

Consumer Protection Plan NYSERDA EmPower+ Program Home Electrification and Appliance Rebate

Final Report | April 2024



NYSERDA

NYSERDA's Promise to New Yorkers:

NYSERDA provides resources, expertise, and objective information so New Yorkers can make confident, informed energy decisions.

Our Vision:

New York is a global climate leader building a healthier future with thriving communities; homes and businesses powered by clean energy; and economic opportunities accessible to all New Yorkers.

Our Mission:

Advance clean energy innovation and investments to combat climate change, improving the health, resiliency, and prosperity of New Yorkers and delivering benefits equitably to all.

**Consumer Protection Plan
NYSERDA EmPower+ Program
Home Electrification and Appliance Rebate**

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April 2024

Abstract

This Consumer Protection Plan provides information regarding the procedures and processes through the EmPower+ program and its implementation of the Inflation Reduction Act of 2022 (IRA)’s Home Electrification and Appliance Rebate funding. This plan documents how the EmPower+ program collects and responds to consumer feedback, the procedures for issue resolution, and quality control practices. It also explains the qualification requirements for contractor participation and the installation standards the contractors must follow, as verified through implementation contractors and quality assurance contractors.

Keywords

Residential energy efficiency, consumer protection, contractor qualifications, installations, quality assurance, quality control, issues resolution, feedback, customer satisfaction

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Acronyms and Abbreviations

AC	air conditioning
ACH	air changes per hour
AEE	Association of Energy Engineers
AMI	area median income
ASHRAE	American Society of Heating, Refrigeration, and Air Conditioning Engineers
BPI	Building Performance Institute
CAZ	combustion appliance zone
CO	carbon monoxide
CSIA	Chimney Safety Institute of America
DOE	Department of Energy
HEAR	Home Electrification and Appliance Rebate Program
HERS	Home Energy Rating System program
HVAC	heating, ventilation, and air conditioning
ICP	Investor Confidence Project
IRA	Inflation Reduction Act
LEED	Leadership in Energy and Environmental Design
NATE	North American Technician Excellence
NEIS	NYSERDA Enterprise Information System

NFI	National Fireplace Institute
NORA	National Oilheat Research Alliance
NREL	National Renewable Energy Laboratory
NYHEP	New York Home Energy Portal
NYS	New York State
NYSERDA	New York State Energy Research and Development Authority
QA	quality assurance
QC	quality control
SMI	state median income
SQA	standards and quality assurance
SWS	standard work specifications

Program Entities

Following are descriptions of entities and program participants working in or for the EmPower+ program.

Audit contractor: Participating contractors performing audits (i.e., home energy assessments), electric reduction, and/or direct install projects only. Those completing home energy assessments through the program must maintain specified certifications.

Building Performance Institute (BPI): A 501(c)(3) nonprofit organization founded in 1993, BPI is a standards development and credentialing organization for residential energy auditing and upgrade work.

Home performance contractor: Contractor that conducts home energy assessments and maintains certifications for home performance installation services. They also pursue manufacturer's training for installed equipment and ensure compliance with program installation and health and safety requirements.

Implementation contractor: An organization that works under contract with NYSERDA to provide administrative and support functions (e.g., project approvals, technical support, loan origination, loan servicing, reporting, invoicing, and installation verification).

New York State Energy Research and Development Authority (NYSERDA): A New York State agency that works to promote energy efficiency, renewable energy, and emissions reduction across the State's economy and energy system. NYSERDA has responsibility for the administration and oversight of many programs including EmPower+.

Participating contractor: NYSERDA-approved independent contractors that offer energy assessments, installations, program incentives, and/or financing. They contract with customers to complete specified measures.

Program staff: Individuals from the various entities responsible for administering the program.

Quality assurance (QA) contractor/inspector: Service provider under contract with NYSERDA responsible for inspection services. These inspection services are fully separate and independent from the program implementer.

Executive Summary

The New York State Energy Research and Development Authority (NYSERDA) has a comprehensive Consumer Protection Plan for its EmPower+ program, designed to ensure customer satisfaction and address any concerns related to the services offered. This plan outlines a multipronged approach, including:

- Robust customer feedback and contact information system
- Detailed customer concern resolution process
- Structured qualification process for contractors

NYSERDA is committed to continuous improvement and reviews the Consumer Protection Plan at least every two years or more frequently, if appropriate, based on lessons learned.

Plan updates are available on NYSERDA's website with a summary of the major material changes listed at the beginning of this document. Notification of the revised plan are emailed to the EmPower+ stakeholder mailing list, which includes participating contractors, program partners, community hubs, the U.S. Department of Energy, and other stakeholders who have signed up for notifications.

To contact a representative of EmPower+ regarding this plan or for supplemental information, email info.residential@nyserd.ny.gov or call 1-877-NYSMART (1-877-697-6278).

