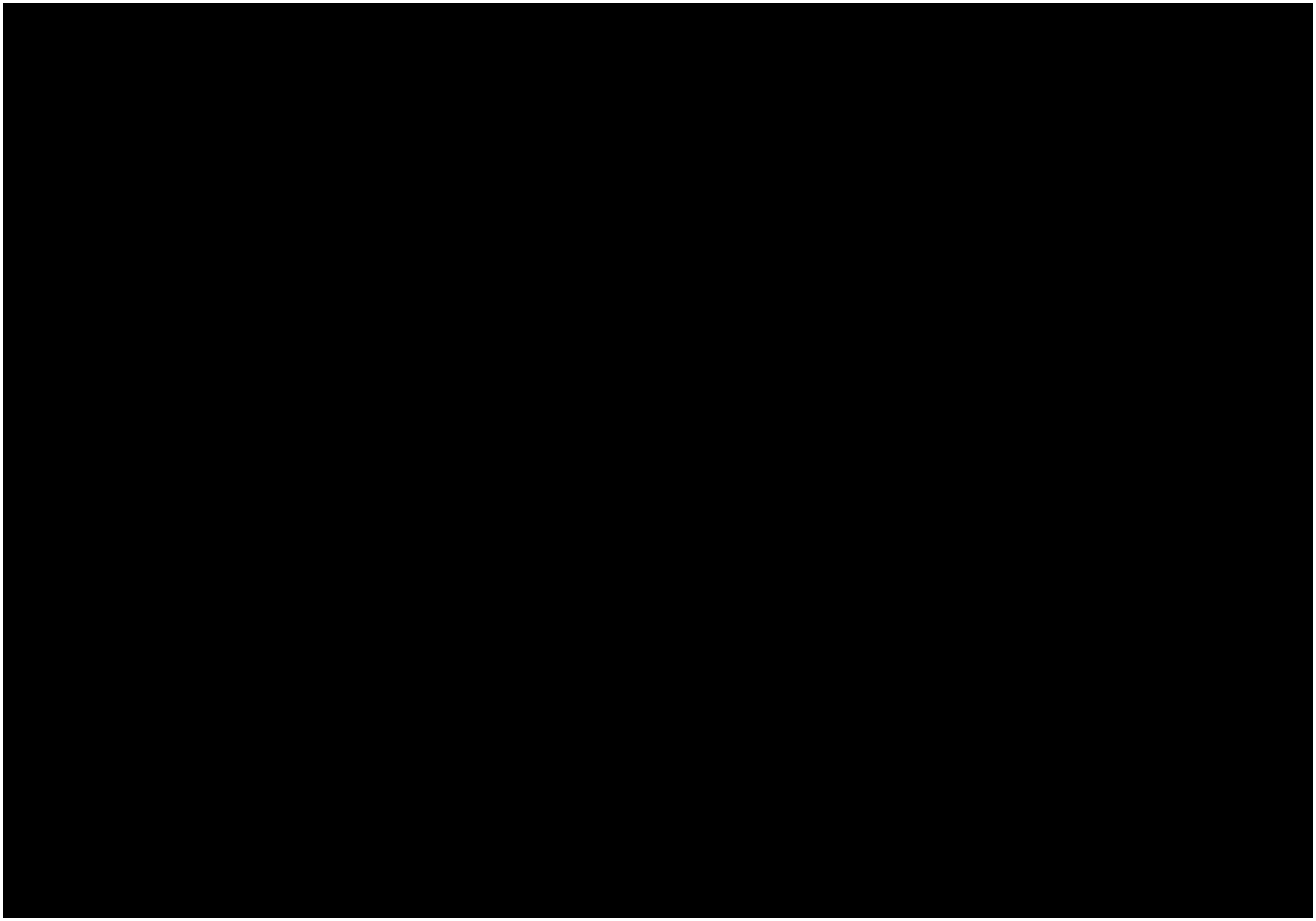
(i) Description of the Existing Electric System, Including Single Line Drawings and a Geographical Map of the Affected Area

All substations that could have reliability affected during construction of the CLCPA Phase 1 Inghams – Rotterdam 115 kV rebuild are located in Montgomery County, which is predominantly a rural county whose main industry is farming. Therefore, the distribution system in the area consists of very long distribution feeders, some of which are well over 100 circuit miles in length. Due to the nature of the load, most of the distribution feeders are not heavily loaded, which will allow for the construction and automation of fault detection and switching of existing and new feeder ties where needed. Automated ties will utilize auto sectionalizing reclosers coordinated into Fault Location Isolation and Service Restoration ("FLISR") to minimize outage impact and

quickly restore service to as many customers as possible. The new feeder ties will provide backup for the distribution system during and after CLCPA Phase 1 construction.

