



Course # S071024A

LOCAL LAW 97: Prescriptive Energy Conservation Measures

Presented by
Emily Hoffman (PE, CEM, LEED AP) and Jean Kim (RA, CEM, CPHD)

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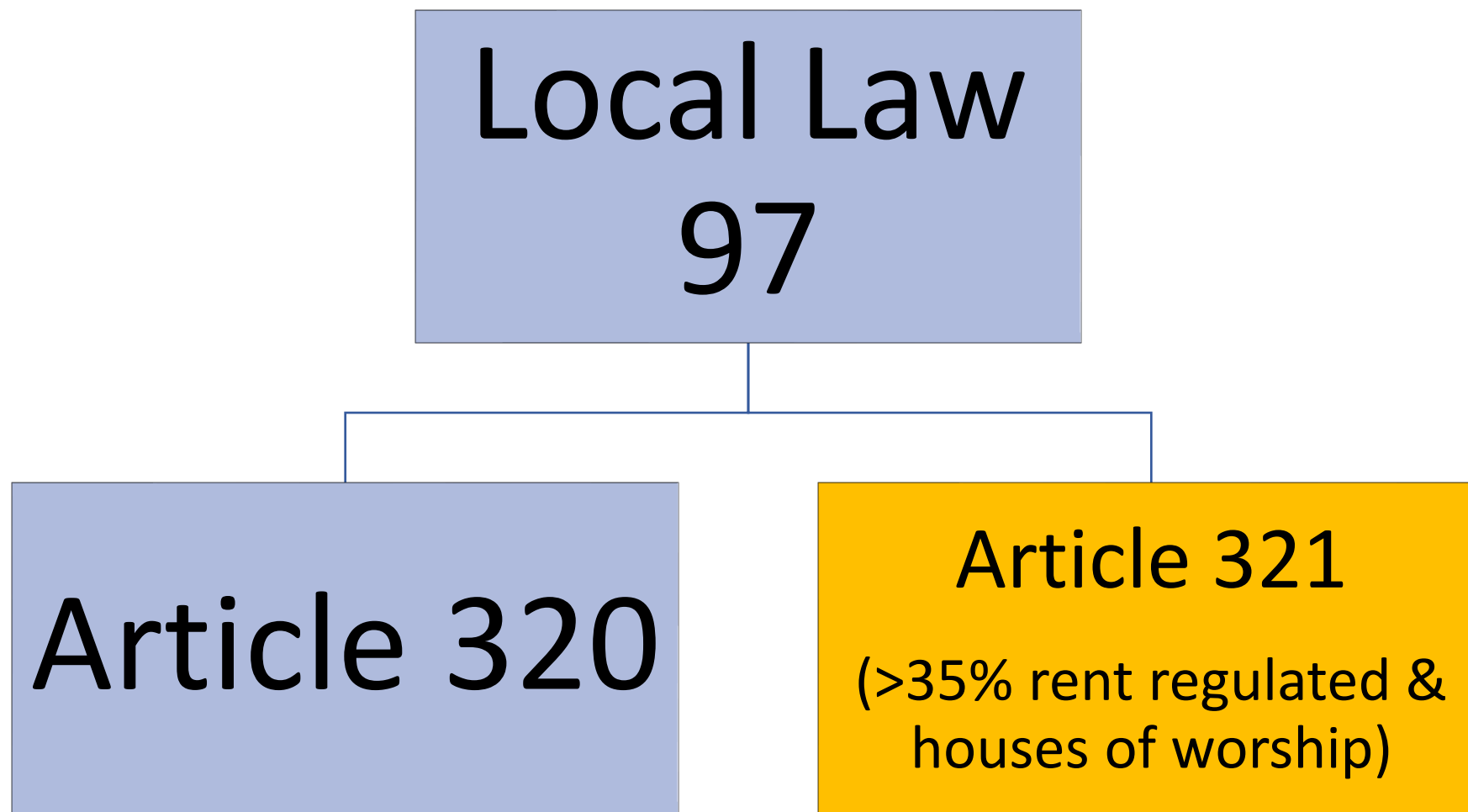
Course Description

This presentation covers the thirteen Prescriptive Energy Conservation Measures (“PECMs”) making up the prescriptive compliance path for emissions reduction under New York City’s Local Law 97 (“LL97”), which regulates the single-largest source of greenhouse gas (“GHG”) emissions in the city – buildings. The LL97 prescriptive compliance path is only available to certain types of affordable housing and houses of worship, and the code language may be found in NYC Administrative Code § 28-321 (“Article 321”) and 1 RCNY §103-17.

Learning Objectives

At the end of this course, participants will be able to:

1. Identify the primary mechanical systems in an existing building based on their characteristics and control mechanisms.
2. Evaluate what prescriptive energy conservation measures (“PECMs”) can apply to a specific system, including to variations within such systems.
3. Recognize the interaction between PECMs and be able to sequence/group their implementation for maximum emissions reduction.
4. Document PECMs thoroughly for purposes of proper recordkeeping and regulatory submission.



