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:
cleanheat.ny.gov/contractor

Additional resources, including a QAQC customer friendly handout and utility-specific resources, can be accessed through Clean Heat Connect.

(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

(C3 major) Documentation that condensate system was observed to be functional

- Route drain into the nearest available gutter downspout
- If not possible, fully secure drain to the side of the building and route to terminate as close to gutter terminal as possible, directly into a grate drain, lawn, garden, or other non-trafficked area on the property
    - Definition of a *trafficked area*: any walkway, driveway, alley, patio, or deck that is located at the front of the property, or otherwise leads to a means of egress
- Route drain into the nearest available gutter downspout, or as close to the gutter's termination point as possible

(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 secured the ground and unit with Tapcon screws, or other concrete anchors.
- When submitting photos to prove condenser-security non-conformances have been cured, submit photos that include all four legs for each relevant outdoor unit
- Bolt each mount to the ground at all four corners and bolt unit to its mount at all four corners
- DO NOT secure refrigerant line-sets with zip ties as this will lead to rapid degradation of piping insulation

(C13 major) Outdoor unit is installed with sufficient clearances

- Ensure that, in order to meet the clearances flagged in the report, you are not compromising clearance on another side of the system
- Ensure outdoor unit clearances meet the recommended distances outlined in the manufacturer's installation manual which correspond to the most similar installation configuration to conditions on site.
    - Clearance requirements may vary depending on how many sides of the unit are obstructed and whether multiple outdoor units are installed in an array

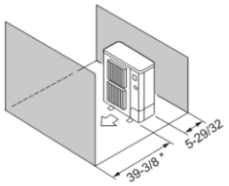


Fig. 2-10

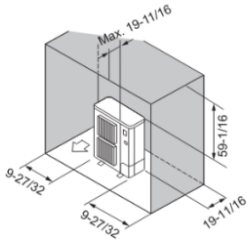


Fig. 2-11

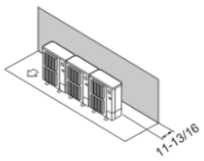


Fig. 2-12

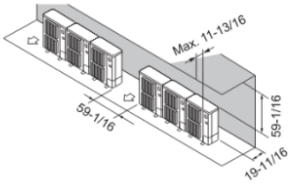


Fig. 2-13

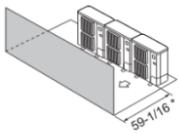


Fig. 2-14

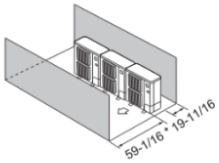


Fig. 2-15

- Consider mounting on a free-standing mount if a wall-mount does not allow manufacturer's recommended clearance to be met

(C14 major) Location and height (top and bottom clearances) of ASHP Terminal Units are sufficient for proper function, per manufacturer's specs

- For wall mounted non-ducted units, ensure that side clearance meets or exceeds recommended distance as listed in manufacturer's installation manual
- Consider and advocate to customer for installing floor mounted air handlers if wall mount clearances cannot be met in a room and available floor space is feasible

(C14B) Side clearances of ASHP Terminal Units are sufficient for proper function, per manufacturer's specs

- Ensure that side clearance meets recommended as listed in manufacturer's installation manual, and that service panels can be removed without causing damage to interior space

(C15 major) Outdoor unit is away or protected from increased sources of water/ice/snow from above

- If unit is installed under non-gable, guttered roof: ensure roof edge covers overhead of unit WHILE meeting manufacturer recommended clearances (side, rear, overhead)
- If snow-cover attachments are on backorder, please submit confirmation of order
- If snow-cover attachments are not available, use or build a structure for coverage which allows for proper airflow
- Avoid installing outdoor units below fire escapes, outdoor stairways, or decks with significant gaps (and no baffle)
- Do not install an outdoor unit below another outdoor unit unless the manufacturer states this is acceptable in the installation manual, or a snow-cover is also installed

(C15B) Outdoor unit is above depth level according to snow depth chart

- If unit requires a vertical lift to meet regional snow depth requirements, the unit must be mounted on a structure that it can be secured to, and the structure must be secured to the ground (no cinderblocks, no wooden panels, etc.)
    - The appropriate corresponding snow line can be determined using the NYS Clean Heat Prescriptive Categories Incentive Calculator and Statewide Custom Clean Heat Calculator found on the Resources for Applications: NYS Clean Heat.
- If separate mounts are on backorder, please submit confirmation of order
- If outdoor unit is mounted on a pad to meet regional snow depth requirements, the pad must not be so large that snow could build up on the pad around the unit
    - The outdoor unit must be raised to 6" above the pad if this is the case

- Order mounts/stands that are marketed specifically for mini-split condensers for future projects

(C16 major) Outdoor unit is installed level

- Provide photo evidence of leveling tool on flagged unit(s) after corrective action is made

(C16B) Outdoor unit is on brackets, verify that vibration dampeners are installed, if required

- If unit is mounted to the external wall, ensure vibration dampeners are installed or included in the design of the mount
- If included in the design of the mount and still flagged, provide specifications verifying built in vibration mitigation
- When submitting photos to prove non-conformances have been cured, submit photos that include all four legs for each relevant outdoor unit

Should you require further assistance understanding and/or completing required corrections, please email NYSCleanHeat@icf.com in a response to your report notice.