

# ENERGY STAR Certification System Quality Assurance and Quality Control Enhancements

Companion Document for Second Comment Period

April 15, 2024

## I. Abstract

In late 2023, the U.S. Environmental Protection Agency (EPA) released a draft proposal for enhancements to the ENERGY STAR Certification System's quality assurance and control (QAQC) requirements. These changes are designed to improve the effectiveness of current QAQC activities, give Home Certification Organizations (HCOs) new tools to oversee participants operating in their programs, and ultimately create more confidence in the quality of ENERGY STAR certifications. The EPA received comments from seventeen partners during the first comment period, which was open from December 11, 2023, through February 9, 2024.

Based on the comments received, the EPA is soliciting additional partner feedback on three specific topics:

1. A revised proposal to require that quality control be completed on the most critical program elements prior to a home's certification, but streamlining that review scope to allow short turnaround times.
2. A revised proposal for the minimum rate of HCO direct file review, including an introductory ramp-up schedule.
3. A new proposal to create differentiated credentials to perform quality control reviews for the ENERGY STAR Single-Family New Homes (SFNH) and Multifamily New Construction (MFNC) programs.

This document provides background discussion on these topics, and feedback is requested via the accompanying stakeholder comment form. Following this second comment period, the EPA will release a combined response to all comments received during both the first and second periods.

## II. Topics for Additional Stakeholder Feedback

### A. Requiring quality control review to be completed on the most critical program elements prior to a home's certification.

In its original proposal, the EPA stressed the importance of quality control reviews being completed before an ENERGY STAR certificate is issued to avoid situations where irresolvable deficiencies are regularly discovered in homes that have already been certified. Specifically, the EPA proposed two types of quality control reviews: the existing "10% File Review" and a new direct HCO file review<sup>1</sup> of a smaller percentage of homes<sup>2</sup>.

In the first comment period, multiple stakeholders noted the importance of avoiding any requirements that would cause a delay in the issuance of ENERGY STAR certificates. Commenters referred to the Fannie Mae 'Green MBS' policy that all homes be registered in the HCO database shortly after the home sale closing, builder practice to include the ENERGY STAR certificate at the time of sale, and other time pressures. Overall, the EPA understands that current industry expectations provide only a handful of days for the ENERGY STAR certificate to be issued following the final inspection.

Some commenters believed that it was practical for QC reviewers to complete the proposed file review activities within a reasonably short timeframe prior to certification; many believed it was not; and some believed it was, but only at significant cost and difficulty. Commenters highlighted that the full file review is an intensive effort, with the energy model review alone consisting of tens or hundreds of data points. Further, the EPA understands that the follow-up process (sending feedback to the Rater, obtaining supporting documentation, reviewing corrections, etc.) sometimes requires more effort than the original review itself. Commenters also noted challenges of staff availability not only to complete the reviews but to do so day in and day out, accounting for scheduling factors like competing staff responsibilities, sick days, and vacations.

In general, stakeholder feedback suggested that the energy model review requires the most effort and, therefore, poses the greatest scheduling challenge. Arguably, energy model review is also relatively unlikely to identify an *irresolvable* deficiency with ENERGY STAR program requirements. While this task is important to assess general compliance with the ANSI standards, minor errors are relatively less likely to cause a threshold compliance problem due to the flexibility inherent in the performance target concept. Many energy models include a point or two of safety margin; some corrections might result in a better score, and some errors might cancel others out. Based on this logic, the EPA believes that the risk of significant instances of home decertification caused specifically by after-the-fact energy model review is relatively low.

In contrast, the EPA believes that reviewing the centralized ENERGY STAR checklists and on-site installed measure photos is more likely to result in the detection of previously undiscovered deficiencies that will lead to the decertification of homes. Because the photos, in particular, address mandatory ENERGY STAR program requirements, any revealed deficiencies are often irresolvable or, at best, resolvable only with significant modifications to the home. Fortunately, reviewing these elements is expected to be a less demanding task than reviewing the full energy model.

