STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

In the Matter of:	:	
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NIAGARA MOHAWK POWER CORPORATION D/B/A NATIONAL GRID	:	
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Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Niagara Mohawk Power Corporation d/b/a National Grid for Gas Service.	:	Case No. 24-G-0323
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Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Niagara Mohawk Power Corporation d/b/a National Grid for Electric Service.	:	Case No. 24-E-0323

TESTIMONY OF NOAH GINSBURG

On the Topics of
Distributed Energy Resource Interconnection
and Earnings Adjustment Mechanisms

September 27, 2024

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I. Introduction and Qualifications

Q. Please state your name, title, and employer.

A. My name is Noah Ginsburg. I am the Executive Director at New York Solar Energy Industries Association (NYSEIA).

Q. On whose behalf are you submitting this testimony in this proceeding?

A. I'm submitting testimony on behalf of NYSEIA and our member companies who are actively developing distributed energy resources (DER) in Niagara Mohawk Power Corporation (referred to hereafter as "National Grid" or "the Company") territory. Established in 1994, NYSEIA is New York's distributed solar and energy storage trade association. Our 225 active members develop, finance, construct and operate distributed solar and energy storage projects throughout New York State.

Q. Please provide a summary of your education and experience.

A. I've worked in the solar industry since 2009, where I've held diverse analytic and management roles in the public, private and non-profit sectors. I began my current role as NYSEIA's Executive Director in 2023. At NYSEIA, I lead the DER industry's participation in the Interconnection Policy Working Group and work closely with DER developers to advance proposals to improve interconnection in New York State. Additionally, I'm the Principal Investigator for a NYSERDA-supported Flexible Interconnection Study that NYSEIA is working on jointly with New York Battery Energy Storage Technology Consortium (NY-BEST) and Electric Power Research Institute (EPRI). The Flexible Interconnection study seeks to quantify the benefits of statewide adoption of Flexible Interconnection Capacity Solutions (FICS) and to outline key FICS policy implementation considerations for key stakeholders, including New York regulators, agency personnel, utilities, and DER providers. From 2016-2023, I directed a solar technical assistance program at New York City nonprofit Solar One, facilitating low-income community solar projects and solar for affordable

housing developments. In this role, I implemented a successful REV Demonstration Project with Con Edison that included low-income community solar while testing smart inverter functionality. From 2011-2015, I worked in a variety of analytic and software product development roles at Sungevity and Sunrun, leading national residential solar companies based in California. From 2009-2011, I was a Solar Ombudsman at the City University of New York, completing solar feasibility assessments, developing tools for solar potential analysis, and conducting policy research. I hold a multidisciplinary bachelor's degree in Renewable Energy from the CUNY Baccalaureate Program, with a core curriculum in physics and environmental studies.

Q. Have you previously filed testimony before regulatory or judicial bodies?

A. No.

II. Background

Q. What is the purpose of your testimony?

A. The purpose of my testimony is twofold: 1) to review and critique National Grid's DER interconnection processes and costs, and to recommend improvements that will ensure DER interconnection customers receive just and reasonable service; and 2) to review and critique the DER Utilization Earnings Adjustment Mechanism (EAM) proposed by National Grid, and to recommend improvements that will increase the efficacy of the EAM. The broader intent of this testimony is to encourage National Grid to improve its interconnection process and to better manage and lower its distribution upgrade costs. In this testimony, I assert that greater transparency regarding National Grid's actual distribution upgrade costs, combined with effective oversight by the Department of Public Service (DPS), will counteract rising interconnection costs and enable rapid and cost-effective progress toward New York's Climate Leadership and Community Protection Act (CLCPA) mandates. In my testimony, I also outline other cost reduction options, detail modifications to the Company's proposed DER Utilization EAM, and voice support for National Grid's Flexible Connections proposal, an important strategy to counteract the utility's

rising interconnection costs, and encourage additional proactive distribution system investments in order to expand DER hosting capacity.

Q. Please explain National Grid's current cost estimation process for interconnecting Distributed Energy Resources.

A. Distributed Energy Resources (DER) are interconnected to National Grid's distribution system in accordance with New York State Standardized Interconnection Requirements and Application Process For New Distributed Generators and/or Energy Storage Systems 5 MW or Less Connected in Parallel with Utility Distribution Systems (SIR). Under the terms of the SIR, National Grid performs a Coordinated Electric System Interconnection Review (CESIR) in order to understand the proposed project's impact on the utility system and determine what distribution upgrades, if any, will be required for the proposed DER to interconnect with National Grid's sub-transmission or distribution system. After completion of the CESIR, National Grid is required to provide a detailed report with CESIR study results, including the scope of work and cost estimate for any distribution upgrades that are required to interconnect the proposed DER. Under the terms of the SIR, contingencies associated with the cost estimates are not to exceed 15%. Once DER interconnection customers sign an Interconnection Agreement and make full payment to National Grid, the Company mobilizes to complete the distribution system upgrade. The DER interconnection customer constructs their facility and requests Permission to Operate from the Company. In cases where National Grid's final cost to construct a distribution upgrade differs from the cost estimate provided in the CESIR study results, the Company completes a reconciliation process with the interconnection customer.

