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Air-Source Heat Pump Program Manual

Program Opportunity Notice 3653

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Introduction

What is the Air-Source Heat Pump Program?

Air-source heat pumps (ASHPs) have been an efficient source of cooling for years, but advances in technology now allow them to effectively address heating needs in cold climates, helping customers lower their energy costs and reduce greenhouse gas emissions. New York State Energy Research and Development Authority (NYSERDA) launched the Air-Source Heat Pump Program to expand the adoption of advanced ASHPs and encourage wider use for space heating and cooling. Part of a larger strategy focused on renewable heating and cooling, this initiative is the first component of an ASHP sales and training program aimed at increasing the availability of these units in the marketplace.

ASHP contractors can join the program and become participating installers by submitting their application online.

NYSERDA highly recommends site owners assess and implement energy efficiency opportunities related to building envelope and HVAC distribution before, or in coordination with, installing an ASHP system. Site owners can access programs and assistance through NYSEDA and/or their local utility.

- [Home Performance with ENERGY STAR®](#)
- [Assisted Home Performance with ENERGY STAR®](#)
- [Multifamily Performance Program](#)

The [Database of State Incentives for Renewables and Efficiency](#) also provides a list of available energy efficiency resources.

Available Incentive Funding

Each participating installer is eligible to apply for a \$500 incentive for each qualified and installed ASHP system. Each participating installer can receive no more than \$500,000, cumulatively, in incentives for all eligible projects. The program provides flexibility to participating contractors to decide how best to use these incentives to help grow that portion of their business.

Participating installers cannot receive incentives for the same installed ASHP system from more than one NYSEDA program. For example, a participating installer receiving an incentive under this program cannot receive a contractor incentive through the Home Performance with ENERGY STAR® or Assisted Home Performance with ENERGY STAR®.

Modifications to Incentives

NYSERDA reserves the right to change the incentive offering (including but not limited to amount, timing, recipient, structure, and cap) at any time. NYSEDA will reassess the incentive structure and offering at the end of 2018 or when \$5 million has been reserved, whichever comes first.

If changing the incentive structure becomes necessary, NYSEDA will attempt to give reasonable notice to participating installers via email. Program changes will also be posted at nyseda.ny.gov/ASHP. Incentive amounts will not change for any project already approved by NYSEDA. Applications submitted after an incentive change will be processed at the new level. Participating installers are prohibited from cancelling submitted incentive applications and re-applying if the new incentive payment results in a higher amount. NYSEDA reserves the right to structure incentive payments differently to accommodate unique situations.

Eligibility and Requirements

Projects and installers must meet the requirements in this manual for incentive eligibility. Only ASHP systems installed after an installation contractor has become a participating installer are eligible for incentives.

Site Eligibility

Only residential sites are eligible at this time. Eligible sites include new and existing single-family residential homes and multifamily residential buildings that pay, or will pay, the System Benefits Charge or Clean Energy Fund surcharge on their electricity bills. Sites must be occupied year-round. Eligibility may change at NYSERDA's discretion.

Application Requirements

Only participating installers are eligible to submit incentive applications for an ASHP system.

Participating Installer Requirements

ASHP installation contractors seeking to become participating installers must complete and submit to NYSERDA an ASHP Program Participating Installer Application, available [online](#).

Applications must include the following documents:

- A copy of the [U.S. Environmental Protection Agency Section 608 Technician](#) Certification
- ASHP Manufacturer-sponsored Installation Training Certificate or comparable proof of training completion documentation covering the following areas:
 - Condensate Management
 - Controls
 - Electrical Wiring
 - Evacuation and Charging
 - Field Settings
 - Piping and Charging
 - Product Introduction
 - R-410A and PVE Oil
 - System Start-Up
 - Tools
 - Troubleshooting
 - Unit Location Considerations
- A certificate of insurance satisfying the requirements outlined under Article 4 of the [Air-Source Heat Pump Program Participation Agreement](#).