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<sup>1</sup> The new direct HCO file review step applies to HCOs that delegate the 10% file review to a designee (for example, to an Accredited Provider). This additional step does not apply if the "10% File Review" is performed directly by HCO personnel.

<sup>2</sup> A revised proposal for the minimum rate of direct HCO file review is addressed in the next section.

Based on these considerations, the EPA is proposing a new concept that is designed to reduce the frequency of delays in issuing certificates while also minimizing the risk of certification “clawbacks” by narrowing the focus to the most critical program elements. Specifically, the EPA is proposing to leave the current energy modeling review scope and timeline as originally proposed, but require QC review on the newly collected program documents and photos, specifically, be completed prior to certification. These two ‘stages,’ which would apply during both the routine “File Review” and the new HCO Direct review, are defined as follows:

**‘Stage 1’ - ENERGY STAR QC Checklist File Review (Required Pre-Certification)**

**What:** QC reviewers would ensure the program’s Rater checklists are complete and review individual checklist items when software flags a validation warning or when an exemption or alternative is used. In addition, QC reviewers would examine approximately 10-15 photos to ensure consistency with program requirements.

**When:** This stage would be mandatory prior to certification for the subset of homes selected for review.

**How:** QC reviewers would complete an updated, significantly streamlined ENERGY STAR Quality Control and Certification Review Checklist (ENERGY STAR QC Checklist).

**‘Stage 2’ - Energy Rating File Review (Allowed Post-Certification)**

**What:** As today, QC reviewers would assess the overall energy rating, centered on the energy model inputs.

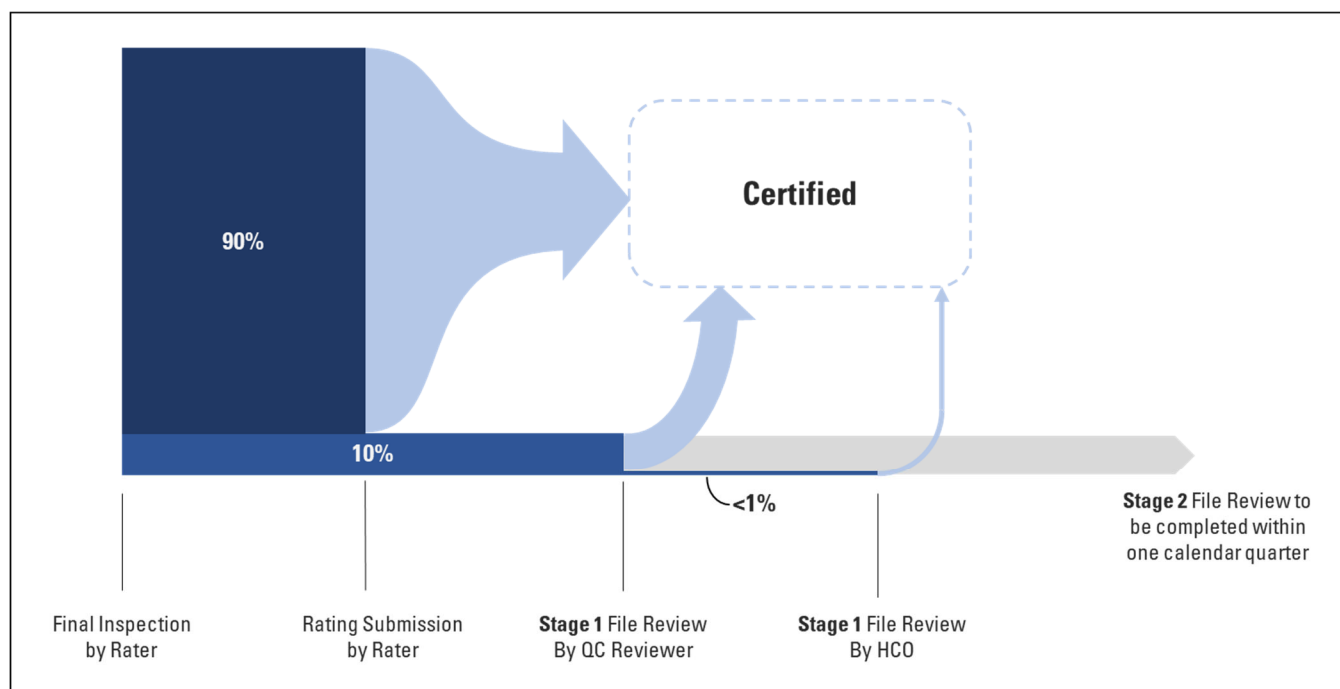
**When:** The timing of this stage would remain as-is, with the review potentially occurring up to one calendar quarter after a rating is registered in the HCO database.