Key features of the plan include:

- **Qualified contractors and qualification process**
NYSERDA currently maintains a network of more than 180 approved residential contractors across New York State working with EmPower+, ensuring they meet specific certifications and program requirements. Participating contractors are NYSERDA-approved independent contractors that offer energy assessments, installations, program incentives, and/or financing. Participating contractors must agree to and sign a participation agreement, which establishes the terms and conditions under which NYSERDA-qualified participating contractors may offer program incentives and/or financing to qualified customers throughout New York State. This qualification process includes requirements for oversight of subcontractors and emphasizes the importance of maintaining updated certification documentation.

- **Customer feedback**
 NYSERDA uses a dedicated system to handle customer questions, concerns, and complaints, which is accessible via email and a toll-free number. The resolution process involves multiple stages, including initial review and assignment, contractor communication, and escalation procedures for unresolved issues. This system ensures that all customer concerns are addressed promptly and effectively, with a focus on quality control (QC) and contractor accountability.
- **Consumer satisfaction surveys:** Conducted quarterly for all completed projects, these surveys gather feedback on various aspects of the program, from the application process to the quality of work and benefits experienced post project. This feedback is crucial for continuous improvement.
- **Customer concern resolution process**
 A thorough feedback procedure consisting of several steps, from initial concern to mediation and, if necessary, escalation, designed to foster communication between customers and contractors, with NYSERDA facilitating to ensure satisfactory resolution of issues. Tactics include written warnings, mediation efforts, and potential disciplinary actions against contractors failing to address concerns adequately.
- **Project issues resolution process**
 A defined procedure in place for addressing any noncompliance issues identified during quality assurance (QA) inspections, including corrective measures for any problems found and a structured approach for contractors to demonstrate compliance.
- **Continuous improvement**
 A process to prevent fraud, waste, and abuse within NYSERDA programs. Included are mechanisms for price review, project workflow automation, and QA procedures to ensure the highest standards are maintained.

This Consumer Protection Plan demonstrates NYSERDA's commitment to ensuring high-quality service delivery, contractor accountability, and customer satisfaction. Through detailed processes for feedback, resolution, and continuous improvement, NYSERDA aims to uphold the integrity of its programs and ensure that consumer interests are protected and prioritized.

1 EmPower+ Overview

The New York State Energy Research and Development Authority (NYSERDA) created EmPower+ to provide energy efficiency and clean energy solutions to income-eligible households. The program helps homeowners and renters reduce energy use and costs, improve home comfort, address related health and safety concerns, and protect the environment through a range of energy-saving measures. Through EmPower+, income-eligible owners of existing 1- to 4-unit family households can receive a no-cost comprehensive home energy assessment to pinpoint where energy and dollars are being wasted and receive a customized plan of suggested actions to lower energy usage.

Initially, NYSERDA leveraged its existing EmPower+ program to deploy the Home Electrification and Appliance Rebates (HEAR) program, which was authorized by the Inflation Reduction Act of 2022 (IRA). The HEAR program is incorporated into the existing EmPower+ program, leveraging existing program workflows, systems, and contractor networks, thereby allowing New York State to deploy HEAR rebates to income-eligible households and to extend the reach of available federal funding for consumer rebates by cost-sharing the administrative and program implementation costs with other funding sources.

EmPower+ continues to serve income-eligible households below 80% of the State's area median income (AMI).

Through EmPower+, NYSERDA defines low-income households as those with a combined income less than or equal to 60% of the state median income (SMI). These households can receive a no-cost home energy assessment and no-cost measures that are installed at the time of the home energy assessment.

For single-family owner/rental properties, the project funding cap is \$10,000 per project. Such properties are also eligible for a rebate of up to \$14,000 through the HEAR program.

For 1- to 4-family rental units, project funding caps are \$10,000 for the initial unit and \$5,000 for each additional income-eligible unit. Each unit is also eligible for a rebate of up to \$14,000 through the HEAR program.

Under its existing EmPower+ program, NYSERDA defines moderate-income households as those with combined income less than or equal to 80% of the AMI. Moderate-income households can receive a no-cost comprehensive home energy assessment and no-cost measures that are installed at the time of the home energy assessment

- A discount of up to 100% of the cost of eligible energy efficiency improvements:
 - For single-family owner/rental properties, the project funding cap is \$5,000 per project. Such properties are also eligible for a rebate of up to \$14,000 through the HEAR program.
 - For 1- to 4-family rental units, project funding caps are based on \$5,000 for the initial unit and \$2,500 for each additional income-eligible unit. Each unit is also eligible for a rebate of up to \$14,000 through the HEAR program.

For 2- to 4-family homes, if 50% or more of the units are income-eligible for EmPower+, then the entire building is considered income-eligible.

2 Qualified Contractors and Qualification Process

An important component of consumer protection is having qualified and vetted contractors participating in EmPower+. NYSERDA currently maintains a list of more than 180 contractors participating in the program throughout New York State and is always seeking to add new contractors. Approved contractors are listed on nysenda.ny.gov/Contractors/Find-a-Contractor/Empower-Plus-Contractors.