The two distribution substations in the region where the new Initial Phase 1 distribution projects will be constructed to mitigate reliability risk during Phase 1 transmission construction are St. Johnsville and Clinton. Currently, St. Johnsville has two distribution feeders serving approximately 2,500 customers with one very limited tie to Clinton substation. Clinton has three distribution feeders serving approximately 5,100 customers and has only the one limited feeder tie back to St. Johnsville. None of the existing limited ties in this region can support restoration in the event of a loss of supply, leading to extended outages upon loss of supply. As a result of the proposed distribution projects, these stations will have enhanced feeder tie capability that will be created by adding connections among these stations and others, including Salisbury station, Inghams station, and a new 69 kV:13.2 kV station next to Marshville station. This is illustrated below in the single line drawing of the Inghams-Rotterdam 115 kV line, which highlights the increased outage exposure during construction of the Ingham-Rotterdam 115 kV rebuild. The single line drawing shows how the Clinton and St. Johnsville stations are at risk given their single source in the event of construction on either side of that supply line loop. Specifically, the 115 kV loop running from Inghams to Beardslee to St. Johnsville to Marshville to Clinton and then back to the backbone running from Inghams to Rotterdam (highlighted in yellow below) will have to be 'opened' during the rebuild, such that sections of the loop will be rebuilt one at a time (*e.g.*, rebuilding section S-M #11 line between St. Johnsville and Marshville as one section of the loop). 'Opening' the loop in this way puts the stations served by this loop at increased risk of loss of supply, which creates the risk of extended outages for customers served from either Beardslee or

Clinton station (in the example above). This risk will be mitigated with the distribution projects, that create new and bolstered feeder ties enabling restoration even after loss of supply to Clinton or St. Johnsville.



(ii) Description of Existing and Forecast Local Loads, Non-Renewable Generation, Renewable Generation, and Import/Export Transfer Capability to and from the Bulk Electric System

The tables below detail voltage, connected distributed generation ("DG") and in queue, 2022 actual load, and annual forecasted load for the St. Johnsville and Clinton, as well as surrounding, substations.

Substation	Transformer SN Ratings [MVA]	Low Side Voltage [kV]	DG Connected [MW]	DG in Queue [MW]
Center Street	29.1	13.2	10.54	16.92
Church Street TB1	33.8	13.2	0.61	7.53
Church Street TB2	50.88	13.2	7.54	10.03
Clinton	23.3	13.2	1.29	23.07
Maple Avenue	30.87	13.2	2.63	18.28
St. Johnsville TB1	7.5	13.2	0.32	5.03
St. Johnsville TB2	6.5	13.2	2.69	5.01
Stoner	51.6	13.2	21.77	26.7
Vail Mills	25.74	13.2	15.86	18.53
Salisbury TB1	8.07	13.2	4.16	0.00
Salisbury TB2	10.75	13.2	5.32	5.00
Inghams	10.92	13.2	10.98	11.94

Substation	2022 Actual Load [MVA]	2023 Forecasted Load [MVA]	2025 Forecasted Load [MVA]	2030 Forecasted Load [MVA]	2035 Forecasted Load [MVA]
Center Street	18.22	20.4	20.8	22.1	23.7
Church Street TB1	11.64	12.6	12.8	13.7	15.2
Church Street TB2	11.52	12.6	12.9	13.7	14.9
Clinton	13.89	15.5	16.4	19.6	23.1
Maple Avenue	16.28	17.7	17.0	18.5	21.0
St. Johnsville TB1	2.75	3.1	3.3	3.7	4.1
St. Johnsville TB2	3.18	3.4	3.3	3.3	3.5
Stoner	28.41	30.8	31.7	34.4	37.9
Vail Mills	18.40	20.7	16.5	18.7	24.1
Salisbury TB1	6.94	7.8	8.0	8.6	9.5

Substation (Cont.)	2022 Actual Load [MVA]	2023 Forecasted Load [MVA]	2025 Forecasted Load [MVA]	2030 Forecasted Load [MVA]	2035 Forecasted Load [MVA]
Salisbury TB2	6.78	7.3	7.3	7.5	8.2
Inghams	7.00	7.5	7.6	7.8	8.7

(iii) Description of Other Planned Relevant Transmission and Distribution Projects.

