NYS Clean Heat Working Group Series

for Participating Contractors & Industry Partners

Session #12

April 14, 2022 8:30 am–10 am

NYS Clean Heat
Joint Management Committee

NEW YORK STATE OF OPPORTUNITY. | NYS Clean Heat

Agenda

- **Meeting procedures** (2m)
- **Welcome** (2m)
- **Safety Message** (2m)
- **JMC updates and discussion**
  - Con Edison Residential Clean Heat Process (15m)
  - Online Intake Tool (OIT) Improvements Status Update (10m)
  - Presentation from Matt Christie of TRC on Clean Heat Connect and QA Best Practices (20m)
  - Cadence of future meetings (5m)
- **Stakeholder Presentations**
  - No submissions provided this month
- **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
    - Hover your mouse over your name in the Attendees list in order to see the Raise Hand icon displayed
    - 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 Paul Dauderis pdauderis@ceadvisors.com

Welcome

Joint Management Committee (JMC) Co-Chairs:

> **Mark Bremer**, National Grid

> **Will Xia**, NYSERDA

> *Other JMC Members:*

- **Ray Cotto**: Central Hudson
- **Steve Coulter**: Con Edison
- **Jennifer Cross**: National Grid
- **Nicole Williams**: NYSEG, RG&E
- **Mark Maloney**: Orange & Rockland

> *Our implementation team today:*

- **Mike L'Ecuyer**: ICF

> *Our Working Group support team:*

- **Ben Davis:** Concentric
- **Pieter Zwart:** Concentric
- **Clara-Ann Joyce:** 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

Working Group Series
Review of typical meeting format

- **Updates on previous topics** (various)
- **Stakeholder presentations (None this session)**
  - Presentation (5m)
  - Discussion time will vary by topic (5-30m)

Safety Message

- **MASKS**
  - During spring cleaning season, be sure to wear a mask when cleaning dusty areas both inside and outdoors.

- **CAUTION: WET FLOOR**
  - Be extra careful when working on wet surfaces outdoors as slick surfaces present hidden dangers, especially if working on ladders or other elevated equipment.

- **STINGS AND BITES**
  - Warm weather brings out flying and crawling insects and bugs such as hornets, yellow jackets, ticks, etc.. If you suffer a sting or bite, be sure to leave the area before removing a stinger and washing the area with soap and water. Seek immediate medical attention if you experience difficulty breathing, nausea or any other symptoms of an allergic reaction after a sting or bite.

Con Edison Residential Clean Heat Process

April 11 Letter to Contractors

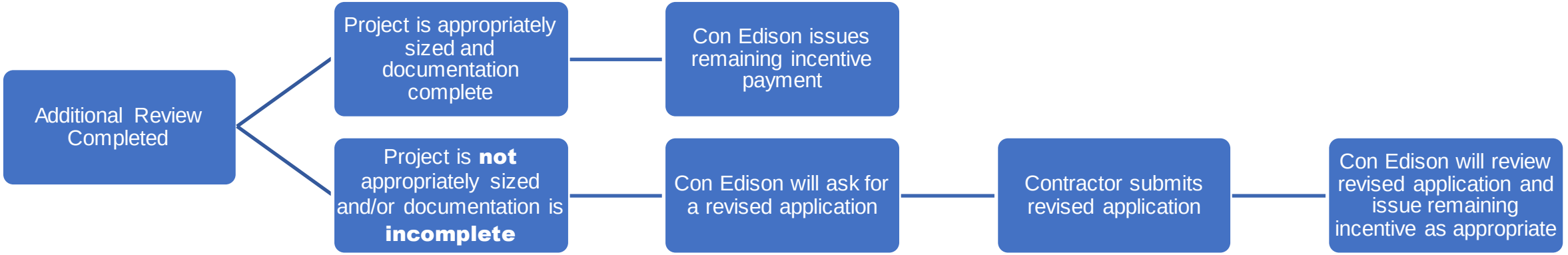
- We are reviewing residential projects in Categories 2, (Cold Climate ASHP Full Load Heating) 2a, (Full Load Heating with Integrated Controls) and 2b (Full Load Heating with Decommissioning) to check that they are **appropriately sized for building heating requirements** and that Manual J and other project documentation is **completed accurately** according to Clean Heat Program rules
- Con Edison will issue full payments to projects that do not require additional review **beginning** on **April 14, 2022**
- We will also issue **partial payments** to projects that are flagged for further review **beginning** on **April 21, 2022**

