NEW YORK GEOTHERMAL ENERGY ORGANIZATION

Re: CASE 18-M-0084 and 14-M-0094
In the Matter of a Comprehensive Energy Efficiency Initiative & Proceeding on Motion of the Commission to Consider a Clean Energy Fund

Introduction

*The **New York Geothermal Energy Organization (NY-GEO)** submits the following feedback to the Public Service Commission regarding case 18-M-0084; In the Matter of a Comprehensive Energy Efficiency Initiative and 14-M-0094; Proceeding on Motion of the Commission to Consider a Clean Energy Fund. This feedback is from a series of NY-GEO member discussions based on PSC questions, review of utility working group conference summaries and previous NENY related historical documents. Our comments relate to the Non-LMI Income questions.*

Strategic Framework

I. General quality & responsiveness of the Proposals

- Which proposed deviations from the Strategic Framework do you support or oppose and why?

NY-GEO fully supports the new Strategic Measures and suggests 100% of the funding be used to achieve them while eliminating any funding for Neutral Measures.

Hybrid heating systems, as included in several utilities' long term gas planning documents, should not be funded under NENY because they do not permanently reduce and/or eliminate on-site combustion of fossil fuel usage, they allow for the continuation of expensive and long-lived gas infrastructure and they provide a less than optimal answer to energy/emission savings when compared to ground source heat pumps (GHP's). Initiatives involving renewable natural gas and hydrogen should not be included in any EE/BE program(s). A hybrid system serves the gas companies' agenda to keep the gas distribution system operational, and due to the lack of significant gas sales, at a significant cost to the rate payer.

Technology Neutrality - The Commission and the Department of Public Service staff have been consistent in insisting on technology neutrality in its decisions and initiatives. The basic thrust has been to identify goals and invite all technologies to meet those goals on equal footing. It will be important for the next phase of the NENY process to ensure that incentives and initiatives do not preclude effective technologies in a biased or exclusive manner.

A current example of that can be found in the National Fuel Gas (NFG) Long Range Plan (LRP) which received a critical response from the Commission, Charles River Associates - the consultant the Department of Public Service hired to evaluate the plan - and several of the parties to the NFG LRP. On December 14, 2023, the Commission issued its *Order Implementing Long-Term Natural Gas Plan with Modifications* in Case 22-G- 0610. Point 8 of the Commission's order stated:

"*8. National Fuel Gas Distribution Corporation is directed to file with the Secretary to the Commission, within 90 days of this Order, a proposal explaining how it will revise its Partnership for Urban Revitalization in Western New York to encourage electrification and remove any incentives for additional natural gas usage.*"

In its March 13, 2024 *Proposal to Revise Partnership for Urban Revitalization in Western New York Program*,[1] (Thereafter referred to as PUR), NFG proposes a technology specific program for its Western NY customers, stating:

"*In its focus on these three types of properties / residential structures in DAC neighborhoods, the revised PUR program will seek to implement weatherization, electrification, and resiliency measures as outlined in the table below.*"[2]

	Weatherization	Electrification	Resiliency
Vacant Lot/New Construction	Insulation	1. ccASHP (preferred) 2. Hybrid Heating System (if ccASHP not feasible)	Install standby generator
Substantially renovated/Gut rehab	Insulation	1. ccASHP (preferred) 2. Hybrid Heating System (if ccASHP not feasible)	Install standby generator
Existing occupied structure/customer	Insulation & air sealing	1. Hybrid Heating System	Install standby generator

The company also notes: "*Additionally, the Company's proposal to modernize its PUR program will also target existing homes within DACs by offering financial incentives for home weatherization measures, installing energy efficient Hybrid Heating Systems ("HH Systems"), and natural gas back-up power generators. A HH System is defined as an electric air source heat pump ("ASHP"), cold climate ASHP ("ccASHP"), or mini-split heat pump ("Mini-Split")*

[1] NFGDC PUR-WNY Proposal (22-G-0610) (3.13.24).pdf – item #60 - https://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?MatterCaseNo=22-G-0610&CaseSearch=Search accessed2024 05 12

[2] Ibid., page 4.

paired with a furnace or boiler heating system utilizing natural gas or a mixture of natural gas, renewable natural gas, or hydrogen to meet a customer's heating needs."[3]

In addition to the points raised above regarding hybrid systems that include fossil fuel use, it is important to note that National Fuel's PUR plan is NOT technology neutral. It specifies air source heat pumps. A technology neutral specification might set a standard for heating units that are CO2e emission free on-site. This standard would meet the Commission's interest in reducing GHG emissions while essentially giving customers a choice between air source and ground source heat pumps.