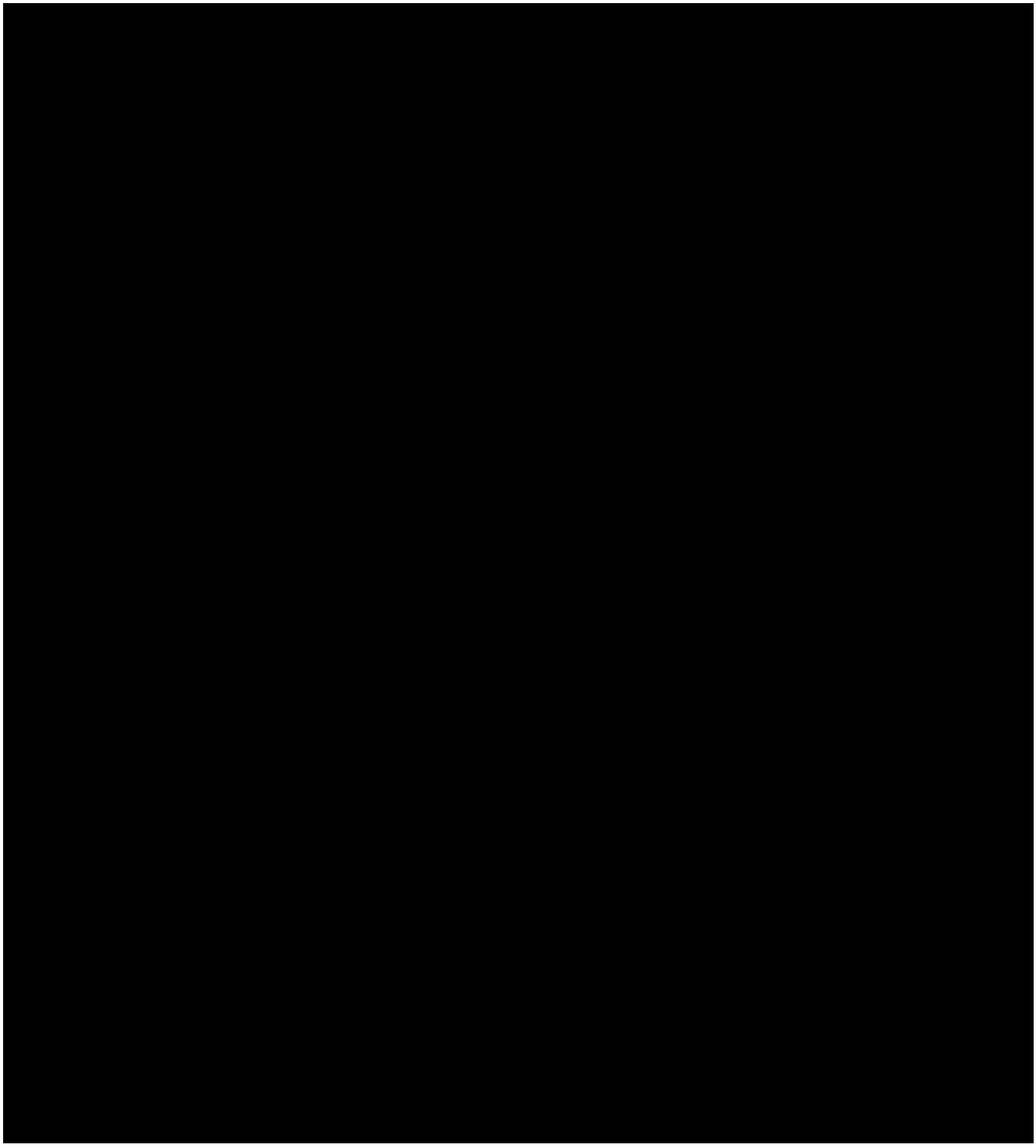
The proposed new Initial Phase 1 projects align with other planned efforts, accelerating those efforts to enable the construction of the Ingrams-Rotterdam 115 kV rebuild, and enable renewable deliverability in alignment with clean energy policy. Specifically, these projects enable and accelerate efforts around conversion from 5 kV class to 13.2 kV and enhanced feeder resiliency (including FLISR). National Grid generally aims to convert 5 kV class distribution assets to 13.2 kV (or other 15 kV voltage classes) to enhance system capacity and hosting capacity, improve system efficiency and operations, and to enable creation of feeder ties. The three proposed CLCPA Initial Phase 1 distribution projects will enable over seven miles of mainline conversion from 5 kV class to 13.2 kV, as well as new construction of a 13.2 kV feeder. These projects will also include the construction of three new feeder ties, all of which will be automated utilizing FLISR. Additionally, automation will be added to bolster existing ties at Center St., Church St., Maple Ave., Vail Mills, and Stoner substations. These ties will provide reliability benefits long after the completion of the Inghams Rotterdam 115 kV rebuild, enabling sectionalizing and restoration on these relatively long and remote distribution lines.

