

EFCA Field Quality Control Process – Selection and Implementation

In association with the
SMUD HOME PERFORMANCE PROGRAM



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Efficiency First California (EFCA) Field Quality Control Process 2014

The EFCA reserves the right to update this document at any time and will always keep the most recent version online at www.cbpc-hpp.org

EFCA Field Quality Control Process involves the following:

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Introduction

This document summarizes Efficiency First California's approach (EFCA) to the field verification of jobs completed by Participating Contractors who are participating in the SMUD Home Performance Program (HPP). This approach is in response to the guidelines and requirements of the Home Performance with ENERGY STAR[®] national program and BPI national standards.

The Field Quality Control (QC) Process is used by the utility and its program administrators to evaluate the effectiveness of the program, certified BPI individuals, and the work of Participating Contractors. The QC Process also provides feedback to the Participating Contractors, which can improve job quality.

Terms and Definitions

BPI – Building Performance Institute, raising the bar in home performance contracting through rigorous written and field examinations in order to evaluate the performance of a home, taking into account systems, physical conditions and other energy and non-energy characteristics of the home.

EFCA – Efficiency First California (formerly CBPCA)

HPwES – Home Performance with ENERGY STAR[®], a national program developed by the U.S EPA and U.S. DOE, offering a comprehensive, whole-house approach to improving energy efficiency and comfort of homes, while maintaining or improving safety.

JRT – Jobs Reporting Template

Major deficiencies - work NOT performed as part of the contracted scope of work, very poor installation quality, large discrepancies between Participating Contractors testing results and Verifier testing results.

Quality Control (QC) - The observation techniques and activities used to fulfill requirements for quality. ("Control" is defined as an evaluation process to indicate needed corrective responses.)

SMUD – Sacramento Municipal Utility District

QC Verifier - approved by EFCA and certified by BPI in at least one residential designation. Verifiers have been trained by EFCA or its equivalent and exceed the requirements of the Home Performance with ENERGY STAR[®] program.

EFCA Verifiers

EFCA Verifiers are independent third-party raters, home performance Participating Contractors, and certified BPI Professionals who exceed the requirements of Home Performance with ENERGY STAR[®] program. They have demonstrated their commitment to EFCA as valuable associates over the years by producing high quality home performance assessment or contracting services in California. They have taken all EFCA training and certification programs, including BPI certifications and HERS qualifications. Their technical knowledge is extremely high and they have extensive field experience in a broad range of homes. Generally, they are EFCA trainers, mentors, and/or Participating Contractors. We review their performance regularly and require that they regularly update their knowledge and certifications. EFCA can assure that Verifiers are top tier experts in the home performance industry.

Note: All Verifiers sign EFCA's Verifier Agreement and Privacy Policy to safeguard the Participating Contractors' liability and privacy with respect to sensitive information.

EFCA Quality Control Process

All Participating Contractors and Verifiers in the SMUD HPP must abide by the EFCA QC Process.

Participating Contractors report pre-retrofit and post-retrofit job data using the Job Reporting Template (JRT). Submitted reports will be reviewed to make sure they are complete and that the house and job scope qualify for the rebate program. On-site field verifications will be scheduled according to each Participating Contractors sampling rate. Details are provided in the Quality Control Protocols below.

If a Participating Contractor has questions about their reporting status or would like to discuss options for reconciling their records with EFCA's protocols, contact EFCA at 888-35-CBPCA.

Quality Control Protocols

Once Participating Contractors sign the Contractor Participation Agreement and are accepted into the SMUD Home Performance Program they will be required to follow all job reporting processes and QC protocols.

Job Sampling

On-site inspections (field verifications) will be scheduled according to each Participating Contractors sampling rate. Sampling is performed separately for each Participating Contractor.

Field verifications will be directed at projects that have not yet started (pre-upgrade) and at finished projects (post-upgrade) in accordance with the SMUD sampling rates listed below.

QC Field Verification Sampling Rates	
Tier 1	In-field inspection on three of the first five jobs performed by a new Participating Contractor.
Tier 2	After the first five jobs are completed and Tier 1 is satisfactorily passed, at least four of the next twenty jobs will receive in-field inspections (20% verified or 4 in 20).
Tier 3	After completion of a Participating Contractor’s first 25 jobs; <ul style="list-style-type: none"> - a 5% verification rate of total submitted jobs is maintained for Participating Contractors (1 in 20); - 2% rate for BPI-Accredited Participating Contractors, with SMUD approval.