Con Edison Residential Clean Heat Process

Projects Requiring Additional Review

Projects that require additional review will receive a partial payment. To receive any additional payment from the Clean Heat program, we ask that contractors follow this process:

- We will request additional information, including the detailed Manual J report and a completed Manual J Data Table (attached to the April 11 letter). We ask that Contractors return those documents within 60 days
- We may also ask for more information, meetings and/or a site visit
- Our goal is to complete our review within 30 business days after receiving complete documentation



Online Intake Tool (OIT) Improvements Status Update

Previous sprint items completed in 2021 and 2022

- 2021: Filtering on dashboard, exporting data, adjusting columns, premise info in emails, deploy text messages, coordination of messaging with OIT changes, HPWH OIT alternatives, status glossary, tips on fields, aging of current status
- January 2022
  - Added fields for Con Edison and ORU Category 2A and 2B; fields for NYSEG and RGE special LMI projects
  - Added a note/comment field for contractors to fill out on new applications, as requested
- March 2022
  - Smarter existing equipment type entries, based on fuel type
  - Make column for project number wide enough in default view
  - Developed report providing total project aging
- Acceleration of OIT harmonization for Fall 2022 had to accommodate new requests
  - Con Edison request for some new fields to collect Manual J – related data: must be incorporated ASAP and is underway, in addition to a field
  - We were able to move task to show compilation of equipment entries for contractors to check before submitting (including model and S/N) back up to current 5/1 sprint
  - Changes under consideration for 9/1 may affect OIT inputs somewhat – still TBD

OIT Improvements Schedule

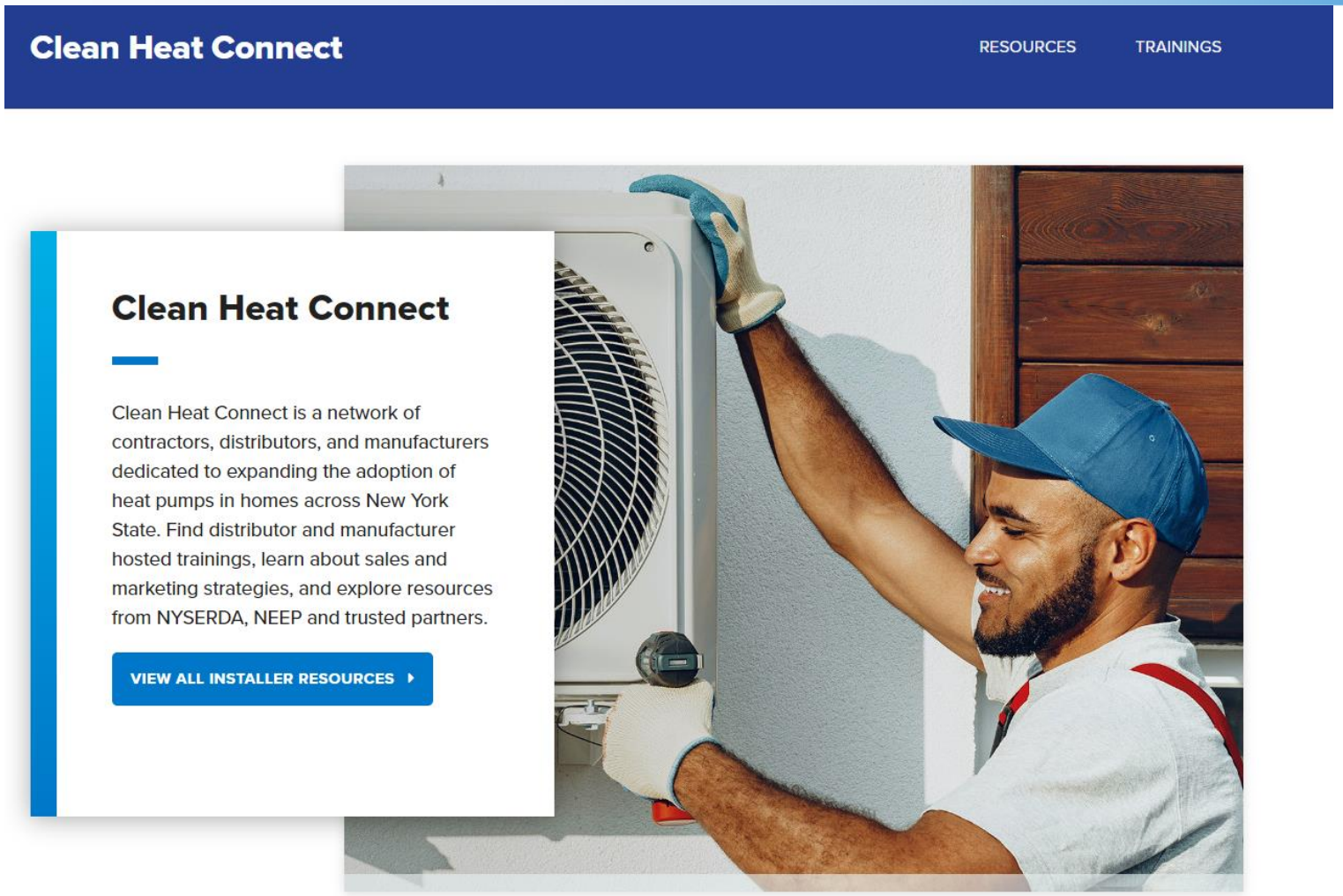
Improvement	Feasibility	Notes	ETA
Add Manual J - related fields	High	New fields to assist with review of Manual J analyses – total and conditioned square foot, previously unconditioned spaces, heating loss, infiltration rate	4/25/2022
Make versions of OIT more identical (interim)	High	Harmonize order of fields – the practical solution for this stage is order of fields for required attachments	5/1/2022
Include equipment model and serial number for contractor to check before submitting	High	Developed ability to generate the data that was input, including serial and model number as interim solution	5/1/2022
Cloning Measures	High	Planning to develop such that only serial number will need to be entered for the cloned equipment	8/31/2022
Make all versions of OIT identical	High	Longer term: common OIT platform, degree of harmonization contingent on JMC program design harmonization	8/31/2022
Deploy bulk upload tool like the one deployed for Con Ed	High	The OIT bulk upload tool is complex b/c of attachment capability - requires one OIT platform.	9/30/2022