Q. Can you explain how DER developers utilize the cost estimates provided by National Grid?

A. DER interconnection customers raise and deploy private capital to build projects that support progress toward New York's CLCPA mandates. DER providers' ability to deploy capital to construct DER in National Grid territory is predicated upon National Grid providing accurate distribution upgrade cost estimates and managing its costs in order to limit cost overruns and ensure

that the DER interconnection customers' final costs are close to the utility cost estimate provided in the CESIR study results, which is the basis for the Interconnection Agreement entered into between the DER interconnection customer and National Grid.

Q. Do you believe the current cost estimates are a reasonable reflection of the services provided to DER interconnection customers?

A. No. National Grid's current interconnection process, and specifically the utility's methods of cost estimation, cost controls, and indirect cost allocation do not result in just and reasonable service for DER interconnection customers.

Q. Do you have specific examples of how the current cost estimates have not been reliable?

A. Yes. In May 2023, National Grid informed DER Stakeholders that it had been conducting inaccurate Coordinated Electric System Interconnection Review (CESIR) studies, and re-studying DER would be necessary and could result in retroactive scope modifications for planned and recently completed distribution upgrades. In November 2023, National Grid issued Additional Upgrade Disclosures to 45 DER in the Company's Western District, informing the project owners that additional upgrades were required for their DER to interconnect safely, and that they would be required to pay for these retroactive scope modifications. In December 2023, National Grid filed a petition for declaratory ruling seeking affirmation from the Commission that the Company can impose uncapped retroactive scope and budget modifications for distribution upgrades; a petition that was ultimately denied.

In June 2024, before the Commission ruled on the Company's December 2023 petition regarding retroactive scope modifications, National Grid informed DER stakeholders that the utility's actual costs to implement distribution upgrades for DER interconnection increased by approximately 71%[1] since the utility last evaluated its costs in 2022. Based on the alleged increases to National Grid's distribution upgrade costs, the utility generated and sent revised cost estimates to 106 DER

[1] Exhibit 1.

interconnection customers; the subset of projects for which the utility had completed Coordinated Electric System Interconnection Review (CESIR) studies but for which interconnection agreements were not yet signed (i.e., the CESIR studies were completed in 2024). According to anonymized data provided by National Grid in July 2024 (Exhibit 1), their cost estimates increased by $326M for these 106 projects; a 71% increase versus the estimates that were provided a few months prior.

Q. Can you explain how inaccurate cost estimates will impact DER developers in the future?

A. Yes. National Grid staff has already informed the Interconnection Policy Working Group that they plan to send similarly higher cost estimates to hundreds of additional DER customers in more advanced stages of development, implying there are hundreds of millions of dollars of heretofore undisclosed additional costs that National Grid seeks to charge to DER interconnection customers with signed Interconnection Agreements, and, in some cases, fully constructed projects. The impacted DER interconnection customers made interconnection payments to National Grid and substantial investment decisions based upon the original "good faith" cost estimates provided by National Grid in their CESIR study results. Significant and unanticipated retroactive cost increases will cause significant financial harm to the impacted projects and DER development companies. Retroactive cost increases could also cause a significant number of DER project cancellations while undermining trust in New York's interconnection process.

Q. How does National Grid currently prepare its cost estimates?

A. National Grid estimates costs using internal proprietary cost estimating tools. In June 2024, National Grid began using a new cost estimating tool, "Sagebook", for new CESIR studies which is producing significantly higher cost estimates than the tools and methods used prior to June 2024. National Grid's estimated costs not only significantly exceed their own estimates from a few months prior; they tend to be higher than the cost estimates for comparable upgrades in other New York utility service territories.

Q. Have you requested more detailed explanations from National Grid regarding cost estimates?

A. Yes. In this rate case, and previously through the Interconnection Policy Working Group, NYSEIA requested that National Grid disclose itemized cost data for distribution upgrades to substantiate the utility's alleged cost increases (NYSEIA-IR-2). In NYSEIA-IR-32, we also requested the actual cost data that was used to produce the *Joint Utilities of New York - Technical Guidance Cost Matrix for Integrating DER - Updated and Combined - July 2024 ("Cost Matrix")*. The "Cost Matrix" is a public guidance document that includes cost estimates for common distribution upgrades, and which National Grid indicated is derived from the same sources as those used by "Sagebook".

Q. How did National Grid respond to your information requests?

A. National Grid did not provide the requested itemized cost information. Despite NYSEIA's multiple requests for the total final cost of distribution upgrades, the utility did not provide this data for the majority of distribution upgrades paid for by DER customers over the last five years. To my knowledge, DPS has not compelled National Grid to produce actual cost data for inspection and analysis, nor did the regulator conduct any due diligence of the "Sagebook" cost estimate tool or the revised "Cost Matrix" before the utility adopted it in June 2024. National Grid did provide some additional information in response to our requests within this proceeding, however, the data provided is incomplete and inadequate for ascertaining the accuracy of National Grid's current DER cost estimation tools and methods.