PRE-Upgrade QC verification takes place before the upgrades are installed to ensure test-in numbers match data submitted for review and to validate the scope of work. This would only imply for new contractors.

POST-Upgrade QC verification takes place after the job has been completed to ensure that quality of work and safety meet SMUD’s requirements, as well as to ensure that complete BPI testing protocols have been followed.

Deviations from the tiers will occur when there are specific homeowner complaints or EFCA mandates additional verification or an inspection is requested by a Participating Contractor –usually at test-out – because they desire technical guidance on assessing or installing the appropriate measures or on proper testing procedures (generally referred to as mentoring).

Sampling is not strictly random; **each new Participating Contractor** will have their initial three out of five jobs verified and mentored. After the initial three satisfactory field verifications, a 20% field verification rate for the next 20 jobs is undertaken (i.e., EFCA’s verifies four out of twenty jobs reported). After successfully completing Tier 1 & 2 above, field verifications are selected randomly from the Participating Contractors subsequent jobs to obtain an unbiased sample of the work. This also serves to prevent the Participating Contractor from predicting which projects will be selected—

a strong deterrent against breaking the program rules and/or misreporting. However, the sample will not always be purely random. For example, some homeowners will not want to schedule an inspection, while other homeowners may request an inspection due to issues about work performed, and then some inspections may be conducted as a result of the issues raised in the job report review process.

Field verifications allow for early feedback on problem areas. The sampling rate may be adjusted at the discretion of SMUD or EFCA QC staff for any given Participating Contractor who receives field verifications results with poor outcomes or with successful outcomes.

When a Project is Selected for Verification

Participating Contractors receive an automated e-mail from the Vision system informing him/her that a project is “Selected for Verification”. The email states the property that has been selected and provides suggestions for notifying the homeowner that an EFCA Verifier will be calling to arrange a date for the verification visit. At that time the Participating Contractor must provide the client with these documents to prepare for the visit:

- [Verification Visit: What Homeowners Can Expect](#) (PDF) a one page document providing a brief description of EFCA, the SMUD Home Performance Program, why projects are verified, and how to prepare for the visit.
- [Top 10 List of what Homeowners Should Know about the SMUD HPP](#) (PDF) Participating Contractors give this “Top Ten List for Homeowners” to clients before beginning work on the home. The sheet explains the SMUD HPP and lets clients know what to expect as a program participant.
- [Customer Survey](#) (PDF) The survey places major attention on non-energy benefits desired and realized, in addition to the homeowner’s subjective views on energy savings, both electric and gas. The overall emphases of this survey are on customer satisfaction with the Participating Contractor as well as on project results.

EFCA is willing to work with Participating Contractors to incorporate field verifications into their job processes, with the goal of minimizing the disruption to customers and Participating Contractors. The intention is to keep the Participating Contractor at the forefront of the homeowner’s experience. EFCA Verifiers are guided in how to talk with the homeowner about the verification process.

All job information is provided to the Verifier in the Vision system (i.e., JRT, PG&E Test Measurement Form) and any additional information to allow the Verifier to gain an entire picture of the job completed to be able to determine compliance with program requirements.

The Verifiers are instructed to contact the homeowner within one business day of being assigned the inspection and scheduled within one month. The date is communicated to EFCA by the Verifiers and is entered into an internal tracking system.

Homeowner Relations

To maximize the field verification's benefits, Participating Contractors are encouraged to join EFCA's verifier at the verification date. That way, Participating Contractors can learn more about any deficiencies in the field. Participating contractors can also fix any corrective actions on the spot and finally, both parties can make sure that their equipment are calibrated by using both of their equipment to perform the same tests. This new and innovative way increase customer satisfaction by not having to reschedule another visit to fix the corrective actions needed. If there are any questions about the verification process Participating Contractors are welcome to contact EFCA, as we are always open to discussing adjustments to the process on individual cases.

Verifier's Communication with Homeowners

Unless it is a safety issue, such as gas leak, backdrafting of gas appliances etc., verifiers are asked to refrain from discussing with the homeowners the results of the inspection. Instead, Verifiers are to let the homeowners know that the results are shared with the Participating Contractor and that the homeowner should contact the Participating Contractor if s/he has any questions. If the homeowner would like to hear the results from an independent source, s/he is invited to contact the EFCA office.