Component and Installation Requirements

All components installed as part of an approved ASHP system must be new. Used or refurbished equipment is not permitted under the program.

Additionally, for incentive eligibility, the ASHP(s) must be on the [Cold Climate Air-source Heat Pump \(ccASHP\) specification listing](#) at the time of installation. Developed by the Northeast Energy Efficiency Partnership, ccASHP identifies ASHPs best suited to heat efficiently in cold climates.

Compliance with Laws and Codes

ASHP systems, system components, and installations must comply with all manufacturers' installation requirements, applicable laws, regulations, codes, licensing, and permit requirements including, but not limited to, the New York State Environmental Quality Review (SEQR), the New York State Building Code, New York State Plumbing Code, the National Electric Code, Fire Codes and all applicable State, city, town, or local ordinances or permit requirements. For more information see [Quality Assurance, Quality Control, and Compliance](#).

Operation, Maintenance, and Warranty Requirements

ASHPs can be complicated, so it is important that owners understand how to effectively operate and maintain their new systems. Participating installers must train site owners on system operation and maintenance, including on the use of these systems in both heating and cooling modes. A detailed manufacturer operation handbook as well as a maintenance manual containing information on the major components and a schedule of required system maintenance must be provided by the installer. Based upon best practices and manufacturers installation manuals, outdoor units should be installed above the local snow line. A map of the New York State average snow depth can be found [here](#). Each qualified ASHP system receiving an incentive under this program must include a minimum five (5) year manufacturer's warranty for parts, including compressor.

Execution of Work Requirements

All equipment and accessories must be installed in a workmanlike manner.

How to Participate in the Program

Only participating installers are eligible to participate in the program and receive incentives.

Step 1. Become a Participating Installer

- For program participation eligibility, ASHP installation contractors must demonstrate they meet the requirements provided in the [Participating Installer Requirements section](#).
- Prior to submitting a participating installer application, interested ASHP installation contractors must review the manual and the participation agreement.
- To enroll, ASHP installation contractors must submit all required documentation in the [Participating Installer Requirements section](#) and sign the participating installer application.
- Upon acceptance into the program, the participating installer will receive a welcome email that contains a link to the incentive application. The link will also be available at nyscrda.ny.gov/ASHP.

Initially all participating installers will be given a provisional status. For more information see the [Participation Status and Status Review Process section](#).

Step 2. Submit Project Applications

Once accepted, participating installers can begin installing and then submitting incentive applications.

- Only confirmed participating installers may apply for incentives.
- All proposed sites must meet the requirements in the [Site Eligibility section](#)

- **Applications will not be accepted for installations occurring prior to an installation contractor becoming a participating installer.**
- **Each incentive application must include a copy of the invoice or contract with the site owner and a completed [ASHP Commissioning Checklist](#).**

Step 3. Receive Incentive

NYSERDA will notify the participating installer on the status of each incentive application within 10 business days of receipt, barring extenuating circumstances. If the application meets all program requirements and funding remains available, NYSERDA will approve the incentive application via email.

Incentive applications will be evaluated to ensure they meet the eligibility and project requirements stated in this manual. NYSERDA reserves the right to accept or reject incentive applications based on a lack of completeness, qualitative criteria, and available funding. NYSERDA may make no awards, award less than the incentive request, and/or award less than the maximum amount of the potential funds available.

Rejection or modification of an incentive application is at NYSERDA's sole discretion for either of the following reasons:

- The participating installer's qualifications or past performance on NYSERDA-supported projects did not meet program requirements.
- The quality of the incentive application or responsiveness of the participating installer is insufficient as determined by NYSERDA.

NYSERDA will pay incentives to the participating installer according to NYSERDA's prompt payment policy.