Q. Do you have specific concerns regarding the scope of information provided in the cost estimates?

A. Yes. NYSEIA asserts that, as a regulated monopoly, National Grid has the burden of proof to demonstrate that these substantial rate increases for DER interconnection customers, which appear to be well above the utility's rates of labor and equipment cost inflation,[2] are justified and based on actual cost data. Additionally, NYSEIA asserts that National Grid's alleged cost increases are disproportionate based upon an analysis of the partial data provided to NYSEIA during discovery.

[2] NYSEIA-IR-3, NYSEIA-IR-10

The disproportionate cost increases suggest that additional transparency, oversight and cost controls may be needed. NYSEIA also asserts that the method by which National Grid is allocating the company's indirect costs to DER interconnection customers is inequitable and constitutes a significant cost shift. NYSEIA fears that failure to regulate utility distribution upgrade costs will impede DER deployment in New York, slowing progress toward New York's CLCPA mandates.

Q. Are you aware of any other ways that National Grid might improve the Company's DER interconnection process and support progress toward the CLCPA?

A. Yes. My testimony also recommends improvements to National Grid's proposed DER Utilization EAM. National Grid is requesting an EAM for interconnecting more than their pro rata peak load share of statewide solar and energy storage capacity based upon New York's current distributed solar and energy storage deployment goals. By peak load share, National Grid should account for 22% of distributed solar capacity statewide. However, National Grid's peak load share is not the appropriate way to set an ambitious DER Utilization goal, nor is the current distributed solar deployment goal the right target; New York is ahead of schedule toward the 10 GW by 2030 distributed solar goal and behind schedule toward the 70% renewable electricity by 2030 mandate in the CLCPA. And National Grid is already deploying more than its peak load share of the statewide distributed solar due to a number of factors, including the topology of the utility service territory, which includes ample space to site distributed solar projects, especially in comparison to the downstate utilities where space is more constrained. For these reasons, we assert that it is more appropriate for National Grid's DER Utilization baseline and goals to be based upon an analysis of recent historic DER deployment and the pipeline of mature DER projects in the utility territory.

An analysis of prior year DER deployments and the utility's interconnection pipeline suggests the baseline should be significantly higher. In 2023, National Grid interconnected 332.3 MW of DER

capacity[3], 128% of National Grid's proposed DER baseline for their 2025 EAM.[4] Indeed, during the first seven months of 2024 National Grid has already interconnected 221.7 MW of DER. If DER interconnection during the remaining five months continues apace, National Grid will interconnect 380 MW of DER by year-end, only 2% shy of the maximum proposed EAM level. Additionally, National Grid currently has 1,836.1 MW of DER in its interconnection queue for which the DER interconnection customer has paid for 100% of the estimated distribution upgrade cost, implying these projects are mature and are likely to be constructed in the next few years.

The stated purpose of the proposed EAM is to "enhance the processes and procedures that enable electric DERs to interconnect to the Company's system, thereby helping achieve the State's clean energy goals."[5] NYSEIA supports the creation of a DER Utilization EAM, however, we recommend increasing National Grid's DER Utilization baseline and targets above historic rates of deployment and similarly recommend setting higher incentives for National Grid should they achieve these targets. More ambitious goals paired with more meaningful incentives would better achieve National Grid's stated purpose of enabling more electric DERs to interconnect to the Company's system.

Finally, in my testimony I voice support for efforts that will create additional DER hosting capacity. NYSEIA urges National Grid to advance an at-scale flexible interconnection framework in the near-term in order to increase DER hosting capacity and eliminate the need for many of the increasingly prohibitive traditional distribution upgrades. Additionally, we urge National Grid to make expanded proactive investments in the distribution system to create incremental DER hosting capacity.

Q. Are you providing any exhibits to your testimony?

A. Yes. We are providing four exhibits:

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3 New York Department of Public Service. SIR Inventory. Accessed September 2024.

4 National Grid. Testimony of Climate Leadership and Community Protection Act Panel. May 2024.

5 Ibid.

Exhibit 1. National Grid - DG cost estimate revision July 2024_NYSEIA Analysis. This Excel workbook was provided by National Grid to NYSEIA and other DER stakeholders on July 15, 2024. It includes the original and revised cost estimates for 106 DER projects that were studied in 2024. NYSEIA has added a simple analysis to this document summarizing the net impact of the cost estimation revisions. NYSEIA's addition is clearly demarcated and the data provided by National Grid has not been altered in any way.

Exhibit 2. National Grid SIR Inventory through July 2024. This Excel workbook was downloaded from the DPS SIR Inventory website, and includes all DER projects that have applied for interconnection in National Grid territory through July 2024.