Moreover, the specification of gas-fired standby generators serves the company's interest in extending or maintaining gas service to each property, but works against ratepayers by building in unnecessary and expensive gas infrastructure they will be paying for over several decades.

Rate payer funding of energy audits - Regarding "Prohibited Measures after 2025", NY-GEO supports DPS's proposal including elimination of ratepayer funded energy audits. However, we believe that energy audits can be an important customer educational and behavior change tool; thus, we encourage utilities, DPS and NYSERDA to continue promoting the benefits of an energy audit with outreach and non- ratepayer funded incentives.

II. Proposed Portfolios

- Do the proposal(s) sufficiently identify and address barriers to adoption of energy efficiency, including weatherization, and/or building electrification? Describe other approaches and/or program designs, if any, that you believe could better address these barriers.

Current building and building energy codes, not being consistent/supportive with either the CLCPA or Scoping Plan, are a significant barrier. Utilities should create proposals that would meet stricter building codes formulated to meet CLCPA and Scoping Plan mandates/suggestions regardless of whether the Building Code Council adopts more stringent measures in 2024. Building codes for new buildings and retrofits must specify the proper balance between electrification and weatherization. As mentioned in the above comments, hybrid heating systems combining fossil fuel and air source heat pump (ASHP) technology serve as a barrier to building electrification and should not be allowed or subsidized. Only full electrification should be subsidized. Whether it is new build, rehab, or an existing building geothermal is the only electric technology that does not need hybrid/supplement electric heat.

Financing is a very large barrier. NY-GEO is very supportive of Orange *and Rockland's experience in New Jersey which involves partnering with financing companies to implement interest rate buydowns which will help with affordability and simplicity.*

[3] Ibid., page 5

- Within the budget guidelines indicated by the Order Directing Proposals, do the proposals reflect an appropriate budget and resource allocation among program areas? If not, how should resources be allocated differently?

The Climate Action's Council's Final Scoping Plan projects that 20 –23% of heat pumps to be installed statewide will be ground source (Integration Analysis Appendix G. Page 133, table 19). Each utility budget proposal should specifically allocate funds, at a minimum, to achieve this level of ground source heat pumps (GHP's). Given the November 2023 U.S. Department of Energy report "Grid Cost and Total Emissions Reductions Through Mass Deployment of Geothermal Heat Pumps for Building Heating and Cooling Electrification in the United States" which highlights significant benefits to the electrical grid, electricity savings to all customers, reductions of the marginal cost of electricity decarbonization and human health, NY-GEO recommends that utility budgets allocate up to 50% of electrification budgets for ground source heat pump installations and supporting infrastructure.

IV. Flexibility

- Which proposal(s), if any, provide a reasonable structure for providing flexibility to program administrators to shift targets and/or budgets across years while maintaining accountability to appropriately manage their portfolios and ensure acceptable progress toward the underlying objectives of the Commission's EE/BE strategic framework.

In an effort towards greater simplicity, more widely accepted standards and more frequent updated information, NY-GEO supports a change away from/elimination of the NEEP standard of ccASHP in favor of the Energy Star system where the standard is based on efficiency rather than output. The Energy Star method also considers both low temperature efficiency and capacity. This applies to all utilities.

V. Metrics

- Should the Commission establish the same or different metrics for different program types (e.g., EE programs, BE programs, Weatherization programs, Market Transformation programs), and should those metrics be common across all Program Administrators? Which metric or metrics should be used as a key performance indicator from which target(s) should be established, and why?

Lifetime energy savings, both direct and indirect, from electrification and building envelope should be one of the metrics along with annual and lifetime greenhouse gas emission reduction for both electric and gas initiatives. In addition, peak shaving/peak reduction/peak avoidance should be measured. MMBTU's should be eliminated and KWh's should be substituted to measure energy savings. KWh's should be used to measure peak demand savings on the hottest and coldest days. For specific equipment such as space heating/cooling and hot water heating systems Coefficient of performance (COP) on the hottest and coldest days/hours of the year should be measured, reported

and used as a basis for incentives. In addition, NY-GEO endorses inclusion of bill savings as a standardized metric across all utilities.