← Moved back up

Clean Heat Connect & Common QA Items

> Presentation from Matt Christie of TRC on Clean Heat Connect Resource and review of common QA items

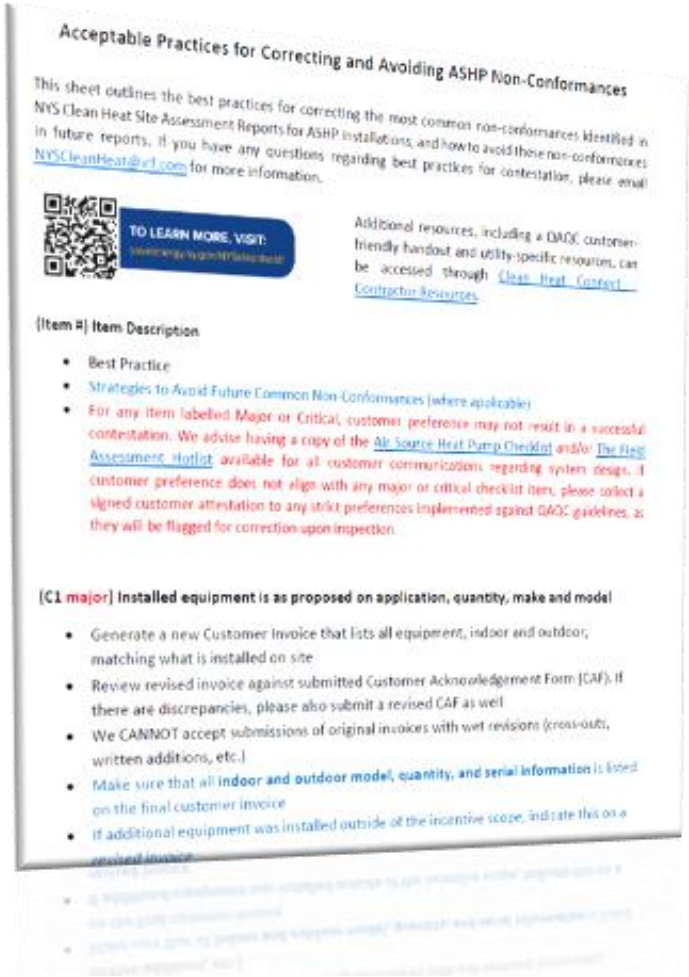
www.CleanHeatConnect.ny.gov



Field Assessment Best Practices

- **ASHP Field Assessment Checklist – available here:**
  - https://saveenergy.ny.gov/NYScleanheat/assets/other/Air-Source-Heat-Pump-Checklist.xlsx
  - **23-point standardized field assessment.**
- **Implementation**
  - Projects are selected based on a sampling criteria
  - Steven Winters Associated or TRC conduct field-assessments based on utility territory and building type
  - ICF, Willdan, Steven Winters Associates, and TRC manage non-conformance mitigation
- **Assessment goal to highlight corrective actions needed and future improvement**
  - Corrective and collaborative > punitive