Exhibit 3. Select National Grid Responses to NYSEIA-IR. NYSEIA submitted two sets of Information Requests (IR) to National Grid. A subset of National Grid's responses is referenced in this testimony. These responses are combined into a single PDF for inclusion as an Exhibit, and the specific IRs are referenced throughout my testimony.

Exhibit 4. NYSEIA Electric EAM Analysis. This Excel workbook includes two tabs: one is an analysis of benefit-cost ratios of National Grid's proposed electric EAMs. The other tab includes a reconstructed table with National Grid's proposed DER Utilization EAM and NYSEIA's alternative proposal for a DER Utilization EAM.

III. Counteracting National Grid's Rising Interconnection Costs for Distributed Energy Resources (DER) is Critical for Achieving New York's CLCPA Mandates

Q. Please explain recent changes to National Grid's interconnection costs for DER.

A. In June 2024, National Grid began using "Sagebook", a new proprietary cost estimation tool that it alleges to be more accurate than the tool it used to generate distribution upgrade cost estimates from 2019 through May 2024. National Grid reported that the utility last updated its distribution upgrade cost estimation tool in 2019, and last evaluated the tool and deemed it to be sufficiently accurate in 2022. National Grid claims that, in 2023, it determined that the cost estimations for

DER distribution upgrades were no longer accurate and the utility developed "Sagebook" for future cost estimating purposes.

Q. Did National Grid provide and explanation as to why the new estimation tool resulted in higher cost estimates that its previous tool?

A. Yes. National Grid stated that "Sagebook" incorporates actual costs of recent distribution upgrades, which were significantly higher than the cost values that National Grid used to produce "good faith" cost estimates for CESIR studies that were completed from 2019 through May 2024.

Q. Are you aware of any examples where the new cost estimate tools resulted in significantly increased cost estimates?

A. Yes. For example, in June 2024, National Grid generated 106 revised CESIR cost estimates for recently studied DER for which the interconnection customer had not yet signed an Interconnection Agreement. On a weighted average basis, the revised cost estimates increased by 71%, or $3,075,267 per DER project studied.

Q. Are you aware of any factors that might suggest National Grid's new cost estimate procedures are inaccurate?

A. Yes. NYSEIA acknowledges that labor and equipment costs have increased over the last two years, and certainly over the last five years. However, I do not believe that costs have increased by 71%, and the limited data that National Grid provided in response to NYSEIA's IR demonstrates this fact. National Grid's responses to NYSEIA-IR-3 and NYSEIA-IR-10 imply that the utility's costs to complete distribution upgrades have increased by approximately 25% over this five-year period. I acknowledge that every project is unique, however, there is a marked difference between a 25% and 71% cost increase and a discrepancy of this scale warrants a close review to identify and eliminate inaccuracies.

Q. Did you request and receive additional data regarding project costs from National Grid?

A. NYSEIA requested itemized cost data for distribution upgrades from National Grid to validate the alleged cost increases. National Grid declined to provide the requested data; however, the Company

did provide average statistics regarding changes to the utility's equipment, labor and overhead rates from 2019 to 2024.

Q. Can you explain what you learned from the cost data provided by National Grid?

A. Based upon this data, NYSEIA estimated that the average cost of a distribution upgrade should only have increased by approximately 25% during the five-year period. Here is the analysis that NYSEIA completed to arrive at this conclusion, and upon which we request National Grid's feedback:

NYSEIA-37 *In Distribution System Upgrades-3, National Grid notes the company experienced an "average 28% price increase for over 3,500 electric equipment/material types within the Company's inventory since 2019." In Distribution System Upgrades-10, National Grid provides data demonstrating that the company's average wages increased by 13.7-18.5% during the same period, and contract labor costs increased by 3% per year, or approximately 15.9% during the period:*

Year	Mgmt Increase	Local 97	Local 97C	Contractors
2019	3.35%	2.50%	2%	3%
2020	1.91%	2.75%	2%	3%
2021	3%	3%	3%	3%
2022	4.50%	3%	3%	3%
2023	4.50%	4%	3%	3%
TOTAL	**18.5%**	**16.2%**	**13.7%**	**15.9%**

Distribution System Upgrades-20 demonstrates that National Grid's average 2019 Distribution Capital Overhead was 27% and the company's 2023 Distribution Capital Overhead was 30.28%. Based upon these increases to equipment, labor and overhead, and typical distribution of costs between equipment, labor and overhead, NYSEIA estimates that the total cost of a typical distribution upgrade should have increased by approximately 25% from 2019 to 2023 (example below). Do you concur with this analysis? If not, please explain why not.

Illustrative Example of National Grid Distribution Upgrade Cost Increase

Illustrative Dist. Upgrade Costs	Equipment*	Labor*	Overhead Rate	Overhead	Total
Original Cost	$ 200,000	$200,000	27%	$108,000	$508,000
5-Yr Change per National Grid	*28%*	*16%*	*12%*		
Revised Cost	$ 256,000	$232,000	30.28%	$147,756	$635,756
				Cost Increase	**25%**

National Grid declined to meaningfully respond to NYSEIA-IR-37 or comment on NYSEIA's analysis demonstrating the 25% anticipated increase to distribution upgrade costs.

