



**New York Chapter
Association of Energy Engineers**

[Comment on Proposed Rules for a new section 103-17 to Chapter 100 of Title 1 of the Rules of the City of New York to establish procedures for reporting on and complying with annual greenhouse gas emissions \(Local Law 97\). Submitted 10-24-2023.](#)

The NY Chapter of the Association of Energy Engineers, the city's longest standing professional group dedicated to professional education and development around energy efficiency and alternative energies, is supportive of the goals of NYC LL 97 and is pleased to have the opportunity to comment on the current round of rules proposed by NYC DOB for implementing the law. Our chapter consists of energy professionals with many decades of experience working with New York City buildings and property owners, all of us trying to work toward these same emissions reduction goals. We are concerned with some of the broad concepts introduced by the current Proposed Rules and also with various specifics and language.

COMMENTS ON ARTICLE 320

GHG Credit / Coefficient for Beneficial Electrification (page 12) Our most significant concern with Article 320 is the treatment of the Credit / Coefficient for Beneficial Electrification, which further and artificially lowers the emissions calculated for buildings with heat pumps. As with our previous comments (of 11-14-22), we are concerned with GHG Coefficients created for electrification incentive purposes that are likely to mislead with a falsely high projection of the emissions impact of an investment. The rules already provide a 2030-34 emissions factor that cuts deemed electric emissions in half. Yet recently the NY offshore wind project developers have requested (and been refused) increased rates, suggesting that the NYS wind path is uncertain but likely to follow what has already occurred in Connecticut and Massachusetts where utilities and developers have been withdrawing wind projects. We believe this requires re-adjusting the 2030 emissions factors for electricity to higher, not lower, values more representative of likely grid emissions over the next decade. In such a market environment, a further (Beneficial Electrification) credit can push buildings to spend significantly to install equipment that will end up adding more CO₂ to the atmosphere for the many years before the "green grid" actually becomes a reality. Wouldn't near-term investment be better directed into energy-use reductions, such as envelope improvements and steam conversions to hot water heating, rather than premature investment in heat pumps?

Further, we fear that the BE credit encourages investments that not only have near-term negative carbon impacts but also drive-up operational costs. Since both project developers and Con Edison must recover their costs and earn profit, cost and price of a kWh of electricity are likely to increase. While the BE credit may reduce the cost of installing new equipment and avoid fines, it will not offset the higher costs of operating new heat pump equipment. What will happen to owners and residents should the cost of operation become overwhelming?

We further note that, in so far as the purpose of the BE credit is to create a rapid and widespread shift to heat pumps, there is uncertainty that the electric grid will be uniformly ready across all locations in time to handle the additional electric load that may result from this credit, given the

short timeframe of potential response (5 to 7 years) and the time it takes to upgrade electrical infrastructure. Con Edison must weigh-in on this as they are responsible to mitigate risk of scattered blackouts in neighborhoods with insufficient reinforcement, exposing residents with no backup generation installed to adverse health and safety conditions.

Some Specifics

Applying and reserving beneficial electrification GHG savings (page 15, paragraph c) – the language is unclear, confusing and in need of clarification and explanation.

Heat Pump Efficiency (page 7), we appreciate that a minimum efficiency level has been specified for the last 4 rows in the heat pump chart but the language in the text requires a COP of 1.5 at temperatures below 5 dF.

Decarbonization Plan requires clarification: Does every property need to submit a Decarbonization Plan (as implied on p4) or only as one possible element in establishing “good faith effort” (as suggested on p5)? What is the meaning of the 100% limitation on RECs for those pursuing the “Decarbonization Plan pathway”? Does this mean that no (0) RECs will be allowed? Does this mean that RECs can be used only up to 100% of current electric consumption, as has been previously suggested (ie – not used to displace fossil fuel)?

Fast Food Establishments. This is a separate category in Portfolio Manager and should be restored under LL 97 rules, as such establishments have a higher EUI than traditional restaurants which should be taken into account in establishing a building’s overall GHG allowance.