New Resource – Acceptable Practices for Correcting and Avoiding ASHP Non-Conformances



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@nyl.com for more information.

TO LEARN MORE, VISIT:

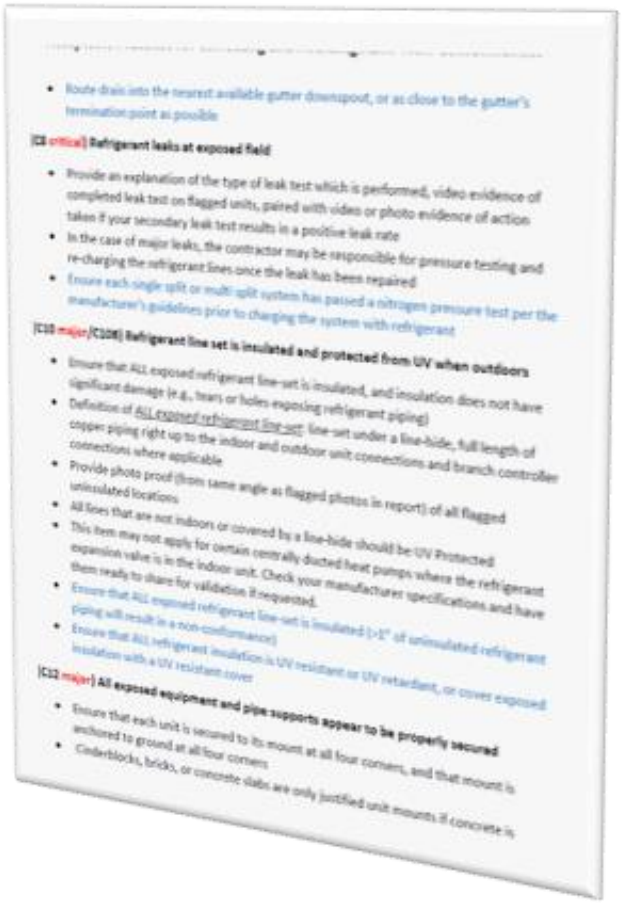
Additional resources, including a DAQC customer-friendly handout and utility-specific resources, can be accessed through Clean Heat Contact Contractor Resources

(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 DAQC 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



- Route drain into the nearest available gutter downspout, or as close to the gutter's termination point as possible

(C9 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

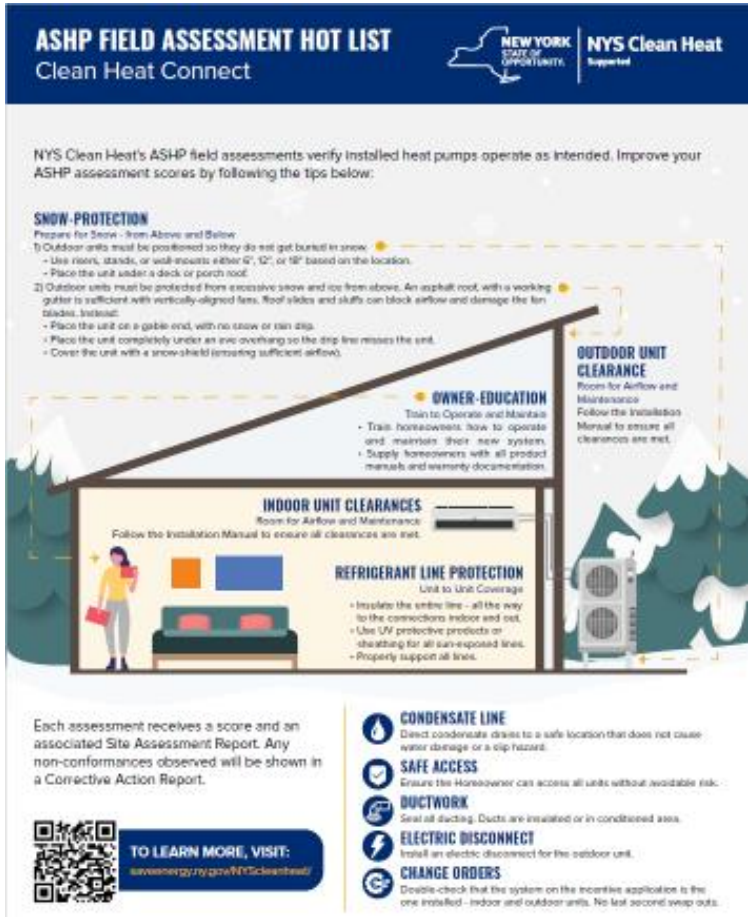
(C10 major/C10E) Refrigerant line set is insulated and protected from UV when outdoors