Quality Assurance, Quality Control, Compliance, and Participation Status

NYSERDA maintains the integrity of the program through an independent standards and quality assurance team, which manages the quality assurance (QA) and quality control (QC) systems for the ASHP program. The QA/QC system includes the establishment of program standards and comprehensive field inspections that can be found in the [ASHP Field Inspection and Commissioning Checklists](#) include verification of installation and delivered quality of the ASHP installation. QA inspections are conducted by a qualified independent third-party competitively selected by NYSERDA.

Such visits will be at a time convenient to the owner of the site where the ASHP system was installed. The site owner has the option of having the participating installer attend the inspection. If the site owner declines, no notice of scheduled inspections will be sent out to the participating installer, but that participating installer will receive the results within 15 business days.

If the site owner accepts the attendance of the participating installer, a notice of the scheduled inspections will be sent to both parties a week in advance. NYSERDA will make a reasonable effort to accommodate the schedule of the participating installer, but the schedule of the site owner and QA/QC inspector will take precedence.

The written agreement between the installer and the site owner should reference the installer's participation in ASHP Program and should allow access by NYSERDA or its representatives for purposes of completing a QA/QC inspection.

Inspection of Completed Projects

NYSERDA selects specific completed projects for QA inspections following a rational sampling protocol. The protocol utilizes a strategic sampling of completed projects with rates primarily based on the participating installer's current program status, and recent field inspection scores.

The purpose of the field inspections is to provide NYSERDA with an opportunity to evaluate the accuracy of the site analysis and verify that the ASHP system was installed according to program requirements. The QA inspection also includes selected health and safety and performance items, and specific compliance items per applicable code.

NYSERDA may select any completed project at any point in the future for any reason, including a field inspection based on customer complaints, warranty-related issues, or a review of the work done by the participating installer under status review or program disciplinary action. All participating installers are encouraged to perform in-house quality control of each project.

Field Inspection of Completed Projects

NYSERDA selects each participating installers' initial three (3) completed ASHP projects for field inspection. Field inspections are conducted by a qualified independent third party, using comprehensive field inspection QA checklists and other QA inspection processes approved by NYSERDA.

Following the field inspection, NYSERDA will produce a report and determine whether the project fully complies with all program requirements and meets acceptable standards of workmanship. The report will be available to the participating installer approximately 15 days after the inspection following an internal review and scoring by NYSERDA. The site owner must submit a request in writing directly to NYSERDA in order to obtain a copy of the report.

Procedure for Handling Nonconformance and Corrective Action

The QA inspection report will provide details of all evaluated elements of the project and list any nonconformances identified. The report will provide an overall score of the project and identify a pass or fail. Projects that have nonconformances related to critical (health and safety) or major (system performance) attributes will automatically fail. Projects that have only nonconformances to minor or incidental attributes may pass or fail based on their overall merits. All nonconformances are expected to be addressed and corrected in future work conducted in the program. Acknowledgment and plans for preventing future problems may be requested with the report. While some nonconformances cannot be corrected post installation, others can be remedied through corrective action to the documentation, incentive applied to the project, or remediation of the installation or its components. When NYSERDA seeks specific corrective action, a corrective action response (CAR) form will be provided with the QA report. The CAR must be either disputed within 15 days by contacting NYSERDA or remedied within 30 days. Sufficient evidence of remediation must be provided to NYSERDA documenting the completion of required actions. NYSERDA may, at its discretion, conduct a field verification of the remediated installation. NYSERDA has the right to provide a copy of the QA report; CAR; or specific information from the QA field inspections directly to the site owner based on health, safety, and compliance concerns. In an emergency, NYSERDA or its representatives may shut down the system. NYSERDA will notify the participating installer of such action as soon as is possible. NYSERDA may communicate with any site owner on any matter relevant to a project. Such communications may be in reply to an inquiry from a site owner or at NYSERDA's initiation.

Participation Status and Status Review Process

Participating installers will be classified in one of the following status designations: provisional, full, probationary, suspended, or terminated. Each designation will be subject to limitations or requirements associated with that designation. NYSERDA reserves the right to modify the definition, limitations, and requirements of these designations. A participating installer's progression into and/or through any status designation is determined at NYSERDA's sole discretion.