Q. Can you explain who is responsible for paying the additional costs above the provided estimate and 15% contingency allowed pursuant to the SIR?

A. Per DPS Staff, interconnection customers are responsible for paying for the final cost of distribution upgrades irrespective of the cost estimate included in the CESIR study results. This means that if National Grid has cost overruns due to mismanagement, errors or otherwise, the DER developer need to make additional payment above and beyond the full cost estimate amount, which they must pay prior to commencement of construction. Interconnection customers are invoiced for cost overruns by the Company at the time of reconciliation, after the DER is fully constructed and operational.

Q. How do increases to distribution upgrade costs (i.e., cost overruns) impact projects that are in later stages of development?

A. In recent months, DER developers operating in National Grid territory have received significantly higher invoices for final costs at the time of reconciliation. Higher distribution upgrade cost estimates for projects in early stages of development will result in fewer viable DER projects moving forward with development and construction. However, utility cost overruns for distribution upgrades that are not disclosed until reconciliation, after DER projects are complete, are a materially different issue. Once a distribution upgrade is completed, a DER interconnection customer has no choice but to pay for the utility's final cost, even in the event of cost overruns caused by mismanagement or errors. These retroactive increases to the cost of distribution upgrades

beyond the cost estimate in the CESIR study are an unmitigable financial loss for the DER customer, as they are not made aware of cost overruns until well after the work is complete.

Q. Does National Grid notify DER interconnection customers of anticipated cost overruns during the distribution upgrade construction process?

A. No. As acknowledged in National Grid's response to NYSEIA-IR-45, National Grid does not communicate with DER interconnection customers regarding utility cost overruns that must be paid for by the DER interconnection customer until after the project is fully constructed, at the time of reconciliation.

Q. If the cost of hardware required for a distribution upgrade, such as a transformer, increases in cost, will this impact how much overhead National Grid charges a DER interconnection customer?

A. Yes. As per National Grid's response to NYSEIA-IR-21, "If the capital base costs increase for distribution upgrades (e.g., the cost of hardware), the overhead dollar amount will increase proportionally as a function of the specified rate." For example, if National Grid's overhead rate is 30% and equipment costs increase from $200,000 to $400,000, National Grid's overhead charge will increase from $200,000 * 30% = $60,000 to $400,000 * 30% = $120,000. In this hypothetical scenario, the DER interconnection customer who is negatively impacted by the $200,000 increase in equipment cost must also bear a $60,000 increased cost toward National Grid's organizational overhead.

Q. If a National Grid subcontractor completing work on a distribution upgrade has a cost overrun, will this impact how much overhead National Grid charges a DER interconnection customer?

A. Yes. The impact of a subcontractor cost overrun on overhead cost allocation is identical to the impact of increases in hardware costs; the higher the subcontractor cost, the higher the overhead charge to the DER interconnection customer.

Q. Are you aware of any financial incentives for National Grid to manage distribution upgrade costs and prevent cost overruns?

A. No. Currently, National Grid is not liable for distribution upgrade cost overruns nor are they rewarded for managing their costs to stay under budget.

Q. Why are counteracting National Grid's rising interconnection costs and providing greater certainty regarding distribution upgrade changes critical for achieving New York's CLCPA mandates?

A. As distribution upgrade costs increase, fewer projects are economically viable with current NYSERDA NY-Sun incentive levels and current rates of compensation under the Value of Distributed Energy Resources tariff. As National Grid's DER interconnection queue continues to grow and projects continue to be deployed, low-cost DER hosting capacity is dwindling, creating engineering challenges that must be overcome in order to continue integrating DERs cost-effectively and at-scale. These technical challenges can be overcome through proactive investments, market-initiated distribution upgrades including cost sharing, and flexible interconnection. National Grid's sudden, significant, and largely unsubstantiated interconnection cost increases in June 2024 have compounded the preexisting technical challenges, causing significant disruption to the DER market in New York State. DER providers and their financiers are losing confidence in National Grid's cost estimates, reducing the value of a signed Interconnection Agreements with the utility.

Counteracting National Grid's rising interconnection costs and providing greater cost certainty to interconnection customers will: 1) lower the cost of DER integration; 2) lower the cost of capital for DERs by addressing the perceived risk of transacting based upon a National Grid Interconnection Agreement; 3) lower the cost of ratepayer-funded programs like NY-Sun by reducing reliance on incentives; and 4) increase and accelerate renewable electricity generation,

delivering progress toward New York's 70% renewable electricity by 2030 CLCPA mandate (in addition to the solar and energy storage technology-specific goals).