To participate in EmPower+, contractors must read and agree to terms detailed in both the participation agreement and program manual. These documents are located on NYSERDA's website on the webpage, [Become a Participating Contractor—NYSERDA](#).

To apply for the program, contractors must have a minimum of six months of energy efficiency experience, complete an onboarding interview, submit application documentation, and execute the program participation agreement. Contractors must have the appropriate certifications or use a certified subcontractor for project submissions. Contractors must document certified individuals, inform NYSERDA of any staff changes, and ensure subcontractors meet certification requirements. Section 2.1 following outlines these certification requirements. Through monthly communications with the Building Performance Institute (BPI), NYSERDA verifies that all contractors are current with certifications.

Additionally, participating contractors must meet established performance criteria to maintain eligibility for contractor incentives including customer referrals. Contractors must continually meet the minimum QA standard requirements and have no participant complaints to receive and maintain a status of "Full," meaning they are in full compliance with program standards. NYSERDA can change participating contractors' status to probation, suspension, or termination for any reason including, but not limited to, poor workmanship, lack of responsiveness, customer complaints, unprofessional behavior, or failure to meet EmPower+ minimum production requirements.

2.1 Contractor Certification Requirements

Properly credentialed individuals must complete all work, which must meet program manual specifications. Contractors are responsible for ensuring work adheres to technical standards BPI or other certifying bodies establish. Additionally, participating contractors must meet program manual requirements, including employing certified staff and authorizing NYSERDA to verify certifications. NYSERDA may occasionally update these requirements.

2.1.1 Audit Contractor

Audit contractors are participating contractors who perform only audits (i.e., home energy assessments), electric reduction projects, and/or direct install projects. Audit contractors completing home energy assessments through the program must maintain one of the following certifications:

- BPI Building Analyst
- BPI Building Analyst Technician
- BPI Energy Auditor
- BPI Multifamily Building Analyst
- Association of Energy Engineers (AEE) Certified Energy Auditor
- American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) Building Energy Assessment Professional
- Home Energy Rating System (HERS) Program Rater
- Leadership in Energy and Environmental Design (LEED) Rater
- Investor Confidence Project (ICP) QA Assessor

2.1.2 Home Performance Contractor

Home performance contractors are participating contractors performing home energy assessments and maintaining the certification requirements for one or more home performance installation services. In addition to measuring certification, NYSERDA highly recommends that participating contractors pursue any manufacturer's training/certifications for any equipment they are installing as part of an EmPower+ project. Home performance measures must meet all EmPower+ installation and health and safety requirements as outlined in the program manual.

Following are the certification requirements for each measure type:

- Shell/envelope
 - NYSERDA will accept these certifications
 - BPI Building Analyst Professional or
 - BPI Envelope Professional
 - NYSERDA will consider these BPI advanced certifications instead of BPI Envelope Professional, provided the participating contractor can meet program requirements outlined in section 2.4 of the program manual:
 - BPI Crew Leader or
 - BPI Energy Auditor or
 - BPI QC Inspector or
 - BPI Retrofit Installer Technician

- Central air conditioning (AC)
 - BPI AC/Heat Pump or
 - North American Technician Excellence (NATE) AC or
 - NATE Heat Pump
- Air source heat pump
 - BPI AC/Heat Pump or
 - NATE Heat Pump or
 - Approved Installer in NYS Clean Heat
- Heat pump water heater/electric water heater
 - BPI AC/Heat Pump or
 - Manufacturer's training/specification or
 - Company is a licensed plumber and/or electrician in the locality where the work will be performed or
 - Approved installer in NYS Clean Heat
- Oil heat work
 - BPI Heating Professional or
 - NATE Oil Heating or
 - National Oilheat Research Alliance (NORA) Oil Heat Silver or
 - NORA Oil Heat Gold
- Manufactured homes (i.e., mobile homes)
 - BPI Manufactured Housing Professional Certification
 - Provide documentation to program staff detailing the procedures for serving manufactured homes and demonstrating that the applicant exhibits proficiency with installing energy efficiency measures in the manufactured housing stock. NYSERDA reserves the right to request additional supporting information as necessary to establish a contractor's experience. Acceptable documentation should include:
 - Type of work performed (insulation/mechanicals)
 - Materials used
 - Number of manufactured homes served in last 6 months
 - Installation methods
 - Any manufactured home-specific training received in the past 36 months
- Gas heat work/domestic hot water heaters
 - BPI Heating Professional or
 - NATE Gas Heating
- Pellet stove
 - BPI Heating Professional or
 - Certified Chimney Sweep according to Chimney Safety Institute of America (CSIA) or
 - Pellet Stove Specialist according to National Fireplace Institute (NFI)

2.2 Additional Requirements

In addition to staff certifications, participating contractors must also comply with the following:

- Maintain specified levels of insurance, including commercial general liability insurance for bodily injury, including death and property damage; workers' compensation and disability benefits; and professional liability insurance applicable to contractors that only provide energy assessment services
- Provide to customers written warranties for labor and materials valid for a minimum of one year, and equipment installed shall carry at a minimum the manufacturer's warranty plus optional extended warranty coverage
- Create and maintain a health and safety plan and maintain safety data sheets for products and materials used
- Maintain a dispute resolution policy and work to settle disputes amicably with customers
- Ensure that consumer protections are not lost if the contract is assigned to a third-party creditor, by ensuring that all contracts and subcontracts:
 - Are in full compliance with the General Business Law, Article 36-A Home Improvement Contracts and any other applicable statutory or regulatory provisions
 - Are clearly written, legible, and include line-item detail for each installed measure, including nameplate and efficiency information
 - Do not include mandatory arbitration clauses
 - Do include the holder-in-due course rule

3 Installation Requirements

The residential contractor participation agreement and the EmPower+ program manual establish the standards for EmPower+ program installations, which require that all work must strictly adhere to state and local laws, codes, and permits, as well as program installation criteria and all manufacturers' specifications.

As part of its installation requirements, NYSERDA established building envelope requirements when making investments in mechanical equipment. To ensure the efficiency of heat pump equipment, the home must meet minimum insulation levels and air tightness standards, which Table 1 shows. If the home cannot be insulated to these levels, a heat pump should not be considered for installation through the program at this time; however, the insulation work should proceed in anticipation of a future heat pump installation.

Table 1. Building Envelope Standards

Area Required	Insulation Level
1- to 4-Family Homes	
Attic Gable Walls	R-14
Knee Walls	R-15
Attic Roof Deck	R-28 or Fill to Capacity
Attic Floors/Open Attic	R-38 Average* or Fill to Capacity
Attic Slope Ceilings	R-38 or Fill to Capacity
Attic Hatches	R-20
Pull-Down Stairs	R-13
Walls	R-14 or Fill to Capacity
Rim Joist	R-14
Air Tightness	7 ACH**
Mobile Homes	
Walls	R-6
Attic	R-24
Belly	R-21
Air Tightness	12 ACH ²

* Average insulation of total attic area; some areas might have less than R-38 if the total average of the combined attics is R-38.

** Prior to installing heat pump equipment, the contractor must verify the home is tightened to at least 7 ACH for a 1- to 4-family home/12 ACH for a mobile home or lower to ensure proper heating from heat pumps. If the contractor cannot perform a blower door test, they must use NYHEP to estimate the air leakage.

To facilitate uniformity, the New York Home Energy Portal (NYHEP), which is the EmPower+ program workflow system, mandates that contractors standardize the submission of work scope, final project details, and energy assessments for all EmPower+ projects. The EmPower+ program requires a fully executed contract between the building owner and the participating contractor that clearly itemizes all work to be performed and the corresponding price for each component. The language in sales documents and the contract must be the same. If financing is involved, all rules and requirements of the financing product must be part of the documentation, including any disclosures and cooling off periods.

Section 10.2 of the Empower+ program manual specifies the process for QA inspections to verify and document that the installation standards are being met, and they are detailed further in section 6 herein.

4 NYSERDA Customer Concern Resolution and Contact Information

NYSERDA employs a robust multipronged approach to ensure consumer protection and satisfaction. The program has a dedicated customer team that includes implementation and QA contractors who evaluate each complaint and concern, addressing them as promptly as possible.

4.1 Customer Feedback Process

Customers can ask general questions about the EmPower+ program, issue a complaint, or raise a concern regarding EmPower+ program services by emailing info.residential@nyserda.ny.gov (for general questions) or support.residential@nyserda.ny.gov (to issue a complaint) or by calling 1-877-NYSMART (1-877-697-6278).

More information about the program as well as this Consumer Protection Plan is found at nyserda.ny.gov/empower. Requests for hard copies of materials (for those without reliable internet access) and materials in different languages are available on request using the contact information listed in the previous paragraph.

4.2 Consumer Satisfaction Surveys

NYSERDA conducts quarterly email consumer satisfaction surveys for every home completed in the last three months. The anticipated survey questions are:

- On a scale of 1 (strongly disagree) to 5 (strongly agree), rate the following statements:
 - It was easy to understand the rebate requirements and provide the needed information.
 - It was easy to find a contractor/retailer.
 - The contractor/retailer provided high-quality services.
 - The rebate was a major reason for my purchase.
 - My new efficiency upgrades perform well.
 - My home is more comfortable than it was before the new efficiency upgrades.
 - My energy bills have been lower since the new efficiency upgrades.
 - Overall, I am satisfied with my experience with the [rebate name] program.
 - I would recommend this program to a friend or family member who could use it.
 - I plan to do more to save energy in my home because of my experience with this program.