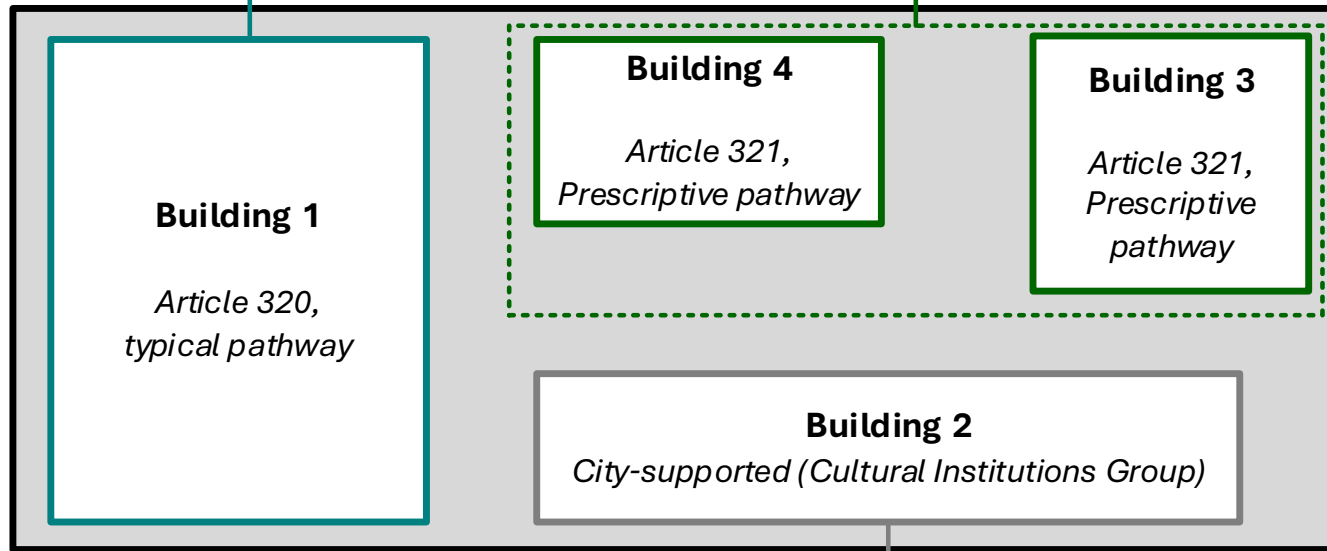
Article 321 Covered Buildings

	Definitions of "covered building"	General exceptions (for more specific exceptions, see the law)
<p>Article 320 / 1 RCNY §103-14, Building Energy and Emissions Limits (Local Law 97)</p>	<ul style="list-style-type: none"> - Single building > 25,000 GSF; - Multiple buildings, either on the same tax lot or governed by the same board of managers, which are in aggregate > 50,000 GSF (even if individual buildings are < 25,000 GSF). <p><i>Not covered until CY2026:</i></p> <ul style="list-style-type: none"> - Buildings with at least one, but no more than 35%, rent-regulated dwelling units. <p><i>Not covered until CY2035:</i></p> <ul style="list-style-type: none"> - Certain types of affordable housing not subject to Article 321, as per the rightmost (green) column in this flowchart. <p>Annual CBLs here.</p>	<ul style="list-style-type: none"> - Certain utilities; - Certain garden-style apartments; - City buildings, except for the eleven CUNY senior (4-year) colleges; - Buildings covered under Article 321.
<p>Article 321 / 1 RCNY §103-17, Energy Conservation Measure Requirements for Certain Buildings (Local Law 97)</p>	<p>Buildings meeting the same size thresholds as Article 320 that:</p> <ul style="list-style-type: none"> - Are certain types of affordable housing; or - Have verified more than 50% of the space is used for the purpose of worship (as explained here). <p>Annual CBL here.</p>	<ul style="list-style-type: none"> - Certain utilities; - Certain garden-style apartments.

LOCAL LAW 97 COMPLIANCE BUCKETS

Annual reports
due every May 1st
starting in 2025

One-time
combined report
due on May 1, 2025



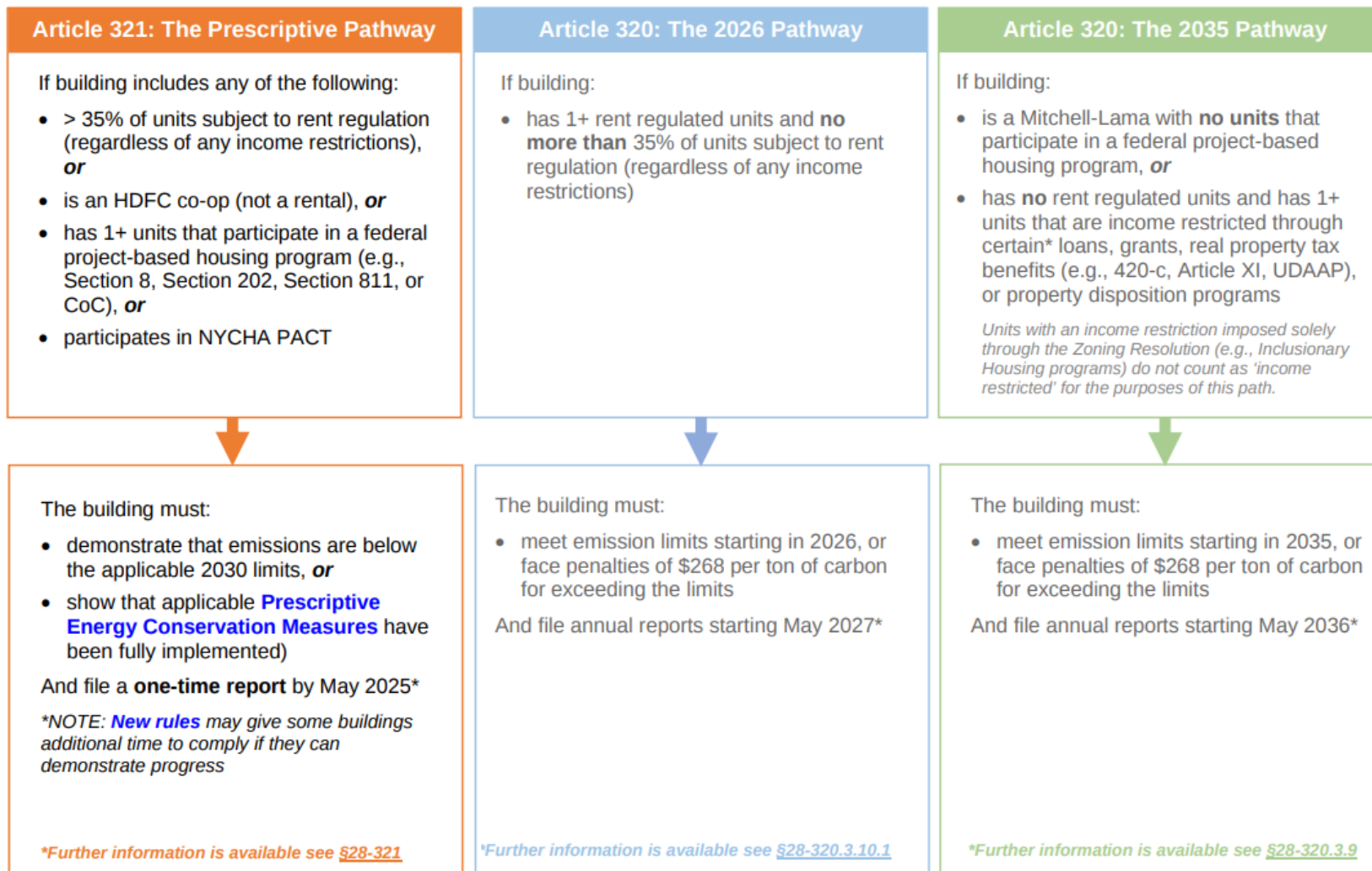
Excepted building,
no report required

Certain types of affordable housing

1. Buildings in which more than 35% of dwelling units are subject to rent regulation;
2. Housing Development Fund Company (“HDFC”) co-ops;
3. Buildings with 1 or more units participating in a project-based federal housing program:
 - a. Section 8 Project-Based Rental Assistance (“PBRA”)
 - b. NYCHA Permanent Affordability Commitment Together (“PACT”)
 - c. Section 202 financing (supportive housing for the elderly)
 - d. Section 811 financing (supportive housing for persons with disabilities)
 - e. Continuum of Care (“CoC”) leases serving formerly homeless individuals and families

NOTE: Buildings with dwelling units rented using federal assistance that is not project-based but tenant-based, such as Section 8 Housing Choice Vouchers (“HCVs”), are not necessarily subject to Article 321 because tenant-based assistance is attached to the occupant, not the building

Certain types of affordable housing



Houses of worship (HOWs)

- **Definition:**
 - “main use or dominant occupancy is classified as occupancy group A-3 religious house of worship”
 - Greater than 50% of the building is used as assembly space for religious purposes
- **Confirming HOW**
 - Described in the CBL FAQ
 - Requires an RDP to certify floor area measurements.

