

NYS Clean Heat Working Group Series

for Participating Contractors & Industry Partners

Session #22

September 12, 2024 9:00 am–10:00 am

NYS Clean Heat
Joint Management Committee



NYS Clean Heat

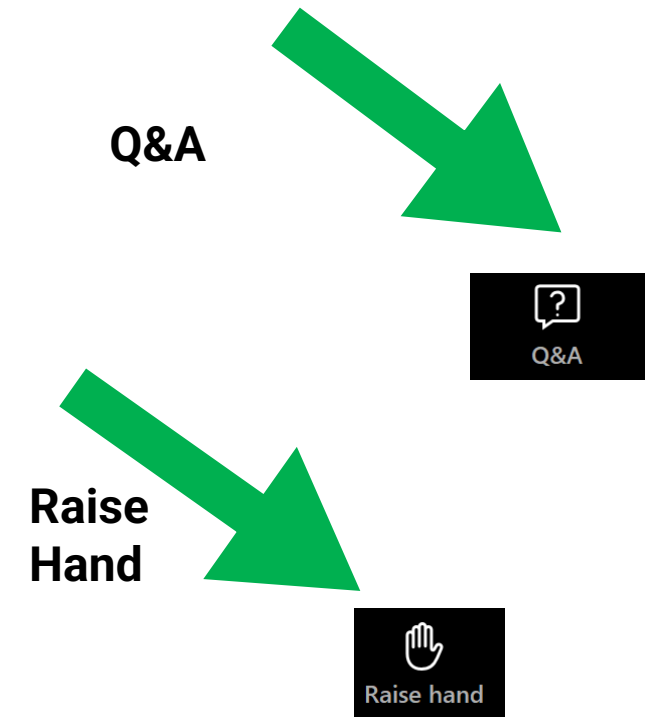
Agenda

- > **Meeting procedures** (2m)
- > **Welcome** (2m)
- > **Safety Message** (2m)
- > **JMC updates and discussion** (45m)
 - GJGNY Program Updates
 - Program Manual Updates and Announcements
 - Field Assessment Best Practices
 - Upcoming Training Opportunities
- > **Stakeholder Presentation(s)**
- > **Resources, support, and next steps** (5m)

Meeting procedures

Before beginning, a few reminders:

- > **All attendees will be muted**
- > For questions or comments throughout, please use either the Raise Hand or Q&A functions
 - > Select the Raise Hand icon in the bottom toolbar
 - > When you have finished asking your question, select the Raise Hand icon again to lower your hand
- > If an attendee opts to use the Raise Hand function to ask a question or make a comment, the meeting moderator will call on that attendee and unmute individually
- > Q&A function is private – the team will share public responses as appropriate
- > Slides, notes, and a compilation of Q&As will be posted after the meeting
- > If technical issues arise, please contact NYSCleanHeat@ceadvisors.com



Welcome

Joint Management Committee (JMC) Co-Chairs:

- > **Ray Cotto**, Central Hudson
- > **Karen Kao**, NYSERDA

> Other JMC Members:

- **Toby Hyde**: Con Edison
- **Sam Howe**: National Grid
- **Nicole Williams**: NYSEG, RG&E
- **Sean Dooley**: NYSEG, RG&E
- **Chris Trenard**: Orange & Rockland

> Our implementation team today:

- **Kenn Latal**: ICF
- **Tim Walsh**: ICF

> Our Working Group support team:

- **Ben Davis**: Concentric
- **Clara-Ann Joyce**: Concentric
- **Will Roberts**: Concentric

Working Group Series

Review of typical meeting format

- > **Working meetings between Participating Contractors, industry partners, and other stakeholders with the NYS Clean Heat Program Administrators**
- > To foster:
 - Transparency
 - Coordination and communication
 - Prioritization
 - Solution development

Safety Message – Fall Driving

Be alert when driving during the Fall:

1. *Back-to-school traffic and pedestrians:* Watch out for school buses, new student drivers, cyclists, and children crossing the street
2. *Darkness:* Depth perception, peripheral vision, and color recognition are reduced in the dark
3. *Wildlife crossing the road:* With the increasing darkness, animals, especially deer, will be moving around earlier
4. *Leaves:* Leaf piles can obscure road hazards and wet leaves reduce road traction
5. *Tires:* Check your tires for sufficient tread and keep an eye on tire pressure when the temperature drops
6. *Fog and frost:* Do not use your high beams; they make visibility worse in these conditions
7. *Glare:* Sun glare increases as the summer ends

Green Jobs Green New York Program Updates

Points of Discussion

- GJGNY Residential Financing Overview
- What Changed and What That Means
- Points of Clarification
- Key Takeaways

GJGNY Residential Financing Program

- Legislation passed in 2009 creating the GJGNY Loan Fund
- First loan issued in December of 2010
- Legislation amended in 2011 to allow for On-Bill Recovery loans
- Funded with Regional Greenhouse Gas Initiative money, bond proceeds, loan repayments

Loan Terms and Conditions

- **Unsecured**
- **Available for 1 to 4 Residential units**
- **Interest Rates**
 - > OBR Loans 3.49%/6.99%
 - > Smart Energy Loans 3.99%/7.49% (.5% discount applied if using ACH)
 - > Bridge 6.49%/6.99%
- **Loan Amount**
 - > Minimum \$1,500
 - > Up to \$13,000 (up to \$25,000 if the simple payback is less than 15 years)
- **Loan Terms**
 - > Bridge Loans: 2 years
 - > OBR and SE Loans: 5, 10, 15 years (term may not exceed expected useful life of improvements)
 - > No prepayment penalties

June '24 Program Manual and Participation Agreement Updates

- Updated Contractor Participation Requirements and amended definition of what a Participating Contractor is defined as under the GJGNY Residential Financing Program
 - “Program” Definition
 - Pre-June '24: Refers to one or more of the following: NY Residential Existing Homes Program, Comfort Home Program, the NY-Sun Program, **the NYS Clean Heat Program, the PSEG-Long Island Home Performance with ENERGY STAR® (HPwES) or the PSEG-Long Island Home Comfort Program**
 - June '24 on: Refers to one or more of the following: NY Residential Existing Homes Program, Comfort Home Pilot Program, Residential Energy Assessment Program, and the NY-Sun Program