Provisional Status: All new participating installers will initially be classified as provisional. They will be listed on NYSERDA's website. Following the completion of the third project review, NYSERDA will conduct a formal review to evaluate a change in status. Evaluation for a change to full status will be based upon the quality and consistency of work and full compliance with program rules including current qualifications as previously described.

Full Status: Participating installers that successfully complete the terms of the provisional period will be listed as full status, and must meet the following criteria:

- Deliver projects that pass QA field inspections consistently.
- Meet program standards in terms of timely responses to NYSERDA communications and QA corrective-action requests.
- Take effective corrective actions to deficiencies in performance as identified by NYSERDA.

Probationary Status: Probation is prescriptive in nature with both a specific list of requirements and a time frame for achieving results. Participating installers that fail to consistently meet the requirements of the ASHP program may be placed in probationary status. The reasons are as follows:

- Violation of program rules or ethical standards.
- Failure to consistently deliver completed projects which pass the QA field inspection standard.
- Failure to take effective corrective actions on a critical or major deficiency or a repeated incidental or minor deficiency in work quality or performance.
- Three or more corrective action notices that have not been responded to, or remain unresolved, for more than 30 days.

The probationary period will not be less than 30 days and will not exceed 90 days. Projects completed by a participating installer on probationary status may receive enhanced QA oversight. During the probationary period, the participating installer:

- Will remain on the NYSERDA website.
- May continue to submit new incentive applications, subject to restrictions based upon the reason for the probationary status.
- Must remediate all issues related to probation, as directed by NYSERDA.
- Must submit an agreed-upon action plan in writing designed to ensure future violations are avoided.
- Must demonstrate successful results through a specified number of completed projects.
- Must be mentored on its next installation.

Upon completion of the action plan and review of probationary period QA results, NYSERDA has sole discretion to determine the status of the participating installer.

Suspended Status: Participating installers that fail to respond to prescriptive probation or commit more serious violations of program rules will be suspended. Suspension will occur for the following reasons:

- Failure to adequately fulfill the terms of the probationary period.
- Two probationary periods within 12 months.
- Investigated for, or engagement in, practices that put the public or program at risk.
- Outstanding and unresolved request(s) for return of incentive to NYSERDA due to failure to meet program requirements.
- Submitting any program application or incentive application documentation falsifying required items, including, but not limited to, permits, approvals, and site owner signatures.

- Failure to consistently deliver completed projects that pass the QA field inspection standard.

During a suspension, the participating installers:

- Will be removed from NYSERDA's website.
- Will not be allowed to submit new incentive applications to the program.
- Must complete any work in progress at the time of suspension.
- Is prohibited from representing him/herself as a participating installer except in the execution of remedial action.

Additionally, an installer in suspended status may, depending on the reasons for suspension, be directed by NYSERDA to remediate issues related to the suspension, and may be required to submit an agreed-upon action plan in writing designed to ensure future violations are avoided.

Suspended participating installers will either progress to probationary status upon satisfactory completion of the specified remedial activities or resolution of related issues or be terminated. Regardless of program status, participating installers will remain responsible for fulfilling any outstanding obligations to the program or site owner as directed by NYSERDA.

Terminated Status: Participating installers that fail to respond to prescriptive and disciplinary measures or have committed serious violations of program rules may be terminated. Reasons for termination are as follows:

- Suspended status for more than 30 days and unresponsive or failed to adequately fulfill the terms of their suspension.
- Credentials expire while suspended.
- Submitted falsified documents or unauthorized signatures to the program.
- Committed illegal actions while participating in the program.
- Convicted of a criminal charge casting the program in negative light or calls the integrity or workmanship of the participating installers into question.
- Grossly violating program standards.
- Repeated billing for uninstalled measures.
- Failure to meet the terms of the provisional period.