Coordination of calculations and values (page 13). We recommend that Equation 103-14.14 for Deemed Electric Use values, for Equivalent Full Load Hours (ELFH) and for Daily Hot Water Usage (GPD) reference the current (at the time of reporting) New York State Technical Reference Manual (TRM) as issued by the NYS Public Service Commission for energy savings calculations. This would avoid confusion. More broadly, we also suggest the City begin a coordinated effort with the NYS PSC, NYS DEP and NYSEDA regarding calculations and parameters used. A

COMMENTS ON ARTICLE 321

Covered Building List. Will the City issue a separate Covered Building list for Article 321?

Timing of Provisions. When will the Article 321 reporting guide be issued with sampling requirements for the Prescriptive Energy Conservation Measures (PECMs) Report and additional clarifications along with reporting templates for the four (4) detailed PECMs? How soon before Dec 2024 will this be available? *These reporting requirement details are needed by property owners and energy professionals to develop work scopes and pricing within the required timeframe for compliance.* It is imperative to get these reporting requirements as soon as possible because unknown requirements are causing undue delays. Service provider can not properly price cost of their services and owners are reluctant to sign contracts without knowing clear requirements.

Penalties (page 13 103-17 € *Penalty for failure to demonstrate energy conservation measures as required in section 28-321.2*). Our understanding is that the penalty for non-compliance would be assessed twice, one for failing to submit a report and a second time for failing to complete

installations. Many owners may choose to simply pay the penalty as the compliance costs can readily exceed \$20,000. To address this issue, penalties should be **assessed each year that the building remains out of compliance.**

Compliance Options. Are there only two options for Article 321 buildings: comply with 2030 emission levels (p 5) or follow the Article 321 (p6) prescriptive measures route? Can Article 321 covered buildings instead follow the Article 320 route?

Overall Adequacy of the Article. Broadly speaking, Article 321 Prescriptive Measures for Affordable Housing fails to meet the intent and spirit of the law (Local Law 97). It leaves this category of buildings far short of the law's targeted carbon reductions, apparently with a one-time-and-done compliance requirement. Many of the PECMs are, essentially, measures of good Operation & Maintenance (O&M) practice which, as such, must be continued over time; the Article's specification of a one-time report in no way takes into account the needed periodic repetition of required actions to maintain "good working order" over time. Moreover, the phrase "good working order" is vague, subject to varying interpretations, and may not reflect good energy efficiency.

In allowing this compliance path, low-income affordable housing is potentially separated from the public policy efforts and benefits articulated in the City's recent "*Getting LL 97 Done*" report, which suggests focusing multiple programs and resources on renovations and improvements that will provide superior building performance and housing conditions. Under Article 321 provisions, our housing most in need is left out of this improvement process. Instead of providing an "easy-out", this sector would be much better served by being joined in concerted public effort to fully meet the law's intent.

Prescriptive Measure Improvement. We realize that the rule-making process is not the place to change provisions of the law. However, we suggest improvements within the PECM framework that would support housing operators in sustaining a long-term program of energy efficiency as a part of "good working order." We address this in terms of specific PECMs below, in particular by replacing one-time measures with measurement indicators; with today's IT technologies, such indicators can quite feasibly and cost-effectively incorporate cloud-based remote-read capabilities. Such capabilities would support remote management and 3rd party service providers in maintaining consistently low carbon-emission performance over the long-term to 2050.

(PECM 2) Repair heating system leaks. One-time visual inspection for leakage is of limited value. Instead, the rule should be phrased to require monitoring for leakage on an on-going basis. This is enabled by the permanent installation of one or more water meters at key locations, in particular at the boiler feed, and training for how to read, record and interpret. Many, if not most, leaks are not readily found by walk-through visual inspection and search for them must be initiated based ongoing measurement that can reveal when significant leakage develops. With current technology, it is very affordable to have such meters read remotely, enabling remote managers and/or 3rd party service-providers to monitor (and be held accountable). For best practice, this provision can be readily and with little additional expense be extended to the full water system.

(PECM 3) Heating system function.