- What are the relative strengths and weaknesses of the specific metrics identified within the proposals? Are there other metrics you would recommend?

Lifetime energy savings, both direct and indirect, should provide the kind of information that all stakeholders (ratepayers, program administrators, DPS staff and the public) can use to create market certainty and long-term investment/business decisions.

Measurement and comparison will be important. NY-GEO has long been interested in ways to communicate the beneficial impact geothermal technology has on limiting electrical grid expansion and infrastructure costs as electrification and decarbonization move forward. A very pertinent aspect of this is peak shaving/peak reduction. We would like to request 1) expanding the metrics to include information on grid infrastructure cost savings resulting from the proposed projects and 2)-the impact of these projects on peak shaving/peak reduction/peak avoidance.

VI. Cost Recovery

- Is it beneficial to adopt a consistent cost recovery method across all program administrators? Why or why not?

Central themes of NY-GEO's feedback are transparency, consistency and simplicity. While utility service areas will have differences, scaling of the EE/BE industries would benefit from a consistent cost recovery method. The CLCPA and Scoping plans impact the entire state of NY and standardized cost recovery methods will foster the consistency needed to analyze impacts of EE/BE decisions.

VII. Leveraging Federal or Other Funds

- Do the proposals demonstrate how ratepayer funded programs will coordinate with/benefit from federal or other funding sources? If not, what would you propose?

NY-GEO fully supports the use of "stacking" and coordination of federal and other funding sources but is unable to distinguish how well the integration with all utilities is at this time. Orange and Rockland have proposed a financing program that would "buy down" interest rates which will help with affordability and simplicity.

VIII. Company Specific Proposals

- Central Hudson - Should the proposal for $5.9 million additional/continuity funding from Central Hudson for their NYS Clean Heat Program through 2025, be approved, rejected or modified?

On 3/23/23 NY-GEO submitted a letter of support to The NYS Public Service Commission supporting Central Hudson's additional funding

IX. Additional comments on collective or individual proposals

- Provide any other comments not covered in sections above.

NYSERDA's workforce development strategy and funding allocation concern union workers. However, it does not include non-union workers in need of assistance in parts of NY State where unions do not exist or are not a significant part of the local workforce. NY-GEO recommends allocating a portion of the funds to non-union workforce development.

Market stability/predictability is a key element in the success of this EE/BE effort. Contractors, customers, lenders and investors will respond positively if there is some level of certainty in the quality, duration, simplicity, transparency and consistency of these programs. As much as possible there should be transparency by utilities which includes an increase in stakeholder opportunities to provide feedback well in advance of program implementation.

Amortization of heat pumps should reflect the difference between useful lives of ground source heat pumps (GHP's) and air source heat pumps (ASHP's). Useful lives of GHP's are 25 years versus ASHP's 15 years according to the NYS Technical Resource Manual. Depending on the percentage of systems installed, the impact on portfolio budgets could provide the utility with an incentive to promote GHP's.

Electric rates that are based on load factors should receive mention within this case based on the savings from heat pump technologies for heating/cooling identified in ConEdison's SC1-IV select rate study. Recognizing rates can be confusing to even a knowledgeable building owner, and that trial and error may be the best teaching tool, a guaranteed rate program should be standard, allowing a customer to experiment without financial risk and switch back if their old rate was better. In addition, rates will need to incorporate possible different behaviors depending upon whether customers have heat pumps, solar panels and electric vehicles.

Some final points on various heating options:

- *ASHP alone would be detrimental to the grid. While reducing overall emissions and reduce electricity compared to electric resistance heat, they would dramatically impact the load factor negatively, and therefore increase the costs to the ratepayer, due to the high peak load during extreme cold outside air temperature.*

- *Hybrid systems would reduce the load factor, since they would supplement the heating load during cold weather extremes, but would also require to keep the gas distribution network in place, without being cost effective, especially when leaking distribution pipes need to be replaced.*

- *Geothermal systems are reducing both the peak load and annual load by about 70%, due to extracting stored thermal energy from the ground. GSHP have demonstrated in thousands of installations resilience and no negative peak impact on the grid.*

About NY-GEO:
The New York Geothermal Energy Organization (NY-GEO) is a non-profit trade organization representing geothermal heat pump (GHP) installers, manufacturers, distributors, drillers, consultants and industry stakeholders from throughout New York State and beyond.

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