June '24 Program Manual and Participation Agreement Updates

- Announcements were sent out throughout the month of June to notify contractors of these updates, specifically pointing out the following updated language:
 - If a contractor is not a Participating Contractor in a Program, the contractor **must complete the Residential Contractor Application** and is bound by the Agreement, this Program Manual and shall meet and maintain the requirements outlined in the applicable Program Manual(s):
 - PSEG-Long Island Home Performance
 - PSEG-Long Island Home Comfort Program
 - NYS Clean Heat (Central Hudson, National Grid, NYSEG, Orange and Rockland, RGE)
 - NYS Clean Heat (Con Edison)

CONTRACTOR APPLICATION

Residential Programs



Please use this form to apply to become a contractor in a NYSERDA residential program(s). If you have specific questions, email us at residential.programs@nyserdanyc.gov. All fields are required unless otherwise noted.

APPLICATION STATUS

Existing Participating Contractor: If you are already a participating contractor in a NYSERDA residential program, please select the program(s) you currently participate in from the list below. These selections indicate your interest in continued participation under current program rules.

- Comfort Home
- Green Jobs – Green New York (GJGNY) Residential Financing
- Residential Energy Assessment Program
- NY Residential Existing Homes

New Applicant: If you are a new applicant, select the programs you would like to participate in. As a first step, please review and ensure that your organization can meet the requirements of the Participation Agreement and relevant manuals for the programs you are applying for.

- Comfort Home
- Green Jobs – Green New York (GJGNY) Residential Financing
- Residential Energy Assessment Program
- NY Residential Existing Homes

COMPANY INFORMATION

Legal Business Name [company name must match the Employer Identification Number (EIN) or Social Security Number (SSN)]
(if using a d/b/a, certificate must be attached):

Business Name - D/B/A:

Company Background:

Mailing Address

Street Address (if different)

City

State

Zip

Business Website (URL)

Employer Identification Number (EIN)

Company is a: (Check all that apply)

- Minority- and Women-Owned Business Enterprises (MWBE)
- Service-Disabled Veteran-Owned Business (SDVOB)

Points of Clarification

- Being approved under the NYS Clean Heat Program does not equate to being approved by NYSERDA
- GJGNY Residential Financing is a NYSERDA program and the loans issued under it are issued by NYSERDA
 - While Slipstream is our Loan Origination Partner, this is not their program
 - Your customers will not have a loan agreement with Slipstream at the end of the day, it will be with NYSERDA
- Signing up with Slipstream/EFS is something done **in addition to** submitting a completed Residential Programs Contractor Application
 - Slipstream will not send you an approval and establish (or reestablish) you within their VelocityGo system without receiving confirmation from NYSERDA that you have been approved for participation within the program
- Our loans have a two-step approval process
 - Customers whose applications prove that they meet our underwriting criteria as borrowers are given Preapproved statuses
 - Preapprovals only move to Approvals once the contractor has provided the loan's program specific submission requirements, validating the project's eligibility and the loan's adherence to GJGNY Residential Financing Program criteria

Points of Clarification

- The Comfort Home Program (NYSERDA) **is not the same as** the Home Comfort Program (PSEG LI)

Comfort Home Projects

- Comfort Home Energy Assessment (download from Compass)
- [Comfort Home Energy Savings Calculator \[XLSM\]](#)
- Submit the following to EFS:
 - Web ProForma Summary
 - Contract (signed by both you and the customer)
 - Comfort Home Completion Report with the NYSERDA claim number (download from Compass)

NYS Clean Heat Statewide Heat Pump Program Projects and PSEG LI Home Comfort Projects

- [Air Source Heat Pump \[XLSM\]](#) Energy Savings Calculator
- [Ground Source Heat Pump \[XLSM\]](#) Energy Savings Calculator
- [Air to Water Heat Pump \[XLSM\]](#) Energy Savings Calculator
- Submit the following to EFS:
 - Contract or invoice (signed by both you and customer)
 - Web ProForma Summary Page
 - [Certificate of Completion \[PDF\]](#) (signed by both you and the customer)

Key Takeaways

- NYS Clean Heat Program ≠ GJGNY Residential Financing Program ≠ Comfort Home Program ≠ PSEGLI Home Comfort Program
- If your company has not completed a Combined Residential Contractor Application (previously pictured) then you are not an active contractor within the GJGNY Residential Financing Program at this time
- You must be approved by both the GJGNY Residential Financing Program and Slipstream (in that order) to be able to offer **NYSERDA GJGNY Loans** to your customers
- Your customers' loans aren't Approved until you've referred to the NYS Clean Heat Statewide Heat Pump Program Projects and PSEG LI Home Comfort Projects section (**not the Comfort Home section**) of our Resources for Participating Contractors Page and the GJGNY Residential Financing Program Manual to complete what is needed to prove your customers' projects meet our program's requirements

Questions/Contacts

For questions on the Residential Financing Program please contact:

Heather J. Clark, Assistant Director at heather.clark@nyserda.ny.gov

Kevin L. Hunt, Senior Project Manager at kevin.hunt@nyserda.ny.gov

Lucia Cappiello, Assistant Financial Analyst at lucia.cappiello@nyserda.ny.gov

September Program Manual Update Highlights

General Reminders

- > Contractors will move to inactive status if they have not had an approved project in 6 months
- > National Grid High Priority Electrification zip codes
 - Now require decommissioning on ASHP projects
 - Also eliminating HPWH
- > LTO's
 - National Grid is extending their LTO through 11/1
 - Avangrid panel upgrades
 - Up to \$4,000 per dwelling
 - Please contact your ICF Account Manager for additional eligibility requirements

EmPower+ and Clean Heat Guidance

- > When projects are eligible for both NYS Clean Heat program incentives as well as NYSERDA program funding sources, they may be eligible to receive funding independently from each respective program. However, NYS Clean Heat and NYSERDA incentives cannot be combined towards the cost of the same installed measure.