(iv) Description of the Proposed Project, Including Single Line Drawings, Construction Schedule, Capital and Operating Cost Estimates, and the Project's Contribution Toward CLCPA Goals.

The proposed distribution projects include: (1) a new temporary 69 kV:13.2 kV substation located next to Marshville substation with a new 13.2 kV feeder running from the new substation to Clinton; (2) rebuild and partial conversion of St. Johnsville feeder 33551 to extend a new feeder tie to Salisbury substation; and (3) rebuild and partial conversion of St. Johnsville feeder 33554 to extend a new feeder tie to Inghams substation. The total project capital estimate is $13.4 million, with a -25%/+50% accuracy range. This accuracy is in alignment with estimates that have previously been approved in prior rate case proceedings and is premised on the accuracy of the several estimating tools utilized to develop estimates utilizing marginal rates based on historical averages for specific categories of construction. A more precise estimate will be developed once detailed design is completed in 2024.

1) **New 69 kV:13.2 kV Substation and 13.2 kV Feeder (Clinton tie):** Project scope is to construct a new 69/13.2 kV substation adjacent to the Marshville substation and rebuild/convert approximately 1.8 miles of distribution facilities along State Highway 10 and Fredericks Street to Seebers Lane where they would connect to the existing Clinton distribution facilities. Additionally, National Grid will construct the new distribution facilities with 477 AL bare conductor with a rating of 640 Amps (15 MVA), allowing the substation the ability to serve all three Clinton feeders, by directly tying to the Clinton 54 feeder. The station is designed in a way to potentially utilize spares and enable that station to be re-utilized in alternative configurations at a later date following completion of the Inghams Rotterdam 115 kV rebuild. The station portion of the project (C091833) is estimated to require capital investments of $1.4 million, while the feeder portion (C091832) is estimated to require investment of $1.7 million, with design completed by

June 2024 and construction completed by December 2025. *See* the single line diagram, below.



2) **St. Johnsville 33551 Rebuild (Salisbury tie):** St. Johnsville 33551 has 1,064 customers, 17,004 kVA of connected load, 122 miles of total distribution facilities, 25.8 miles of 3-phase facilities, and is a summer peaking feeder. A 3-phase, 13.2 kV facilities feeder tie will be built to the Salisbury 67853 feeder. This will require reconductoring of 1.5 miles of existing 3-phase facilities, rebuilding of 13.2 kV on State Highway 5S to 336.4 MCM AL, and rebuilding 3.7 miles of facilities on State Highway 5S from 4.8 kV single phase to 3-phase facilities, 13.2 kV for a total rebuild distance of about 5.2 miles. Additionally, reclosers will be added and automated to enable FLISR at this new feeder tie. This project (C091830) is estimated to require a total capital investment of $4.7 million, with design completed by June 2024 and construction completed by December 2025. *See* the single line diagram, below.