At the beginning of the on-site inspection, the Verifiers are to explain thoroughly the verification process: that it is a home performance diagnostic to confirm that Participating Contractors in the SMUD HPP program are completing the testing and remediation work properly and complying with program requirements. And, by using third-party Verifiers ensures that Participating Contractors are providing quality home performance remediation for their customers.

Customer Survey

Verifiers ask the homeowner to complete the Customer Survey and can comment on any issues they would like on the form. The survey places major attention on non-energy benefits desired and realized, in addition to the homeowner's subjective views on energy savings, both electric and gas. The overall emphases of this survey are on customer satisfaction with the Participating Contractor as well as on project results.

On-Site Inspection

On-Site inspections (field verifications) will evaluate the Participating Contractor's ability to perform a home performance assessment, develop an appropriate scope of work, and properly install the improvements purchased by the customer according to the terms of the contract. Its emphasis is on ensuring quality installation and safety, and whether the proposed job scope was completed as

described. Also, Verifiers must confirm adherence to BPI Technical Standards and program requirements as required under the SMUD Home Performance Program.

The Verifier may ask the homeowner for a short tour of the home to show where improvements were made. The Verifiers will:

- Visually inspect exterior and interior for safety issues.
- Visually verify claimed improvements and that each installed measure is new.
- Determine whether each measure has been installed to in-field work requirements.
- Perform Combustion Appliance Safety (CAS) testing following the EFCA CAS Testing Guidelines. (refer to [Combustion Appliance Safety Testing Guidelines](#))
- Replicate diagnostic tests to verify the Participating Contractor's reporting. Types of tests necessary depend on the job scope, observed results, Participating Contractor's reputation, customer satisfaction, and other factors. Diagnostic tests may include blower door, duct blaster, flow hood, IR camera inspection, moisture analysis, and measured airflow.
- Take digital photos to capture elements of the job that either were done well or poorly done (pictures provide an excellent opportunity to exhibit the quality of a Participating Contractor's work).
- Note how the installed remediation measures could have been installed better or differently to improve SMUD Home Performance Program. This information will be included as feedback in the QC Report.

For jobs that require a HERS inspection, the Verifier will rely on the HERS performance test results rather than replicate the tests.

The Verifier will not discuss any inspection results with the homeowner. As needed, EFCA will discuss with the Participating Contractor the options for correcting problems identified by the Verifier. Overall, all Verifiers present a positive and objective attitude during all conversations with the homeowner.

Health and Safety

All Verifiers must adhere to Building Performance Institute - Health and Safety standards. Each Verifier must have all the necessary personal safety equipment required by OSHA. Required safety equipment includes, but is not limited to:

- Fitted respirators with canister filters
- Dust masks
- Gloves
- Protective clothing
- Safety glasses

- Hard hats, as required
- Personal CO detector

Field Verification Documentation and Reporting

Once the QC verification is complete, the Verifiers upload the following items into the Vision system for EFCA review:

- 1. Energy Upgrade California (EUC) Field Quality Control Report:** The Verifier will record results of combustion appliance safety testing and all other diagnostic test numbers in EUC field quality report.
- 2. Quality Control (QC) Scoring Sheet:** The Verifier should provide constructive feedback and suggestions to improve job performance. Verifier also should make visual assessments, take photos, and suggest how the installed remediation measures could have been installed better or differently to improve home performance. This QC scoring sheet provides pass or fail categories for the Verifier to determine, if any, corrective action is needed. The categories are:

Fail 0: Contractor has left the home in an unsafe condition that threatens occupants' health and safety and requires immediate corrective action. Verifier has notified the homeowner of the unsafe conditions and has called PG&E to assess the situation. Follow-up is required for all CAS failures and corrective action is mandatory.

Fail 1 (F1): CAS test results did not meet Program standards and/or triggered a "stop work" action based on BPI Technical Standards for the Building Analyst Professional. Verifier has notified the homeowner of the unsafe conditions and has called PG&E to assess the situation. Follow-up is required for all CAS failures and corrective action is mandatory.

Discrepancy 0 (D0): The contracted scope of work does not meet home performance standards and/or Program requirements. Corrective action is strongly recommended and may be required. Areas of technical performance need improvement.

Discrepancy 1 (D1): Significant discrepancies in modeling or testing data submitted in the post installation application.

Pass with Minor Discrepancies (P0): Contractor's performance meets most technical standards and program requirements but some areas of technical performance need improvement.

Pass 1 (P1): Exceptional Work Completed.