- 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

New Resource – ASHP Field Assessment Hot List



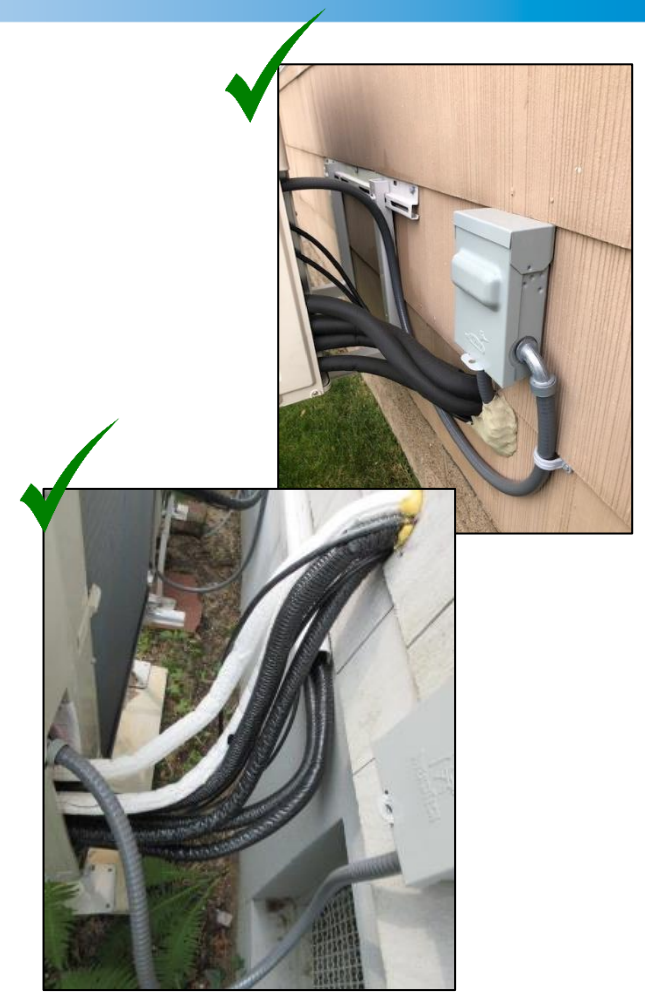
- > Contractor focused
- > Consumer friendly
- > 1 page covering most assessment items

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.



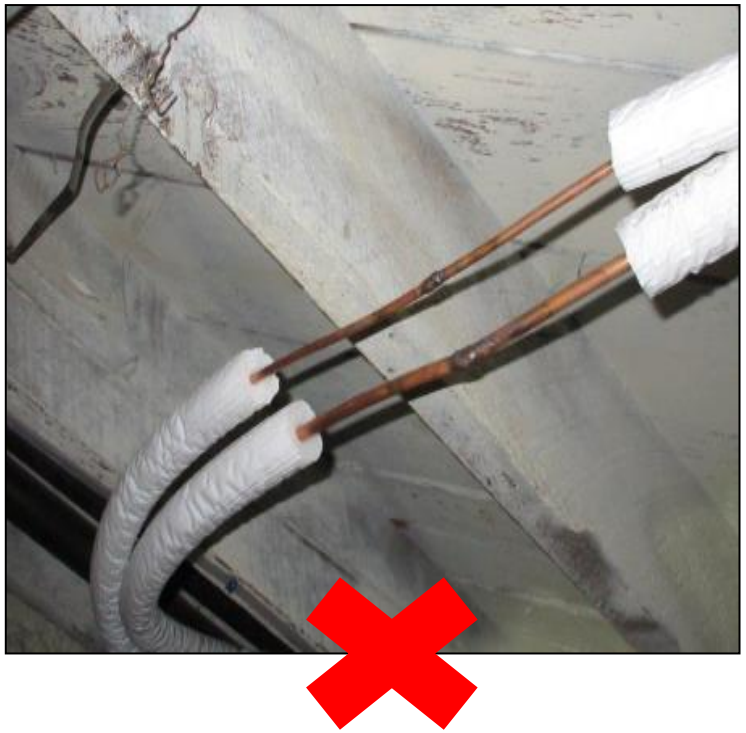
Assessment Best Practices – Refrigerant Line Protection