**How:** Again, as today, QC reviewers would assess the energy model and supporting documentation for compliance with the referenced standards (e.g., ANSI 301, ANSI 310, and ANSI 380) using an HCO-developed checklist.

The figure below illustrates how the proposed quality control timeline would work. Raters would perform the final inspection, enter the as-built and as-tested values into the energy model, and prepare the final program paperwork before submitting a rating for review. Just like today, 90% of the homes will not be selected for file review and can be immediately approved for certification. The other 10% *are* selected for file review, and almost all of those can be certified as soon as the designated QC reviewer completes the Stage 1 review. A final small percentage (<1%) of homes will be selected for HCO direct review, and these can be certified as soon as the HCO reviewer completes their Stage 1 review.

To summarize, 90% of homes would be certified immediately after the Rater’s submission; >99% would be certified after the Stage 1 review is performed by the QC reviewer designee; and 100% would be certified after the Stage 1 review is performed by HCO personnel. Timing will depend on the ability of both the QC reviewer designees and the HCO reviewers to perform the Stage 1 reviews on a continuous rolling basis. The EPA does not propose to dictate a hard deadline for the QC reviews, in part because there is no obvious mechanism to enforce such a rule, but could adopt a recommended guideline.

**Figure: Proposed Quality Control Workflow**



The EPA notes that this concept is not without downsides. For one, splitting the File Review into two stages adds complexity to an already complex workflow. In addition, it assumes that the 'Stage 2' energy model review can be deferred without causing significant after-the-fact compliance issues, which is something that the Agency will need to continue to monitor over time. Certainly, the EPA *recommends* that HCOs and QC reviewer designees perform both stages at once (prior to certification) and foresees natural incentives to do so. However, as a minimum requirement, the EPA believes that mandating Stage 1 review prior to certification is a justifiable first step towards treating quality control as a continuous, rather than intermittent, activity.

Concerns will likely remain about accomplishing even this streamlined Stage 1 review within the available timeframe, which reflects real, valid conflicts of expectations and operating procedures that exist in the marketplace. Nevertheless, the EPA believes that the status quo, in which rating submissions undergo no quality control review before documentation of ENERGY STAR certification is issued, does not serve the needs of the program, its partners, nor the other interested stakeholders who rely on the certification. The EPA appreciates the importance of certifications being processed swiftly and efficiently – just not so swiftly as to completely preclude timely quality control review.

The EPA will do what it can to minimize the disruption caused by this proposed change. For example, it is confident that a reasonable accommodation regarding the Green MBS registration deadline can be identified, and is already coordinating with Fannie Mae on this topic. Additionally, the EPA has various channels available to explain to its builder partners that 10% of homes will undergo pre-certification quality control review, which will result in a short certification delay. However, the success of this initiative will ultimately be established through the energies and efforts of the energy rating industry and homebuilder partners, which are recognized and appreciated.

The EPA is requesting stakeholder feedback on the details of this proposal using the accompanying stakeholder comment form. Equally important, it is seeking its partners' support for the difficult and important task of turning the proposal into reality.