The screenshot shows the NYC Buildings website interface. At the top, there is a search bar and navigation links for "Property or Business Owner", "Industry", "Safety", and "Codes". The "Codes" tab is selected. Below the navigation, there are three buttons: "NYC Codes", "Code Notes", and "Reference". The main content area is titled "Local Law 97 (LL97) Covered Buildings List (CBL) FAQs". There are two buttons: "Expand All" and "Collapse All". Below these buttons, there is a list of FAQ items, each with a plus sign to its right. The first three items are: "My building should not be subject to LL97 - how do I remove it from the CBL?", "Why is my building's BBL listed on multiple LL97 CBLs?", and "How do I dispute my building's compliance pathway, as listed on one or more of the LL97 CBLs?". The fourth item, "Houses of Worship", is highlighted in blue and has a minus sign to its right. Below the list, there is a paragraph of text: "LL97 defines 'house of worship' as a building whose main use or dominant occupancy is classified as occupancy group A-3 religious house of worship. Such buildings are subject to Article 321 'CP3.' DOB asks these building owners to self-identify as follows:"

Article 321 Compliance Pathways

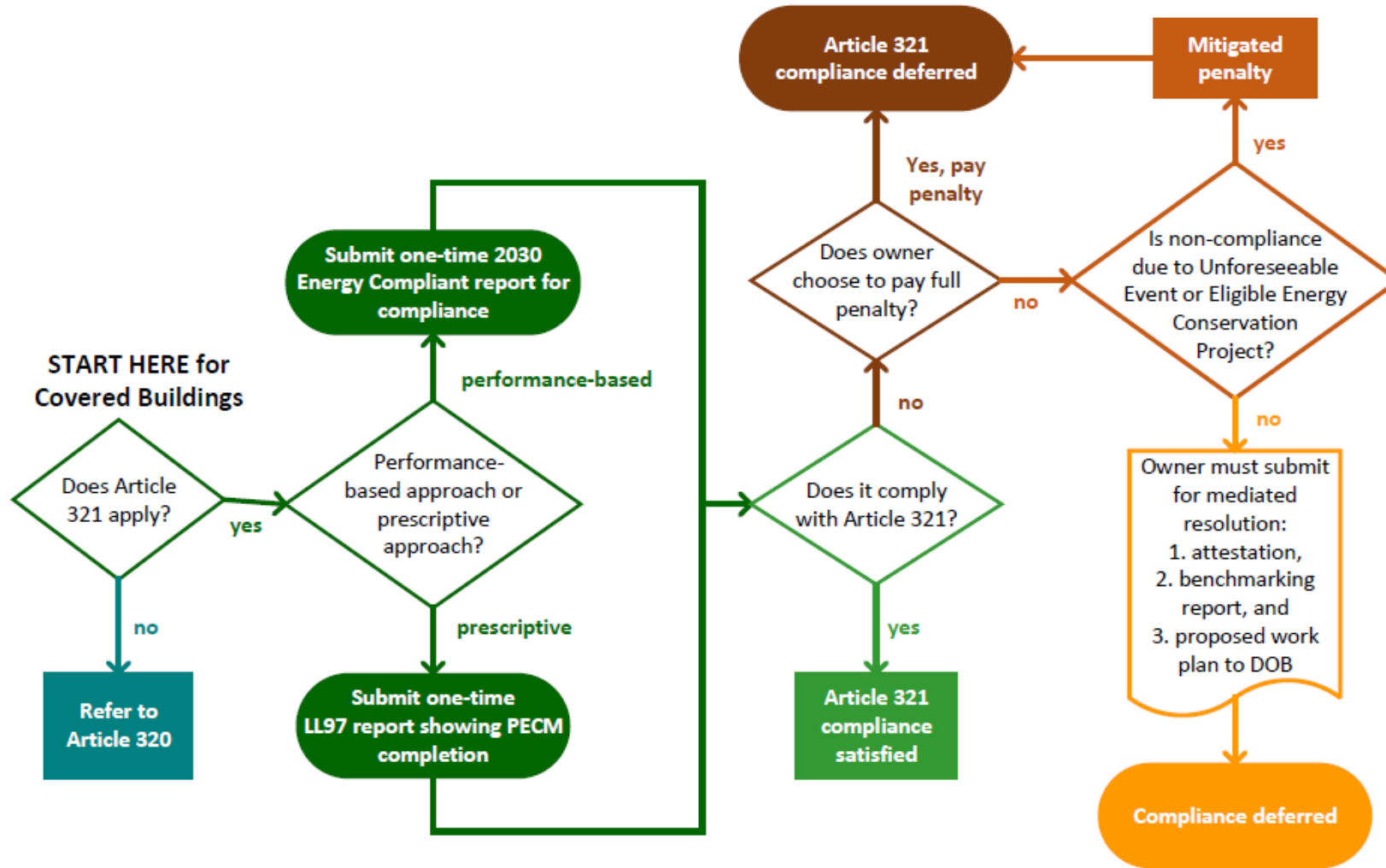
There are two compliance pathway options under Article 321:

- The **Performance-based Pathway** report is certified by an RDP and shows that the building's calculated emissions for CY2024 were under the emissions limit for CY2030, using the 2030 emissions coefficients.
- The **Prescriptive Pathway** report is certified by a qualified retro-commissioning ("RCx") agent and demonstrates the completion (or non-applicability) of the 13 Prescriptive Energy Conservation Measures ("PECMs").

The one-time Article 321 compliance report is due by 5/1/2025, pending any deadline extensions granted by the Department. A building that loses its Article 321 eligibility may become subject to annual Article 320 reporting.

NOTE: Multiple buildings on a single lot that are all subject to Article 321 and also share energy service may submit a combined report.