Q. What changes do you believe would be needed to counteract National Grid's rising interconnection costs for DER?

A. First and foremost, greater transparency regarding actual distribution upgrade costs is needed. During discovery, National Grid was only able to produce actual costs for a small portion of distribution upgrades the Company completed during the last five years. This data can and should be readily accessible by National Grid, and should be publicly disclosed on a regular basis via the SIR Inventory. Making both estimated and actual cost data available to the public for inspection will allow DER stakeholders to identify any deviations between estimated and actual costs earlier than would otherwise be possible. Additionally, National Grid should disclose itemized costs for distribution upgrades to DPS so they can closely analyze those costs, benchmark their costs against other New York utilities, and identify any default values or assumptions that they believe may be inaccurate.

National Grid should also update its cost estimation tool annually to ensure that changes are small and incremental, which will be less disruptive to the market. Additionally, before National Grid updates its cost estimation tool, the Company should be required to undergo a review process whereby they present the proposed changes to DPS Staff, NYSERDA and DER industry stakeholders several months before the updates are enacted. DPS should have an active role in analyzing and approving cost estimation tool revisions, as the financial impacts can be significant; the cost increases resulting from National Grid's June 2024 cost estimation methodology change may exceed $1B, and there was not regulatory process to ensure the rate increase is just and reasonable. A standard and predictable process for updating distribution upgrade cost estimation tools will provide greater certainty and confidence to DER developers and financiers seeking to develop and invest in projects in New York State.

Q. Do you believe National Grid's method of indirect cost allocation for distribution upgrades paid for by DER interconnection customers is reasonable and just?

A. No. While National Grid's method of indirect cost allocation across its capital base may be appropriate for costs borne by the rate base, it is not an appropriate method of cost allocation for costs borne by specific DER interconnection customers. The amount of the Company's overhead costs borne by a DER interconnection customer should not increase as a result of utility cost overruns. This is not only unfair to the DER interconnection customer; it also creates misaligned incentives whereby utility cost overruns result in increased DER interconnection customer contribution toward the Company's overhead.

National Grid's response to NYSEIA-IR-20 also demonstrates that the Company has significantly higher indirect costs for distribution than transmission; in December 2023, indirect cost for the distribution system was 25% and indirect cost for the transmission system was 7%. Again, while it may be appropriate to allocate the company's overhead in this manner from a general accounting perspective, it is illogical when applied to specific system upgrades that are paid for by individual customers; an interconnection customer that triggers a $1,000,000 capital upgrade to the transmission system would need to pay for $70,000 of the Company's overhead whereas a customer that triggers a $1,000,000 capital upgrade to the distribution system would need to pay $250,000 toward the Company overhead, even if the amount of work and Company resources required to manage the upgrade are identical. NYSEIA asserts that National Grid's method of indirect cost allocation for distribution upgrades paid for by DER interconnection customers should be revisited to prevent cost shift.

Q. Do you believe it is inappropriate to allocate certain costs to DER Interconnection customers?

A. Yes. Overhead cost allocation should be revisited for distribution upgrades paid for by DER interconnection customers. The current approach is logical for costs that are born by the utility; they simply allocate their organizational overhead across their capital basis. However, for distribution upgrades that are funded by customers, this is not an appropriate method of cost

allocation. To the extent possible, customers, including DER interconnection customers, should be protected from utility cost overruns. For example, when equipment and labor costs are over budget on a customer-funded distribution upgrade, this should have no bearing on how much of National Grid's organizational overhead is allocated to the project and paid for by the customer. Simply because a piece of hardware increases in price, this shouldn't mean that the customer paying for the hardware needs to also pay for a greater portion of National Grid's organizational overhead. I appreciate that a more granular and accurate allocation of overhead expenses for customer-funded distribution upgrades may present a minor accounting challenge, however, I do think this is a necessary improvement to the current method which places an unfair cost burden on the interconnection customer.

Q. Are you aware of other opportunities to reduce interconnection costs and cost overruns?

A. Yes. Another option to counteract rising interconnection costs is self-performance of distribution upgrades, or allowing DER interconnection customers to self-perform certain upgrades as long as they meet utility specifications. Self-performance could give DER interconnection customers more control over the interconnection process while reducing cost. Perhaps this could be piloted in the near-future to determine the extent to which it is beneficial for lowering interconnection costs and compressing timelines.

Flexible interconnection, or the use of smart grid controls to actively manage DERs instead of traditional distribution upgrades, is another promising avenue to lower interconnection costs and shorter interconnection timelines. National Grid completed a flexible interconnection pilot, and NYSEIA strongly supports the Company's proposal to expand flexible interconnection as a strategy to allow more DERs to interconnect without requiring significant distribution upgrades. NYSEIA urges National Grid to develop a framework for flexible interconnection that provides the Company and DER providers flexibility to propose flexible interconnections with varying levels of curtailment while also creating some guardrails to protect DERs from excessive curtailment.

Finally, proactive investments in the electric distribution system that create additional DER hosting capacity are an impactful way for National Grid to condense interconnection timelines and eliminate risk associated with distribution upgrade cost overruns. NYSEIA supports National Grid's modest proposals to make proactive investments in the electric distribution system in order to create DER hosting capacity, and encourages additional investment to create DER hosting capacity.