- 3. Photos:** Digital photos to capture aspects of the jobs well or poorly done.
- 4. Customer Survey:** Collected from the homeowner at the end of the QC verification.

EFCA reviews the evaluation documents and provides constructive feedback to all Participating Contractors to help them address any opportunities to improve their performance on jobs completed, while maintaining a zero-tolerance policy for fraud in the SMUD Home Performance Program.

These documents become part of each Participating Contractor's performance record and are used to flag and take action on deficiencies.

Participating Contractor Feedback and Corrective Action

Results of the verification will be posted in the Vision system in the Participating Contractor's job application for that particular client.

Participating Contractors will receive an automated email from the Vision system informing them that QC documents have been uploaded and program administrators have left a new NOTE to view, which will prompt the Participating Contractor to perform one of the following actions:

- **“Verification Complete” status** - A NOTE will tell the Participating Contractor that the EUC QC Report, QC Photos, Customer Survey, and Invoice (if applicable) are ready to be viewed in the FILES tab of the project. If the Participating Contractor has any questions or concerns about the files, s/he may add a new note with comment(s) and EFCA will respond as soon as possible.
- **“Corrective Action Needed” status** - A NOTE will tell the Participating Contractor that corrective action is needed on the project and to access it in the same EUC QC Report in the FILES tab. The EUC QC Report provides specific details of the issues that require immediate attention, the specific timeframe in which the repairs need to be made, and suggested methods for remediation. In addition, the FILES tab will contain the QC Photos, Customer Survey, and Invoice (if applicable) for review.
 - This status requires the Participating Contractor to perform additional tasks under the WORKFLOW tab such as: enter the date s/he intends to return to the home to make the repairs, enter details of the corrective action in a new NOTE or document(s), and upload the documents(s) and photo(s) of the repairs under the FILES tab.
 - Once the documentation and photo(s) are reviewed and approved, the project will be deemed “resolved” by the QC program administrator and its status will be changed to “Verification Complete” (or other previous review status).

Any discrepancies that are reported in the EUC QC Report will be discussed with the Verifier, and then the Participating Contractor, if necessary.

Feedback is provided to all Participating Contractors in a positive manner. The following list shows general feedback mechanisms used in the EFCA QC Process:

NOTABLE BEST PRACTICES

When it is apparent to the Verifier that the Participating Contractor has achieved performance targets through best practices that resulted in exceptional results through diagnostics, then those items are noted as positive feedback on the EUC QC Report. For example; if a Participating Contractor records less than 20 CFM25 duct leakage, then the Verifier makes note of that as a best practice. Continually achieving best practices for home performance can result in a Participating Contractor performance announcement on SMUD's Home Performance Program e-newsletter and/or website and may be reported to the Home Performance with ENERGY STAR[®] Program.

NO DEFICIENCIES NOTED

If a Participating Contractor's field verification results show no deficiencies in performance and the customer survey is positive, s/he is given results with good marks but encouraged to achieve performance targets.

MINOR DEFICIENCIES

If minor deficiencies are found, they will be documented in the EUC QC Report and constructive feedback will be given that includes goals on how to prevent the deficiencies moving forward. If the same deficiencies are found during future field verifications, then a higher verification sampling rate may be established and/or mentoring will be required on the Participating Contractor's next project.

MAJOR DEFICIENCIES

If major deficiencies are found during the field verification, EFCA will conduct a phone consultation with the Participating Contractor to discuss the issues. Major deficiencies refer to work NOT performed as part of the contracted scope of work, very poor installation quality, and large discrepancies between Participating Contractor's testing results and Verifier's testing results. If the conversation alludes to questions that cannot be answered without the Verifier's participation, EFCA will arrange a phone conference between Participating Contractor and Verifier. After this discussion, the Verifier and/or EFCA will provide a corrective scope of work to be completed within seven to twenty (7-20) days or within a reasonable period of time based on the scope of work involved. The Participating Contractor will provide written documentation with applicable pictures to verify the corrected actions. EFCA will decide if additional training, job mentoring or a higher field verification sampling rate can be required of future jobs.

If any **serious health and safety** condition is found during a field verification, the Verifier is to notify the homeowner of the unsafe conditions, repair the conditions if properly licensed to do so, or contact PG&E (**800-813-1975** during normal business hours or **800-743-5000** after 5PM on weekends) and is recommended to wait with the customer until PG&E arrives if possible/appropriate. EFCA will be notified and the Participating Contractor given a list of corrective actions to be completed in zero to two days (0-2). The Participating Contractor will provide written

documentation with applicable pictures, to verify the corrected actions. EFCA can require additional training, job mentoring, or a higher field verification sampling rate on future jobs.