Article 321 Compliance Overview



Navigating to the Article 321 Guide and Template

The screenshot shows the NYC Buildings website interface. At the top, there is a navigation bar with the NYC Buildings logo, a language selector (Español), and a text size option. Below this is a secondary navigation bar with tabs for Home, DOB, and a dropdown menu containing Property or Business Owner, Industry, Safety, and Codes. The 'Codes' tab is highlighted with a yellow box and the number '1'. Below the secondary navigation bar are four buttons: Code Development, NYC Codes, Code Notes, and Reference. The 'NYC Codes' button is highlighted with a yellow box and the number '2'. On the left side, there is a sidebar with a list of categories: 2022 Construction Codes, 2014 Construction Codes, Energy Conservation Code, Electrical Code, Past Codes, and Code Tools. The 'Past Codes' category is highlighted with a yellow box and the number '3', and the 'Sustainability' link within it is also highlighted with a yellow box. The main content area displays the 'Sustainability' article, which includes an 'UPDATE: Greenhouse Gas Emission Reporting' section. A blue arrow points from the 'Sustainability' link in the sidebar to the 'Disputes' section on the right.

Disputes

If you believe your property is erroneously listed on the CBL due to the square footage of your building, contact the Department of Finance at sustainablebuildings@finance.nyc.gov. Please include the following in the email:

- borough, block, and lot number of the building
- contact information: name, email address or/and telephone number
- explanation of your dispute

If you believe your property is erroneously listed on the CBL due to a characteristic of the building other than the square footage, email ghgemissions@buildings.nyc.gov with the subject line **CBL Dispute**. Please include the following in the email:

- BBL and BIN for such building
- contact information: name, email address or/and telephone number
- explanation of your dispute and RDP certification if applicable

Get additional information on [Greenhouse Gas Emission Reporting](#).

Navigating to the Article 321 Guide and Template

NYC Buildings

Kreyòl Ayisyen | Translate | Text-Size

Home DOB Tenant Property or Business Owner Industry Safety **Codes** Search

Code Development **NYC Codes** Code Notes Reference

2022 Construction Codes

2014 Construction Codes

Energy Conservation Code

Electrical Code

Past Codes

Sustainability

Code Tools

Greenhouse Gas Emission Reporting

[Local Law 97 of 2019](#), passed by the City Council as part of Mayor Bill de Blasio's Green New Deal, is an unprecedented commitment to increase the sustainability of buildings, the single-largest source of greenhouse gas (GHG) emissions in New York City. The law became effective on November 15, 2019.

Local Law 97 will further the goal of achieving a 40 percent reduction in aggregate greenhouse gas emissions from covered buildings by calendar year 2030 and net zero by 2050.

A covered building means, with some exceptions, (i) a building that exceeds 25,000 gross square feet, or (ii) two or more buildings on the same tax lot that together exceed 50,000 gross square feet, or (iii) two or more buildings held in the condominium form of ownership that are governed by the same board of managers and that together exceed 50,000 gross square feet.

Further details regarding emissions limits, as well as information on buildings that are exempt from Local Law 97 requirements can be found below. Local Law 97 of 2019 was amended by Local Law 147 of 2019. The amended version of these laws can be reviewed in [§28-320 of the Administrative Code](#).

Share Print

Local Law 97 & Affordable Housing

Buildings that include **affordable and rent-regulated housing** are **NOT exempt** from the requirements of Local Law 97 but may be treated differently under the two articles that make up the law as outlined in Title 28 of the [NYC Administrative Code](#):

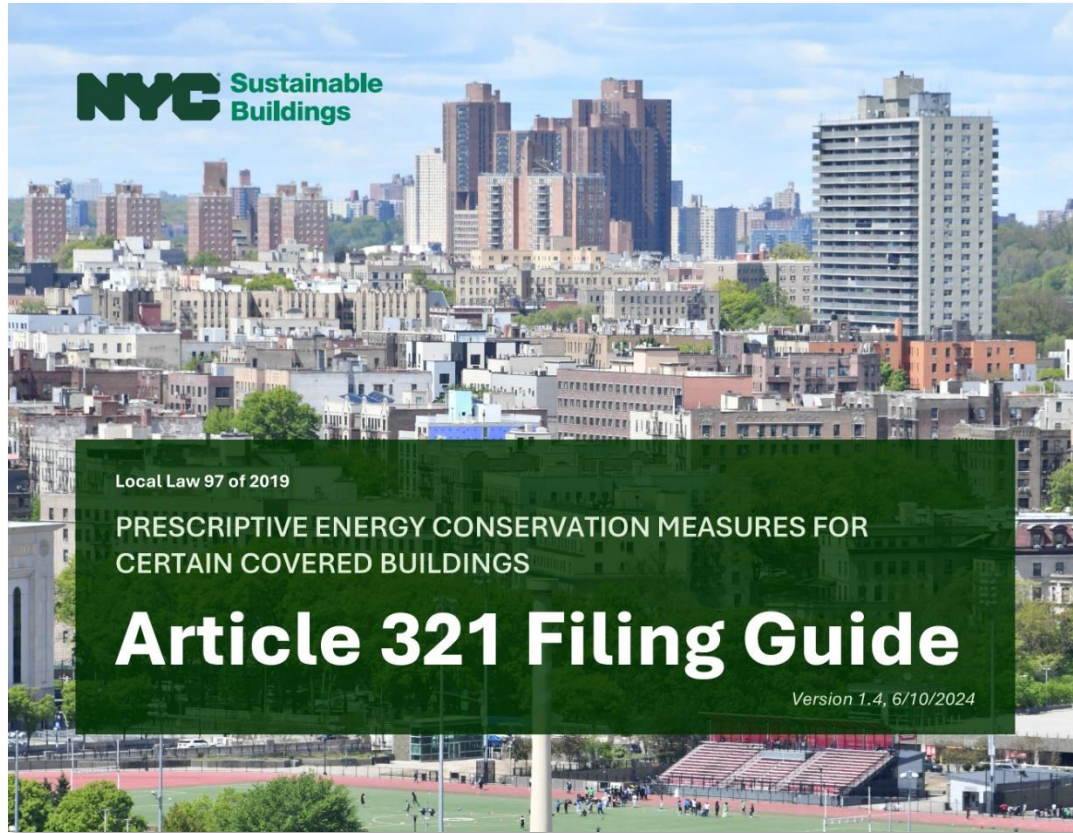
- Article 320 establishes Building Energy and Emissions Limits for buildings starting in 2024 and outlines the implementation of such limits
- Article 321 establishes Energy Conservation Requirements for Certain Buildings that are not covered under Article 320

5

For guidance on how to prepare the Article 321 Report for compliance with Local Law 97 of 2019, please see [this filing guide](#) and [template](#).

For more details, please see the section on [Affordable Housing](#) on DOB's Sustainable Buildings webpage.

