DOE Efficient New Homes
Single Family Quality Assurance Checklist & Certification Review, