

**Before the  
New York Public Service Commission**

Proceeding on Motion of the Commission as to )  
the Rates, Charges, Rules and Regulations of ) Case 20-E-0380  
Niagara Mohawk Power Corporation d/b/a )  
National Grid for Electric Service. )

Proceeding on Motion of the Commission as to )  
the Rates, Charges, Rules and Regulations of ) Case 20-G-0381  
Niagara Mohawk Power Corporation d/b/a )  
National Grid for Gas Service. )

**DIRECT TESTIMONY OF  
ALICE NAPOLEON  
AND  
KENJI TAKAHASHI  
  
ON BEHALF OF  
NATURAL RESOURCES DEFENSE COUNCIL  
AND  
THE SIERRA CLUB**

November 25, 2020

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1 **Q. Please summarize your professional and educational experience.**

2 A. **Ms. Napoleon:** Since joining Synapse in 2005, I have provided economic and policy  
3 analysis of electric systems and emissions regulations, with a focus on energy efficiency  
4 policies and programs, on behalf of a diverse set of clients throughout the United States  
5 and in Canada. On the national level, I led a team that developed tools that help utilities  
6 integrate the U.S. Department of Energy’s Superior Energy Performance and 50001  
7 Ready strategic energy management platforms into their energy efficiency portfolios. I  
8 also co-authored a manual for regulators on designing performance incentive  
9 mechanisms, which has been highly utilized by many states.

10 I was co-author of several reports and comments on the role of energy efficiency in New  
11 York State in meeting its Reforming the Energy Vision (“REV”) objectives, as well as a  
12 white paper on natural gas regulatory reforms needed if New York is to meet its  
13 decarbonization targets. In Colorado, Maryland, and South Carolina, I facilitated and  
14 provided expert analysis on program costs and benefits for demand-side resource policy  
15 working groups.

16 Since 2009, I have provided extensive and ongoing expert analysis and support for the  
17 State of New Jersey regarding its state- and utility-administered energy efficiency and  
18 combined heat and power programs. In over a dozen dockets regarding utility-  
19 administered efficiency programs, I have conducted expert analysis, provided litigation  
20 support, and drafted testimony when appropriate on behalf of the State with respect to a  
21 number of issues, including energy efficiency program implementation, cost-  
22 effectiveness, design, and overlap between utility- and state-administered programs. I  
23 have also provided expert advice on demand-side management programs in Nova Scotia

1 regarding a range of issues including incentive-setting methodologies, cost-benefit  
2 analysis, incentive setting, avoided costs, load forecasting, and locational demand-side  
3 management.

4 Before joining Synapse, I worked at Resource Insight, Inc., where I supported  
5 investigations of electric, gas, steam, and water resource issues, primarily in the context  
6 of reviews by state utility regulatory commissions.

7 I hold a Master's in Public Administration from the University of Massachusetts at  
8 Amherst and a Bachelor's in Economics from Rutgers University. My resume is attached  
9 as Exhibit AN/KT-1.

10 A. **Mr. Takahashi:** I conduct economic, environmental, and policy analysis of energy  
11 system technologies and regulations associated with both supply- and demand-side  
12 resources. Over the past 15 years, I have assessed the design and impact of utility energy  
13 efficiency and distributed energy resources policies and programs in over 40 jurisdictions  
14 across North America for a variety of clients. These include environmental groups,  
15 municipal and state governments, and federal agencies such as the U.S. EPA and the U.S.  
16 DOE. In these occasions, I have provided testimony and testimony assistance before  
17 public utility commissions. I also have analyzed the performance, costs, benefits, and  
18 potential of clean energy measures and resources, including state-of-the-art measures  
19 such as cold climate heat pumps, thermal storage demand response, dynamic windows,  
20 deep energy retrofits, net zero energy buildings, and strategic energy management.  
21 Further, I co-authored several reports and comments on the role of energy efficiency in  
22 New York State in meeting its Reforming the Energy Vision ("REV") objectives. This

1 includes a 2018 paper titled *Value of Energy Efficiency in New York* on behalf of the  
2 Natural Resources Defense Council.

3 Another area of my focus has been technological, resource, economic, and policy  
4 assessments of strategic electrification. This includes my analyses for the Northeast  
5 region for the Northeast Energy Efficiency Partnerships, New York for New York State  
6 Energy Research Development Agency, Rhode Island for the Office of Energy  
7 Resources, the Southwest region for the Southwest Energy Efficiency Partnership, and  
8 California for the National Resources Defense Council.

9 In addition, I have in-depth experience with the natural gas distribution planning process,  
10 in particular natural gas load forecasts and non-pipeline alternatives. Recently, I  
11 coauthored a whitepaper on gas regulatory reforms toward a decarbonized future in New  
12 York and wrote chapters on gas load forecast methodology and non-pipeline alternatives  
13 screening process. I also assessed the potential of natural gas demand savings measures  
14 as solutions to the gas moratorium placed by Berkshire Gas company and testified before  
15 Massachusetts Department of Public Utilities.

16 I hold a Master's in Urban Affairs and Public Policy with a concentration in Energy and  
17 Environmental Policy from the Biden School of Public Policy and Administration at the  
18 University of Delaware, and a Bachelor's in Law with a concentration in Public  
19 Administration from Kansai University in Osaka, Japan. My resume is attached as  
20 Exhibit AN/KT-2.

1 **Q. On whose behalf are you testifying in this case?**

2 A. We are testifying on behalf of the Natural Resources Defense Council (“NRDC”) and the  
3 Sierra Club.

4 **Q. Have you previously testified before a state or provincial commission?**

5 A. **Ms. Napoleon:** Yes. I have testified before the California Public Utilities Commission,  
6 the Nova Scotia Utility and Review Board, the New York Public Service Commission  
7 (“PSC” or “Commission”), the New Brunswick Energy and Utilities Board, and the  
8 Public Service Commission of South Carolina.

9 A. **Mr. Takahashi:** Yes. I have testified before the New Jersey Board of Public Utilities, the  
10 Massachusetts Department of Public Utilities, and the Ontario Energy Board.

11 **Q. Have you testified before the New York PSC?**

12 A. **Ms. Napoleon:** Yes, I testified regarding Con Edison’s proposed earnings adjustments  
13 mechanisms in Cases 19-E-0065 and 19-G-0066 on behalf of NRDC.

14 A. **Mr. Takahashi:** No.

15 **Q. What is the purpose of your testimony?**

16 A. The purpose of our testimony is to review and critique Niagara Mohawk’s (“Company”  
17 or “NiMo”) proposed earnings adjustment mechanisms (“EAM”).

18 **Q. Are you sponsoring any exhibits with your testimony?**

19 A. Yes. We are sponsoring the following exhibits:

- 20 • Resume of Alice Napoleon: Exhibit AN/KT-1  
21 • Resume of Kenji Takahashi: Exhibit AN/KT-2



1                                   **2. SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS**

2   **2.1. Summary of Conclusions**

3   **Q.     Please summarize your conclusions regarding the electric EAMs.**

4   **A.**     Our conclusions regarding the electric EAMs are summarized as follows:

- 5                   • Niagara Mohawk proposes a large set of EAMs, which will likely increase  
6                   administrative and regulatory complexity, may lead to unintended consequences,  
7                   and could provide excessive incentives in some performance areas.
  
- 8                   • Energy Efficiency Share the Savings (“STS”) EAM: The design of this EAM  
9                   may encourage efficiencies in program administration and delivery, but it may  
10                  also lead to several unintended consequences that can harm ratepayers and  
11                  impede progress toward the state’s ambitious energy and climate goals. Also, the  
12                  proposal for the STS EAM lacks sufficient detail regarding the calculation of the  
13                  STS metric.
  
- 14                 • Beneficial Electrification Building Electrification EAM: Heat pumps will be a  
15                   vital component of any strategy to aggressively reduce greenhouse gas (“GHG”)  
16                   emissions from the building sector to meet the Climate Leadership and  
17                   Community Protection Act (“CLCPA”) goals; however, the Company’s Building  
18                   Electrification EAM targets are well below the CLCPA’s carbon emission  
19                   targets.
  
- 20                 • Beneficial Electrification Transportation Electrification EAM: Niagara Mohawk  
21                   already has a financial incentive to support electric vehicles (“EV”) through its  
22                   ability to earn a return on capital investments made to support increased charging  
23                   and charging infrastructure. Also, there are many EV-related state and local  
24                   policies that contribute to the sales of new EVs, making it difficult to identify the  
25                   Company’s contribution to the EV sales. As a result, this EAM would likely  
26                   provide excessive incentives to the Company.
  
- 27                 • System Efficiency Peak Reduction EAM: This metric overlaps with several other  
28                   EAMs, creating the potential for the Company to earn excessive financial

1 awards. Also, the development of the baseline against which this metric is  
2 measured is not transparent.

- 3 • System Efficiency Load Factor EAM: The proposed EAM could provide  
4 incentives for outcomes that the Company did little or nothing to bring about.  
5 Further, the Company’s selection of the targeted transformers is not transparent,  
6 and there is the potential for receiving two different incentives for the same  
7 action (i.e., double-counting).
- 8 • System Efficiency Managed EV Charging EAM: This EAM appears to align  
9 Company incentives with policy goals.
- 10 • System Efficiency DER Utilization EAM: The design and the level of incentives  
11 for the proposed EAM is not clearly defined.
- 12 • Disadvantaged Community Engagement School Bus Electrification EAM: The  
13 justification for this EAM is lacking.
- 14 • Disadvantaged Community Engagement LMI Customer Savings EAM: Creating  
15 a single savings target for low- and moderate-income (“LMI”) customers creates  
16 a risk that the Company will prioritize moderate-income customers, who can cost  
17 less to serve than their low-income counterparts.
- 18 • Make-Ready EAM: The Company provided little justification and detail for this  
19 EAM.

20 **Q. Please summarize your conclusions regarding the gas EAMs.**

21 **A.** Our conclusions regarding the gas EAMs are summarized as follows:

- 22 • Gas EE Share the Savings EAM: Gas efficiency programs are often the least cost  
23 way to reduce GHG emissions from this sector. They can help avoid making new  
24 investments in gas infrastructure that might become obsolete well before their  
25 costs have been fully recovered, resulting in stranded costs that all customers  
26 will need to bear. However, new gas equipment installed today will be used for  
27 the next 20 to 30 years and contribute to additional GHG emissions when the

1 state needs to reduce gas consumption substantially to meet the long-term GHG  
2 reduction targets under CLCPA.

- 3 • Gas System Efficiency Peak Reduction EAM: It is not clear what is being  
4 proposed for this EAM and the benefits of this metric are not documented. Also,  
5 the Company could increase load in the summer and not actually mitigate peak,  
6 which would work against the State’s climate goals.
- 7 • Gas System Efficiency Peak Hour Reduction EAM: The benefit of winter peak  
8 hour reduction will also contribute to the Peak Reduction metric.
- 9 • Gas System Efficiency Renewable Natural Gas (“RNG”) Cost Containment  
10 EAM: The Company already has an incentive to procure RNG at the lowest cost  
11 possible. In the current filing, it provided no justification for the targets it  
12 proposes.
- 13 • Disadvantaged Community Engagement LMI Customer Savings EAM: The  
14 Company’s programs should not promote long-lived gas equipment for LMI  
15 customers. Also, creating a single savings target for LMI customers creates a risk  
16 that the Company will prioritize moderate-income customers, who can cost less  
17 to serve than their low-income counterparts.
- 18 • Disadvantaged Community Engagement Low-Income Geothermal EAM: The  
19 Company's filing lacks important information about the proposed geothermal  
20 program and the associated Low-Income Customer EAM. Also, the cost of  
21 geothermal and the associated monthly charge (a minimum of \$68 per month)  
22 may be too expensive, in particular for low-income customers. In light of the  
23 availability of lower cost air source heat pump options, it is unclear why the  
24 proposed program is needed.

1 **2.2. Summary of Recommendations**

2 **Q. Please summarize your recommendations.**

3 A. We recommend the following for the electric EAMs:

- 4 • Energy Efficiency STS EAM: Niagara Mohawk should modify the proposed  
5 STS EAM for electric to be based on the net benefits of lifetime energy  
6 efficiency savings. Alternatively, if the Company wishes to retain the STS EAM,  
7 it should provide additional information on the STS metric, and develop another  
8 EAM similar to the Deeper Energy Efficiency Lifetime Savings EAM approved  
9 for Consolidated Edison in Case 19-E-0065/19-G-006.
- 10 • Beneficial Electrification Building Electrification EAM: The Company should  
11 not be rewarded for performance that will not put the state on track to achieve  
12 CLCPA targets. We recommend raising the targets for this EAM. In addition, we  
13 recommend that the Commission update the heat pump targets from the  
14 *Implementation Order* to include commercial and industrial heat pump potential  
15 and to be consistent with the CLCPA.
- 16 • Beneficial Electrification Transportation Electrification EAM: This EAM should  
17 not be approved.
- 18 • System Efficiency Peak Reduction EAM: The Company should provide more  
19 transparency and justification for its proposed targets and should remove the  
20 impacts of measures incentivized by other electricity EAMs from the peak  
21 demand targets underlying the System Efficiency Peak Reduction EAM. The  
22 Commission should allocate a relatively small financial award for this EAM, or  
23 alternatively eliminate this EAM.
- 24 • System Efficiency Load Factor EAM: The Commission should not approve the  
25 Load Factor EAM. If the Commission decides to approve this EAM despite our  
26 concerns raised here, NiMo should be required to demonstrate the need for out-  
27 of-market interventions in the Locational System Relief Value (“LSRV”) areas  
28 identified as targets by the Company. In addition, the EAM should be

1 strengthened by mandating deployment of a peak-reducing technology as  
2 indicated in the 2018 Order in the *Energy Storage Goal and Deployment Policy*  
3 case.

- 4 • System Efficiency Managed EV Charging EAM: This EAM should be approved.
- 5 • System Efficiency DER Utilization EAM: Before the EAM is approved, the  
6 Company should provide more detail on this EAM, including the types of  
7 systems, the size of systems, and the value of this incentive under a range of  
8 different distributed energy resource (“DER”) interconnection scenarios. In the  
9 interest of transparency, the Company should track and report on the size of  
10 projects for which it receives incentives and revisit the design of the EAM if the  
11 proportion of smaller projects (i.e., residential systems) relative to larger ones  
12 decreases over the next rate period.
- 13 • Disadvantaged Community Engagement EAM School Bus Electrification EAM:  
14 This proposed EAM should not be approved.
- 15 • Disadvantaged Community Engagement EAM LMI Customer Savings EAM:  
16 Niagara Mohawk should split the electric Disadvantaged Community  
17 Engagement EAMs into two: (1) an EAM that encourages lifetime savings for  
18 low-income customers, and (2) a separate EAM for lifetime savings for  
19 moderate-income customers.
- 20 • Make-Ready EAM: The Company should provide more details on this EAM in  
21 its testimony and exhibits.

22 **Q. Please summarize your recommendations for the gas EAMs.**

23 **A.** We recommend the following for the gas EAMs:

- 24 • Gas EE Share the Savings EAM: The Company should examine its energy  
25 efficiency offerings and eliminate rebates for long-lived gas consuming  
26 equipment. The targets and incentives for this EAM should exclude savings  
27 associated with rebates for long-lived gas consuming equipment. Further, in  
28 areas where NiMo only provides gas service, the Company should actively

1 coordinate with overlapping electric utilities and provide customers with  
2 information about incentives from those entities on heat pumps.

- 3 • Gas System Efficiency Peak Reduction EAM: The Commission should reject  
4 this EAM.
- 5 • Gas System Efficiency Peak Hour Reduction EAM: The Commission should  
6 approve this as the only Gas System Efficiency EAM.
- 7 • Gas System Efficiency Renewable Natural Gas (“RNG”) Cost Containment  
8 EAM: The Commission should reject this EAM.
- 9 • Disadvantaged Community Engagement LMI Customer Savings EAM: The  
10 Company should stop encouraging long-lived gas equipment through its gas  
11 efficiency programs, and the targets and incentives for this EAM should exclude  
12 savings associated with rebates for long-lived gas consuming equipment. Niagara  
13 Mohawk should split the gas Disadvantaged Community Engagement EAMs  
14 into two: (1) an EAM that encourages lifetime savings for low-income  
15 customers, and (2) a separate EAM for lifetime savings for moderate-income  
16 customers.
- 17 • Disadvantaged Community Engagement Low-Income Customer Geothermal  
18 EAM: The Commission should not approve this EAM based on the information  
19 provided by Niagara Mohawk.

### 20 3. BACKGROUND

21 **Q. Please describe New York’s policy framework and goals for electric utilities.**

22 A. In 2014, Governor Andrew Cuomo launched REV, a broad initiative to build an  
23 integrated energy network able to harness the combined benefits of the central grid with  
24 clean power. The *2015 State Energy Plan*, which serves as a roadmap for REV, includes  
25 GHG reduction targets of 40 percent from 1990 levels by 2030 and 80 percent by 2050. It  
26 also established goals to increase energy efficiency savings to 600 trillion British thermal

1 units (“Btu”) statewide, and establishes that 50 percent of electricity will come from  
2 renewable energy resources.<sup>1</sup>

3 In April 2018, the New York State Energy Research and Development Authority  
4 (“NYSERDA”) and the Department of Public Service proposed a comprehensive  
5 approach to achieving the energy efficiency and GHG reduction goals of the *State Energy*  
6 *Plan*. This white paper, entitled *New Efficiency: New York*, identified 185 trillion Btu  
7 (“TBtu”) of realistically achievable, cumulative statewide site energy savings by 2025, of  
8 which 31 TBtu could be achieved through additional utility programs.

9 On December 13, 2018, the Commission issued an order titled *Order Adopting*  
10 *Accelerated Energy Efficiency Targets* (“*Accelerated Efficiency Order*”) in Case 18-M-  
11 0084. The *Accelerated Efficiency Order* adopted the overall utility goal of 31 TBtu set  
12 forth by the *New Efficiency: New York* paper. It set immediate minimum electric and gas  
13 energy efficiency savings targets for each of the state’s utilities for the period 2019–2020,  
14 and it laid out utility-specific goals through 2025 to create market certainty and guide  
15 future implementation decisions.<sup>2</sup> As a subset of the electric efficiency target, the  
16 *Accelerated Efficiency Order* established a savings target of 5 TBtu for heat pumps as a  
17 minimum target for all the state’s electric utilities combined. Further, the *Accelerated*  
18 *Efficiency Order* set forth the Commission’s expectations for cost reduction, offerings to  
19 LMI customers within efficiency portfolios, and regulatory provisions including  
20 performance incentive mechanisms. In addition, it allowed electric and gas utility

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1 New York State Energy Research and Development Authority. *New York State Energy Plan*.  
<https://www.nyserda.ny.gov/Researchers-and-Policymakers/New-York-State-Energy-Plan>. Accessed November  
11, 2020.

2 *Accelerated Efficiency Order*, p. 26.

1 programs to be offered to customers whose primary heating fuel is a delivered fuel such  
2 as oil or propane, under certain conditions.<sup>3</sup>

3 In July 2019, Governor Cuomo signed into law the *Climate Leadership and Community*  
4 *Protection Act*. The CLCPA calls for ambitious, economy-wide clean energy and climate  
5 targets. It requires all sectors of the state’s economy to collectively achieve 40 percent  
6 emissions reductions from 1990 levels by 2030 and 85 percent emissions reductions by  
7 2050, as well as achieve net zero GHGs by 2050 (meaning sectors must offset any  
8 remaining emissions). The CLCPA also requires 70 percent renewable electricity by 2030  
9 and 100 percent carbon-free electricity by 2040.<sup>4</sup>

10 On January 16, 2020, the PSC issued its *Order Authorizing Utility Energy Efficiency and*  
11 *Building Electrification Portfolios Through 2025* (“*Implementation Order*”) in Case 18-  
12 M-0084. This order puts the state on a path to saving 3 percent of electricity sales by  
13 2025 and 1.3 percent of natural gas sales. The *Implementation Order’s* incremental  
14 energy savings targets for the investor owned utilities and NYSERDA amount to 35.8  
15 TBtu through 2025, including 2.9 TBtu in electric and gas savings by Niagara Mohawk.<sup>5</sup>  
16 The *Implementation Order* also adopted a heat pump savings target of 3.6 TBtu, 1.2 TBtu  
17 of which was allocated to Niagara Mohawk. The separate heat pump target, one of the  
18 few such goals in the country, represents a firm commitment to reducing carbon

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3 *Accelerated Efficiency Order*, p. 34.

4 S 6599/A 8429. Available at <https://www.nysenate.gov/legislation/bills/2019/s6599>.

5 *Implementation Order*, Appendix A – Table A1 and A2.



1 emissions through building electrification and is expected to increase residential heat  
2 pump penetration to roughly 5 percent of homes by 2025.<sup>6</sup>

3 **Q. Have there been policy developments regarding electric vehicles?**

4 A. Yes. In order to accelerate the development of charging infrastructure to support New  
5 York’s goal of deploying 850,000 zero emission vehicles (“ZEV”) by 2025, NY  
6 Department of Public Service staff published a whitepaper titled *Staff Whitepaper*  
7 *Regarding Electric Vehicle Supply Equipment and Infrastructure Deployment* on January  
8 13, 2020. The whitepaper recommends that the Commission establish a statewide Make-  
9 Ready Program that would provide incentives to light-duty EV supply equipment and  
10 infrastructure for both Level 2 and Direct Current Fast Charger stations. The whitepaper  
11 also recommends that the investor-owned utilities be required to incorporate EV-charging  
12 scenarios into their annual capital planning processes to encourage thoughtful siting of  
13 charging infrastructure.

14 In its order issued on July 16, 2020 titled *Order Establishing Electric Vehicle*  
15 *Infrastructure Make-Ready Program and Other Programs*, the PSC adopted the  
16 Department of Public Service Staff’s Proposed Make-Ready Program with modifications.  
17 The PSC further directed:

- 18 • The utilities to establish a Medium-Duty and Heavy-Duty Make-Ready Pilot  
19 Program, and a Fleet Assessment Service.

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<sup>6</sup> Alice Napoleon, Jenn Kallay, and Kenji Takahashi. 2020. *Utility Energy Efficiency and Building Electrification Portfolios Through 2025: A Brief on the New York Public Service Commission’s Recent Order*. Synapse Energy Economics for the Natural Resources Defense Council. Available at, <https://www.synapse-energy.com/sites/default/files/NY-EE-Brief-19-082.pdf>.

- 1 • Con Edison, National Grid, and RG&E to establish the Transit Authority Make-  
2 Ready Program to work with specific transit authorities in their efforts to achieve 25  
3 percent electrification by 2025.
- 4 • NYSERDA to establish an Environmental Justice Community Clean Vehicles  
5 Transformation Prize, a Clean Personal Mobility Prize, and a Clean Medium-Duty  
6 and Heavy-Duty Innovation Prize to equitably deliver transportation electrification  
7 benefits throughout the State.

8 **Q. Please describe policy and regulatory developments in New York that affect gas**  
9 **utilities.**

10 A. The CLCPA’s economy-wide climate targets are applicable to all sectors in New York,  
11 including natural gas. Responding to several recent gas utilities’ claims that gas  
12 infrastructure constraints prevented them from offering new firm service, the PSC opened  
13 a proceeding in 2020 to improve the transparency and inclusiveness of the gas utilities’  
14 planning processes, supply and demand analysis, moratoria on new connections, and use  
15 of demand-reducing measures (e.g., energy efficiency, electrification, demand response,  
16 non-pipe solutions) to address supply constraints. In that proceeding, PSC is expected to  
17 issue a white paper on modernizing the gas planning framework for the state shortly  
18 (currently due December 14, 2020).<sup>7</sup> In light of the gas planning proceeding and the  
19 imperative to reduce GHG emissions through all sectors, it is vital to carefully assess the  
20 way that other policies interact to help or hinder attainment of decarbonization goals.

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<sup>7</sup> NY PSC. *Ruling on Extension Request in Case 20-G-0131*, November 12, 2020.

1 **4. NIAGARA MOHAWK’S EAM PROPOSALS**

2 **Q. Please summarize the EAMs proposed by Niagara Mohawk for electric.**

3 A. In the Customer Energy Panel (CEP) testimony submitted with NiMo’s rate filing, the  
4 Company proposed nine EAMs, with incentives covering system efficiency, energy  
5 efficiency, beneficial electrification, and disadvantaged community engagement for  
6 electric. The Company proposes to continue without modification the System Efficiency  
7 EAM: Peak Reduction metric. It also proposes changes to four existing electric EAMs,  
8 including (1) Energy Efficiency EAM: Incremental Electric EE; (2) Energy Efficiency  
9 EAM: LED Street Light Conversion; (3) System Efficiency EAM: DER Utilization; and  
10 (4) Beneficial Electrification EAM. In addition, Niagara Mohawk proposes new electric  
11 EAMs. These are System Efficiency EAM: Load Factor metric; System Efficiency EAM:  
12 Managed EV Charging; Disadvantaged Community Engagement EAM: School Bus  
13 Electrification metric; and Disadvantaged Community Engagement EAM: LMI Customer  
14 Savings metric.

15 With the October testimony updates, Niagara Mohawk proposes a tenth incentive, the  
16 Make-Ready Share the Savings EAM.

17 Table 1 presents the EAMs proposed for electric, alongside the Company’s existing  
18 EAMs.

1 **Table 1. Niagara Mohawk’s Electric EAM proposals: Existing vs. Proposed**

Existing	Proposed in current filing
Energy Efficiency EAM: Incremental Electric EE Energy Efficiency EAM: LED Street Light Conversion Energy Efficiency EAM: Residential Energy Intensity Energy Efficiency EAM: Commercial Energy Intensity	Energy Efficiency EAM: Share the Savings
Beneficial Electrification EAM	Beneficial Electrification EAM: Building Electrification Beneficial Electrification EAM: Transportation Electrification
System Efficiency EAM: Peak Reduction System Efficiency EAM: DER Utilization	System Efficiency EAM: Peak Reduction System Efficiency EAM: Load Factor metric System Efficiency EAM: Managed EV Charging System Efficiency EAM: DER Utilization (modified)
	Disadvantaged Community Engagement EAM School Bus Electrification metric Disadvantaged Community Engagement EAM LMI Customer Savings metric
	Make-Ready Share the Savings EAM

2

3 In the Customer Energy Panel (CEP) testimony submitted with NiMo’s rate filing, the Company

4 proposed nine EAMs, with incentives covering system efficiency, energy efficiency,

5 beneficial electrification, and disadvantaged community engagement for electric. The

6 Company proposes to continue without modification the System Efficiency EAM: Peak

7 Reduction metric. It also proposes changes to four existing electric EAMs, including (1)

8 Energy Efficiency EAM: Incremental Electric EE; (2) Energy Efficiency EAM: LED

9 Street Light Conversion; (3) System Efficiency EAM: DER Utilization; and (4)

10 Beneficial Electrification EAM. In addition, Niagara Mohawk proposes new electric

11 EAMs. These are System Efficiency EAM: Load Factor metric; System Efficiency EAM:

12 Managed EV Charging; Disadvantaged Community Engagement EAM: School Bus

1 Electrification metric; and Disadvantaged Community Engagement EAM: LMI Customer  
2 Savings metric.

3 With the October testimony updates, Niagara Mohawk proposes a tenth incentive, the  
4 Make-Ready Share the Savings EAM.

5 Table 1 presents the EAMs proposed for electric, alongside the Company's existing  
6 EAMs.

7 As Table 1 shows, Niagara Mohawk proposes to collapse four existing energy efficiency  
8 EAMs into one, the Share the Savings EAM. The Company proposes to split the  
9 Beneficial Electrification EAM into two parts covering building electrification and EVs.

10 The Company proposes two new EAMs for system efficiency (the Load Factor EAM and  
11 the Managed EV Charging EAM) and to modify how the DER Utilization EAM is  
12 calculated. New EAMs are proposed for Disadvantaged Community Engagement (School  
13 Bus Electrification and LMI Customer Savings) and for the Make-Ready Electric Vehicle  
14 Infrastructure program.

15 **Q. What has Niagara Mohawk proposed for gas EAMs?**

16 A. Niagara Mohawk proposed six EAMs for gas, with incentives covering system  
17 efficiency, energy efficiency, and disadvantaged community engagement. The Company  
18 proposes to replace its existing Incremental Gas EE metric with the Gas Energy  
19 Efficiency EAM: Share the Savings metric. Niagara Mohawk also proposes five  
20 additional EAMs: (1) Gas System Efficiency EAM: Peak Reduction; (2) Gas System  
21 Efficiency EAM: Peak Hour Reduction; (3) Gas System Efficiency EAM: Renewable  
22 Natural Gas Cost Containment; (4) Disadvantaged Community Engagement EAM: LMI

1 Customer Savings; and (5) Disadvantaged Community Engagement EAM: Low-Income  
2 Customer Geothermal.

3 **Table 2. Niagara Mohawk’s Gas EAM proposals: Existing vs. Proposed**

Existing	Proposed in current filing
Incremental Gas EE metric	Gas EE EAM: Share the Savings
	Gas System Efficiency EAM: Peak Reduction
	Gas System Efficiency EAM: Peak Hour Reduction Gas System Efficiency EAM: Renewable Natural Gas (“RNG”) Cost Containment
	Disadvantaged Community Engagement EAM: LMI Customer Savings
	Disadvantaged Community Engagement EAM: Low-Income Customer Geothermal

4  
5 **Q. Please describe the incentives that the Company proposes for these EAMs.**

6 A. The Company’s proposed basis points and dollar incentives for Minimum (“Min”),  
7 Midpoint (“Mid”), and Maximum (“Max”) target levels for the proposed electric EAMs  
8 are shown in Table 3. Table 4 shows the same information for the Company’s proposed  
9 gas EAMs.

1

**Table 3. Electric EAM basis points and incentives**

Metric	Basis Points					\$ Million						
	CY 2021	CY 2022	CY 2023	CY 2024	Term	CY 2021	CY 2022	CY 2023	CY 2024	Term		
System Efficiency	Peak Reduction	Min	3.0	3.0	3.0	3.0	-	\$1.2	\$1.3	\$1.4	\$1.6	-
		Mid	5.0	5.0	5.0	5.0	-	\$2.1	\$2.2	\$2.4	\$2.6	-
		Max	7.0	7.0	7.0	7.0	-	\$2.9	\$3.1	\$3.4	\$3.7	-
	Load Factor	Min	1.0	1.0	1.0	1.0	-	\$0.4	\$0.4	\$0.5	\$0.5	-
		Mid	3.0	3.0	3.0	3.0	-	\$1.2	\$1.3	\$1.4	\$1.6	-
		Max	5.0	5.0	5.0	5.0	-	\$2.1	\$2.2	\$2.4	\$2.6	-
	DER Utilization	Min	-	-	-	-	-	-	-	-	-	-
		Mid	-	-	-	-	-	-	-	-	-	-
		Max	12.0	12.0	12.0	12.0	-	\$4.9	\$5.3	\$5.8	\$6.3	-
	Managed EV Charging	Min	3.0	3.0	3.0	3.0	-	\$1.2	\$1.3	\$1.4	\$1.6	-
		Mid	5.0	5.0	5.0	5.0	-	\$2.1	\$2.2	\$2.4	\$2.6	-
		Max	9.0	9.0	9.0	9.0	-	\$3.7	\$4.0	\$4.3	\$4.7	-
EE	Share the Savings	Min	-	-	-	-	-	-	-	-	-	
		Mid	-	-	-	-	-	-	-	-	-	
		Max	-	-	-	-	-	-	-	-	-	
Beneficial Electrification	Building Electrification	Min	12.0	12.0	12.0	12.0	48.0	\$4.9	\$5.3	\$5.8	\$6.3	\$22.3
		Mid	17.0	17.0	17.0	17.0	68.0	\$7.0	\$7.5	\$8.2	\$8.9	\$31.6
		Max	25.0	25.0	25.0	25.0	100.0	\$10.3	\$11.1	\$12.0	\$13.1	\$46.5
	Transportation Electrification	Min	3.0	3.0	3.0	3.0	12.0	\$1.2	\$1.3	\$1.4	\$1.6	\$5.6
		Mid	6.0	6.0	6.0	6.0	24.0	\$2.5	\$2.7	\$2.9	\$3.2	\$11.2
		Max	20.0	20.0	20.0	20.0	80.0	\$8.2	\$8.9	\$9.6	\$10.5	\$37.2
Disadvantaged Community Engagement	LMI Customer Savings	Min	0.5	0.5	0.5	0.5	2.0	\$0.2	\$0.2	\$0.2	\$0.3	\$0.9
		Mid	1.0	1.0	1.0	1.0	4.0	\$0.4	\$0.4	\$0.5	\$0.5	\$1.9
		Max	2.0	2.0	2.0	2.0	8.0	\$0.8	\$0.9	\$1.0	\$1.1	\$3.7
	School Bus Electrification	Min	-	-	-	0.5	-	-	-	-	\$0.3	-
		Mid	-	-	-	1.0	-	-	-	-	\$0.5	-
		Max	-	-	-	1.5	-	-	-	-	\$0.8	-
Electric EAM Total	Min	22.5	22.5	22.5	23.0	-	\$9.3	\$10.0	\$10.8	\$12.1	-	
	Mid	37.0	37.0	37.0	38.0	-	\$15.2	\$16.4	\$17.8	\$20.0	-	
	Max	80.0	80.0	80.0	81.5	-	\$32.9	\$35.4	\$38.5	\$42.8	-	

2

3 *Source: Exhibit CEP-6.*

1 **Table 4. Gas EAM basis points and incentives**

Metric	Basis Points					\$ Million						
		CY 2021	CY 2022	CY 2023	CY 2024	Term	CY 2021	CY 2022	CY 2023	CY 2024	Term	
System Efficiency	Gas Peak Hour Reduction	Min	0.5	0.5	0.5	0.5	-	\$0.05	\$0.06	\$0.06	\$0.07	-
		Mid	1	1	1	1	-	\$0.10	\$0.11	\$0.12	\$0.14	-
		Max	2	2	2	2	-	\$0.20	\$0.22	\$0.24	\$0.27	-
	Gas Peak Reduction	Min	0.5	0.5	0.5	0.5	-	\$0.05	\$0.06	\$0.06	\$0.07	-
		Mid	1	1	1	1	-	\$0.10	\$0.11	\$0.12	\$0.14	-
		Max	2	2	2	2	-	\$0.20	\$0.22	\$0.24	\$0.27	-
RNG Cost Containment	Min	5	5	5	5	-	\$0.51	\$0.55	\$0.61	\$0.68	-	
	Mid	8	8	8	8	-	\$0.81	\$0.88	\$0.98	\$1.09	-	
	Max	15	15	15	15	-	\$1.52	\$1.66	\$1.83	\$2.04	-	
EE	Share the Savings	Min	-	-	-	-	-	-	-	-	-	
		Mid	-	-	-	-	-	-	-	-	-	
		Max	-	-	-	-	-	-	-	-	-	
Disadvantaged Community Engagement	LMI Customer Savings	Min	0.5	0.5	0.5	0.5	2.0	\$0.05	\$0.06	\$0.06	\$0.07	\$0.23
		Mid	1	1	1	1	4.0	\$0.10	\$0.11	\$0.12	\$0.14	\$0.47
		Max	2	2	2	2	8.0	\$0.20	\$0.22	\$0.24	\$0.27	\$0.94
	LI Customer Geothermal	Min	0.5	0.5	0.5	0.5	2.0	\$0.05	\$0.06	\$0.06	\$0.07	\$0.23
		Mid	1	1	1	1	4.0	\$0.10	\$0.11	\$0.12	\$0.14	\$0.47
		Max	2	2	2	2	8.0	\$0.20	\$0.22	\$0.24	\$0.27	\$0.94
Gas EAM Total	Min	7.0	7.0	7.0	7.0		\$0.71	\$0.77	\$0.86	\$0.95		
	Mid	12.0	12.0	12.0	12.0		\$1.21	\$1.33	\$1.47	\$1.63		
	Max	23.0	23.0	23.0	23.0		\$2.32	\$2.54	\$2.81	\$3.12		

2  
3 *Source: Exhibit CEP-7.*

4 **5. EAM PRINCIPLES**

5

6 **Q. Please summarize the guidance on EAMs provided by the Commission.**

7 A. In the *New Efficiency: New York* paper, the New York State Energy Research and  
 8 Development Authority (NYSERDA) and Department of Public Service (DPS) presented  
 9 clear guidance for formulating EAMs and articulated a fuel-neutral perspective for future  
 10 energy efficiency goals.<sup>8</sup> In the subsequent *Accelerated Efficiency Order*, the  
 11 Commission emphasized that EAMs should focus on dollars per lifetime Btu savings to  
 12 encourage “longer lived savings.”<sup>9</sup>

8 NYSERDA and NY DPS. 2018. *New Efficiency: New York*, p. 35.

9 *Accelerated Efficiency Order*, p. 68.



1 **Q. What is your perspective on this Commission’s guidance?**

2 A. We believe that an emphasis on shared cost savings should help to promote efficacy and  
3 equity. However, we suggest that other objectives, beyond cost savings, may be  
4 appropriate for encouraging longer-lived savings and in advancing other important  
5 efficiency policy goals.

6 **Q. Are there other relevant principles that apply to the design of effective EAMs?**

7 A. Yes. EAMs should include metrics that are clearly tied to policy goals, unambiguously  
8 defined, easily quantifiable, and easily understood. EAMs should focus on activities and  
9 outcomes that are within the utility’s control and are largely free from outside influence.<sup>10</sup>  
10 Also, incentive formulas that determine how much the utility is compensated at different  
11 levels of achievement should be consistent with the desired outcome and should be  
12 calibrated to effectively incent utility performance.<sup>11</sup>

13 In addition, EAMs should avoid overlap. As a general matter, separate EAMs should  
14 target separate goals. When a set of EAMs address inter-related outcomes, there is a risk  
15 of providing excess incentive to the utility. This basic principle was articulated in the  
16 *Accelerated Efficiency Order*, which cautioned that, “[p]rogram-specific EAMs, if any,  
17 must be reconciled with portfolio-wide EAMs to avoid double-counting.”<sup>12</sup> A large  
18 number of EAMs is difficult to track, and with a large set there can be many potential

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10 Whited, Melissa, Tim Woolf, and Alice Napoleon. 2015. *Utility Performance Incentive Mechanisms: A handbook for regulators*. Prepared for the Western Interstate Energy Board by Synapse Energy Economics. p. 27-31. Available at [https://www.synapse-energy.com/sites/default/files/Utility%20Performance%20Incentive%20Mechanisms%2014-098\\_0.pdf](https://www.synapse-energy.com/sites/default/files/Utility%20Performance%20Incentive%20Mechanisms%2014-098_0.pdf).

11 Id. 42.

12 *Accelerated Efficiency Order*, p. 69.

1 areas of overlap and unintended consequences. Some of these might be foreseen and  
2 some of them might not be.

3 **Q. Do you have other EAM principles that are appropriate in this context?**

4 A. Yes. It is important that the Commission clarify the level of utility activity that warrants  
5 earning a financial incentive. Utilities should not be provided with financial incentives  
6 for outcomes that they already have incentives to achieve. Further, utilities should not be  
7 provided with financial incentives for (a) outcomes that do not exceed business-as-usual  
8 outcomes or (b) simply achieving outcomes already required by the Commission.

## 9 **6. RESPONSE TO PROPOSED EAMS**

10 **Q. Do you have any general observations about the Company's set of EAMs?**

11 A. Yes. The Company proposes a large set of EAMs: 10 for electric and six for gas. There  
12 will likely be greater administrative and regulatory burden for tracking the proposed set  
13 of EAMs than for a smaller set. Also, because this set of EAMs is large, there is likely  
14 more potential for unintended consequences and more areas of overlap, which could  
15 provide excessive and unreasonable incentives in some business areas.

### 16 **6.1. Electric EAMs**

#### 17 **6.1.1. Energy Efficiency EAM: Energy Efficiency**

18 **Q. What does Niagara Mohawk propose for an electric energy efficiency EAM?**

19 A. The Company proposes to replace its existing Incremental Energy Efficiency metric with  
20 a Share the Savings (STS) metric, with the following formula:

$$Incentive = \left( Budgeted \frac{\$}{MMBtu} - Actual \frac{\$}{MMBtu} \right) \times Lifetime\ MMBtu$$

$$\times\ Sharing\%$$

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Niagara Mohawk’s proposed minimum targets align with the savings levels called for in the *Implementation Order*.

**Q. Do you have concerns with the STS proposal?**

A. Yes. Our primary concern with the Energy Efficiency EAM is that the STS metric is tied to spending. Under the proposal, the Company is rewarded if it can reduce the actual unit cost of lifetime energy savings on a dollar per lifetime million British thermal units (“MMBtu”) compared to its budgeted unit cost per lifetime MMBtu. While this design may encourage efficiencies in program administration and delivery, it may also lead to several unintended consequences that can harm ratepayers and impede progress toward the state’s ambitious energy and climate goals.

**Q. Please explain the unintended consequences of this energy efficiency EAM.**

A. This EAM opens the door for two unintended consequences. First it may encourage the Company to overstate the cost of its programs to earn a larger EAM. If a utility knows its performance incentive will be based on achieving savings at a lower cost than proposed in its budget, it may put forth higher budgets than required. While stakeholder and commission review of a utility’s historical spending trends can offer some protection against excessive budget padding, information asymmetry between the utility and stakeholders can make it difficult to fully counter the rationale put forth by the utility to justify its needed budget. The second potential consequence is the creation of an incentive for Niagara Mohawk to focus on least-cost savings that may be easier to

1 achieve but produce shorter-lived savings to ensure it comes in under budget while  
2 meeting its savings target. This incentive is amplified by the fact the EAM is based on  
3 annual targets. More complex efficiency projects with longer lead times can take several  
4 years to produce savings. This EAM would create a disincentive for the Company to start  
5 spending funds on a project that may not be completed until a subsequent program year  
6 or subsequent plan.

7 **Q. How can the Commission protect against these unintended consequences?**

8 A. The Company could have a single metric based on the net benefits of lifetime energy  
9 efficiency savings, which will encourage the Company to reduce costs and to implement  
10 projects with large benefits (i.e., savings). Alternatively, the Company could retain the  
11 STS EAM and include a second, complementary, energy efficiency EAM focused on  
12 procuring deeper energy savings, such as the Deeper Energy Efficiency Lifetime  
13 (“DEEL”) Savings EAM approved for Consolidated Edison (Con Edison) in Case 19-E-  
14 0065/19-G-0066. This EAM would help to ensure that the incentive to create cost savings  
15 does not outweigh the incentive to achieve longer-term energy savings.

16 **Q. Please describe Con Edison’s DEEL Savings EAM metric.**

17 A. The DEEL metric is based on lifetime energy savings provided by deeper efficiency  
18 measures across Con Edison’s entire energy efficiency portfolio. The DEEL metric is  
19 further based upon Con Edison’s ability to deliver deeper lifetime energy efficiency  
20 savings, including those for LMI customer savings, over three years. This encourages  
21 Con Edison to undertake multi-year, deeper energy efficiency projects that straddle  
22 multiple rate years by allowing the Company to transfer any unachieved targets and basis  
23 points between the minimum and maximum levels in any given rate year to the following

1 rate-year(s) within the current rate term. To ensure a focus on deeper energy savings, this  
2 EAM excludes savings from shorter-lived efficiency measures such as lighting, behavior,  
3 and simple controls from counting towards the performance goal.<sup>13</sup>

4 This metric encourages the utility to undertake energy saving measures that may prove  
5 more technically challenging and require longer lead-times but create longer lasting and  
6 more comprehensive energy savings. Such measures include building envelope measures;  
7 high efficiency building heating, cooling, and ventilation systems; and mechanical  
8 systems. It is often more difficult for utilities to convince customers to undertake these  
9 more expensive and complex types of efficiency projects. In addition, the time from  
10 when the utility first reaches out to a prospective customer to the point at which that  
11 customer installs the higher efficiency measure can span multiple program-years. This  
12 EAM, by allowing for flexibility in achieving targets over multiple years, helps to  
13 address this barrier.

14 **Q. Do you have any additional concerns with the STS EAM?**

15 A. Yes. We find that Niagara Mohawk's proposal for this EAM lacks sufficient detail  
16 regarding the calculation of the STS metric. The Company does not provide any  
17 definitions for the components of its proposed STS metric. We reviewed this metric with  
18 the assumption that it would be similar to Con Edison's formula; however, the Company  
19 has not provided assurance that this is the case. It is critical that transparency be  
20 improved around the calculation of this metric including the definition of each key input  
21 to the formula. This is especially important regarding the denominator of MMBtu. The

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<sup>13</sup> *Order Adopting Terms of Joint Proposal and Establishing Electric and Gas Rate Plan*. Cases 19-E-0065/19-G-0066. Attachment A, Appendix 23, pages 2-4.

1 Company does not specify if the change in budget is in unit cost per annual or lifetime  
2 MMBtu, which is an important distinction. We encourage the Commission to require  
3 Niagara Mohawk to file a more detailed explanation of the components of this metric.

#### 4 **6.1.2. Beneficial Electrification**

##### 5 **6.1.2.1. Beneficial Electrification EAM: Building Electrification**

6 **Q. Is it appropriate to have an EAM for building electrification?**

7 A. Yes. Heat pumps will be a vital component of any strategy to aggressively reduce GHG  
8 emissions from the building sector to meet the CLCPA goals. Heat pumps, combined  
9 with the state's initiatives to reduce GHG emissions from the electricity industry,  
10 represent the most promising and cost-effective way to reduce fossil fuel end-use  
11 consumption in New York's homes and businesses.

12 **Q. What has Niagara Mohawk proposed for a Building Electrification target?**

13 A. The Company proposes an EAM with Min, Mid, and Max targets (Exhibit CEP-2). The  
14 Min heat pump targets correspond to the heat pump targets established under the  
15 *Implementation Order*, and the Mid and Max targets are higher than those established by  
16 the Commission. As shown in Table 5, the Mid and Max targets are 5 percent and 15  
17 percent higher than the Min targets, respectively.

1 **Table 5. Beneficial Electrification EAM (Gross Annual MMBtu)**

<b><i>EAM Target</i></b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>
NiMo Min	132,010	172,203	210,694	245,889
NiMo Mid	138,611	180,813	221,229	258,183
NiMo Max	151,812	198,033	242,298	282,772
NiMo Mid (% of Min)	105%	105%	105%	105%
NiMo Max (% of Min)	115%	115%	115%	115%

2 *Source: Exhibit CEP-2.*

3 **Q. Do the Building Electrification EAM targets align with the CLCPA targets?**

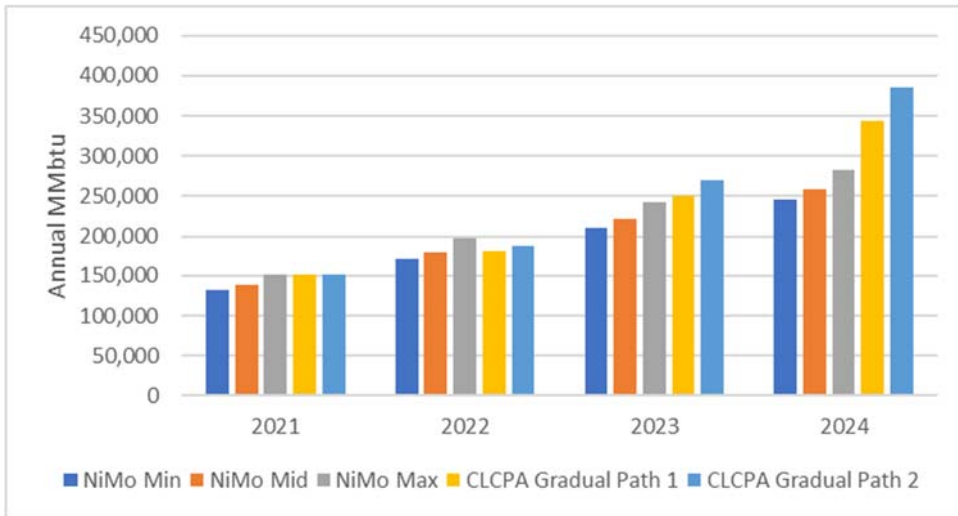
4 A. No. These targets are well below the heat pump goals embedded in the CLCPA’s carbon  
5 emission targets. Based on our assessment of CLCPA mandates, we conclude that the  
6 level of heat pumps necessary for meeting CLCPA targets is at least 40 percent higher  
7 than the Min target for 2024.

8 **Q. Please show the results of your analysis for the 2024 heat pump targets under**  
9 **CLCPA.**

10 A. Figure 1 compares the Company’s proposed EAM targets with two separate illustrative  
11 heat pump targets, namely the “CLCPA Gradual Path 1” and the “CLCPA Gradual Path  
12 2.” These targets would allow the Company to achieve the long-term carbon reduction  
13 CLCPA targets.

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**Figure 1. Building Electrification Target Comparison with Alternative Targets Meeting CLCPA Targets**



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4

We developed illustrative estimates of the heat pump targets under CLCPA based on

5

E3’s recent study titled, *Pathways to Deep Decarbonization in New York State*, prepared

6

for NYSERDA.<sup>14</sup> E3 developed two decarbonization pathways for New York that will

7

enable the state to achieve the long-term carbon reduction targets under CLCPA. The two

8

pathways are called the “High Technology Availability” case and the “Limited Non-

9

Energy” case, which mainly differ from each other based on the availability of emerging

10

technologies that are not widely commercialized. These include advanced biofuels and

11

carbon capture and storage, as well as non-energy sources such as landfills and

12

refrigerants.<sup>15</sup> The High Technology Availability case, corresponding to the CLCPA

13

Gradual Path 1 in Figure 1, includes more emerging technologies and assumes a lower

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<sup>14</sup> Available at <https://climate.ny.gov/-/media/CLCPA/Files/2020-06-24-NYS-Decarbonization-Pathways-Report.pdf>.

<sup>15</sup> For both the High Technology Availability case and the Limited Non-Energy case, E3 assumed large amounts of Renewable Natural Gas. This assumption appears to conflict with the CLCPA’s prohibition of new combustion pollution. In light of this issue, we call the paths illustrative.



1 level of building electrification. The E3 study developed the following heat pump sales  
2 share assumptions for this analysis:

- 3 • 6 percent by 2025 under the reference case
- 4 • 50 percent by 2030 under the High Technology Availability case (“High Tech”)
- 5 • 70 percent by 2030 under the Limited Non-Energy case

6 We assumed that E3 study’s reference case corresponds to Niagara Mohawk’s Min EAM  
7 target, which is the *Implementation Order’s* heat pump target, and we estimated MMBtu  
8 heat energy production that we can expect for achieving every 1 percent of heat pump  
9 sales share.<sup>16</sup>

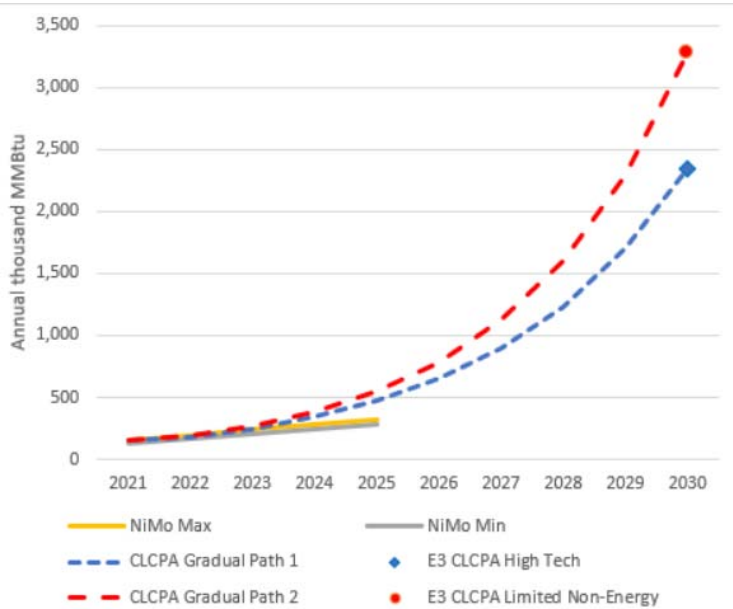
10 As shown above, the increase in heat pump sales share required to achieve CLCPA  
11 targets is steep. We present such increases in the following figure, with points showing  
12 2030 targets based on E3’s High Tech and Limited Non-Energy cases. Because the E3  
13 study does not provide annual heat pump sales shares prior to 2030, we developed two  
14 alternative trajectories: “CLCPA Gradual Path 1” and “CLCPA Gradual Path 2” in this  
15 figure, which correspond to these cases in Figure 1. We assume more heat pump sales in  
16 the early years than the Company does. Our trajectories would meet the 2030 CLCPA  
17 requirements with more gradual increases in sales, as compared to the increases that

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<sup>16</sup> The E3 reference scenario includes existing sector-specific policies and targets adopted before the enactment of the CLCPA, including the Clean Energy Standard, 2025 and 2030 building energy efficiency targets, and the ZEV MOU and related vehicle emission standards.

1 would be required from 2025 to 2030 based on the Company’s heat pump assumptions  
2 for 2021 to 2024.<sup>17</sup>

3 **Figure 2. Building Electrification Paths for CLCPA Compliance**



4  
5 **Q. What is your recommendation for building electrification EAM targets for Niagara**  
6 **Mohawk?**

7 A. As shown in Figure 1 above and Table 6 below, heat pump targets under the  
8 *Implementation Order* targets, corresponding to Niagara Mohawk’s Min EAM targets,  
9 are much lower than the reasonable paths to achieve CLCPA targets (as shown under  
10 CLCPA Gradual Path 1 and 2 in Table 6). For 2024, Niagara Mohawk’s proposed Min  
11 target for the Building Electrification EAM is about 30 percent to 36 percent lower than  
12 the CLCPA-based targets. Further, the *Implementation Order*’s heat pump targets are

---

<sup>17</sup> If E3 assumed a greater level of heat pump implementation than the *Implementation Order*, then savings path would be even steeper than is shown in Figure 2. This is because the total energy usage we can expect from heat pumps per 1 percent of heat pump sales (6% total penetration in 2024 under the reference case) would be higher than what we assumed in the Figure 2.

1 conservative in that the targets were established based on an analysis of only residential  
2 sector heat pump potential, ignoring the potential in the commercial sector. Furthermore,  
3 the expected residential heat pump penetration in the *Implementation Order* is about 4 to  
4 5 percent of homes by 2025 based on our prior analysis.<sup>18</sup> This target lags behind Maine’s  
5 current residential heat pump penetration rate of 7 percent, and is far lower than Maine’s  
6 long-term heat pump target of 22 percent of homes by 2024.<sup>19</sup> We find that Niagara  
7 Mohawk’s proposed Min target is conservative.

8 **Q. What do you recommend?**

9 A. We recommend that the Commission update the heat pump targets from the  
10 *Implementation Order* to include commercial and industrial heat pump potential and to be  
11 consistent with the CLCPA.

12 With respect to the proposed EAM, the Company should not be rewarded for  
13 performance that will not put the state on track to achieve CLCPA targets. We  
14 recommend that the Min target be raised to the level of the Company’s proposed Mid  
15 target because NiMo’s proposed Mid target is much closer to the savings needed to  
16 achieve CLCPA targets. Further, we recommend the Company use the average values  
17 between the CLCPA Gradual Path 1 and 2 cases as a new, revised Max target as shown in  
18 Table 6, because this average represents a reasonable path toward reaching CLCPA

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<sup>18</sup> Alice Napoleon, Jenn Kallay, and Kenji Takahashi. 2020. *Utility Energy Efficiency and Building Electrification Portfolios Through 2025*, p. 2. Available at <https://www.synapse-energy.com/sites/default/files/NY-EE-Brief-19-082.pdf>.

<sup>19</sup> Michael D. Stoddard. “The Role of Carbon in State and Regional Energy Planning,” September 5, 2019, Slide 5. Available at [https://www.iso-ne.com/static-assets/documents/2019/09/clg\\_meeting\\_stoddard\\_panelist\\_presentation\\_september\\_5\\_2019.pdf](https://www.iso-ne.com/static-assets/documents/2019/09/clg_meeting_stoddard_panelist_presentation_september_5_2019.pdf).

1 targets. Finally, the new Mid EAM target should be the average between the revised Min  
2 and Max EAM targets.

3 **Table 6. Building Electrification Target (Gross Annual MMBtu) Comparison with**  
4 **Alternative Targets Meeting CLCPA Targets and Proposed Revised EAM**  
5 **Targets**

<b><i>EAM Target</i></b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>
NiMo Min	132,010	172,203	210,694	245,889
NiMo Mid	138,611	180,813	221,229	258,183
NiMo Max	151,812	198,033	242,298	282,772
CLCPA Gradual Path 1	151,812	181,683	250,048	344,137
CLCPA Gradual Path 2	151,812	188,604	269,461	384,982
Revised Min	138,611	180,813	221,229	258,183
Revised Mid	145,212	182,978	240,492	311,371
Revised Max	151,812	185,144	259,754	364,559

6 **6.1.2.2. Beneficial Electrification EAM: Transportation Electrification**

7 **Q. What does the Company propose?**

8 A. The Company proposes an EAM metric that measures carbon dioxide (“CO<sub>2</sub>”) savings  
9 expected from incremental EV adoption based on the Company’s incentive to “provide  
10 cost-savings solutions to customers and market-enabling tools to help the State of New  
11 York reach its ZEV goals for 2025 and beyond.”<sup>20</sup> To estimate the incremental EV  
12 adoption, the Company proposes to develop as a baseline the number of new EVs sold in  
13 the Company territory in the four quarters preceding Rate Year 1.

14 **Q. Do you have concerns with the Company’s proposal?**

15 A. Yes. It is quite challenging to identify the sole contribution of the Company’s EV  
16 incentive associated with EV sales and the associated CO<sub>2</sub> emissions reduction because  
17 there are various factors that influence the sales of EVs, many of which are outside of the

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<sup>20</sup> CEP testimony, p. 27.

1 control of the Company. For example, electric utilities have little or no influence on  
2 economic conditions; EV model availability; pricing of new EVs; changes in EV-related  
3 incentive programs offered by other entities, the state government and the federal  
4 government; gasoline prices; and competitiveness with internal combustion engine  
5 vehicles. Thus, we recommend against any incentive metric that is tied to EV sales.

6 Further, the Company proposes other EV-related EAMs. These include the System  
7 Efficiency EAM: Managed EV Charging and the Make-Ready Share the Savings EAM  
8 for its Make-Ready program (that the Company filed with the PSC on September 14,  
9 2020). These EAMs are tied to management of EV charging and electricity pricing for  
10 EV charging, and to EV charging equipment and infrastructure investments. These EAMs  
11 should be sufficient to encourage the Company's support of EVs, and thus the  
12 Transportation Electrification is not needed.

13 **Q. What do you recommend for the Transportation Electrification EAM?**

14 A. We recommend that the Company not implement the Beneficial Electrification EAM for  
15 Transportation Electrification.

### 16 **6.1.3. System Efficiency**

#### 17 **6.1.3.1. System Efficiency EAM: Peak Reduction**

18 **Q. What is the System Efficiency EAM: Peak Reduction metric?**

19 A. The Peak Reduction EAM metric incentivizes Niagara Mohawk to reduce its New York  
20 Control Area ("NYCA") coincident peak compared to a baseline. This metric is  
21 calculated as the sum of:

1 a) The weather-normalized demand on Niagara Mohawk’s system during the NYCA  
2 peak hour, plus

3 b) Any amounts actually curtailed from contracted resources enrolled in the New York  
4 Independent System Operator’s (“NYISO”) Installed Capacity – Special Case  
5 Resource program during the NYCA peak hour.

6 **Q. The Company is proposing to continue its Peak Reduction metric without**  
7 **modification. Do you support this proposal?**

8 A. Not as proposed. While the outcome of achieving a reduction in NYCA coincident peak  
9 will create benefits to the electric system and customers, we have several concerns  
10 regarding the potential for double-counting with other proposed EAM metrics and with  
11 the development of the baseline.

12 **Q. Please explain your concern regarding the potential for double-counting.**

13 A. The Company proposes several other EAMs that will likely reduce annual peak demand.  
14 These include the System Efficiency EAMs for Load Factor, Managed EV Charging, and  
15 DER Utilization, as well as the STS Energy Efficiency EAM. Since all of these will  
16 influence the Peak Reduction metric, there is the potential for the Company to earn  
17 excessive financial awards due to overlap of the metrics underlying these EAMs.

18 **Q. How did the Company develop the baseline?**

19 A. We assume that the Company uses the same method employed in its 2017 filing.  
20 However, the Company does not provide that information within this filing. In Exhibit  
21 CEP-2 of the current filing, Electric Earning Adjustment Mechanism Targets, the  
22 Company cites NMPC peak load forecasts for Gross Peak in Exhibit JFG-16 and Net

1 Peak in Exhibit JFG-17. The Company does not indicate which year it is using in the  
2 development of its baseline.

3 **Q. Please explain your concern with the Company's proposed baseline for this EAM**  
4 **metric.**

5 A. The lack of transparency around the development of this baseline is concerning. It is  
6 important that the Company is using its Net Forecast as detailed in Exhibit JFG-17 to  
7 develop its baseline. As indicated in Company Witness Gredder's Testimony, the net  
8 forecast includes the forecast of future impacts of increased DERs on the system  
9 including energy efficiency, EVs, solar photovoltaics (PV), demand response, and energy  
10 storage.<sup>21</sup> Specifically, the Company's net peak forecast includes an energy efficiency  
11 savings forecast that uses the approved Company goals from the January 2020  
12 *Implementation Order*.<sup>22</sup> The baseline should incorporate anticipated impacts of DERs on  
13 the system to ensure that any additional reduction is truly incremental to business as  
14 usual.

15 With little transparency around the development of the minimum, mid-point, and  
16 maximum targets for this metric, it is difficult to assess whether these targets are  
17 sufficient to drive utility performance beyond what would have otherwise occurred. Table  
18 7 below provides a comparison between the proposed EAM targets as originally  
19 approved in Case 17-E-0238 for years 2018 through 2020, the reported values in 2018  
20 and 2019, and the proposed targets in this proceeding for years 2021 through 2024.

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<sup>21</sup> Direct Testimony of Joseph F. Gredder on behalf of Niagara Mohawk, Case 20-E-0380, p. 39.

<sup>22</sup> *Id.*, p. 40.

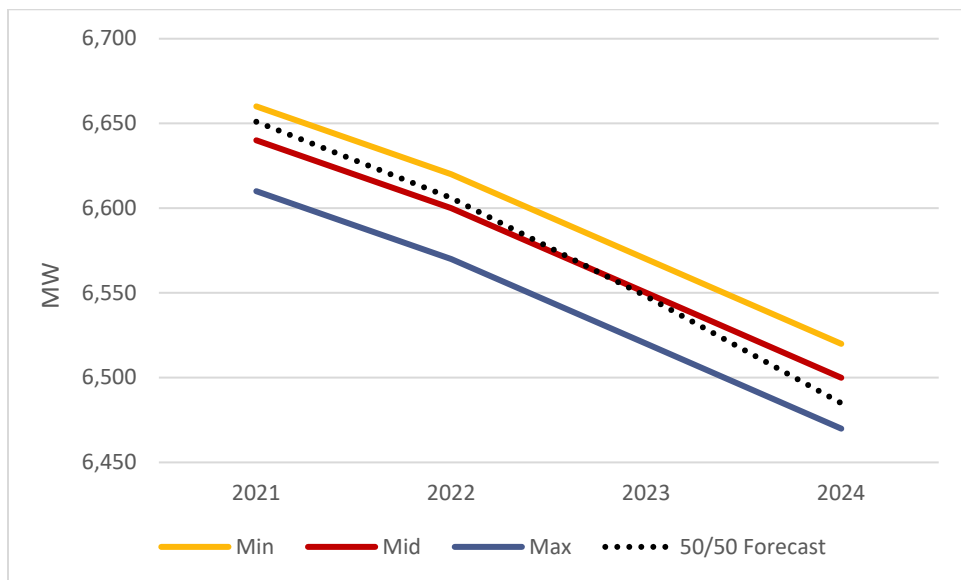
**Table 7. System Efficiency: Peak Reduction (MW) Proposed and Achieved**

	2018	2019	2020	2021	2022	2023	2024
<b>Min</b>	6,801	6,767	6,734	6,660	6,620	6,570	6,520
<b>Mid</b>	6,747	6,671	6,604	6,640	6,600	6,550	6,500
<b>Max</b>	6,712	6,614	6,524	6,610	6,570	6,520	6,470
<b>Reported</b>	6,494	6,602	--	--	--	--	--

Source for Actual Achieved: National Grid 2017 and 2018 Annual Report on Electric and Gas Earnings Adjustment Mechanisms. Case 17-E-0238.

Table 7 shows that in 2018 and 2019, the weather-adjusted coincident peak during the NYCA peak hour was less than its maximum stretch target. This brings into question whether the proposed targets for 2021 through 2024 are sufficient to drive the Company to pursue incremental peak reductions. This is particularly true when one examines the comparison between the Company’s proposed Peak Reduction Targets and its “Net” Peak Forecast after the impacts of DERs, as detailed in Exhibit JFG-17. Figure 3 provides a comparison of Company’s 50/50, or weather-normal scenario, which is used in the formulation and measurement of the EAMs and its proposed Peak Reduction targets.

**Figure 3. Company Net Peak Forecast Compared to Peak Reduction Targets**





1 In all years, the Company’s proposed minimum target is greater than its net forecast. This  
2 implies that if the forecast is accurate, then the minimum target could be easily met. If the  
3 Company used energy efficiency, demand response, solar PV, energy storage, and volt-  
4 var optimization forecasts as a starting point for the Peak Reduction targets as it did in  
5 2017, it is unclear why the minimum target would be set higher than the Company’s  
6 forecast. This leads to the conclusion that the Company can easily hit the minimum target  
7 in these years without needing to achieve incremental peak reductions above its business  
8 as usual forecast.

9 **Q. What do you recommend in light of your concerns?**

10 A. First, we recommend the Company provide more transparency and justification for its  
11 proposed targets. Based on its past performance, the Company’s own “Net” Peak  
12 Forecast, and the potential contribution of other EAMs to peak reduction, it is not clear  
13 that the proposed targets are stringent enough to change utility behavior. At a minimum,  
14 the Company should describe how its peak load forecast justifies the peak load levels  
15 proposed for this EAM.

16 In addition, because of the overlap between this EAM and the other electricity EAMs, the  
17 peak demand targets should be adjusted by the targets in the other EAMs. That is, the  
18 peak demand targets should net out the expected MW savings from the other electricity  
19 EAMs such as System Efficiency Load Factor, Managed EV Charging, and DER  
20 Utilization, as well as peak savings related to the STS Energy Efficiency EAM.

21 Further, because this Peak Reduction EAM metric is influenced by external factors such  
22 as energy codes, naturally occurring energy efficiency, customer preferences, and

1 technology adoption, the Commission should allocate a smaller financial award for this  
2 EAM (e.g., 5 percent of total incentives). Alternatively, this EAM could be eliminated.

3 **6.1.3.2. System Efficiency EAM: Load Factor metric**

4 **Q. What is the System Efficiency EAM: Load Factor metric?**

5 A. The Company proposes a new EAM for improvements in the load factor in LSRV areas  
6 where the load factor has been eroding over the past five years and summer normal rating  
7 transformer loading was greater than 80 percent in 2019. LSRV areas that are part of an  
8 existing Non-Wires Alternative are excluded for the proposed EAM.<sup>23</sup>

9 **Q. Do you have any concerns with the proposed EAM?**

10 A. Yes. The justification for the Load Factor EAM is unclear. The Company cites the *2018*  
11 *Storage Order* as the reason behind this EAM.<sup>24</sup> The key driver behind this order was to  
12 facilitate the deployment of energy storage and other DERs to improve load factors.<sup>25</sup>  
13 However, the Company does not indicate that it will invest in storage and other DERs as  
14 a means to improve load factor at the eight identified transformers. The Company has not  
15 articulated what actions it will take to maintain or improve load factor at these  
16 transformers, and the proposed EAM formula does not take into account whether the  
17 Company has any part in improving load factor. Thus, the proposed EAM could provide  
18 incentives for outcomes that the Company did little or nothing to bring about.

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<sup>23</sup> CEP testimony, p. 29-30.

<sup>24</sup> CEP testimony, p. 29.

<sup>25</sup> NY PSC, *Order Establishing Energy Storage Goal and Deployment Policy*, Case 18-E-0130, December 2018, p. 37.

1 **Q. Are there other mechanisms that might cause an improvement in load factor?**

2 A. Yes. The LSRV is one component of the “Value Stack” for which eligible DERs are  
3 compensated. The LSRV is available only in certain locations, specifically areas that the  
4 utility has identified as having needs that can be addressed by DERs. It is based on the  
5 higher, specific distribution costs offset by injections in that area.<sup>26</sup> The establishment of  
6 the Value of DER (VDER), including the LSRV, in New York created a means for third  
7 parties to identify and target areas where resources can provide more value to the system  
8 and to be compensated for that value. Providing incentives to the Company for improving  
9 load factor in LSRV areas would likely infringe on or dilute the signals to the competitive  
10 market from the VDER framework. Further, it may be difficult to determine who caused  
11 the improvement, the Company or the market.

12 **Q. Do you have other concerns with this EAM?**

13 A. Yes. There is a lack of transparency with the Company’s selection of the targeted  
14 transformers, shown in Table 4 of the CEP testimony.<sup>27</sup> While a rapid deterioration might  
15 justify an out-of-market intervention, the application did not include historical data on  
16 load factor to demonstrate the negative trend.

17 Further, given that the Company has not provided much description of this EAM, it is not  
18 clear that the design of the EAM would ensure that improvements in load factor are not  
19 solely the result of an increase in average load. While the Company proposes to include

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<sup>26</sup> NY PSC, *Order Regarding Value Stack Compensation*, Case 15-E-0751, April 18, 2019.

<sup>27</sup> CEP testimony, p. 29.

1 transformer bank loading in its proposed load factor equation, it is not clear that this goes  
2 far enough to address this concern.

3 Finally, double-counting is also a concern with this EAM. The load factor will reflect  
4 measures that even out load, including energy storage DERs. The DER Utilization Metric  
5 also provides incentives for increased implementation of energy storage systems.<sup>28</sup>

6 **Q. What do you recommend?**

7 A. Given these numerous issues, and the large number of the proposed EAMs overall, we  
8 recommend that the Commission not approve the Load Factor EAM. If the Commission  
9 decides to approve this EAM despite the concerns raised here, the Company should be  
10 required to (a) demonstrate the need for out-of-market interventions in these LSRV areas,  
11 (b) demonstrate what actions it will take to improve the load factor, such as deploying a  
12 peak-reducing technology be as indicated in the 2018 Order, and (c) demonstrate after the  
13 fact that it undertook those actions.

14 **6.1.3.3. System Efficiency EAM: Managed EV Charging**

15 **Q. Please describe the Managed EV Charging EAM.**

16 A. The new System Efficiency Managed EV Charging EAM would provide the Company  
17 with incentives to build and deploy a customer-facing solution to encourage off-peak EV  
18 charging. Off-peak charging of EVs is critical, as it can avoid the need to make additional  
19 investments in the grid to support higher load levels during peak periods.

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<sup>28</sup> CEP testimony, p. 22.

1 **Q. How does this EAM relate to other proposed EAMs?**

2 A. The System Efficiency: Managed EV Charging EAM targets the same end-use as the  
3 proposed transportation electrification EAM (discussed in Section 6.1.2.2) and the Make-  
4 Ready Share the Savings EAM (discussed in Section 6.1.5). However, as noted  
5 previously, the Company’s ability to influence the outcomes of the Beneficial  
6 Electrification: Transportation Electrification EAM is limited. In contrast, the Managed  
7 EV Charging EAM would provide incentives for the Company to encourage customers to  
8 charge EVs when the system has ample capacity to do so. In the absence of this incentive,  
9 the Company does not appear to have a clear financial incentive to develop and promote  
10 a Managed EV Charging program/rate. As the Company noted, “[t]he customer outcomes  
11 delivered by Managed EV Charging do not fit within the traditional utility business  
12 model.”<sup>29</sup> For example, the Company earns a return on the construction of new  
13 distribution equipment to meet increased load as a result of EV charging. On the other  
14 hand, as proposed by NiMo this EAM overlaps with the peak reduction metric; targeting  
15 EV charging may constitute an easier means of achieving peak reduction than programs  
16 or measures targeting other end uses. As such, we recommend that the Peak Reduction  
17 EAM be calculated to remove the impacts of the Managed EV Charging EAM and other  
18 peak-reducing EAMs.

19 **Q. What is your recommendation?**

20 A. As this EAM appears to align Company incentives with desired policy outcomes, we  
21 recommend that this EAM be approved.

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<sup>29</sup> CEP testimony, p. 31.

1                   **6.1.3.4. System Efficiency EAM: DER Utilization**

2   **Q. Please describe how the Company proposes to modify its DER Utilization metric.**

3   A. Niagara Mohawk proposes that the minimum performance level to achieve incentives  
4       under this EAM be tied to 50 percent of interconnection queue DER projects in  
5       construction that move forward to interconnection. This is different than the incremental  
6       MWh min, mid, and max goals from the original EAM.

7   **Q. Do you have any concerns with the Company's proposed modifications to the DER**  
8       **Utilization metric?**

9   A. Yes. The CEP testimony does not specify criteria for DER eligibility. Neither the types of  
10       systems nor the sizes of systems have been specified. The Company's 2017 filing  
11       provides more description of this EAM,<sup>30</sup> but the current filing proposes to modify the  
12       existing EAM. Therefore, it is unclear if the same technologies (solar, combined heat and  
13       power, fuel cells, and battery storage) remain eligible for inclusion in this EAM metric.  
14       The Company also does not provide justification for the EAM in the context of current  
15       interconnection rules and regulations in New York. A 2015 study by the National  
16       Renewable Energy Laboratory found that a sample of applications in New York had a  
17       lower median process time than the national average, likely owing to New York's more  
18       stringent regulations limiting the timeframe for utility application review and approval  
19       and Permission To Operate.<sup>31</sup>

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<sup>30</sup> Case 17-E-0238 & 17-G-0239. Joint Proposal. January 2018. Appendix 7, p. 2.

<sup>31</sup> K. Ardani et al., 2015. *A State-Level Comparison of Processes and Timelines for Distributed Photovoltaic Interconnection in the United States*. Available at <https://www.nrel.gov/docs/fy15osti/63556.pdf>

1 **Q. Do you have other comments on this EAM?**

2 A. Yes. The formulaic approach makes this EAM somewhat less transparent. The Company  
3 has not provided estimates of the value of the DER Utilization metric incentive under a  
4 range of different DER interconnection scenarios, so that stakeholders and the  
5 Commission can easily compare the incentives for this EAM with incentives linked to  
6 other policy objectives.

7 Also, having an incentive based on \$/MW could encourage NiMo to prioritize larger  
8 projects over smaller, more distributed ones. NiMo's September interconnection queue  
9 shows 111 MW of projects with final letter of acceptance dates over a one-year period  
10 (from Oct. 1, 2019 to September 30, 2020) including sizable ones (e.g., 5 MW).<sup>32</sup>

11 **Q. What do you recommend?**

12 A. The Commission should not accept this proposal unless and until the Company provides  
13 more detail on this EAM, including the types of eligible DERs, the size of DERs, the  
14 value of this incentive under a range of different DER interconnection scenarios, and the  
15 justification for the EAM in the context of New York's Standard Interconnection  
16 Requirements. If this EAM is approved, the Company should track and report on the size  
17 of projects for which it receives incentives. If the proportion of smaller projects (i.e.,  
18 residential systems) relative to larger ones decreases over the next rate period, the  
19 Company should revisit the design of the EAM.

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<sup>32</sup> NY DPS. SIR Inventory Information. Available from, <https://www3.dps.ny.gov/W/PSCWeb.nsf/All/286D2C179E9A5A8385257FBBF003F1F7E>. Accessed Nov. 7, 2020.

1           **6.1.4. Disadvantaged Community EAMs**

2           **6.1.4.1. Disadvantaged Community EAM: School Bus Electrification metric**

3 **Q. Please describe the Company’s proposal for a School Bus Electrification EAM.**

4 A. The Company proposed this EAM metric to encourage the Company to deliver  
5 incrementally more school buses beyond the estimated vehicles enabled using approved  
6 funding.<sup>33</sup>

7 **Q. Please describe how the Company proposes to meet the School Bus Electrification**  
8 **metric.**

9 A. Within the Testimony of the Electric Vehicle Panel, the Company proposes to provide  
10 rebates for approximately 25 school buses and chargers exclusively in LMI and  
11 environmental justice communities. The rebates will help address the higher up-front  
12 costs associated with electric school buses.

13 **Q. Do you support the approval of the Company’s proposed Fleet EV Program as it**  
14 **relates to school bus electrification?**

15 A. Yes. We recommend that the Commission approve cost-recovery for the School Bus  
16 electrification program proposed as part of the Fleet EV Program. As the Company  
17 correctly notes, disadvantaged communities are more greatly impacted by air pollution  
18 from fossil fuel-based transportation. A program that targets the electrification of school  
19 bus fleets in these communities will not only reduce this health burden but will also  
20 contribute to the GHG reduction goals of the CLCPA.

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<sup>33</sup> CEP testimony, p. 31-32.



1 **Q. Do you support the adoption of an EAM for this program?**

2 A. No. While we support the Company in its efforts to create a new program that promotes  
3 the electrification of school buses in disadvantaged communities, we do not find that a  
4 performance incentive is warranted. The Company indicates that this EAM metric will  
5 encourage the Company to deliver incrementally more school buses beyond the estimated  
6 vehicles enabled using approved funding for the EV Fleet Program. This justification is  
7 flawed. The Company has not yet demonstrated its performance in delivering the planned  
8 number of school buses within its requested funding amount. In addition, the Company  
9 has not demonstrated why it requires an incentive to administer this program. The  
10 Company has an incentive to promote this program as it will lead to an increase in its rate  
11 base, e.g. on the electric infrastructure up to the charging station, on which it will be  
12 eligible to earn a return.

13 **6.1.4.2. Disadvantaged Community EAM: LMI Customer Savings metric**

14 **Q. What does the Company propose for electricity savings for low- and moderate-**  
15 **income customers?**

16 A. The proposed LMI Customer Savings EAM “is designed to maximize the outcomes and  
17 benefits achieved through the Company’s LMI Programs, directed by the NENY  
18 [Implementation] Order, to meaningfully improve LMI access to EE programs.”<sup>34</sup> The  
19 minimum lifetime savings targets correspond with the *Implementation Order’s* LMI  
20 annual electric savings targets, assuming a 7-year measure life.

---

<sup>34</sup> CEP testimony, p. 32.

1 **Q. What is your opinion of this EAM?**

2 A. This EAM appears to reflect NiMo’s prioritization of programs targeting the LMI  
3 customer segment. The state has clearly articulated that providing LMI customers access  
4 to energy efficiency is a priority. In 2016, the Commission launched its Energy  
5 Affordability Policy to limit energy costs for low-income New Yorkers to no more than 6  
6 percent of household income (i.e., an energy burden of 6 percent or less).<sup>35</sup> In recognition  
7 of the higher implementation costs and incentive levels of LMI programs, the  
8 *Accelerated Efficiency Order* exempts LMI energy efficiency investments from overall  
9 portfolio cost-effectiveness requirements.<sup>36</sup> The *Implementation Order* adopted the  
10 requirement that 20 percent of additional energy efficiency investment be dedicated to  
11 services for LMI households (LMI funding requirement).<sup>37</sup>

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35 Office of the Governor. *Governor Cuomo Announces New Energy Affordability Policy to Deliver Relief to Nearly 2 Million Low-Income New Yorkers*. May 19, 2016. <https://www.governor.ny.gov/news/governor-cuomo-announces-new-energy-affordability-policy-deliver-relief-nearly-2-million-low>, accessed November 16, 2020.

36 *Accelerated Efficiency Order*, p. 56.

37 *Implementation Order*, p. 103.

1 **Q. Do you have any concerns with this EAM?**

2 A. Yes. The barriers faced by low-income customers to participate in energy efficiency  
3 programs are generally larger than those facing moderate-income customers. Creating a  
4 single savings target for low- and moderate-income customers creates a risk that the  
5 Company will prioritize moderate-income customers, who can cost less to serve than  
6 their low-income counterparts.

7 Also, it is not clear why the Company assumes a relatively short measure life of seven  
8 years for this EAM. This may suggest that the Company plans to focus on lighting or  
9 other relatively short-lived measures, rather than deeper savings.

10 **Q. What do you recommend?**

11 A. To the extent that the Company has data to target low-income customers separately from  
12 moderate-income customers, it should break this EAM into two: an EAM that encourages  
13 lifetime savings for low-income customers, and a separate EAM for lifetime savings for  
14 moderate-income customers. This will ensure that the dedicated funds result in tangible  
15 benefits throughout the LMI sector. Also, the Company should explain the relatively  
16 short measure-life assumption.

#### 17 **6.1.5. Make-Ready Share the Savings EAM**

18 **Q. What is the Make-Ready Share the Savings EAM?**

19 A. The CEP testimony update included a proposal for two additional EAMs: Level 2 EAM  
20 metric and the DC Fast Charger EAM metric, within the Make-Ready Share the Savings  
21 EAM.

1 The Level 2 metric measures performance of the Level 2 portion of the Make-Ready  
2 Program, in terms of cost per plug, relative to forecast baseline costs established in the  
3 Make-Ready Program Order.

4 The DC Fast Charger EAM metric measures performance of the DC Fast Charger portion  
5 of the Make-Ready Program. This metric compares actual cost of the DC Fast Charger  
6 Make-Ready program relative to forecast baseline costs, in terms of kW of charging  
7 installed.

8 Niagara Mohawk proposes that incentives for these EAMs will be calculated as part of  
9 the midpoint review and at the end of the program in 2025.<sup>38</sup>

10 **Q. Why is the Company proposing these EAMs?**

11 A. The Company states that it is proposing the Make-Ready Share the Savings EAMs  
12 pursuant to the Commission's Make-Ready Program Order. That Order prescribes the  
13 investment types, formula and baseline costs for these EAMs. Niagara Mohawk has not  
14 provided any updates to the CEP exhibits to include these new EAMs.

15 **Q. What are your recommendations with respect to these EAMs?**

16 A. In the interest of transparency, the testimony and exhibits should be updated to clearly  
17 describe and incorporate the inputs, assumptions, and formulas that are applicable to  
18 Niagara Mohawk.

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<sup>38</sup> CEP testimony update, p. 5.

1       **6.2. Gas EAMs**

2               **6.2.1. Gas Energy Efficiency: Share the Savings**

3       **Q.     What does the Company propose with this EAM?**

4       A.     Like its proposal to modify its electric EAM, Niagara Mohawk proposes to modify its gas  
5               EE EAM to a Share the Savings model.

6       **Q.     Do you support an EAM rewarding natural gas savings through energy efficiency?**

7       A.     Yes. Gas efficiency savings are important because they are an essential component of the  
8               State’s medium- and long-term GHG reduction targets. Gas efficiency programs are often  
9               the least-cost way to reduce gas-related GHG emissions and can help avoid making new  
10              investments in gas infrastructure that might become obsolete well before its costs have  
11              been fully recovered, resulting in stranded costs that all customers will need to bear.<sup>39</sup>  
12              However, the Company’s energy efficiency programs should stop encouraging or  
13              supporting the installation of new, long-lived gas equipment. Such equipment installed  
14              today will be used over the next 20 to 30 years and will contribute to additional GHG  
15              emissions even as state policy calls for gas consumption to decrease in order to meet  
16              CLCPA’s long-term GHG reduction targets.

17       **Q.     How much does gas consumption need to be reduced to meet the CLCPA targets?**

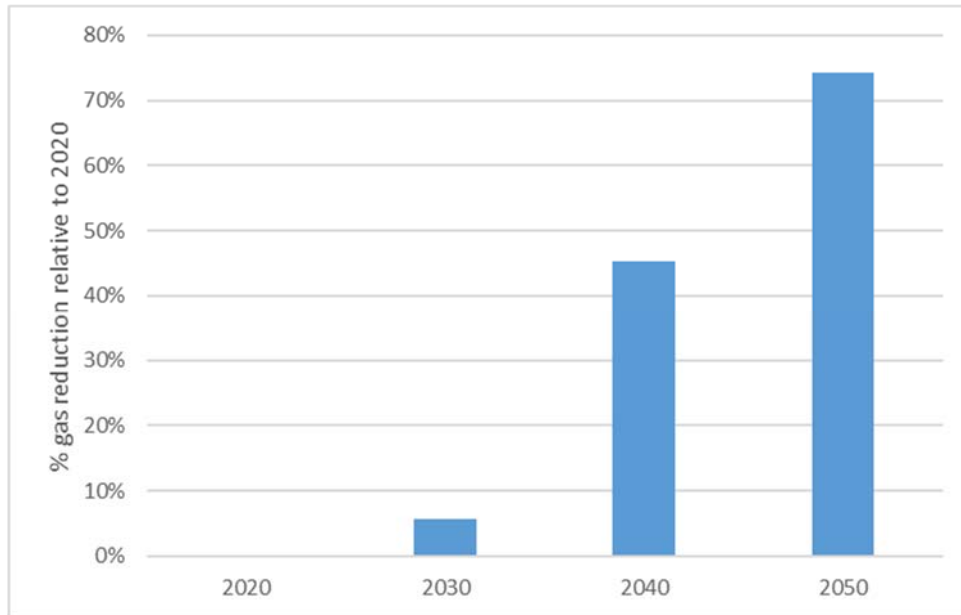
18       A.     According to E3’s 2020 paper, *Pathways to Deep Decarbonization in New York State*,  
19               prepared for NYSERDA, the state of New York needs to reduce gas consumption in the

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39 NY PSC, *Order Approving with Modification the Non-Pipeline Solutions Portfolio*, Case 17-G-0606, February 7, 2019, p. 35.

1 building sector by 45 percent by 2040 and 75 percent by 2050 relative to today's level in  
2 one of the scenarios analyzed in the study. This is shown in Figure 4 below.

3 **Figure 4. Building Gas Demand Reduction Needed to Meet CLCPA under E3 Study**



4  
5 *Source: Developed based on E3 study's Figure 13.*

6 We note that the CLCPA requires 85 percent reductions in emissions by 2050 from all  
7 sectors. In comparison, the E3 study assumes that gas consumption declines by less than  
8 its a pro-rata share of savings under the CLCPA, most likely because E3 assumes higher  
9 savings from other sectors (e.g., 100% renewable electricity in the electric sector) and  
10 through other measures such as carbon sequestration.

11 **Q. In light of these gas demand reduction requirements under CLCPA, are the**  
12 **proposed EAM targets reasonable?**

13 A. The proposed EAM targets are reasonable for the near term over the next several years.  
14 However, the Company needs to make some fundamental changes to its energy  
15 efficiency programs to prepare for the Company and the state to focus on the transition

1 away from gas to beneficial electrification and to achieve higher savings levels consistent  
2 with the CLCPA.

3 **Q. What are the fundamental changes required for Niagara Mohawk's energy**  
4 **efficiency programs?**

5 A. We recommend that the Company examine its energy efficiency offerings and eliminate  
6 rebates for long-lived gas consuming equipment. Instead, it should focus on gas  
7 weatherization measures (e.g., insulation, air sealing, tank and pipe wraps) as well as  
8 other gas reduction measures such as aerators, low-flow shower heads and heating and  
9 energy recovery ventilators. Further, in areas where NiMo only provides gas service, the  
10 Company should actively coordinate with overlapping electric utilities and provide  
11 customers with information about incentives and technical support from those entities on  
12 heat pumps.

13 **Q. What do you recommend with respect to the EAM?**

14 A. The targets and incentives for this EAM should exclude savings associated with rebates  
15 for long-lived gas consuming equipment.

1           **6.2.2. Gas System Efficiency**

2           **6.2.2.1. Gas System Efficiency EAM: Peak Reduction**

3   **Q. What is the proposed Gas System Efficiency Peak Reduction EAM?**

4   A. The CEP testimony indicates that this EAM is to optimize the load curve and potentially  
5       reduce gas supply costs for customers. It is measured as the summer gas system peak as a  
6       percentage of winter gas system peak.<sup>40</sup>

7   **Q. Do you have any concerns with this EAM?**

8   A. Yes. We have several concerns with this proposed metric.

9       First, it is not clear what is being proposed. Exhibit CEP-3 indicates that this EAM is  
10       defined as summer peak day as percent of winter peak day, which suggests Dth/Dth.

11       However, Exhibit CEP-3 indicates that the units are Dth/HDD (which presumably means  
12       Heating Degree Days). Dth/HDD is not transparent or straightforward.

13       Assuming this metric is calculated as summer peak as a percent of winter peak, the  
14       Company could increase load in the summer and not actually mitigate peak. This would  
15       go against the State's climate goals. The other way the Company could influence this  
16       metric is by reducing winter peak. However, the Company also proposes the Peak Hour  
17       Reduction metric, which also aims to reduce winter peak. This would lead to double-  
18       counting.

19       There is also no documentation around the benefits this metric would create for  
20       ratepayers and the environment. In Exhibit CEP-5: Summary of Gas EAM Net Benefits,

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40 CEP testimony, p. 34.



1 this metric does not avoid any gas or CO<sub>2</sub> emissions. Beyond the hypothetical statement  
2 that this metric will optimize load curve and potentially reduce gas supply costs, the  
3 Company has not demonstrated that benefits will be created from this metric. Therefore,  
4 the Company has not met its burden to justify why it should be eligible to earn an  
5 incentive.

6 **Q. What do you recommend?**

7 A. We recommend that the Commission reject this EAM. If the Commission decides to  
8 approve this EAM, at a minimum the Company would need to refine its proposal to  
9 include a clearer definition of the calculation of this metric, how it anticipates it would  
10 impact the outcome, and quantification of the potential benefits.