- On a scale of 1 (very dissatisfied) to 5 (very satisfied), please rate your experience with each of the following, or specify not applicable:
 - Application/enrollment process.
 - Resolution of program issues (if any).
 - Contractor's explanation of the recommended upgrade(s) included in the project.
 - Contractor's explanation of the project benefits.
 - Quality of contractor work.
 - Benefits experienced since the project was completed, such as lower energy usage.
 - Other benefits experienced since the project was completed, such as the home being more comfortable.
 - Resolution of contractor issues (if any).
 - Out-of-pocket customer cost of energy efficiency upgrades (if applicable).
- Would you recommend the program to a friend or family member? Why or why not?
- Would you recommend the contractor to a friend or family member? Why or why not?

Survey results are used to improve customers' program experience and monitor contractor performance. Low scores are investigated to understand a customer's concern. If a contractor has 3 or more concerns open for more than 30 days, NYSERDA will contact them to encourage a resolution.

4.3 Customer Concern Resolution Process

When a customer reports an issue, a record is created in NYSERDA's system for tracking customer concerns, contractor performance, and quality control (QC) inspections. Issues are logged into the CLEAResult system, which allows the implementation contractor to monitor progress and ensure timely resolution. A staff member reaches out within two business days of receiving the complaint/issue to gather additional information and schedule QC inspections as needed.

The following sections outline the stages of the customer concern resolution process.

4.3.1 Customer Concern—Stage 1

In the first stage of addressing concerns, once all necessary information is gathered, the implementation contractor forwards the concern to the contractor within 2 business days. The contractor is asked to respond within 5 business days, or within 24 hours if the concern is urgent. After the contractor responds, NYSERDA expects significant progress toward resolution. If the contractor fails to respond within 5 business days, the implementation contractor emails a written warning. If the email is ignored, the

implementation contractor makes 3 attempts to contact the contractor by phone and/or email. If the contractor seems to be purposely avoiding contact, the concern is escalated to a manager in the implementation contractor firm and/or NYSERDA based on urgency. All communication is documented in the program's tracking system.

4.3.2 Customer Concern—Stage 2

If a concern remains active with minimal contractor involvement after 10 days, it is escalated to a manager, who drafts a warning letter emphasizing the contractor's responsibility to address concerns promptly. NYSERDA reviews this draft prior to it being sent to the contractor.

Contractors must provide a timeline for resolving this and any other active concerns. Contractors are reminded that addressing customer concerns is crucial, and failure to do so may result in disciplinary action, such as fund recoupment probation, suspension, or termination from the program. Repeated offenders' risk disciplinary responses from the program and BPI.

4.3.3 Customer Concern—Stage 2, Elevated (Mediation)

At the discretion of the implementation contractor or NYSERDA, if trust between the customer and contractor weakens to the point of requiring third-party mediation, the concern is then escalated to stage 2. Implementation contractor staff shift their role from managing tasks to negotiating solutions. The implementation contractor gathers reasonably detailed customer requirements, shares them with the contractor and negotiates responses, with the goal of creating a documented agreement that includes photos and the specific negotiated details. If an agreement is reached, then it is shared in writing with all parties involved, and a QC site visit may be arranged to determine the scope of work, which all parties must agree on before the commencement of any work.

4.3.4 Customer Concern—Stage 3

If a contractor has not responded effectively to the remedial strategies carried out during previous stages, the program staff conduct a thorough examination of the case. Subsequently, they send a letter to the contractor, which comprehensively recaps the sequence of steps in the review process.

If NYSERDA determines that the contractor has followed and will continue to follow the Customer Concern Resolution Policy on file, the concern continues to be tracked and assisted by all parties until the concern is resolved or otherwise suspended or closed by the implementation contractor and NYSERDA.

If NYSERDA determines that the contractor has not followed the Customer Concern Resolution Policy, any or all of the following actions may result:

- The contractor may be given one additional opportunity to immediately follow through with the policy as stated.
- NYSERDA staff work with their legal department to determine the next steps including further training, probation, suspension, or termination of the contractor from the program.

Contractors that have three customer concerns within six months (or more than 3% of total jobs) are subject to a program review for possible probation from the program. Subsequently, the implementation contractor provides NYSERDA with a recommendation, which considers the severity of the past six months of concerns regarding program production and QA inspection results.

4.4 Additional Considerations and Resources for the Customer Concern Process

The implementation contractor has staff who can review technical concerns and offer testing guidance or recommendations on remediation.

If a major problem with health or safety concerns arises, and the contractor is not fixing it, or if a problem requires the intervention of a third party, then program staff will usually ask for a third-party, QA inspection first. This process is generally for complaints about work done within a 12 months of project completion. If needed, the implementation contractor may conduct a site visit.

If the implementation contractor determines a site visit is not needed, but the customer still wants a third-party inspection, then NYSERDA decides the best course of action to address the customer's request, such as sending a service representative to inspect the work, which may be at the contractor's expense, and the implementation contractor may also visit the site if needed. Within five business days of the visit, the implementation contractor writes a report of the findings.