C10 - UV Protection:

- Open cell traditional foam is not UV protective, and breaks down quickly in the field.
- Newer closed-cell elastomeric foam products *are* UV protective, but can be difficult to differentiate in the field.
  - Choose one with a stamp, or denote on application docs that such a product is in use.

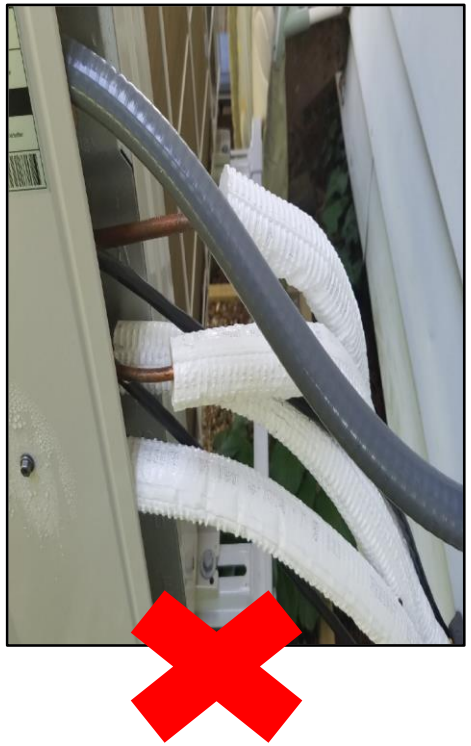
Assessment Best Practices – Refrigerant Line Protection

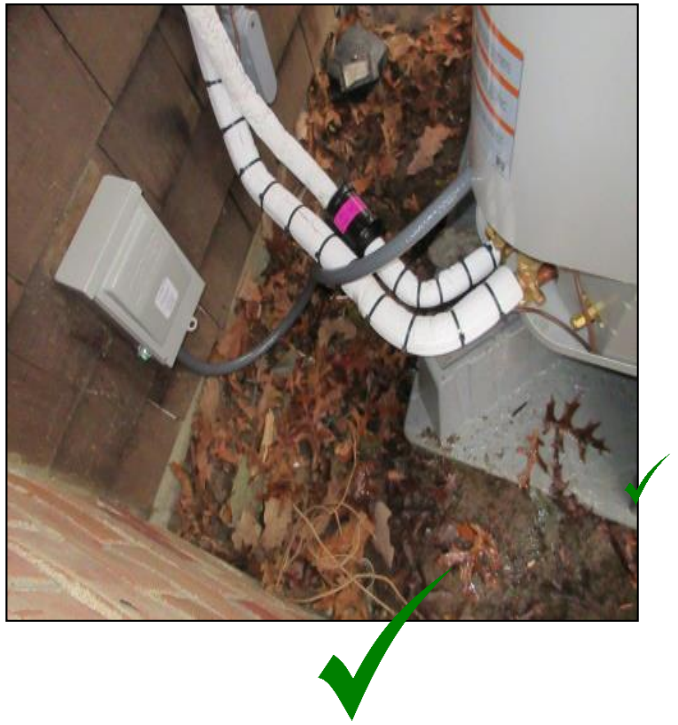
C10 - Major non-conformance: Large gaps; entirely uninsulated sections; non-UV-protective foams outside



Assessment Best Practices – Refrigerant Line Protection

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





Assessment Best Practices – Snow Protection

Checklist Item C15 and C15B collectively govern snow protection.

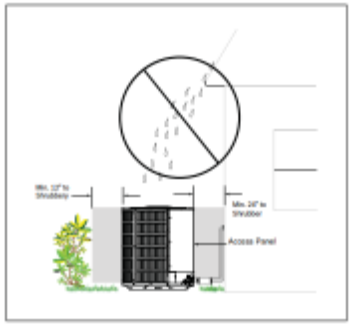
> To provide heating load - outdoor units must be clear of snow and ice buildup all winter.