Article 321 Filing Guide



https://www.nyc.gov/assets/sustainablebuildings/downloads/pdfs/321_filing_guide.pdf

- I. Background
 - A. Covered buildings
 - B. Rent regulated accommodation and other affordable housing
 - C. Houses of worship
 - D. Definitions
- II. Article 321 compliance pathways
 - A. PECM verification procedures – General
- III. Clarification of the Article 321 PECMs**
 - (includes PECM verification procedures – Specific)
- IV. Penalty mitigation
 - A. Unexpected or unforeseeable event
 - B. Eligible energy conservation project
 - C. Mediated resolution
- V. NYC Accelerator service types
- VI. Acknowledgements

Article 321 Filing Guide (PECM matrix)

Type of heating system	Article 321 Prescriptive Energy Conservation Measures ("PECMs")												
	1	2	3	4	5	6	7	8	9	10	11	12	13
	Temp. set points	Repair leaks	Heating system function	Radiator temperature controls*	Piping insulation	Water tank insulation	Indoor / outdoor temp. sensors*	Steam traps*	Master steam system venting*	Lighting	Building envelope	Exhaust fan timers	Radiant barriers
One-pipe steam	●	●	●	▼	●	●	●		●	●	●	●	●
Two-pipe steam	●	●	●	●	●	○	●	●	○	●	●	●	●
Hydronic	●	●	●	●	●	●	●			●	●	●	●
Forced air	●		●							●	●	●	
Heat pump	●	●	●		●					●	●	●	
Electric resistance	●		●	●						●	●	●	●

○ = Not applicable to vacuum pump systems

▼ = Owner to install where spaces are overheated

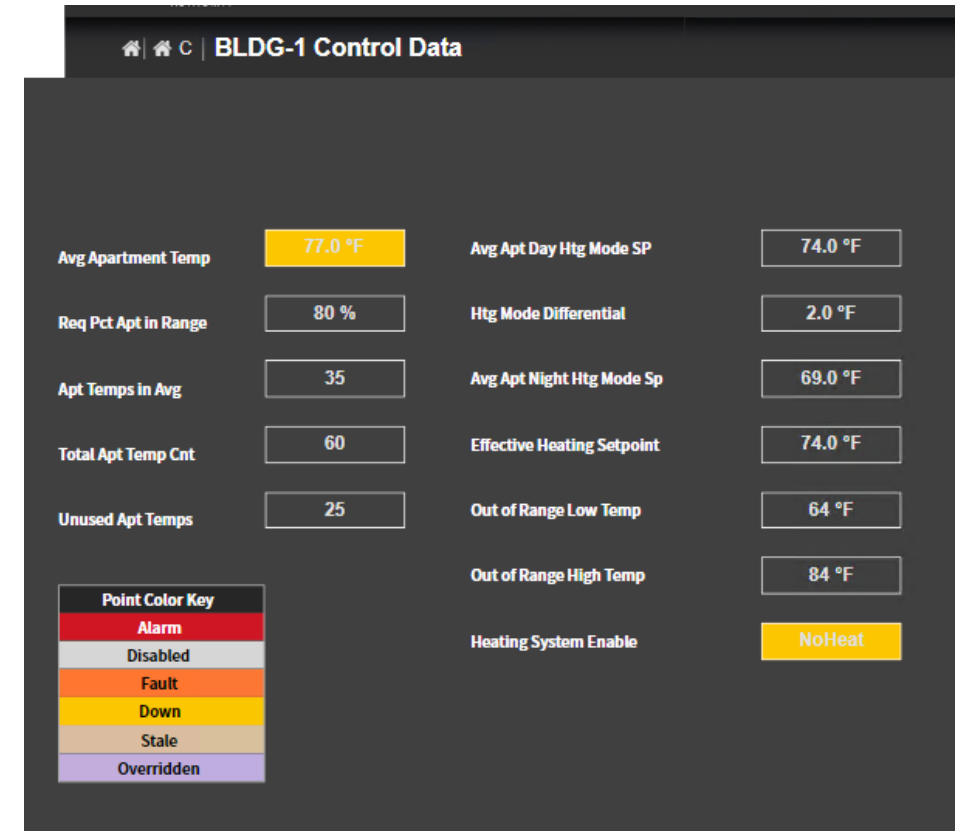
PECM #1 - Temperature set points

Set points must be verified for all central heating and hot water equipment.

For buildings that have no central heating or hot water systems, set points must be verified for:

- 100% of heating and hot water systems serving common areas
- at least 20% of such equipment serving non-common owner areas
- at least 10% of such equipment serving non-common tenant areas

NOTE: Scope does not apply to unitized systems with individual thermostats.



Sampling category definitions (similar to LL87)

Common areas

Spaces that are made use of by multiple tenants in a building. Includes lobbies, amenity spaces, and shared storage rooms; also includes non-occupiable space such as corridors, stairwells, janitorial closets, and equipment rooms.

Non-common owner areas

Spaces that are made use of by ownership and not generally by tenants. Includes management offices, staff locker rooms, and non-tenant storage rooms.

Non-common tenant areas

Includes dwelling units, community facilities, and retail stores (leased or unleased).

In HOWs, all front-of-house HOW spaces can be considered “common area”. Back-of-house spaces serving the HOW can be considered “non-common owner area”, and long-term leased spaces can be considered “non-common tenant area”.

PECM #2 - Repair leaks

Readily accessible leaks should be identified through visual inspection and review of maintenance records and tenant complaints, with all leaks repaired by 12/31/2024.

Inspection must cover:

- 100% of common areas
- at least 20% of non-common owner areas
- at least 10% of non-common tenant areas

System components not subject to this PECM:

- *Ducts*
- *Forced air systems*
- *Concealed distribution piping*
- *Electric resistance heating systems*



PECM #3 - Heating system function

In addition to field observations, an investigation may include: interviews; trend analysis; dedicated data logs; review of available operations, maintenance, and complaints records.

Besides cleaning or replacement of components, maintenance also includes calibrating processes (e.g., damper/valve/burner modulation, boiler/heat exchanger/fan coil sequence control, short cycling prevention).

NOTE: While forced air and electric resistance are exempt from PECM #2 (Repair leaks), they are not exempt from this PECM.