The main goal of the Customer Concern Resolution Policy is to ensure that customers and contractors can trust and talk to each other again. The contractor must submit in writing how they plan to address issues, and both the homeowner and contractor must agree to the plan. To ensure everything is fixed properly, the implementation contractor requires that the contractor take pictures as proof and the homeowner needs to sign off that the plan was satisfactorily completed.

Weekly meetings held between NYSERDA and the implementation contractor provide updates on the status of concerns.

4.5 Procedures for Repairs after One-Year Contractor Warranty

The process of addressing customer concerns that occur after one year since project completion begins with information being forwarded to the contractor to address the issue. However, if it appears that NYSERDA's intervention would be beneficial, then further review may be considered. This review could take the form of a comprehensive analysis of all documentation, consultations with the customer and/or contractor, or a project site inspection.

If the issue is identified as the customer's responsibility (e.g., insufficient maintenance or repairs that exceed the scope of the project), then the customer is informed through a phone call and/or email. If necessary, a letter from NYSERDA approved by its legal department is then sent to the customer.

In some cases, the issue is deemed to be the responsibility of the contractor, such as situations where the contractor's work is still under warranty. The problem could also be deemed a workmanship issue regardless of when the work was done, such as when a customer opens a wall two years after the work was completed and discovers that insulation was not installed at the agreed-on amounts.

Although instances of NYSERDA covering the cost of repairs are rare, the following situations may be taken into consideration:

- If the issue is the responsibility of the contractor, but the contractor is no longer participating in NYSERDA programs yet remains in business, several steps may be taken. The program team will check if any payments to the contractor are pending and, if so, determine whether these funds can be rerouted to cover the cost of resolving outstanding issues. The team may then reach out to the contractor to discuss concerns related to the project. If the contractor resists addressing the issue, then NYSERDA has the right to make a claim with the insurance company insuring the contractor when the work was done or can refer the issue and contractor to the New York State Attorney General and/or the New York State Inspector General.

- If the issue is the responsibility of the contractor, but the contractor has since gone out of business, then the program team will take similar steps as the one described previously. If any funds are due to the now-defunct contractor, then the team will consider whether these funds can be applied to the resolution cost. If no such funds are due, they will assess whether providing additional help through NYSERDA, such as covering some or all of the repairs or replacement costs, could be a viable solution. This usually applies if the problem has arisen within a reasonable timeframe (i.e., early failure of equipment), or represents a critical issue, and whether the customer, who is unable to pay for the repairs, is in a low- to moderate-income category.
- If the manufacturer is found to be at fault and the problem arises beyond the one-year contractor warranty but within the manufacturer's warranty, then the customer must work with the manufacturer. NYSERDA may help the customer by funding all or part of the labor cost under conditions such as the ones described previously.
- If the implementation contractor is at fault due to misguided information to the contractor, then financial responsibility for resolving the issue lies with the implementation contractor.

5 Project Data Review

NYSERDA uses NYHEP for data collection and management for EmPower+, which facilitates several crucial functions: It assigns customers to suitable contractors, collects data to generate home energy assessment reports, enables contractors to submit their work scopes, and allows implementation contractors to review and approve these work scopes. The contractor submits the final project and requests payment through this platform.

As the HEAR guidelines require, NYHEP performs these functions:

- Validate basic data for the modeling tool
- Capture data from home assessments
- Ensure that the scope of work aligns with program requirements
- Verify that the installation address matches the address of the eligible entity
- Check that the rebate amount aligns with the existing EmPower+ program corresponding income category:
 - Households at or below 60% SMI can receive a maximum of \$10,000 from EmPower+ and up to \$14,000 of HEAR funding
 - Households between 60% and 80% of AMI can receive funding from EmPower+ totaling \$5,000 and up to \$14,000 of HEAR funding
- Store pre- and postinstallation photographs
- Document proof of combustion safety testing on fossil fuel equipment installed in homes where fossil fuel systems have been impacted by the installation
- Document proof of commission testing on heating, ventilation, and air conditioning (HVAC) equipment installed in homes.

Staff assigned for data/file review undergo robust training. The NYHEP extends basic data QA as part of its project review and approval mechanism. Project reviewers are required to have BPI Building Science credentials as well as the necessary implementation training. For complex projects demanding advanced approval, staff with multiple BPI credentials and years of technical experience review the project.

6 PostInstallation QA Inspections

6.1 Quality Assurance Overview

NYSERDA's Standards and Quality Assurance (SQA) team provides third-party QA and monitoring through contractor QA vendors. The QA system comprises various components such as reviewing qualifications and credentials, establishing program standards, and conducting comprehensive field inspections. The QA inspections verify the work scope agreed on in the contract, agree on the accuracy of site analysis, and ensure that installations comply with program stipulations, including BPI standards, National Renewable Energy Laboratory (NREL) standard work specifications (SWS), and the New York State Uniform Building Code, as they relate to the overarching quality of the installation. NYSERDA or its representatives have the right, within reasonable bounds, to visit the customer site at any point before, during, or after installation of the work scope agreed on to evaluate overall compliance.