The "Heating system function" section calls for the system to be "functioning in good working order" which is not a well-defined term. We suggest referencing the same set of

operational standards called for in the latest LL 87 rules which clearly define required measurable operating parameters. We note, though, that these operating parameters go out of adjustment easily and thus the decadal requirement of LL 87 is a poor indicator of consistent performance. An improvement would be the installation of key-parameter monitoring devices (in the case of a boiler, for temperature and oxygen in the boiler exhaust), especially sensors with remote-read capability.

(PECM 4) Temperature controls or enclosures for radiators.

This is the most capital intensive of the PECMs but has a high likelihood of not achieving the intended goal of moderating apartment temperatures. Without a high-temperature limit (of, say, 75 dF), we believe, based on our collective experience, that most residents will set the maximum heat to be delivered and use their windows (as they have learned from past experience) to regulate the temperature. Should a temperature limit be set and found objectionable, TRV on one-pipe steam systems are easily removed and replaced with a standard air vent by anyone with a pair of pliers. From a purely techno-economic perspective, we believe that thermostatic radiator valves (TRVs) should be strategically installed exclusively in areas prone to overheating. Mandating TRVs for every single radiator imposes an unjustifiable cost burden on property owners, with no substantial return in terms of cost savings, energy efficiency or carbon/GHG reduction.

In our view, instead of mandating the installation of thermostatic radiator valves (TRVs) or controlled radiator enclosures, we suggest requiring – or allowing as an alternative - a remote sensing installation, as the basis for or as part of a remote-enabled Energy Management System (EMS). The EMS would enable real-time monitoring and recording of space temperatures, facilitate the strategic balancing of heat distribution, and incorporate monitoring of boiler performance and leak detection, as suggested above. Such an EMS could be allowed as an alternative to PECMs 2, 3, 4, 7 and 9, at similar cost yet providing the basis of a long-term solution and sustained carbon reduction.

We recognize that reversing the one-time-and-done nature of Article 321 may be difficult under rule-making but we suggest that, based on the use of a remote-monitoring/EMS system, owners could be provided with an incentive to implement an annual performance report, supplemental to LL 84, on the specifics addressed by 321. This would encourage good management in maintaining efficient operation of affordable housing. We would be happy to provide input on what such a report might look like and how it could be auto-generated from an EMS.

(PECM 7) Indoor/outdoor temperature sensors.

This section needs clarification. A predominance of multifamily buildings have a HeatTimer or similar heating system control, which have an outdoor and at least one indoor sensor (or proxy measurement). Does such a control satisfy this requirement? If so, there is little or no performance improvement. If, instead, a more robust deployment of indoor temperature sensors is the intent, then it is consistent with what we have suggested in the section above.

(PECM 9) Steam system venting.

This measure requires air-venting of steam mains and at the tops of all risers, called “Master Venting” as a means of promoting balanced steam distribution and, ultimately, even heating. The measure has several weaknesses:

- Large vents at the tops of risers pose risk of significant unrecognized steam leaks if valves fail open, which is common with incorrect installation;
- Case-specific engineering is necessary to achieve the correct venting at each location, based on particular piping layout;
- There is no test established to show proper installation and performance; an improvement for this PECM would be a steam travel time test, as required under LL-87.
- Temperature balance, the ultimate objective of steam system venting, would be better achieved with actual temperature measurement, as has been recommended above, on an on-going monitored basis.
- Without improved provisions, the current language leaves the door open for charlatans to collect fees for compliance, rather than for achieving positive outcomes.

This PECM would be better implemented and maintained over time based on actual recorded temperatures and leakage monitoring as suggested above.

(PECM 12) Exhaust fan timers.

This section only refers to the exhaust fan timers and should also include the fans themselves. Again, clarification of “good working order” is required.

(PECM 13) Radiant barriers.

Inspection should confirm that these are NOT touching the radiator otherwise there will be loss through conductive heat transfer

COMMENTS ON LL-88

Will there be a separate Covered Building list for LL-88?

We thank you for this opportunity to provide the City with comments on its proposed rules for LL97.

Respectfully submitted 11-14-22 on behalf of the AEE-NY Board of Directors, by working group members,

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