Notifying the Homeowner about Corrective Action

The Participating Contractor must take responsibility for telling the homeowner about problem(s) and proposed solutions. EFCA will offer the Participating Contractor talking points to help guide their customer conversation about deficiencies. Corrective action is performed at no cost to the homeowner. In a rare circumstance, when the homeowner refuses proposed correction action, s/he must sign an acknowledgement document and no action will be taken on that property.

If problems are not resolved, or there is evidence of negligence, the Participating Contractor's status may be revoked at any time.

Avoiding Conflict of Interest

EFCA strives to deliver a Quality Control Process that is objective and fair. We view this as an opportunity to provide feedback to Participating Contractors on home performance upgrades to enable them to continually improve the quality of their work.

As part of this effort, EFCA will follow these principles to avoid conflict of interest between the Verifier and Participating Contractor:

1. EFCA will not assign Verifiers to review remediation jobs in which they had a role.
2. EFCA will avoid assigning a Verifier to a job in which the Participating Contractor performing the remediation has used the Verifier in the past for other testing/remediation work, unless otherwise impossible to do.
3. Verifiers must contact EFCA immediately if s/he is assigned to verify a job performed by a friend or former home performance teammate.

PG&E / SMUD Field QC Coordination

To avoid duplicative field verification, for jobs submitted to both the SMUD and PG&E programs, EFCA will perform field verifications on behalf of BIG and the PG&E Whole House Rebate Program. EFCA has a contractual agreement with BIG that allows EFCA to perform field verifications in SMUD territory which BIG. Jobs verified on behalf of the PG&E Whole-House Rebate Program will be at no cost to the Participating **Contractor**. Other jobs verified on behalf of SMUD, will be paid for by SMUD HPP. Jobs that are not verified in coordination with PG&E or SMUD HPP, will be charged to the **Participating Contractor** at \$375 per verification. All jobs with PG&E natural gas service will be verified according to the *PG&E Whole House Action Guidelines* online at <http://www.builditgreenutility.org/document-library>

Field Support (Mentoring)

The purpose of mentoring is to ensure that Participating Contractors use the whole house approach, follow BPI and program standards, and provide quality home performance services to customers under the SMUD HPP.

Each new Participating Contractor must schedule three (3) mentoring sessions with EFCA.

Mentoring is accomplished in the following ways:

- **Test-in Mentoring** typically focuses on the whole house assessment and the development of the work scope, and specifically targets the installation of energy saving measures and techniques (CAS testing, Duct Testing, QII-quality insulation installation). Test-in mentoring session takes place at the first job a new Participating Contractor is planning to submit to SMUD HPP.
- **Test-out Mentoring Combined with Field Verification** take place at Participating Contractor's final site visit (test-outs). They focus on performing a complete and correct home test-out per BPI standards and program requirements while addressing any missed opportunities for deeper energy savings.
- **The charge for a non-mentoring verification session is \$375**, which is charged to the Participating Contractor (unless it is in coordination with PG&E). However, when the verification is combined with mentoring, there is no cost to the Participating Contractor during the first three sessions.
- **Additional mentoring** beyond SMUD no-cost mentoring sessions will be charged to the Participating Contractor at the rate of \$100/hour.

Required attendance - Those present at a mentoring session must include a *certified BPI Building Analyst* on staff or subcontracted with the company AND a *field crew lead* who worked on the project in review. In addition, the owner/decision maker/sales person of the company is highly encouraged to participate. It is requested that the limit be kept to five (5) or fewer people from the Participating Contractors' company so that those present get the most out of the mentoring session.

Scheduling Mentoring

Participating Contractors can submit a Mentoring Request using the following process:

STEP 1: A participating Contractor must identify an available home and three suggested dates for the session, and then complete the "Mentoring Request Application". It is requested that Participating Contractors submit the application at least three days prior to the day the Participating Contractor would like mentoring. View the Mentoring Request Application Instructions (PDF).

STEP 2: EFCA will pick one of the proposed dates to meet the Participating Contractors on site for the mentoring session. Communication and document submission about the mentoring session will occur in the online Vision system.

STEP 3: Download the [Field Mentoring – How to Prepare](#) (PDF) document to ensure the Participating Contractor is ready for a successful learning experience. Fill out the [Mentoring Request Application](#)