Quality assurance inspectors are required to hold the following credentials: BPI Building Analyst or a BPI Energy Auditor, BPI Envelope Professional, and BPI Air Conditioning and Heat Pump. Some staff members may also hold additional (though not mandatory) credentials, such as BPI Heating Professional or BPI Manufactured Housing certifications. Relatedly, NYSERDA's grant application for 50123 IRA Contractor Training supports workers with the same skill sets through training and certification reimbursement. These certifications are also in line with the certifications NYSERDA uses to qualify contractors for EmPower+ contractors.

Contractors participating for the first time are given provisional status and must successfully complete a minimum of five projects, each meeting the standard quality requirements score of three or higher, out of a possible five. Provisional contractors must fulfill these quality requirements either by the end of their sixth inspected project or within a year from the date of completion of their first project, whichever happens first. They are advised to attend at least the first three field inspections, which gives them a chance to understand firsthand the program's quality expectations and the field inspection process.

Provisional contractors that have successfully demonstrated their ability to install quality projects and meet program requirements are moved to full status. For full status participating contractors, the target inspection rate is 10% of completed projects, with a minimum of one inspection every quarter. However, NYSERDA can modify the field inspection rate based on the individual performance of each participating contractor.

Each inspection receives a score on a five-point scale. This score is indicative of the overall quality and compliance with program requirements, based on the number and type of nonconformance issues observed. The inspection scores can be interpreted as follows:

- 5: Passing score, the project is fully compliant and employs best practices
- 3–4: Passing score, the project is considered fully acceptable
- 1–2: Failing score, the project has major or critical nonconformance issues

Participating contractors with high-quality scores and proven, well-defined internal QA and QC procedures might be considered for a lower inspection rate. However, under any circumstance, the program's average inspection rate will not be reduced to less than 5%.

6.2 Inspection Details

Each QA inspection type requires the following:

- An introduction to the customer, including the QA field inspector's name and company
- A description of the inspection and testing procedures
- An overview of the program and answer customer questions
- Ask customer questions about any identified project concerns after having reviewed project documentation
- A determination of whether the participating contractor audit identified any health and safety issues and assess whether the approved work scope addressed those issues
- A determination of whether the contractor recommended the most cost-effective energy efficiency measures through the home energy assessment, whether the approved and contracted measures were installed, whether change orders were documented properly (if applicable), and whether the installed measures meet program standards
- A review of customer's signed document(s) to confirm signature and, if applicable, properly comply with e-signature requirements

The QA inspector will conduct one of three inspection types based on the project type:

1. Field inspection: Comprehensive (whole house) upgrades
2. Field inspection: Direct install projects
3. Desk review: Measure verification (nonstandard inspection)

6.2.1 Field Inspection: Comprehensive (Whole House) Upgrades

The inspection includes:

- Complete exterior visual inspection (i.e., chimneys, ventilation, roofing, siding, windows, foundation, obstructions, and landscaping)
- Inspect interior, including visual inspection, place home under winter conditions, test carbon monoxide (CO) levels, and set up blower door)
- Inspect basement, including visual inspections of condition, insulation levels, and distribution system, measure CO in combustion appliance zone (CAZ), gas leak detection, combustion efficiency testing, and worst-case depressurization
- Inspect attic
- Conduct blower door test
- Inspect building shell with thermal imaging infrared scan required for all times when temperature delta allows for good imaging results, including insulation levels in walls, attics, floors, windows, and doors
- Verify wall insulation installation using a combination of the following:
 - Probe around outlets or drilling holes is required on all projects
 - Pull and check under siding
 - Check borescope
 - Conduct infrared scans, conditions permitting
 - Sample core to verify density as directed by NYSERDA
- Inspect appliances and lighting to determine if the recommended measures were the most cost-effective
- Ensure all approved energy conservation measures are installed, operating, and comply with program requirements, BPI standards, and NREL, SWS, and applicable codes

6.2.2 Field Inspection

Field inspections are performed for direct install projects only and are not applicable for HEAR-eligible projects.

The inspection includes:

- Inspect appliance and lighting to determine if the recommended measures were the most cost-effective
- Determine whether all program-approved energy efficiency and conservation measures were installed and that they operate properly and in compliance with technical/manufacturer standards, applicable BPI building science standards, and program requirements

6.2.3 Desk Review: Measure Verification (Nonstandard Inspection)

Under special circumstances, as determined by NYSERDA, this review may be completed, which includes the following steps:

- The participating contractor provides equipment technical data sheets and nameplate photos for the installed energy conservation measures (e.g., appliance, heating equipment, water heater, etc.)
- The desk reviewer verifies the installation with the customer, including total cost and homeowner cost-share

6.3 Quality Assurance Records

The SQA module maintains all the QA inspection records in NYSERDA's partner portal, which incorporates dashboards and other useful reports detailing sampling rates, findings, corrective actions undertaken, and proof of conformance with specifications. These records are retained for six years and are available on request by the U.S. Department of Energy (DOE). The portal includes a function for automated email communication about project inspections so that after the inspection report is uploaded, contractors, builders, vendors, and others involved receive an email with a link to the inspection report.