**B. Revising the minimum rate of HCO direct file review and establishing a ramp-up schedule.**

In the first comment period, the EPA proposed that HCOs directly perform quality control file reviews on a minimum of 0.5% of ENERGY STAR certifications to ensure consistency and objectivity across that HCO's participant base. During the first comment period, stakeholders expressed differing opinions on the minimum rate review that is appropriate or practical, with suggestions ranging from 0.25% to 5%.

The EPA is requesting additional stakeholder feedback on a revised proposal to introduce this new activity at a lower rate of 0.25% and raise the rate to 1% over five years. Specifically, the EPA is proposing to define the following minimum rate schedule in the Certification System's "Quality Control Protocols" section:

- The rate of HCO direct review shall adhere to the following schedule by calendar year:
  - 2025 and 2026: 1 in 400 homes (0.25%)
  - 2027 and 2028: 1 in 200 homes (0.5%)
  - 2029 and beyond: 1 in 100 homes (1%)

The EPA believes that this proposal represents an appropriate long-term rate to meet the program's needs while addressing the practical limitations of establishing a new activity.

**C. Creating differentiated credentials to perform quality control reviews for the SFNH and MFNC programs.**

During the first comment period, it was noted to the EPA that effective quality control of Multifamily New Construction (MFNC) certifications requires quality control reviewers to have adequate training on specialized technical topics such as common spaces and central systems. The EPA agrees. In fact, this is why Raters are currently required to hold separate credentials for the single-family (SFNH) and multifamily (MFNC) programs, depending on the program(s) in which they wish to participate.

For this reason, the EPA is proposing that similarly differentiated SFNH and MFNC credentials be created for individuals performing quality control review activities. Specifically, the EPA is proposing to add the following requirements under a new subheading within the Certification System's "Certification and Oversight Procedures" section:

**Training, Credentialing, and Listing of Quality Control Reviewers**

- Develop or recognize training, examination, and continuing education programs for quality control reviewers that provide the knowledge and skills necessary to review ERI ratings, review ENERGY STAR-specific program requirements, review relevant elements of the ENERGY STAR Certification Protocol, and review compliance with the HCO's policies related to its ENERGY STAR certification program. Separate (or combined) training programs shall cover the ENERGY STAR SFNH and MFNC program requirements, including any specialized skills and knowledge required for each sector.
  - *For California:* Training must provide quality control reviewers with the skills and knowledge to perform California HERS ratings rather than ERI ratings.
- Administer differentiated "SFNH Quality Control Reviewer" and "MFNC Quality Control Reviewer" credentials for individuals who have satisfied the training requirements specified above and ensure that all quality control review of ENERGY STAR certifications is performed by individuals (whether they be HCO personnel or designees) who hold a credential for the type of certification being reviewed.
- Maintain a public or private list of credentialed SFNH QC reviewers and MFNC QC reviewers that is updated regularly.

Note that, at this time, the EPA is not proposing a differentiated credential or training program for the ENERGY STAR NextGen program because it expects this information can be integrated into the 'core' (SFNH/MFNC) training and continuing education content over time.

As with all proposed elements, a reasonable timeline will be provided for HCOs to implement the QC reviewer credentialing after the policy is finalized. In general, the training would be expected to be at least as rigorous as the respective ENERGY STAR rater training. While HCOs will be responsible for proposing a specific training scope (subject to the EPA's approval), it is not the EPA's intent to require significant additional training for SFNH QC reviewers who previously completed the SFNH "Version 3 / 3.1" rater training, as most current reviewers have. However, QC reviewers who wish to work on MFNC projects should be prepared to take the MFNC "Version 1 / 1.1" rater training if they have not already done so, which will represent a new cost for some partners. It is anticipated that some QC reviewers will decide to maintain only the SFNH credential while others will pursue both the SFNH and MFNC credentials.