New Incentives for Multifamily Buildings

- > Central Hudson, National Grid, NYSEG, O&R, and RG&E have new incentives for space heating and water heating projects in multifamily buildings with 5-100 dwelling units.
 - Category 4b: Custom Full Load Multifamily Space Heating
 - Category 6a: Custom Centralized Multifamily Hot Water Heating
- > Con Edison already offers these incentives in its existing Category 2c (space heating) and 6a (water heating)

New Incentives for Multifamily Buildings

How to Participate

- > Eligibility criteria
 - Same equipment types as the custom categories for space and water heating
 - Retrofits, gut rehabs, and new construction may all qualify
 - Year-round occupancy
 - Common-area only projects are ineligible
 - Decommissioning of existing fossil fuel equipment is not required for 4b
- > Process
 - > Applications follow the custom process
 - > Pre-approval and post inspections are required
 - > Building heating loads and equipment performance data are required

New Incentives for Multifamily Buildings

Category 4b: Custom Full Load Multifamily Space Heating

Utility	Incentive rate (\$/dwelling unit)
Central Hudson	\$1,700
National Grid	\$1,800
NYSEG/RG&E	\$1,700
Orange & Rockland	\$1,800

Category 6a: Custom Centralized Multifamily Hot Water Heating

Utility	Incentive rate (\$/dwelling unit)
Central Hudson	\$400
National Grid	\$400
NYSEG/RG&E	\$400
Orange & Rockland	\$400

New Incentive Category for Custom Partial Load Projects

- > Central Hudson, National Grid, NYSEG, O&R, and RG&E have added a new Category 10: *Custom Partial Load Space Heating*
 - This is a clarification of existing guidelines for part-load systems
- > A partial load heating system is a prioritized, first stage, heat pump system installed alongside a supplemental, second stage, heating system for the purpose of providing heating. The supplemental heating system may be either the existing system or a new system. New fossil and electric resistance heating systems are not eligible for Clean Heat incentives.
- > Incentive rates are the same as Category 4 across the utilities, \$70/MMBtu of annual energy savings

New Incentive Category for Custom Partial Load Projects

How to Participate

> Eligibility

- Equipment must be eligible
- Project must displace at least 50% of the existing on-site fossil fuel consumption annually or provide at least 4,000 MMBtu of annual savings. (Heat recovery chiller projects are exempt.)

> Process

- Standard custom incentive process
- Additional documents/explanations will be requested, which may include:
 - Description of any existing or new system serving the same space as the heat pump
 - Whether a supplemental heating system is required to accommodate the design heating load
 - Why additional electrification above and beyond the proposed design is not feasible
 - Description of the control strategy that will be employed

Large Unitary Heat Pumps

- > Large commercial ASHPs may be a retrofit solution for buildings that currently have rooftop or central A/C, often installed with a separate heating system
- > Clean Heat offers incentives through Category 4 *Custom Space Heating Applications*
- > Based on participant feedback, the Clean Heat JMC adjusted the ENERGY STAR requirement for eligibility of systems in the 65,000-240,000 Btu/h size range
- > New criteria:
 - Systems up to 240,000 Btu/h cooling capacity must meet or exceed current ENERGY STAR Light Commercial HVAC Key Product Criteria for COP47
 - Other efficiencies (COP17, EER, IEER) must exceed applicable code
 - Systems with individual heat pump appliance sizes greater than 240,000 Btu/h cooling capacity must have efficiencies that exceed applicable code. These systems are tested under AHRI Test Standard 340/360

Projects to be Completed After 2025

- > The current Clean Heat program period ends at the end of 2025
- > The utilities have submitted proposals for the period 2026-2030 as part of the New Efficiency: New York Interim Review process
 - These proposals are currently under review by the Public Service Commission
- > Contractors are encouraged to contact their Program Administrator regarding any projects that will be completed after 2025

Con Edison Program Manual Updates

- > Version 6 of the Con Edison Program Manual has been published and made effective on September 10th
- > Key updates to the Program Manual include:
 - Revised disciplinary and inspection process
 - New prescriptive incentive offerings for GSHP projects in Multifamily buildings
 - Adder incentives for NPA projects located in Sound View will expire in 2024
- > More details of the Con Edison Clean Heat Program Manual updates will be shared during the Con Edison Clean Heat Webinar
 - September 24th, 9-10:30 AM

Field Assessment Best Practices



NYS Clean Heat Program - Heat Pump Assessments

– Field Assessments Best Practices

September 12, 2024



Field Assessment Intention



On behalf of the joint utilities, Quality Service Providers (QSP) conduct field assessments on a sampled-portion on NYS Clean Heat incented heat pumps.

- TRC is the **QSP provider** for Central Hudson, NYSEG, RGE, and National Grid
- Steven Winter Associates is the **QSP provider** for ConEd and O&R
- ICF is the **program implementer** for all
- QSPs are seeking to
 - Verify if installed equipment is operational. Providing:
 - **Heating**
 - Comfort
 - Long-term durability
 - Appropriate energy bill impacts
 - Verify installed quantities and nameplate information are consistent with the application and supporting documentation
 - Verify it meets program requirements, and manufacturer's specifications
 - Confirm operational functional tests
- QSPs intend to provide **constructive feedback** and support for participating contractors
 - Corrective and Collaborative > punitive
 - Ride-alongs encouraged and preferred. **Especially** for new-to-program contractors

Field Assessment Intention



TRC/SWA Field Agents:

- Follow a pre-determined assessment checklist
- Make determinations in the field – photos, nameplates, customer engagement
- Assess how the heat pump was installed by the contractor (or sub-contractor)
- All non-conformances are reviewed by TRC management
- Deliver a Site Assessment Report (SAR) and a Corrective Action Report (CAR) (when needed) to ICF
- Assessments take between 20 minutes and 1 hour in most cases

ICF Program Implementer:

- Delivers reports to contractors
- Manages post-assessment mitigation and/or contestation
 - TRC *supports* as needed