IV. A More Ambitious Earnings Adjustment Mechanism for DER Utilization Is Cost-Beneficial and Can Help Counteract Rising Interconnection Costs to Ensure Progress Toward New York's CLCPA Mandates

Q. Please summarize National Grid's proposed EAM for DER Utilization.

A. National Grid proposes an EAM for DER Utilization whereby the Company will earn incentives for achieving DER deployment targets based on year of interconnection/commercial operation. National Grid's EAM establishes a baseline amount of DER based on the Company's share of statewide peak load and New York's current distributed solar and energy storage goals. They then propose earning incentives for exceeding baseline by at least 10%, which higher incentives for exceeding baseline by 30% and 50%. The total maximum proposed DER Utilization incentive amount is $50.4M over the 4-year term.

Q. Are DERs cost-beneficial for customers?

A. Yes. According to Exhibit CLCPA-7, Summary of EAM Net Benefits, achieving the maximum EAM for DER will result in $2.67 billion in Total Net Benefits to customers.

Q. How do the customer benefits of increased DER Utilization compare with National Grid's other proposed EAMs?

A. According to Exhibit CLCPA-7, DER Utilization is by far the most cost-beneficial clean of National Grid's proposed EAMs. If National Grid were to achieve the maximum EAM for each of its proposed electric EAMs, 92% of the total projected net benefits would be from DER Utilization. As demonstrated in Exhibit 4 (NYSEIA Electric EAM Analysis), the ratio of customer benefits

divided by the proposed incentive amount for DER Utilization is 53:1. This ratio is 20X higher than the next most efficient EAM and 122X higher than the least efficient EAM. To be clear, there may be compelling reasons for National Grid to implement the other proposed EAMs, and NYSEIA does not oppose any of these EAMs. However, the extremely high benefit-to-cost ratio for DER Utilization suggests that additional investment in this EAM is warranted.

Electric EAM Incentives and Net Benefit Analysis
Sources: CLCPA-6, CLCPA-7

Metric	Level	Term (4-year) Incentive	Total Net Benefit	Benefit/Incentive Ratio
Electric Demand Response (incl. DAC)	Max	$ 50,400,000	130,600,000	2.6
DER Utilization	Max	$ 50,400,000	2,670,100,000	53.0
Managed EV Charging - Residential + Fleet	Max	$ 37,800,000	16,400,000	0.4
MHD Transportation Electrification	Max	$ 37,800,000	88,900,000	2.4

Q. Do you recommend any changes to National Grid's DER Utilization EAM?

A. Yes. I recommend that National Grid: 1) establish a more realistic (and less conservative) baseline informed by actual DER deployment from last year along with more aggressive DER deployment targets; and 2) set higher incentives for achieving these ambitious targets. The rationale for these changes is simple: first, DER Utilization delivers immense financial benefit to customers and delivers important progress toward New York's CLCPA mandates. Second, National Grid has a lot of levers it can pull to lower interconnection costs and accelerate DER deployment. However, they do not currently have a strong incentive to do so. Creating ambitious targets paired with high incentives could help facilitate behavioral change, encouraging National Grid leadership and personnel to identify solutions to interconnect more DER faster and at a lower cost.

Q. Please provide a detailed description of your proposed changes to National Grid's proposed DER Utilization EAM.

A. I propose using actual 2023 DER deployment plus 10% as the 2025 baseline and increasing the baseline by 10% each year, with no changes to National Grid's proposed levels of 10%, 30% and 50% above the baseline to earn incentives. With the understanding that DER is the most cost-beneficial EAM proposed, I also recommend increasing the incentive levels substantially; roughly

doubling the maximum incentive that National Grid could earn from $50.4M to $101.8M. My thesis is that ambitious targets paired with more generous incentives will help foster innovation and urgency to improve the DER interconnection process and drive down costs and timelines in the near-term. The table below is also provided in Excel format in Exhibit 4.

National Grid Proposed EAM

		DER Capacity (MW)					Incentive ($)					
Metric	**Level**	**2025**	**2026**	**2027**	**2028**	**Total**	**2025**	**2026**	**2027**	**2028**	**Total**	**Total ($/MW)**
DER Utilization	Baseline	259	270	292	303	1,124	$ -	$ -	$ -	$ -	$ -	
	Min (+10%)	285	297	321	333	1,236	$ 1,200,000	$ 1,500,000	$ 1,700,000	$ 1,900,000	$ 6,300,000	$ 5,095
	Mid (+30%)	337	351	380	394	1,461	$ 4,800,000	$ 5,800,000	$ 6,900,000	$ 7,600,000	$ 25,100,000	$ 17,178
	Max (+50%)	389	405	438	455	1,686	$ 9,600,000	$ 11,600,000	$ 13,900,000	$ 15,300,000	$ 50,400,000	$ 29,893