3) **St. Johnsville 33554 Rebuild (Inghams tie):** St. Johnsville 33554 has 1,391 customers, 15,220 kVA of connected load, 47.24 miles of total distribution facilities, including 7.0 miles of 3-phase facilities, and is a summer peaking feeder. A 3-phase, 13.2 kV feeder tie will be built to the Inghams 02051 feeder by rebuilding about 3 miles of existing 4.8 kV single phase facility on Snells Bush Road to 3-phase facilities, 13.2 kV and the

rebuild/conversion of another 3.1 miles of existing 3-phase facilities from 4.8 kV to 13.2 kV using 336.4 MCM AL, creating a 3-phase, 13.2 kV feeder tie from St. Johnsville to Inghams for a total rebuild distance of about 6.1 miles. This project (C091831) is estimated to require capital investments of $5.1 million, with designs completed by June 2024 and construction complete by December 2025. *See* the single line diagram, above.

(v) Description of Viable Alternatives and Approaches, as well as the Risk of No Action.

There are limited alternatives to the construction of the Inghams Rotterdam 115 kV rebuild without substantial reliability risk to customers served by the Clinton and St. Johnsville substations. On the distribution system, options are limited to rebuild and conversion due to the physical distance between feeders and mixed local voltages. On the transmission system, there are no cost-effective alternatives to providing alternate supply to these exposed substations. A 115 kV work around would require tapping off another 115 kV line not associated with the CLCPA portfolio and running a new line to the Clinton and St. Johnsville substations. The nearest lines are at least 3-5 miles away, and would cost an estimated $5-$7 million per mile, a cost that would far exceed the distribution alternative described in this filing.

Inaction is equally risky for customers and the attainment of policy objectives. Without the distribution projects, approximately 5,000+ customers would be at risk of outage without N-1 capacity available for timely restoration. This means, due to the Inghams-Rotterdam 115 kV rebuild, existing customers would take on new exposure to extended (*i.e.*, multi-hour) outages that they previously were not exposed to. Additionally, without sufficient N-1 capacity (as would be provided by the proposed distribution projects), construction schedules for the Inghams-Rotterdam 115 kV rebuild would likely be extended, and the project would be at risk of delays related to

storms and other operational risks that the transmission or regional control centers would identify as a reliability risk locally.

(vi) A Justification for the Prioritization of the Project, Including an Explanation as to Why Capital Spending Cannot be Reduced to Accommodate the Proposed Project.

As discussed in the Petition, the proposed new Initial Phase 1 distribution projects fit squarely into the CLCPA Phase 1 definition as planned work (*i.e.*, supporting programs related to 15 kV conversions and enhancing feeder ties including FLISR) that is accelerated for the benefit of renewable deliverability (here achieved by allowing efficient construction of CLCPA Phase 1 transmission). As incremental work in 2024 and 2025, years in which the National Grid capital plan is limited to regulated levels determined in its current rate plan, there is very limited opportunity to defer other work. In addition, since current rates were determined, inflationary cost pressures have made it increasingly difficult to complete the capital work reflected in the current rate plan at the forecast cost reflected in the plan. In addition, the reliability benefit that these ties will provide is an immediate benefit that will remain in place long after the CLCPA construction is complete. Had the feeder ties been available for the past 5 years, as many as 17 outages on the Clinton and St. Johnsville distribution feeders affecting 500 or more customers could have been reduced or avoided.

(vii) Analysis of the Applicability of Advanced Technologies to the Proposed Project

Alternatives are limited here, as the nature of the distribution facilities limits the applicability of non-wires alternatives ("NWAs"). Given the new feeder ties require not only conversion, but also extensions and new construction to physically connect circuits, distributed energy resources ("DER") in the area (mostly photovoltaic or incrementally procured) have limited

value in meeting reliability need. To provide similar value, an NWA would have to provide backup support for the St. Johnsville and Clinton stations, likely requiring the development of two or more microgrids. Given recent experience with developing microgrids (particularly those supported exclusively by renewables and/or energy storage, as would likely be the case here), it is highly unlikely the development of an NWA in this region would be timely or cost effective, relative to the alternative described in the Petition.