Checklists and Policies



- **Documents hosted here** <https://saveenergy.ny.gov/NYScleanheat/resources/>
 - The QSP Policies and Procedures Manual
 - <https://saveenergy.ny.gov/NYScleanheat/assets/pdf/Quality-Policies-Procedures.pdf>
 - ASHP Checklist – 27 items
 - <https://saveenergy.ny.gov/NYScleanheat/assets/other/Air-Source-Heat-Pump-Checklist.xlsx>
 - GSHP Checklist – 21 items
 - <https://saveenergy.ny.gov/NYScleanheat/assets/other/Ground-Source-Heat-Pump-Checklist.xlsx>
 - HPWH Checklist – 27 items
 - <https://saveenergy.ny.gov/NYScleanheat/assets/other/Heat-Pump-Water-Heater-Checklist.xlsx>

Common Non-conformances - ASHP



- 5,556 ASHP Field Assessments
- 5,993 Non-conformances

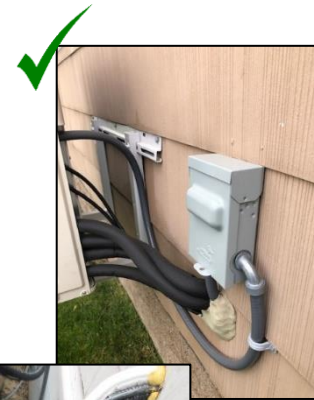
Letter Code	Description	Defect Category	Count	Percent of Sites
C10B	Refrigerant lines (minor)	Minor	835	15%
C10	Refrigerant lines (major)	Major	430	8%
C5	Site matches load calc	Major	418	8%
C16	Outside unit level	Major	417	8%
C1	Equipment matches invoice	Major	388	7%
DE2	Decommissioning checklist matches conditions on site	Major	344	6%
C3	Condensate drain functions	Major	329	6%
C15	Snow protection from above	Major	285	5%
C12	Equipment supported	Major	285	5%
C14B	Indoor unit side clearance	Minor	278	5%

- **C15B** *snow protection from below* and **C13** *outdoor unit clearances* also at 5%

Assessment Best Practices – Refrigerant Line Protection

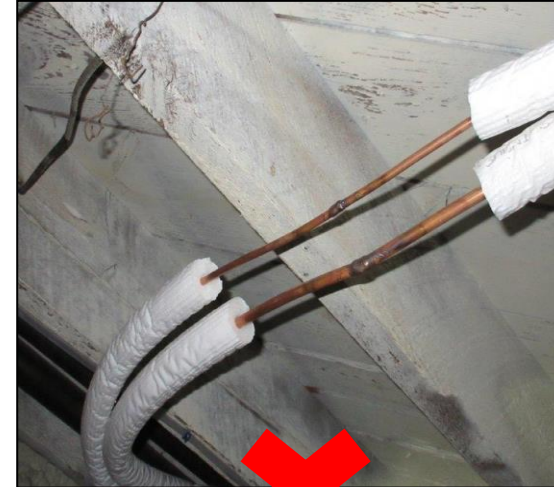
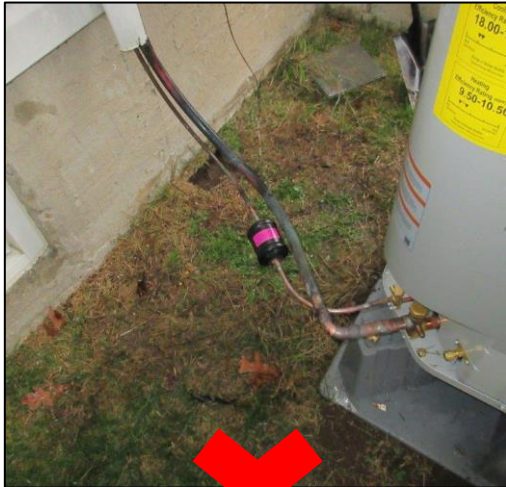
Checklist Item C10 and C10B collectively govern refrigerant line protection.

- > All refrigerant lines shall be insulated fully
 - No compression or gaps
 - Insulation is to be appropriately connected and secured for long-term performance
- > Outdoor refrigerant lines shall have UV protection
 - An insulation sleeve, or an insulation product that is also UV rated will comply



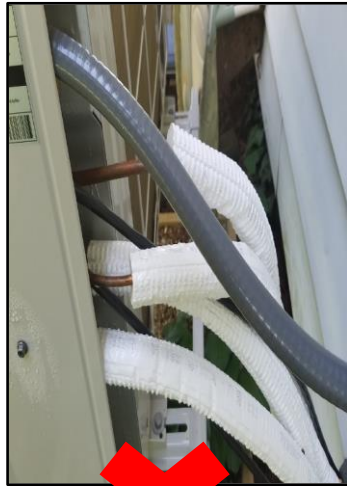
Assessment Best Practices – Refrigerant Line Protection

C10 - Major non-conformance: Large gaps; entirely uninsulated sections; non-UV-protective foams outside



Assessment Best Practices – Refrigerant Line Protection

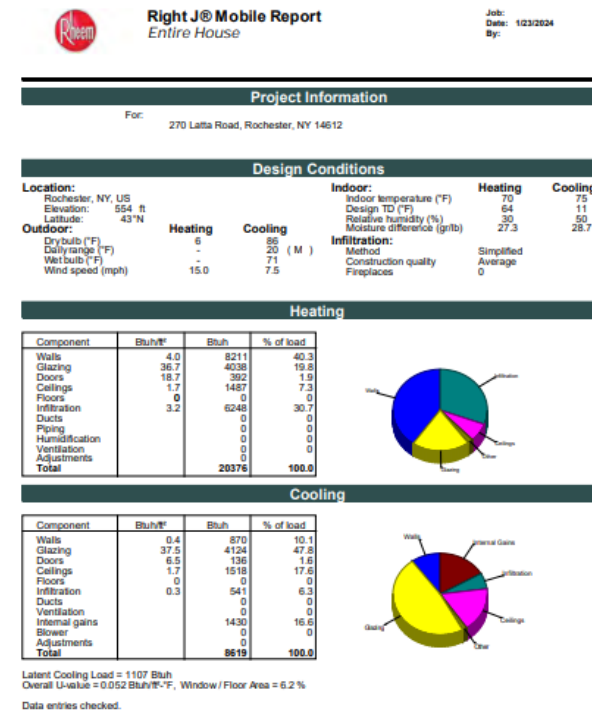
C10B - Minor non-conformance – gaps of under 12” (and over 1”) at the outdoor unit



Assessment Best Practices – Load calculations

C5 - Major non-conformance – Manual J documentation does not reflect the home

- > Run your Manual J *then* choose what system to install
- > Square footage and address match
- > Building components and areas match reasonably (u-factor, r-values)
- > No substantial extraneous surfaces or non-existent heat losses
 - e.g., duct losses with a ductless application
 - Adiabatic partition surfaces
 - Below grade walls modeled as above grade



Assessment Best Practices – Snow Protection

Checklist Item C15 and C15B collectively govern snow protection.