> 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 = is 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 eve

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

≥12” Needed in this zone

Assessment Best Practices – Indoor Unit Clearances

Checklist Item C14 and C14B collectively govern indoor unit clearances.

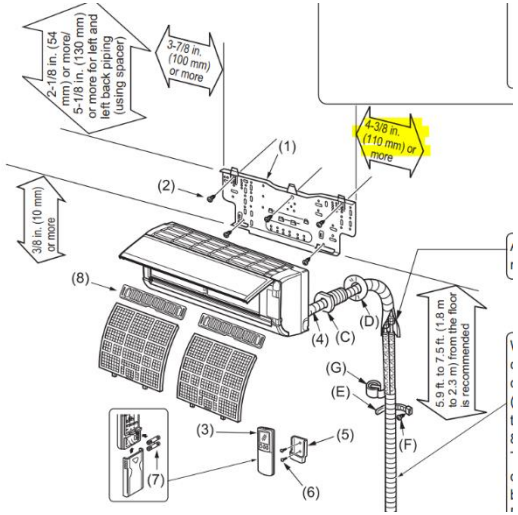
- C14 – Major non-conformance - clearances above and below
  - Necessary for adequate airflow through the unit
  - Follow manufacturer's guidance

- 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.

?



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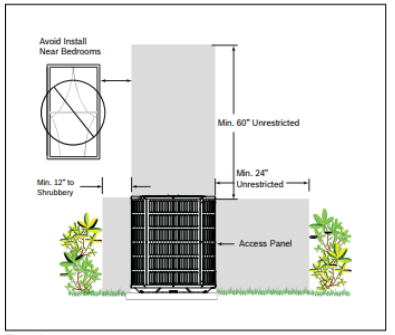
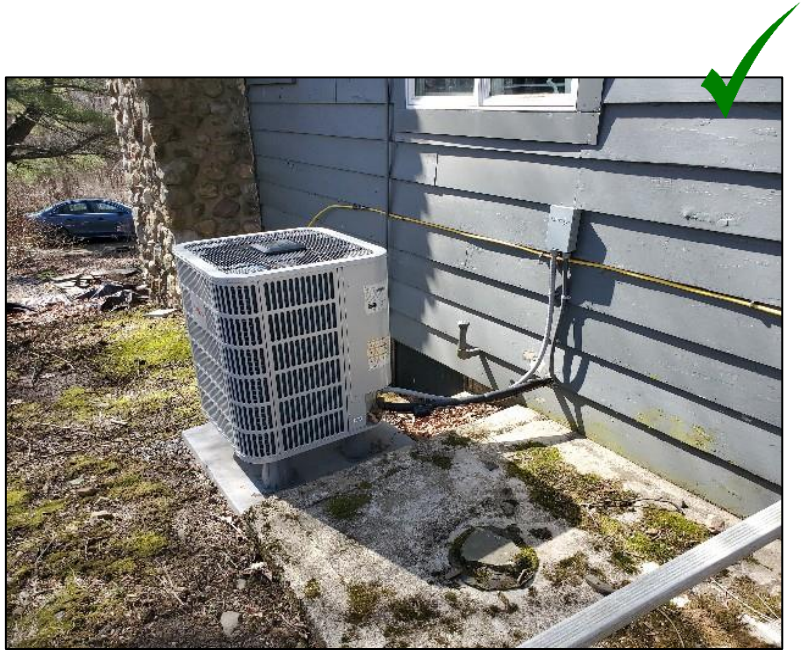
Assessment Best Practices – Outdoor Unit Clearances

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





Assessment Best Practices – Other Items

Item	Name	What we're looking for
C1	Make/Model Match	Do the indoor and outdoor units as-installed match what's on the application?
C3	Condensate drain function	Does the condensate functionally drain to an appropriate place?
C4	Safe Access	Can the Field Agent, and future service technicians, safely access the unit?
C5	Load-size matching	Does the *building* match the Manual J?
C8	Refrigerant leakage	Does a wand test expose a refrigerant leak?
C9	Sealed/insulated ductwork	If ducted; are ducts space sealed and insulated (if in non-conditioned space)?
C11	Air filter confirmation	Are air filters installed? Is the air-filter slot accessible?
C12	Equipment piping support	Are all units, refrigerant lines, power cables, etc. properly secured?