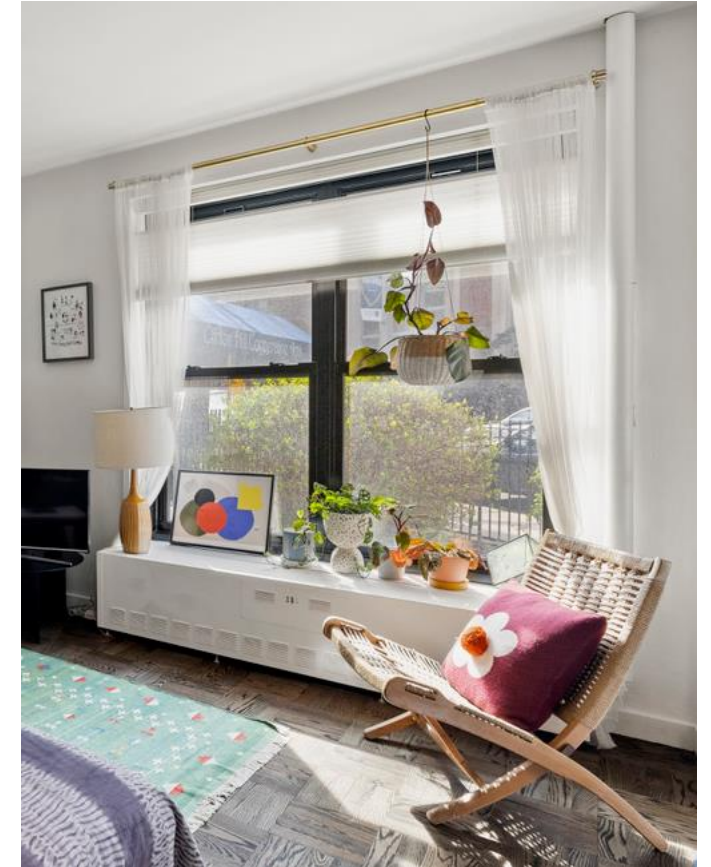


PECM #4 - Radiator temperature controls*

20% of all radiators must be confirmed through inspection to have functioning temperature controls as applicable. If any temperature controls are found to be missing/non-functioning, then all radiators in the building must be inspected.

- For **two-pipe steam** systems, thermostatic radiator valves (“TRVs”) or insulated radiator enclosures, in good working order, should be documented to have been installed on all radiators that were inspected.
- For **one-pipe steam** systems, TRVs or insulated radiator enclosures should be installed at every radiator in spaces where overheating has been reported or observed.
- For **electric resistance** radiators, at least one functioning thermostat is installed in each dwelling unit in multifamily buildings, as one thermostat may control multiple radiators.
- For **hydronic** radiators, controls must be functioning where present.

NOTE: Fan coil units do not have radiators so are not subject to this PECM.



PECM documentation requirements

Four of the PECMs, indicated with an asterisk throughout the Filing Guide, can be satisfied by submitting Department-provided templates as documentation:

- **(#4) Radiator temperature controls***
- **(#7) Indoor / outdoor temperature sensors***
- **(#8) Steam traps***
- **(#9) Master steam system venting***

An alternative to the templates is evidence of a completed **utility incentive/rebate program**; final utility verification must have taken place on or after 11/15/2019 (the effective date of LL97) for three of the PECMs and on or after 1/1/2022 for (#8) Steam traps*.

Another alternative to the templates is a **Local Law 87** of 2009 (“LL87”) **EER** that has been accepted by the Department. This is only an option for two of the asterisked PECMs:

- (#8) Steam traps* (work must have been completed on or after 1/1/2022)
- (#9) Master steam system venting* for one-pipe steam (work completed on or after 11/15/2019)

PECM #5 - Piping insulation

Any missing or degraded insulation must be installed, replaced, or repaired by 12/31/2024. Pipes, fittings, and valves that are part of steam or hot water distribution systems should be visually inspected in:

- 100% of common areas
- at least 20% of non-common owner areas
- at least 10% of non-common tenant areas

NOTE: This PECM does not require owners to remove wall, floor, or ceiling assemblies. Owners are also not required to disturb asbestos-containing materials (“ACMs”).



PECM #6 - Water tank insulation

Newer tanks often come with integrated insulation, but older tanks may need to be insulated in the field.

However, condensate water that is too hot can damage pumps. Therefore, condensate tank insulation is not recommended in pumped-return systems.

- Insulation should meet the requirements of the current NYC ECC to the extent feasible, given existing clearances.

NOTE: Compliance with this PECM does not require owners to disturb ACMs.



PECM #7 - Indoor/outdoor temperature sensors*

- INDOOR: Wireless sensors at radiators for steam heating systems can tell the boiler precisely how much heat is needed.
- OUTDOOR: Outdoor reset (“ODR”) control, in steam systems and hydronic systems with non-condensing boilers, can optimize on-off cycling length based on outside temperature.

System components not subject to this PECM:

- *Central heat pumps (because sensors are integral to system)*
- *Unitized heating (e.g. mini-splits, PTACs, PTHPs)*
- *Fan-driven terminal units (e.g. FCUs, AHUs)*
- *Radiant heating*



PECM #8 - Steam traps*

If testing demonstrates that the main supply and main return piping have a surface temperature differential of 30 °F or more, test results with data logs may be submitted in lieu of sampling steam traps.

But if the surface temperature differential is < 30 °F, then steam traps in the following locations must be sampled:

- 100% of common areas
- at least 20% of non-common owner areas
- at least 10% of non-common tenant areas

When more than 20% of the aggregate or individual sample sets are found to be malfunctioning, then all steam traps in the system must be tested and all malfunctioning steam traps repaired or replaced.



PECM #9 - Master steam system venting*

To flush air out quickly so steam can reach all radiators at the same time, master venting should be installed at the ends of the supply piping, at the ends of mains and at the tops of primary risers.

- Master vents may have been removed from the system at some point, or they may exist but be poorly functioning. In these cases, the vents should be re-installed or repaired/replaced.

NOTE: Master venting should not be used in two-pipe steam systems with vacuum pumps.

For this PECM, partial sampling is not sufficient – the entire system must be checked. Note that “Schematic diagrams of the steam loops in the covered building identifying the installed vents with a schedule indicating the date of testing of each loop” may be submitted in lieu of either a template or evidence of a completed utility incentive/rebate program.

PECM #10 - Lighting

The report required to be (separately) submitted by 5/1/2025 for Local Law 88 of 2009 (“LL88”) compliance shall be used to document this PECM.

Existing lighting upgrades must have been installed on or after 7/1/2010 and comply with the NYC Energy Code in effect at the time.

NOTE: Landmarked buildings are not exempt from these requirements, except where historic lighting is deemed to be part of the historic fabric.

Applicable NYC Energy Conservation Code for lighting upgrades required by Article 321 (Also applies to § 28-310.3, exception 1)	Lighting system filed* or otherwise documented as having been installed on or after				
	July 1, 2010	December 28, 2010	January 1, 2015	October 3, 2016	May 12, 2020
2009 NYC Energy Conservation Code ("ECC") Local Law 85 of 2009 , based on: - 2007 Energy Conservation Construction Code of NY State ("ECCCNYS") - 2004 International Energy Conservation Code ("IECC") - ASHRAE 90.1-2001					
2011 NYC ECC section 505 , based on: - 2010 ECCCNYS - 2009 IECC - ASHRAE 90.1-2007					
2014 NYC ECC section C405 , based on: - 2014 ECCCNYS - 2012 IECC - ASHRAE 90.1-2010					
2016 NYC ECC section C405 , based on: - 2016 ECCCNYS - 2015 IECC - ASHRAE 90.1-2013					
2020 NYC ECC section C405 , based on: - 2020 ECCCNYS with NYStretch-2020 supplement - 2018 IECC - ASHRAE 90.1-2016					

*in accordance with the completeness standards listed in [Buildings Bulletin 2020-002](#)

PECM #11 - Building envelope

Visual inspection for air leakage at envelope openings (including doors, windows, PTACs, skylights, roof curbs, vents, joints, bulkheads, and loading docks) and penetrations between conditioned and unconditioned spaces (including piping, ducting, conduits and other wiring, chimneys, flues, and dropped soffits). Missing or damaged gaskets, sealant, caulking, weatherstripping, etc. must be installed, repaired, or replaced by 12/31/2024.