- > To provide heating load - outdoor units must be clear of snow and ice buildup all winter
- > Snow protection from below (C15B)
 - Place the unit above the annual high snow-line for that home's representative weather station
 - Wall mount, ground-mount on a stand, place under a deck



Assessment Best Practices – Snow Protection

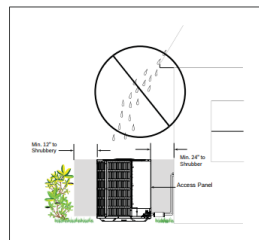
Checklist Item C15B: Snow protection from below. 6", 12" or 18" depending on weather-station. Or place under a deck



Assessment Best Practices – Snow Protection

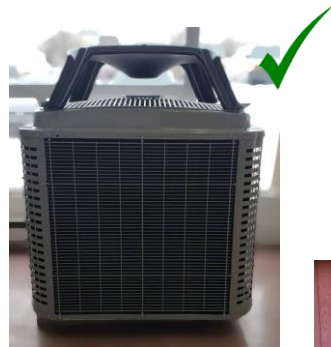
Checklist Item C15 and C15B collectively govern snow protection.

- > To provide heating load - outdoor units must be clear of snow and ice buildup all winter
- > Snow protection from above (C15)
 - Best: Place the unit on a gable end, below a flat roof, or under a deck
 - If on an eave end – *completely* covered by the eave or protected with a snow-deflector
 - **Exception:** Asphalt roof, with a working gutter, *and* the outdoor unit's fan is vertically aligned = approved



Assessment Best Practices – Snow Protection

Checklist item C15 – Snow protection from above. Snow guards/deflectors. Necessary if on an eave end



Assessment Best Practices – Snow Protection

Checklist item C15 – Snow protection from above. Or...place on a gable, not an eave



Assessment Best Practices – Indoor Unit Clearances

Checklist Item C14 and C14B collectively govern indoor unit clearances.

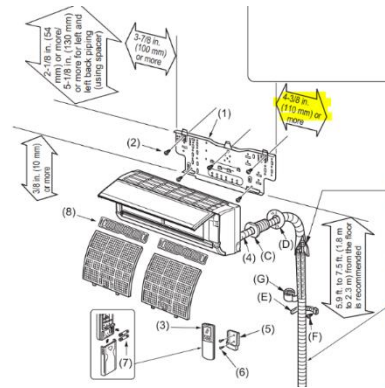
- > C14 – Major non-conformance - clearances above and below
 - Necessary for adequate airflow through the unit
 - Follow manufacturer’s guidance

- > C14B – Minor non-conformance – clearance from the side
 - Can impact service panel access
 - Will impact air circulation
 - Bounce-back may fool the unit’s temperature sensors
 - Follow manufacturer’s guidance



Assessment Best Practices – Indoor Unit Clearances

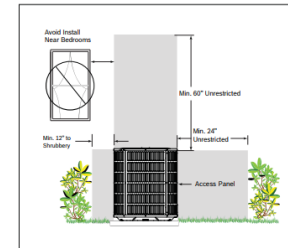
Manufacturer clearances are sometimes measured from the mounting brackets, not the casing.



Assessment Best Practices – Outdoor Unit Clearances

Checklist Item C13 governs outdoor unit clearances.

- > Unit has the necessary free airflow to function
 - Shrubs, walls, barriers, and other heat-pump/AC units all impact conformance



Valuable Resource



ASHP Field Assessment Hot List

<https://cleanheatconnect.ny.gov/assets/pdf/Field%20Assessment%20Hot%20List.pdf>

ASHP FIELD ASSESSMENT HOT LIST
Clean Heat Connect

NEW YORK STATE OF OPPORTUNITY | NYS Clean Heat Supported

NYS Clean Heat's ASHP field assessments verify installed heat pumps operate as intended. Improve your ASHP assessment scores by following the tips below:

SNOW-PROTECTION
Prepare for Snow - from Above and Below

- Outdoor units must be positioned so they do not get buried in snow.
 - Use risers, stands, or wall-mounts either 6", 12", or 18" based on the location.
 - Place the unit under a deck or porch roof.
- Outdoor units must be protected from excessive snow and ice from above. An asphalt roof, with a working gutter is sufficient with vertically-aligned fans. Roof slides and sluffs can block airflow and damage the fan blades. Instead:
 - Place the unit on a gable end, with no snow or rain drip.
 - Place the unit completely under an eave overhang so the drip line misses the unit.
 - Cover the unit with a snow-shield (ensuring sufficient airflow).

OWNER-EDUCATION
Train to Operate and Maintain

- Train homeowners how to operate and maintain their new system.
- Supply homeowners with all product manuals and warranty documentation.

INDOOR UNIT CLEARANCES
Room for Airflow and Maintenance
Follow the Installation Manual to ensure all clearances are met.

REFRIGERANT LINE PROTECTION
Unit to Unit Coverage

- Insulate the entire line - all the way to the connections indoor and out.
- Use UV protective products or sheathing for all sun-exposed lines.
- Properly support all lines.

OUTDOOR UNIT CLEARANCE
Room for Airflow and Maintenance
Follow the Installation Manual to ensure all clearances are met.

Each assessment receives a score and an associated Site Assessment Report. Any non-conformances observed will be shown in a Corrective Action Report.

CONDENSATE LINE
Direct condensate drains to a safe location that does not cause water damage or a slip hazard.