Terminated participating installers are prohibited from further participation. Site owners with incomplete projects will be notified of the participating installer's termination. If appropriate, NYSERDA may notify the New York State Attorney General, the New York State Department of Labor, the Better Business Bureau, or others of NYSERDA's findings and decision to terminate the participating installer.

The officers, directors, and owners of the terminated participating installer are prohibited from holding positions of that nature with other participating installers. Regardless of program status, participating installers will remain responsible for fulfilling any outstanding obligations to the program or site owner as directed by NYSERDA.

Inactive Status

A participating installer may be declared inactive if they have not had an approved project in the program over a 24-month period of time. They will be removed from the website, no longer receive email notifications, nor be eligible for incentives. Should they wish to participate in the future, they may reapply under the rules in place at that time.

Status Review Process

The status review process for administering probationary, suspended, or terminated status is as follows:

- NYSERDA will provide written notice of at least 10 business days of its intention to act. The notice will outline the specifics for disciplinary action along with supporting documentation for the proposed action.
- During this period, the participating installer will have an opportunity to respond to the notice.
- If the participating installer fails to respond to NYSERDA prior to the end of the notice period, the stated disciplinary action will go into effect without further notice.
- NYSERDA will promptly review any request for an appeal of the decision received before the end of the notice period.
- NYSERDA will confirm, reverse, or place its action on hold based upon a review of all information received within 10 business days of receipt.
- Intended and final action letters will be sent via email and U.S. mail. The notice period commences on the date of the email from NYSERDA.

NYSERDA reserves the right to shorten these notice periods or take immediate action in the event of an emergency, as determined by NYSERDA.

NYSERDA Logo Use

Participating installers do not have the right to use the NYSERDA logo.

Contact Information

Submit questions by email to products@nyserdera.ny.gov or call Kerry Hogan at 518-862-1090 x3509.

Program Definitions

Air-source heat pump (ASHP): Air-source heat pumps transfer heat between the inside of a building and outside air. A heat pump's refrigeration system consists of a compressor and two coils made of copper tubing (one inside and one outside), which are surrounded by aluminum fins to aid heat transfer. In the heating mode, liquid refrigerant in the outside coils extracts heat from the air and evaporates into a gas. The inside coils release heat from the refrigerant as it condenses back into a liquid. A reversing valve, near the compressor, can change the direction of the refrigerant flow for cooling as well as for defrosting the outside coils in winter.

ASHP Commissioning Checklist: The document required to be completed by the participating installer at the conclusion of each ASHP Installation and submitted with each incentive application.

Full status: The status participating installers will achieve that successfully complete the terms of the provisional period and demonstrate through past performance that they provide quality services as described in the Quality Assurance, Quality Control, Compliance, and Participation Status section.

Incentive: The amount awarded and paid by NYSERDA to the participating installer for installing the project.

Incentive application: Documentation submitted to the program by the participating installer requesting an incentive consisting of an application form and site owner's invoice.

Multifamily residential: An ASHP system serving a stand-alone structure with five or more residential units.

Participating installer: An installer that completed, executed, and submitted a participation agreement and approved by NYSERDA to participate in the program.

Participation agreement: The document that defines the terms and conditions of being a participating installer in the program. The participation agreement will outline the roles and responsibilities of the participating installer in the program.

Participating installer application: The form that a potential enrollee must complete and submit as part of applying to become a participating installer.

Project: The equipment and services required to design, build, and install the ASHP system (identified and contemplated in the application) and includes, but is not limited to, all the labor, permits, materials, equipment, and services relating to the ASHP system.

Project completion: The project at the stage when the ASHP has been fully installed and operable and, if applicable, the ASHP system has been commissioned.

Project completion date: The date when the project is officially complete.

Site: The building that the ASHP system is to be installed.

Single-family residential system: An ASHP system serving a stand-alone structure with one-to-four residential units.

Site owner: The entity with the title to the project site.