Interior visual inspection must cover:

- 100% of common areas
- at least 20% of non-common owner areas
- at least 10% of non-common tenant areas

Exterior visual inspection can be limited to easily accessed areas of the building envelope; specialized façade access via scaffolding or rigging is not necessary.

NOTE: The focus of this PECM is on envelope features that affect heating loads.

PECM #12 - Exhaust fan timers

Some fans are designed to run continuously and quietly at low speeds; these should not have timers / occupancy sensors / humidistats (humidity sensors).

On the other hand, fans that are designed to run intermittently at higher speeds are sometimes left on even when they are not needed; this is an excessive use of energy because it necessitates replacement of the conditioned air that is needlessly exhausted.

Interior visual inspection must cover:

- 100% of common areas
- at least 20% of non-common owner areas
- at least 10% of non-common tenant areas



PECM #13 - Radiant barriers

This PECM is intended to be implemented in conjunction with other PECMs – e.g. installation, repair, or replacement of TRVs. Otherwise, when no other radiator-related PECM work is proposed, new radiant barriers are not required to be installed.

NOTE: Compliance with this PECM does not require owners to perform destructive work, except for work to restore access to controls that were inadvertently covered up.

Radiant barriers should be installed behind equipment that heats a space primarily (> 50%) by radiation rather than convection. Radiator types that work primarily through convection, and are therefore not ideal candidates for radiant barriers, include convectors and fin tube baseboard heaters.

Article 321 Templates

	A	B	C	D	E
1					
2		Local Law 97			
3		ARTICLE 321 REPORTING			
4		Mandatory templates for PECMs #4, #7, #8, and #9			
5					version 1.3, issued 5/31/2024
6		Instructions			
7		<ol style="list-style-type: none"> 1. Fill out 'Submittal Information' sheet of this workbook first. 2. Light green cells are for applicant data entry. 3. Light gray cells are pre-populated and locked. 4. Enter "N/A" or leave blank if a particular field does not apply. 5. Data validation errors (highlighted in red) must be corrected. 6. Submit this workbook to the Department. 			
8		NOTE:			
9		Each individual building (BIN) must submit its own template workbook. For multiple buildings on a single lot that share energy service (as defined in 1 RCNY §103-17), a single report may be uploaded to the portal containing separate workbooks for each building in the group.			
10					
11					
12					
13					
14					
15					
16					
17					
18		References			
19		<ul style="list-style-type: none"> • Article 321 (§28-321): https://www.nyc.gov/assets/buildings/apps/pdf_viewer/viewer.html?file=2022GAP_Chapter3_MaintenanceWBwm.pdf&section=conscode_2022#page=41 • 1 RCNY §103-17: https://www.nyc.gov/assets/buildings/rules/1_RCNY_103-17.pdf • Article 321 Filing Guide: https://www.nyc.gov/assets/sustainablebuildings/downloads/pdfs/321_filing_guide.pdf 			
20					
21					
22					
23					
		Instructions	Submittal Information	4. Radiator temp. controls	7. Indoor-outdoor temp. sensors
				8. Steam traps - initial	8a. Steam trap

	A	B	C	D	E
1					
2		Report information			(please review Instructions tab first)
3		Date completed:	5/31/2024		
4					
5		Building/Lot information			
6		Borough:	1 - Manhattan		
7		Block:	873		
8		Lot:	41		
9		# of buildings on lot:	1		
10		BIN of this building:	1010101		
11		(data validation)	good		
12		Street address:	138-144 East 18th Street New York, NY		(Press Alt+Enter to go to next line)
13		Zip Code (5 digits):	10003		
14		(data validation)	good		
15		Facility type:	Multifamily		
16					
17		Enter primary heating system type:	Two-Pipe Steam	Fill out PECMs 4, 7, 8, and 9.	
18		Enter secondary heating system type (if applicable):	Electric Resistance	Fill out PECM 4.	
19		Comments/notes (e.g. spaces or dwelling units that were not inspected) :			
20					
21					
22					
23					
24					
25		All spaces with radiators were inspected.			
26					
27					
28					
29					
30					
		Instructions	Submittal Information	4. Radiator temp. controls	7. Indoor-outdoor temp. sensors
				8. Steam traps	

Article 321 Templates

(#4) Radiator temperature controls	
<i>(please review Instructions tab first)</i>	
Method of compliance:	Inspection/survey
Date of last documented inspection:	1/16/2020 <i>(must be on or after 11/15/2019)</i>
	<i>(data validation)</i> good
Means of compliance:	Complete this worksheet.
Initial Survey information	
Total # of radiators in building:	132
Minimum 20% sample size:	27
How the radiators for the 20% to be sampled were selected (up to 3):	Conversations with the facility manager Occupant reports on over- and under-heated spaces Testing
Date of initial survey:	11/16/2019 <i>(must be on or after 11/15/2019)</i>
	<i>(data validation)</i> good
# of radiators surveyed:	28
Compliant?	Yes
# of radiators with missing / malfunctioning temperature controls:	1
Full survey required?	Yes - fill out the remainder of this worksheet.
Full Survey information	
Date of final full survey:	1/16/2020
	<i>(data validation)</i> good
Summary of findings.	# of newly installed or repaired temperature controls: 96
Which heating system(s) the radiators in the building are connected to.	System type 1: Two-Pipe Steam System type 2 (if applicable): Electric Resistance

(#7) Indoor/outdoor temperature sensors		
<i>(please review Instructions tab first)</i>		
Date of initial survey:	12/1/2023 <i>(must be on or after 11/15/2019)</i>	
	<i>(data validation)</i> good	
Date of final survey (if applicable):	2/14/2024	
	<i>(data validation)</i> good	
Enter data for primary heating system.	Primary system type: Two-Pipe Steam Method of compliance: Inspection/survey Means of compliance: Complete this worksheet.	
If "Inspection/Survey" is chosen as the method of compliance, complete this section.	# of primary heating plants (e.g. boilers): 2	
	# of primary heating plants with outdoor reset/setback controls in good working order: 2	
	Compliant? Yes	
	For primary steam systems ONLY:	
	Total # of spaces or radiators in building: (for Multifamily, this is the # of dwelling units. For HOW, this is the # total spaces or radiators served by the system): 16	
	Total # of spaces or radiators with wireless sensors at radiator that are in good working order: 9	
% of spaces or radiators with wireless sensors at radiator that are in good working order: 56%		
Compliant? Yes		
Enter data for secondary heating system (if applicable).	Secondary system type: Electric Resistance Method of compliance: Inspection/survey Means of compliance: Complete this worksheet.	
	# of secondary heating plants (e.g. boilers): 0	

Article 321 Templates

(#8) Steam traps - initial survey (please review Instructions tab first)

Method of compliance:	Inspection/survey
Date of last documented inspection:	5/7/2024
<i>(must be on or after 1/1/2022)</i>	
<i>(data validation)</i> good	
Means of compliance:	Complete this worksheet.