SAFE ACCESS
Ensure the Homeowner can access all units without avoidable risk.

DUCTWORK
Seal all ducting. Ducts are insulated or in conditioned area.

ELECTRIC DISCONNECT
Install an electric disconnect for the outdoor unit.

CHANGE ORDERS
Double-check that the system on the incentive application is the one installed - indoor and outdoor units. No last second swap outs.

TO LEARN MORE, VISIT:
saveenergy.ny.gov/NYScleanheat/

- > Contractor focused
- > 1 page covering tips to fulfill the most commonly failed ASHP checklist line-items

Valuable Resource



Why Air Source Heat Pump Field Assessments Matter

https://cleanheatconnect.ny.gov/assets/pdf/QC%20Why%20Fact%20Sheet_01_2024.pdf

CHECKLIST #	OBJECTIVE	PURPOSE
C9	Verify that exposed new or retrofitted ductwork is properly sealed and insulated if located outside the building's thermal envelope.	<p>DUCT INSULATION: Both supply and return air ductwork should always be insulated if located in unconditioned space. Ductwork must be insulated to maintain the air temperature supplying or removing from the space and to prevent moisture build up on the ductwork. If the insulation is not continuous and touching the ductwork, water vapor can condense on the surface of the ductwork and saturate the insulation. This will lead to growth of mold and mildew and reduce the overall thermal effectiveness of the insulation. According to the Section R403.3.1 Insulation of the 2020 NYS ECCC, ductwork 3 inches or greater in diameter outside the thermal envelope must be insulated to an R-value of R-8 and ductwork less than 3 inches in diameter outside the thermal envelope must be insulated to an R-value of at least R-6.</p> <p>DUCT SEALING: Sealing the ductwork is also critical whether the ductwork is inside or outside the building thermal envelope. Unsealed ductwork will leak air, which lowers efficiency and comfort by requiring more energy to condition the home.</p>
C10	Verify all accessible refrigerant line (indoor and outdoor) set is insulated. Verify that all outdoor refrigerant line set is protected from UV. To comply, no more than 12" of any accessible refrigerant line may be left un-insulated/protected from UV at the outdoor unit connection.	<p>LINE SET INSULATION: Refrigerant line piping insulation is necessary for effective heat transfer. The greater the temperature difference between the surrounding air and the refrigerant lines the more energy is lost. Insulating the refrigerant line is necessary to prevent condensation from forming. Condensation on refrigerant piping could lead to growth of mold and mildew, pipe corrosion, and water damage. It's best practice to select a closed-cell insulation material with low permeability to ensure the insulation will be long lasting. Per Section R403.4 Mechanical System Piping Insulation of the 2020 NYS ECCC, "Mechanical system piping capable of carrying fluids greater than 105°F (41°C) or less than 55°F (13°C) shall be insulated to an R-value of not less than R-3."</p>
C10B	Verify no more than 1" of any refrigerant line is unprotected at the outdoor unit connection.	<p>LINE SET UV PROTECTION: According to Section R403.4.1 Protection of Piping Insulation of the 2020 NYS ECCC, any insulated exterior refrigerant lines must also be protected from solar radiation which can cause degradation of the material. Overtime, non-UV protected exterior refrigerant line insulation will break down, become brittle, and lose its thermal and moisture protection capabilities.</p>

- > Contractor focused
- > Detailed descriptions of each line item and the purpose behind them

Valuable Resource




Acceptable Practices for Correcting and Avoiding ASHP Non-Conformances

<https://cleanheatconnect.ny.gov/assets/pdf/Best-Practices-and-Acceptable-ASHP-QA-Corrections-1.3.pdf>

Acceptable Practices for Correcting and Avoiding ASHP Non-Conformances

This sheet outlines the best practices for correcting the most common non-conformances identified in NYS Clean Heat Site Assessment Reports for ASHP Installations, and how to avoid these non-conformances in future reports. If you have any questions regarding best practices for contestation, please email NYSCleanHeat@icf.com for more information.



TO LEARN MORE, VISIT:
saveenergy.ny.gov/NYScleanheat/

Additional resources, including a QAQC customer-friendly handout and utility-specific resources, can be accessed through [Clean Heat Connect - Contractor Resources](#).

(Item #) Item Description

- Best Practice
- Strategies to Avoid Future Common Non-Conformances (where applicable)
- For any item labelled Major or Critical, customer preference may not result in a successful contestation. We advise having a copy of the [Air Source Heat Pump Checklist](#) and/or [The Field Assessment Hotlist](#) available for all customer communications regarding system design. If customer preference does not align with any major or critical checklist item, please collect a signed customer attestation to any strict preferences implemented against QAQC guidelines, as they will be flagged for correction upon inspection.

(C1 major) Installed equipment is as proposed on application, quantity, make and model

- Generate a new Customer Invoice that lists all equipment, indoor and outdoor, matching what is installed on site
- Review revised invoice against submitted Customer Acknowledgement Form (CAF). If there are discrepancies, please also submit a revised CAF as well
- We CANNOT accept submissions of original invoices with wet revisions (cross-outs, written additions, etc.)
- Make sure that all indoor and outdoor model, quantity, and serial information is listed on the final customer invoice
- If additional equipment was installed outside of the incentive scope, indicate this on a revised invoice

(C8 critical) Refrigerant leaks at exposed field

- Provide an explanation of the type of leak test which is performed, video evidence of completed leak test on flagged units, paired with video or photo evidence of action taken if your secondary leak test results in a positive leak rate
- In the case of major leaks, the contractor may be responsible for pressure testing and re-charging the refrigerant lines once the leak has been repaired
- Ensure each single split or multi split system has passed a nitrogen pressure test per the manufacturer's guidelines prior to charging the system with refrigerant