7 Continuous Improvement

NYSERDA has several steps in place to identify and prevent fraud, waste, and abuse in its residential programs:

- For EmPower+ projects, set pricing for air sealing, insulation, and other measures is required to ensure fair and equitable services to customers. NYSERDA reviews the prices of these measures yearly to determine rates for program work.
- EmPower+ uses NYHEP to automate project workflow and review work scopes, which includes many data validation tools as well as logic trees that vet proposed work scopes against program rules. Any project outside of the parameters is vetted by secondary and tertiary approvals to determine if it meets program guidelines.
- All completed projects have a final project review, wherein a trained implementation contractor reviews all documents, work scopes, photographs, and communications to ensure the project has met program standards.
- Completed energy audits undergo a desktop data review for accuracy of data inputs, reviewing key inputs with publicly available data to identify anomalies. Additionally, the energy assessment NYHEP data inputs have controls to ensure inputs are within reasonable ranges.
- Monthly QA findings reports are reviewed to rank and review nonconformance issues to identify procedures aimed at reducing or eliminating the recurrence of such nonconformance issues. Additionally, the SQA team employs these reports to monitor individual contractor performance, thereby determining which contractors may require additional training or assistance to enhance the quality of their work.
- NYSERDA regularly assesses its QA processes, adapting to new technologies and program rules as needed. The QA process also includes a root-cause analysis, a deep analysis into the core causes of common deficiencies found during inspections, which recommends remediation paths (such as dedicated contractor trainings or sharing of best practices) and regularly reviews results to determine whether the remediation path has been effective in reducing the rate of deficiencies or whether additional interventions are needed to ensure quality work through the program. Experts from the market, including participating contractors, can participate in this process. At times, NYSERDA may recommend an adjustment to the QA process.

7.1 Program Evaluation

NYSERDA currently conducts evaluation studies for all of its programs. A selection of key evaluation research objectives includes, but is not limited to, the following:

- Process evaluation
 - Gauge participant awareness of the programs
 - Assess participants and contractors motivation for participation and identify opportunities for and barriers to participation

- Determine participant and contractor satisfaction with various program elements (e.g., enrollment, equipment performance, contractor performance, timeliness of incentives, and engagement with NYSERDA)
- Review lessons learned with regard to integrating federal funds into an existing program
- Impact evaluation
 - Determine first-year weather normalized average electricity, and natural gas and delivered fuel savings per household and as a percentage of baseline energy use
 - Determine first-year peak demand savings
 - Assess increased electricity use due to fuel switching from natural gas and delivered fuels
 - Assess baseline fuel poverty conditions, which may result in snapback and negatively impact measurable realization rates
 - Calculate realization rate and assess savings estimates developed through EmPower+ as they vary by utility area, climate zone, contractor, measure type, DAC status, and low- or moderate-income group.
 - Determine drivers for realization rates +/- 100%
 - Determine lifetime energy savings over the full life of measure by fuel type

7.2 Fiscal Review

NYSERDA ensures efficient and effective use of funds through the NYSERDA Enterprise Information System (NEIS) for financial management to ensure government standards are met. Targeted budgeting and quarterly forecasting ensure budgets are adjusted accordingly to stay within budget. Budget controls prevent expenditures from exceeding allocations for administrative and rebate costs. Administrative efficiencies will be achieved by leveraging the existing EmPower+ program system and incorporating NYHEP, which streamlines processes and minimizes integration costs for HEAR funding, ensures that administrative efficiencies are realized. Automated checks and data QC reports within NYHEP ensure proper rebate allocation.

NYSERDA is committed to a process of continuous improvement and as stated earlier, it will review the Consumer Protection Plan at least every two years, or more frequently if appropriate, and implement appropriate adjustments. As appropriate, NYSERDA will communicate updates to the Consumer Protection Plan to all stakeholders, partners, and DOE.

NYSERDA, a public benefit corporation, offers objective information and analysis, innovative programs, technical expertise, and support to help New Yorkers increase energy efficiency, save money, use renewable energy, and reduce reliance on fossil fuels. NYSERDA professionals work to protect the environment and create clean-energy jobs. NYSERDA has been developing partnerships to advance innovative energy solutions in New York State since 1975.

To learn more about NYSERDA's programs and funding opportunities, visit nyserdera.ny.gov or follow us on X, Facebook, YouTube, or Instagram.

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