Assessment Best Practices – Other Items

Item	Name	What we're looking for
C16	Outdoor unit level	Is the outdoor unit level?
C16B	Vibration dampers	If wall mounted, are there vibration dampers?
C17	Functional testing	Does the unit respond to a heating or cooling call appropriately?
C18	Electric disconnect	Is the electric disconnect installed in an accessible location for service? And lockable if out of the technicians site line.
O2	Manufacturer's warranty	Was the homeowner provided a copy of the warranty?
O3	Customer operations training	Was the homeowner provided with operations training?
O4	Owner's manual/ maintenance docs	Was the homeowner provided with a copy of the owner's manual and maintenance documents?
O5	Supplemental heat controls training	If there is a supplemental heating system, was the homeowner provided controls training to provide primacy to the ASHP?

Non-Conformance Frequencies:

- Since Jan 1, 2021 –
  - 1,252 assessments
  - 597 assessments with perfect scores
  - 1,180 non-conformance items across the 655 other projects

Letter Code	Description	Defect Category	Count	Percent
C10	Refrigerant lines (lg)	Major	144	12%
C15B	Snow from below	Major	124	10%
C13	Outdoor clearances	Major	86	7%
C3	Condensate drain	Major	66	6&
C1	Installed unit Match	Major	57	5%
C16	Outdoor unit level	Major	54	5%
C15	Snow from above	Major	48	4%

Letter Code	Description	Defect Category	Count	Percent
C10B	Refrigerant lines (sm)	Minor	211	18%
C16B	Dampers installed	Minor	70	6%
C14B	Indoor side clearance	Minor	62	5%

JMC Updates

- JMC proposes moving cadence to quarterly meetings with meetings scheduled in early June, September, January and March.
  - Aligns with future program announcements and updates moving forward
  - Feedback encouraged continuously through program representative and NYS Clean Heat email addresses
  - Lengthening time between meetings will allow stakeholders more time to prepare topics and engage with JMC on potential topics for discussion
- JMC expects to increase engagement and outreach with small groups to align
- Other

Resources, support, and next steps

- Next PC&IP meeting on **June 9th, 2022** (9:00 AM-10 AM)
  - Please submit potential topics for the next Working Group by **May 26th** via email to NYSCleanHeat@ceadvisors.com or directly to your utility partner.
- NYSCleanHeat@ceadvisors.com – for *program*-related inquiries
- NYSCleanHeat@icf.com and (844) 212-7823 for *project*-related inquiries
- NYS Clean Heat Website - (https://saveenergy.ny.gov/NYScleanheat/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 Ed:** Steve Coulter, Program Manager, Phone: (818) 967-0066, Email: coulters@coned.com , Toby Hyde, Program Manager, Phone: (917) 565-6911, Email: hydet@coned.com
- **National Grid:** Jennifer Cross, Senior Program Manager
  518-433-5034, Email: Jennifer.Cross@nationalgrid.com
- **NYSEG/RG&E:** Nicole Williams - Program Manager, Conservation and Load Management
  Phone: 585-484-6592, Email: nicole.williams@nyseg.com
- **Orange & Rockland:** Mark Maloney Phone: (845) 577-2368, Email: maloneym@oru.com

Resources, support, and next steps

- **Co-chair contacts**
  - **Mark Bremer**, National Grid: Phone: 1 (315) 440-1770 (m), Email: mark.bremer@nationalgrid.com
  - **Will Xia**, NYSERDA: Phone: 212-971-5342 x 3132 , Email: William.Xia@nyserda.ny.gov
- **Email blasts** – twice per quarter
  1. Early week following Working Group: next steps, including PowerPoint and meeting notes
  2. Week prior to meeting: Agenda items and report-out on prior items
- All program documents are located on the NYS Clean Heat Resources page (https://saveenergy.ny.gov/NYScleanheat/resources/)
- All regulatory proceeding documents are located on the NYS DMM (http://documents.dps.ny.gov/public/MatterManagement/CaseMaster.aspx?Mattercaseno=18-M-0084)

Thank you!


People. Power. Possibilities.
Central Hudson
A FORTIS COMPANY


conEdison


nationalgrid


Orange & Rockland


NYSEG


RG&E


NEW YORK
STATE OF
OPPORTUNITY.
NYSERDA