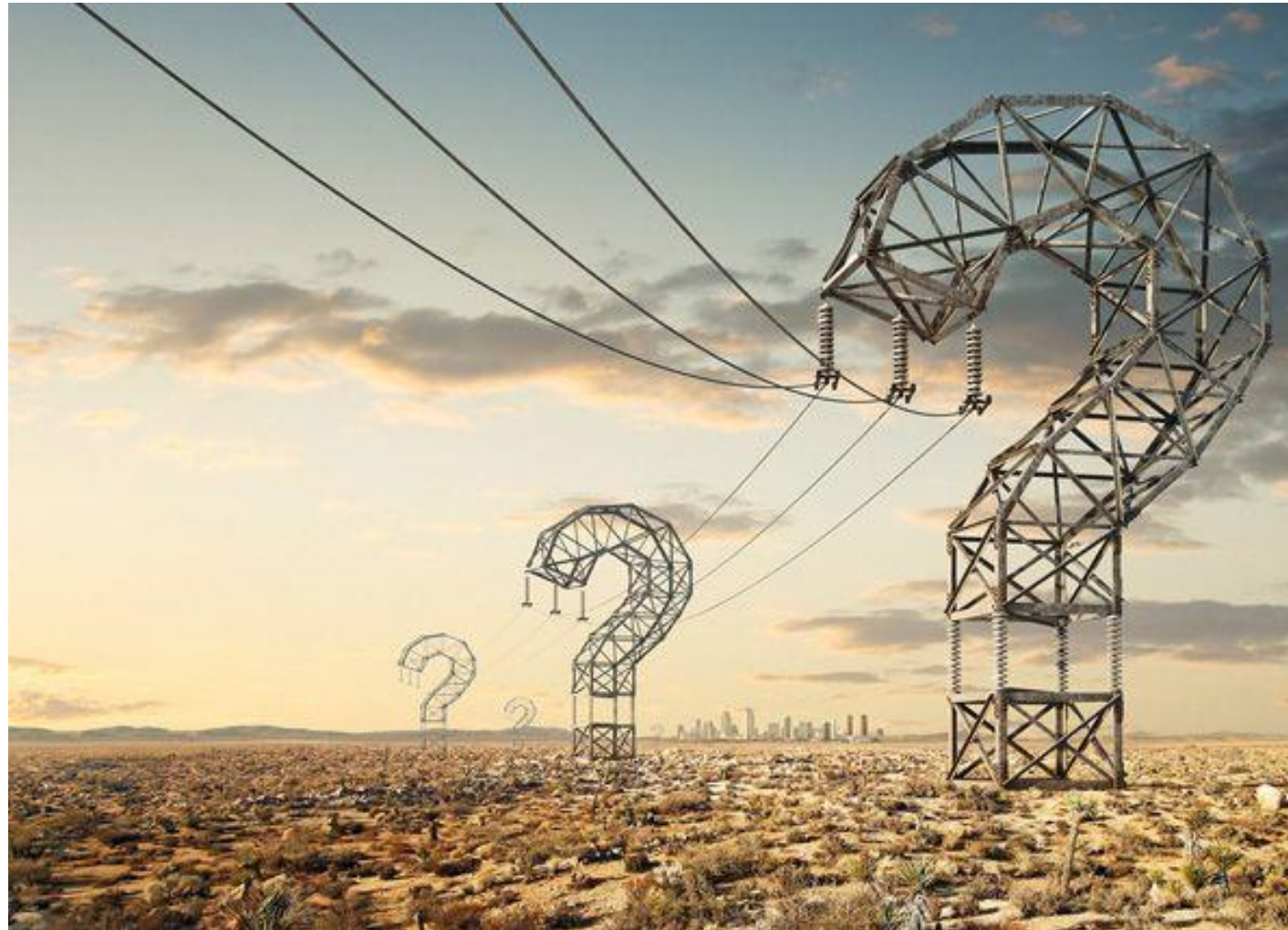
(C10 major/C10B) Refrigerant line set is insulated and protected from UV when outdoors

- Ensure that ALL exposed refrigerant line-set is insulated, and insulation does not have significant damage (e.g., tears or holes exposing refrigerant piping)
- Definition of ALL exposed refrigerant line-set: line-set under a line-hide, full length of copper piping right up to the indoor and outdoor unit connections and branch controller connections where applicable
- Provide photo proof (from same angle as flagged photos in report) of all flagged uninsulated locations
- All lines that are not indoors or covered by a line-hide should be UV Protected
- This item may not apply for certain centrally ducted heat pumps where the refrigerant expansion valve is in the indoor unit. Check your manufacturer specifications and have them ready to share for validation if requested.
- Ensure that ALL exposed refrigerant line-set is insulated (>1" of uninsulated refrigerant piping will result in a non-conformance)
- Ensure that ALL refrigerant insulation is UV resistant or UV retardant, or cover exposed insulation with a UV resistant cover

(C12 major) All exposed equipment and pipe supports appear to be properly secured

- Ensure that each unit is secured to its mount at all four corners, and that mount is anchored to ground at all four corners
- Cinderblocks, bricks, or concrete slabs are only justified unit mounts if concrete is

Questions?



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Upcoming Training Opportunities

Upcoming School of Clean Heat Trainings

Clean Heat Program Overview (Avangrid/National Grid focused)

- > ICF will host a free online training on **Tuesday, September 17th at 9-10:15 AM.**
 - Training will include: Calculating ASHP incentives & capacity at design temp; & Required documents.
- > You can register for the training at <https://attendee.gotowebinar.com/rt/9029892516589917019>.

Clean Heat Program Overview (Central Hudson and O&R focused)

- > ICF will host a free online training on **Tuesday, September 17th at 8:30-10 AM.**
- > You can register for the training at <https://attendee.gotowebinar.com/register/4329082285015486550>.

Clean Heat Online Intake Tool Overview (Avangrid/National Grid focused)

- > ICF host a free online training on **Thursday, September 19th at 9-10 AM.**
 - Training will include: Submitting a rebate application and related submission details.
- > You can register for the training at <https://attendee.gotowebinar.com/rt/5295158280778975068>.

Completed Manual J Training Events

Wrightsoft

You can access the training on demand at [Wrightsoft Load Calc Manual J Training](#).





- Training included a live demonstration and overview of Wrightsoft Manual J software, providing critical guidance on how to create accurate reports that comply with NYS Clean Heat standards

Amplify



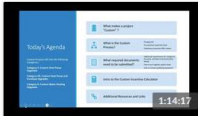



- > ICF hosted a free online training/demonstration with Amplify on **Monday, July 22nd**. Amplify is a relatively new software that offers automated, detailed measurements and accurate load calculations.
- > You can access the training on demand at [NYS CleanHeat Amplify - Better Faster Heat Pump Designs and Manual J](#).