**Rounding error deviations. All within 1 MW of National Grid proposed EAM*

NYSEIA Proposed EAM

		DER Capacity (MW)					Incentive ($)					
Metric	**Level**	**2025**	**2026**	**2027**	**2028**	**Total**	**2025**	**2026**	**2027**	**2028**	**Total**	**Total ($/MW)**
DER Utilization	Baseline	366	402	442	487	1,696	$ -	$ -	$ -	$ -	$ -	
	Min (+10%)	402	442	487	535	1,866	$ 4,020,830	$ 4,422,913	$ 4,865,204	$ 5,351,725	$ 18,660,672	$ 10,000
	Mid (+30%)	475	523	575	632	2,205	$ 9,503,780	$ 10,454,158	$ 11,499,574	$ 12,649,531	$ 44,107,043	$ 20,000
	Max (+50%)	548	603	663	730	2,545	$ 21,931,800	$ 24,124,980	$ 26,537,478	$ 29,191,226	$ 101,785,484	$ 40,000

Q. What benefits do you anticipate the modified EAM will deliver?

A. In CLCPA-7, National Grid estimates that achieving the maximum amount of 1,686 MW of DER Utilization will deliver $2.67B in total net benefits to customers. In NYSEIA's modified DER Utilization EAM proposal, National Grid would need to enable 2,545 MW of DER over the term to unlock the maximum incentive amount; an increase of 859 MW. Assuming a simple scaling up of benefits generated by the additional 859 MW of DER, the proposed modification would increase the maximum total net benefit for customers by $1.36B, bringing the overall net benefit of this EAM to $4.03B. NYSEIA's proposed maximum incentive amount for the DER Utilization EAM is $101.8M, an incentive that could deliver a 40:1 benefit to cost ratio.

V. National Grid Should Advance Flexible Interconnection Rapidly and At-Scale to Create Near-Term Hosting Capacity

Q. Why do you support National Grid's flexible interconnection proposal?

A. Flexible interconnection, or the use of smart grid controls to actively manage DERs instead of traditional distribution upgrades, can allow greater utilization of National Grid's existing distribution infrastructure, allowing more DER to interconnection quickly and cost-effectively. With thoughtful planning and management, flexible interconnection can double hosting capacity

with limited curtailment (e.g. 5%), creating significant net benefits for DER developers and customers while delivering near-term CLCPA progress.

Q. Do you have any concerns regarding National Grid's flexible interconnection proposal?

A. Yes. National Grid's flexible interconnection proposal is silent on the matter of limits to curtailment. Placing guardrails around curtailment is a key priority for DER developers, financiers, and Independent Power Producers. Just as DER interconnection customers require scope and cost certainty for distribution upgrades, they also require certainty regarding revenue potential as a precondition for deploying capital. Flexible interconnection can meaningfully cut costs and time from the interconnection process. The only downside is that National Grid may need to curtail the DER in certain operational conditions to ensure grid reliability. DER developers and financiers will happily consider the tradeoffs between traditional distribution upgrades (firm interconnection) and curtailment exposure (flexible interconnection). We expect they will often view flexible interconnection as the preferred option. However, DER developers and financiers have stated explicitly that they will not accept uncapped curtailment risk. Guardrails on curtailment are necessary to ensure that flexible interconnection is a viable option for DERs in National Grid territory, and that National Grid's proposal to expand flexible interconnection achieves the intended outcomes.

VI. National Grid Should Create Additional DER Hosting Capacity Through Proactive Investments in the Distribution System.

Q. Do you support National Grid's proposed capital investments that are expected to create incremental hosting capacity for DER?

A. Yes. In fact, we encourage National Grid to make more capital investments that create DER hosting capacity. Proactive investments in grid modernization that create additional DER hosting capacity are beneficial and will allow future DER to interconnect without any uncertainty regarding distribution upgrade costs and timeline. National Grid plans $1.62 billion in electric system infrastructure investments in the Rate Year. Of this investment, only $18.2M, or 1% of total, is

allocated toward DER Electric System Access. National Grid also plans $91.9M of Multi-Value Distribution (MVD) investments which address multiple electric distribution system needs, including the creation of additional DER hosting capacity. NYSEIA supports these modest investments and encourages additional proactive investments that increase National Grid's DER hosting capacity.

VII. Conclusion

Q. Do you have any concluding comments to share?

A. Yes. DER deployment drives progress toward New York's CLCPA mandates while delivering immense benefits to New York electric ratepayers. Rising interconnection costs, distribution upgrade cost uncertainty, and dwindling DER hosting capacity in National Grid territory threaten DER deployment, slowing progress toward New York's CLCPA mandates, limiting ratepayer benefits, and increasing the cost of ratepayer-funded programs to support DER deployment. Action is required to counteract rising interconnection costs, provide greater cost certainty to DER interconnection customers, and create additional DER hosting capacity. National Grid is uniquely positioned to counteract rising interconnection costs, provide greater cost certainty to interconnection customers and create additional DER hosting capacity through flexible interconnection and proactive distribution system upgrades. An ambitious DER Utilization EAM paired with strong oversight by DPS will incentivize the Company to achieve these important outcomes.

Thank you for the opportunity to provide testimony on these important matters.