#### 11 **6.2.2.2. Gas System Efficiency EAM: Peak Hour Reduction**

12 **Q. What is the Company's proposal for the Gas Peak Hour EAM?**

13 A. This EAM would "incent the Company to reduce demand for gas at the winter peak hour,  
14 with the goal to minimize gas distribution system costs for customers."<sup>41</sup>

15 **Q. What is your recommendation?**

16 A. We support this EAM because it provides a means to reduce gas usage during winter  
17 peak. This should be the only Gas System Efficiency EAM as we find that the benefit of  
18 reducing winter peak hour reduction will also contribute to the Peak Reduction metric.

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<sup>41</sup> CEP testimony, p. 34.

1                   **6.2.2.3. Gas System Efficiency EAM: Renewable Natural Gas Cost**  
2                   **Containment**

3   **Q. What is the proposed RNG Cost Containment EAM?**

4   A. For this EAM, Niagara Mohawk proposes a metric to minimize the cost of RNG on a  
5       dollar-per-Dth-delivered basis.<sup>42</sup> More specifically, Exhibit CEP-3 shows that this metric  
6       is calculated as “Annual Incentive Cost \$/Rated Annual Capacity Dth.” However, it is not  
7       clear what the “Annual Incentive Cost” means.

8   **Q. Do you have any concern with the proposed RNG Cost Containment EAM?**

9   A. Yes. First of all, Niagara Mohawk provides no basis for the level of the proposed metric  
10       for the Min, Mid, and Max target levels. Without such data, we cannot assess how  
11       reasonable the targets are for the proposed RNG Cost Containment EAM. More  
12       importantly we believe Niagara Mohawk does not need any EAM for the cost of RNG  
13       because Niagara Mohawk already has an incentive to procure RNG at the lowest cost  
14       possible. Natural gas sales are expected to decline substantially over the next several  
15       years. Niagara Mohawk has a strong motivation to reduce the cost of RNG in order to  
16       stay in the natural gas business as long as possible.

17       Further, we have concerns that renewable natural gas is not compatible with the CLCPA.  
18       For example, processing this fuel to pipeline quality may not reduce lifecycle GHG  
19       emissions, because processing consumes energy. Any such fuels should be carefully  
20       assessed for emission impacts, including the potential for methane leaks. Further, indoor

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<sup>42</sup> CEP testimony, p. 35.

1 air quality impacts associated with these fuels should be assessed, because these fuels—  
2 like natural gas—could lead to indoor air quality problems.

3 **Q. What do you recommend?**

4 A. Any EAM metric regarding the cost of RNG is not necessary as mentioned above. Thus,  
5 we recommend Niagara Mohawk’s proposed RNG Cost Containment EAM should not be  
6 approved.

### 7 **6.2.3. Gas Disadvantaged Community Engagement**

#### 8 **6.2.3.1. Gas Disadvantaged Community Engagement EAM: LMI Customer** 9 **Savings**

10 **Q. What does the Company propose for gas savings for LMI customers?**

11 A. The proposed gas LMI EAM “is designed to maximize the outcomes and benefits  
12 achieved through the Company’s LMI Programs, as required by the NENY Order, to  
13 channel benefits to our most vulnerable customers.”<sup>43</sup> The minimum lifetime savings  
14 targets correspond with the *Implementation Order*’s LMI annual gas savings targets, with  
15 an implied average measure life of 10 years.

16 **Q. Do you have any concerns with the LMI Customer Savings EAM?**

17 A. Yes. For New York to achieve its CLCPA goals, natural gas usage will need to decrease  
18 substantially. As natural gas use declines, the fixed costs needed to maintain and operate  
19 the gas system will be spread out over fewer units of gas sales, which in turn will increase  
20 costs for those customers who remain on the gas system. Low-income customers face

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<sup>43</sup> CEP testimony, p. 35.

1 significant financial barriers and would not have the upfront capital needed to convert  
2 from natural gas to electric home heating and cooling systems. Low-income customers  
3 may be essentially locked into natural gas and potentially face even higher energy  
4 burdens than they experience today.

5 The Company's gas energy efficiency programs should not encourage or support the  
6 installation of new, long-lived gas equipment. When a utility incentivizes the installation  
7 of a new natural gas appliance or heating, venting, and air conditioning equipment at a  
8 property, the customer residing in that building is essentially locked into using natural gas  
9 for the next 20 to 30 years. This is especially important for the LMI customer segment,  
10 who may be unable to afford to switch away from fuel-consuming equipment later.

11 **Q. Do you have other comments on this EAM?**

12 A. Yes. Similar to the discussion on the electric version of this EAM, an EAM that  
13 addresses low and moderate income customers together may not ensure that the funds  
14 result in tangible benefits throughout the LMI sector, including those who are the most  
15 vulnerable.

16 **Q. What do you recommend?**

17 A. The Company should review its energy efficiency programs and eliminate incentives for  
18 long-lived gas equipment. Further, the targets and incentives for this EAM should  
19 exclude savings associated with rebates for long-lived gas consuming equipment. Also,  
20 the gas Disadvantaged Community Engagement EAM should be split into an EAM that  
21 encourages lifetime savings for low-income customers, and a separate EAM for lifetime  
22 savings for moderate-income customers.

1                   **6.2.3.2. Gas Disadvantaged Community Engagement EAM: Low-Income**  
2                   **Customer Geothermal**  
3

4   **Q. What does the Company propose for the Low-Income Customer Geothermal EAM?**

5   A. The Company proposes to create an EAM tied to the number of low-income customers  
6       who participate in its proposed program to provide cooling and heating services using  
7       geothermal shared loops—also called ground source heat pumps (GSHP). The Low-  
8       Income Customer Geothermal EAM targets a small number of customers, ranging from a  
9       total of 44 to 87 customers, over the 2021 to 2024 period.<sup>44</sup>

10 **Q. Please provide more information about the geothermal loop service program.**

11 A. The geothermal loop service program aims to provide up to 2,600 tons of geothermal heat  
12       pump capacity over a course of four years. This is equivalent to serving 650 customers on  
13       average, assuming a 4 ton system on average per customer.<sup>45</sup> The Company intends to  
14       solicit a range of customer types, including existing delivered fuels customers who are far  
15       away from the Company’s gas mains and new construction customers who would  
16       otherwise install gas heat supplied by the Company’s network. The Company is also  
17       considering “existing gas heat customers who are served by a segment of leak-prone pipe,  
18       as a way to avoid replacement of the leak-prone pipe and instead remove that segment  
19       from service.”<sup>46</sup>

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<sup>44</sup> Exhibit CEP-3.

<sup>45</sup> Future of Heat (FOH) Panel testimony, p. 29.

<sup>46</sup> FOE Panel testimony, p. 30.

1 Niagara Mohawk envisions that its role would be “limited to owning, operating, and  
2 maintaining the geothermal ground loop”<sup>47</sup> and that a vendor selected by the Company  
3 for the installation of the ground loop “would continue to contract directly with the  
4 customer for the installation and maintenance of the above-ground heat pump  
5 equipment.”<sup>48</sup> The Company proposes a fixed fee of \$22.69 per month per ton of heat  
6 pump capacity per participant, with a minimum charge of \$68.07 per month, equivalent  
7 to the charge for a 3-ton system.<sup>49</sup> This fee would cover the cost of the ground loop  
8 system and excludes the cost of the above-ground heat pump equipment, which  
9 customers would pay directly to the vendor. Notably, the Company requests that  
10 geothermal assets be treated as regulatory assets and proposes to amortize the costs over  
11 fifty years.<sup>50</sup>

12 **Q. What are your thoughts on the proposed geothermal loop service program?**

13 A. This program has the potential to offer benefits, especially to the extent that it targets gas  
14 heat customers who are served by a segment of leak-prone pipe to avoid investments in  
15 pipe replacement, which could become stranded assets as New York pushes forward with  
16 CLCPA compliance. Also, this service can stabilize energy costs and may prove  
17 economically attractive relative to expensive bottled gas or other delivered fuels, which  
18 are common heating sources for customers in remote locations.

19 **Q. Are there any issues with the proposed Low-Income Customer Geothermal EAM?**

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<sup>47</sup> FOH Panel testimony, p. 35, lines 18-19.

<sup>48</sup> FOH Panel testimony, p. 36, lines 3-4.

<sup>49</sup> FOH Panel testimony, p. 37.

<sup>50</sup> FOH Panel testimony, p. 31.

1 A. Yes. The Company's filing lacks important information about the proposed geothermal  
2 program and the associated Low-Income Customer EAM. While the Company provided  
3 information on the incentive amounts for the proposed EAM,<sup>51</sup> it has not provided  
4 information on program costs and benefits, including expected energy and CO<sub>2</sub> savings,  
5 associated with the portion of the proposed geothermal service program serving low  
6 income customers.<sup>52</sup> Without these cost and benefit estimates, we have no way to assess  
7 the reasonableness of the proposed EAM incentives.

8 **Q. Are there any other issues with the proposed Low-Income Geothermal Customers**  
9 **EAM?**

10 A. Yes. Besides the lack of information, we are concerned that the cost of the proposed  
11 service and the associated monthly charge (a minimum of \$68 per month) may be too  
12 expensive, in particular for low-income customers. We anticipate that low income  
13 customers will not be able to afford such expensive heating services. Further, we note  
14 that the Company has not provided a comparison with other technologies. For example,  
15 air source heat pumps are generally more affordable than geothermal heat pumps.<sup>53</sup>  
16 Additional justification for the program, including associated costs, analysis of  
17 alternatives, and a business plan, would be helpful in this regard. Further, information on  
18 whether the Company would offer additional incentives or assistance to enable LI  
19 customers to participate in the program should be provided.

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<sup>51</sup> Exhibit CEP-7.

<sup>52</sup> CEP-5CU of Corrections and Updates Testimony of the Customer Energy Panel.

<sup>53</sup> Based on the 2017 NYSERDA study *Renewable Heating and Cooling Policy Framework*, the installed cost of GSHPs is about 3 times more expensive than the cost of ASHPs.

1 **Q. Please explain your concern about the cost of the proposed geothermal shared loop**  
2 **service program.**

3 A. The Company's proposal lacks information on other costs that participants would incur.  
4 Costs that are not covered by the Company's monthly fee could be substantial. According  
5 to the 2017 NYSERDA study *Renewable Heating and Cooling Policy Framework*, the  
6 cost of drilling (including the cost of underground pipes, corresponding to the ground  
7 loops) accounts for just 32% of the total installed costs of GSHPs. This means that  
8 participants may need to pay as much as than 3 times as much as the Company's  
9 proposed monthly fee, as the fee only covers roughly 30% of the total costs.

10 **Q. What do you recommend?**

11 A. The Commission should not approve the LI Customer Geothermal EAM based on the  
12 information provided by Niagara Mohawk. The company should provide the following  
13 additional information about the LI geothermal EAM program if it wishes to pursue this  
14 EAM:

- 15 • expected energy and CO<sub>2</sub> savings and expected benefits associated with the EAM  
16 targets
- 17 • program costs for the EAM targets with a detailed breakdown of capital and O&M  
18 costs
- 19 • estimated additional costs that participating customers will incur for installing  
20 geothermal heat pump systems (including the installed cost of heat pumps and ducts  
21 and any other contractor costs)



- 1           • additional incentives or assistance, if any, the Company would provide to enable LI  
2           customers to participate in the program

3 **7. SUMMARY OF RECOMMENDATIONS**

4 **Q. What are your overall recommendations for improving Niagara Mohawk's**  
5 **proposed EAMs?**

6 **A. Table 8 provides a summary of our recommendations.**

1

**Table 8. Recommended Modifications to EAMs**

<b>Electric or Gas</b>	<b>Proposed in current filing</b>	<b>Recommended Modifications</b>
Electric	Energy Efficiency EAM: Share the Savings	Modify the EAM to be based on net benefits of lifetime efficiency savings, or add a separate EAM for deeper energy efficiency savings
	Beneficial Electrification EAM: Building Electrification	Raise targets for this EAM.
	Beneficial Electrification EAM: Transportation Electrification	Eliminate this EAM.
	System Efficiency EAM: Peak Reduction	Modify the targets and incentive levels, or eliminate this EAM.
	System Efficiency EAM: Load Factor metric	Eliminate this EAM.
	System Efficiency EAM: Managed EV Charging	None.
	System Efficiency EAM: DER Utilization (modified)	Provide additional information on the EAM.
	Disadvantaged Community Engagement EAM School Bus Electrification metric	Eliminate this EAM.
	Disadvantaged Community Engagement EAM LMI Customer Savings metric	Split the EAM into two: one for low-income customers, and another for moderate-income customers.
	Make-Ready Share the Savings EAM	Provide additional information on the EAM.
Gas	Gas EE EAM: Share the Savings	Eliminate savings associated with rebates for long-lived gas consuming equipment.
	Gas System Efficiency EAM: Peak Reduction	Eliminate this EAM.
	Gas System Efficiency EAM: Peak Hour Reduction	None.
	Gas System Efficiency EAM: Renewable Natural Gas (“RNG”) Cost Containment	Eliminate this EAM.
	Disadvantaged Community Engagement EAM: LMI Customer Savings	Eliminate savings associated with rebates for long-lived gas consuming equipment.
	Disadvantaged Community Engagement EAM: Low-Income Geothermal	Provide additional information on the EAM.

2

3 **Q. Does this conclude your direct testimony?**

4 **A.** Yes, it does.