School of Clean Heat Webinar Recordings





NYSCH Upstate Trainings

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Recently Added

-  19 DAYS AGO
School of Clean Heat - Clean Heat Online Intake Tool (36:31)
-  20 DAYS AGO
School of Clean Heat - Program Overview & Overview of Custom (24:34)
-  28 DAYS AGO
School of Clean Heat - Overview of Custom (1:14:17)
-  1 MONTH AGO
NYS Clean Heat Custom Calculator Walkthrough- (48:19)
-  2 MONTHS AGO
School of Clean Heat - Air-to-Water Heat Pump (35:11)
-  3 MONTHS AGO
School of Clean Heat - Central Hudson Orange (57:09)

Con Edison Clean Heat

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Featured Videos

-  3 MONTHS AGO
CoolCalc Manual-J Load Calculating Training (1:31:27)
-  4 MONTHS AGO
Con Edison's Clean Heat Training Webinar - (49:49)

- > [School of Clean Heat Upstate Recordings](#)
- > [School of Clean Heat Con Edison Recordings](#)
- > Access at any time to fit your busy schedule!

School of Clean Heat Shorts Channel

Clean Heat Shorts

Quick, targeted videos to help Clean Heat contractors address and prevent common application errors

Recently Added

The screenshot displays four video thumbnails in a grid. Each thumbnail includes a title, a brief description, a duration, and a timestamp. The first thumbnail is titled 'Customer Acknowledgement Form' with a duration of 3:35 and a timestamp of '2 HOURS AGO'. The second is 'Missing AHRI/NEEP Certificates' with a duration of 5:53 and a timestamp of '6 DAYS AGO'. The third is 'Manual J: Design Temps Not within 5 Degrees, Missing' with a duration of 7:26 and a timestamp of '11 DAYS AGO'. The fourth is 'Relevant Action Reasons' with a duration of 4:57 and a timestamp of '11 DAYS AGO'. The video titles are: 'Customer Acknowledgement Form', 'Missing AHRI/NEEP Certificates', 'Manual J: Design Temps Not within 5 Degrees, Missing', and 'Relevant Action Reasons'. The descriptions are: 'What you need to know', 'Welcome to The School of Clean Heat!', 'Relevant Action Reasons', and 'Missing or incorrect serial numbers, Model number does not match photo and/or documentation, Missing Decommissioning Photos, Serial number does not match photo and/or documentation, Missing outdoor unit installation photos (if applicable), Missing heat pump water heater installation photos'.

- > Learn how to correct common application errors in minutes
- > Cover only the specific training topics you need
- > Access at any time to fit your busy schedule
- > Additional Clean Heat Shorts coming soon!

[Visit School of Clean Heat Shorts](#)

Stakeholder Updates

- > Topics encouraged to be coordinated via JMC through nyscleanheat@ceadvisors.com.

Reminder: Meeting Cadence

- > The JMC has PC&IP meetings scheduled in early June, September, December, and March.
 - Aligns with future program announcements and updates moving forward
 - Continuous feedback is still encouraged through program representatives and NYS Clean Heat email inboxes
- > Utilities will continue engagement and outreach with individuals and small groups to align on potential program adjustments and get additional feedback from the industry

Resources, Support, and Next Steps

- > Next PC&IP meeting on **December 12th, 2024** (9:00 AM-10 AM)
 - Please submit potential topics for the next Working Group by **December 5th** via email to NYSCleanHeat@ceadvisors.com or directly to your utility partner.
- > **Email blasts** – twice per quarter
 1. Early week following Working Group: next steps, including slides, meeting notes and Q&A
 2. Week prior to meeting: Program changes and last call for potential topics
- > NYSCleanHeat@ceadvisors.com – for *program*-related inquiries
- > NYSCleanHeat@icf.com and (844) 212-7823 for *project*-related inquiries
- > NYS Clean Heat Website - (<https://cleanheat.ny.gov/contractor-resources/>)

NYS Clean Heat Project Status Inquiry Process

Project inquiries

1. Contractor reaches out to their dedicated account manager (AM) for issue resolution first
2. If the AM does not respond within three days, contact NYSCleanHeat@icf.com or the Utility Program Manager as listed below. These Program Managers work for their respective utilities, which have contracted with ICF to handle applications.

Utility Program Manager contacts

- > **Central Hudson:** Ray Cotto, Assoc. Energy Efficiency Program Manager
Phone: (845) 486-5750, Email: RCotto@cenhud.com
- > **Con Edison:** Toby Hyde, Section Manager, Phone: (917) 565-6911, Email: hydett@coned.com, Dan Krupa, Manager, Phone: (212) 460-2831, Email: krupad@coned.com
- > **National Grid:**
 - Jim MacMartin, Program Manager (Residential), Phone: (315) 427-0723, Email: James.MacMartin@nationalgrid.com
 - Julie Hawkins, Program Manager (Custom), Phone (315)776-1006, Email: Julie.Hawkins@nationalgrid.com
- > **NYSEG/RG&E:** Sean Dooley, Program Manager, Conservation and Load Management
Phone: (585) 629-8656, Email: Sean_Dooley@rge.com
- > **Orange & Rockland:** Chris Trenard, Program Administrator, Phone: (845) 577-2317, Email: trenardc@oru.com

Additional Resources

> Co-chair contacts

- **Ray Cotto**, Central Hudson: Phone: (845) 486-5750, Email: RCotto@cenhud.com
- **Karen Kao**, NYSERDA: Phone: (518)-971-1130, Email: karen.kao@nyserda.ny.gov

- > All program documents are located on the NYS Clean Heat Resources page (<https://cleanheat.ny.gov/resources-for-applications/>)
- > All regulatory proceeding documents are located on the NYS DMM (<http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?Mattercaseno=18-M-0084>)
- > Additional program resources are available on the Clean Heat Connect website (<https://cleanheatconnect.ny.gov/>)

Thank you!