Fill out Row 12, then fill out "List of inspected steam traps" below.

		Common area	Non-common owner area	Non-common tenant area	Entire building
Enter the results of the initial survey of steam traps (or orifice plates).	# of discrete spaces of this type in the building	2	4	20	26
	% of spaces required to be surveyed	100%	20%	10%	n/a
	# of spaces required to be surveyed	2	1	2	5
	# of steam traps surveyed (100% in spaces required to be surveyed)	3	1	8	12
	# of missing / malfunctioning steam traps in sample	0	0	8	8
% of missing / malfunctioning steam traps in sample	0%	0%	100%	67%	

(must be no greater than)

Full-building survey (all steam traps) required?	Yes - complete tab 8a.
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List of inspected steam traps - initial survey

Floor	Room/space description	# of traps of similar condition	Steam trap condition	Space type	Date of initial survey (must be on or after 1/1/2022)	Date of confirmed correction (if applicable)
Cellar	Gym	2	Functioning	Common area	2/29/2024	
1	Lobby	1	Functioning	Common area	2/29/2024	

(#9) Master steam system venting (please review Instructions tab first)

Steam system return type:	Atmospheric (non-vacuum / gravity)
Is PECM 9 required?	Yes

Initial Survey information

Location of vents	Total # of required vents	# found in good working order	# needing repair / replacement	# of missing vents	# of vents not inspected
At mains	4	4	0	0	0
At large horizontal pipe runs	5	0	0	4	1
At risers	7	1	3	0	3
At vertical pipes branching off a main	3	1	0	1	1

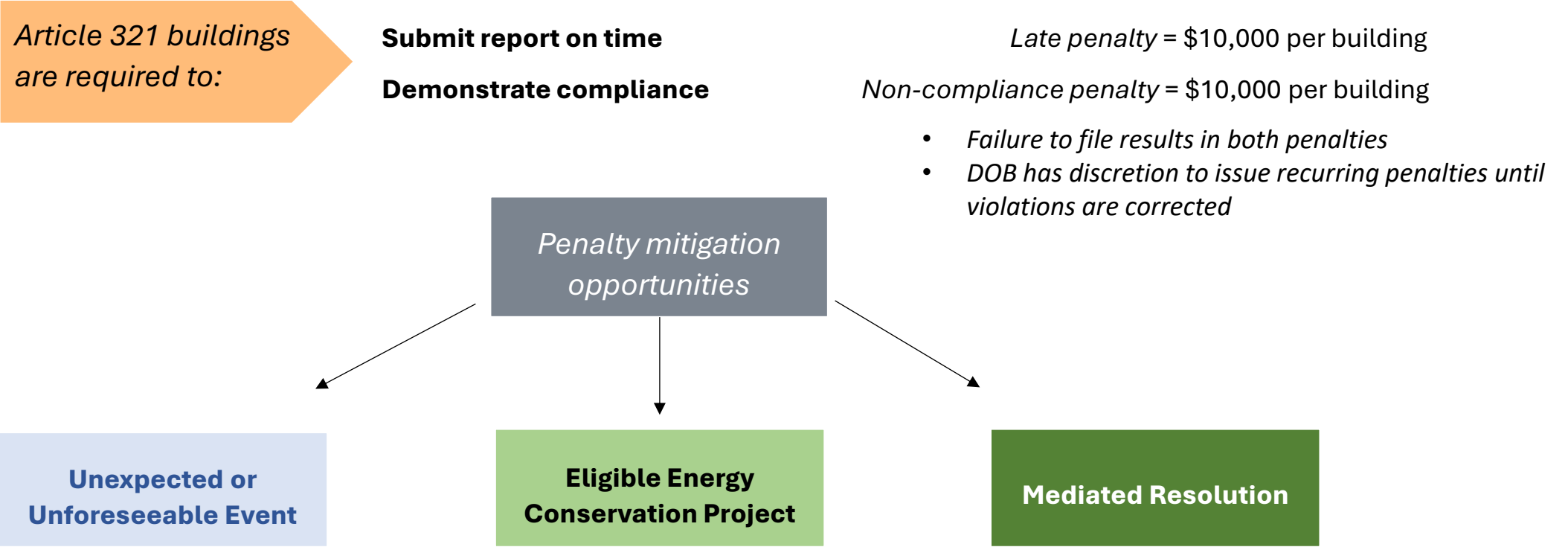
Required actions after initial survey	Replace the 3 vent(s) needing repair/replacement. Install the 5 missing vent(s). Inspect the 5 vent(s) not inspected. Conduct final survey.
--	---

Final Survey information

Location of vents	Corrective action or additional inspection needed?	# of vents to be installed or repaired (from Initial Survey)	Have all vents been inspected?	Corrective action taken	# of vents found to be in good working order
At mains	No	0	No	No action	4
At large horizontal pipe runs	Yes	4	Yes	Newly installed / Repaired	0
At risers	Yes	3	Yes	No action	7
At vertical pipes branching off a main	Yes	1	No	Newly installed / Repaired	3

Have all vents found to be missing or not functioning been newly installed or repaired?	No - not compliant
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Article 321 Penalty Mitigation



Article 321 Mediated Resolution

This is an option for building owners who can demonstrate that they are making diligent efforts to comply with Article 321 but need additional time for completion. Required documentation includes:

1. Attestation that the building is out of compliance, showing either calculations (Performance-based Pathway) or status of each PECM (Prescriptive Pathway).
2. For CY2024, an **energy benchmarking report**. *NOTE: This applies even when an Article 321 covered building is not otherwise subject to Local Law 84 (“LL84”).*
3. A **work plan**, certified by a RDP or RCx agent, describing either:
 - a. How the building will comply with 2030 emissions limits by 2030, including proposed renovations and how such renovations will be financed; or
 - b. How the 13 PECMs will be completed by December 31, 2025, including which vendors are responsible.

QUESTIONS???



This concludes the
American Institute of Architects
Continuing Education Systems Course.

Department Contact for AIA:
Melanie Guzman
Melaguzman@buildings.nyc.gov, 212-393-2163

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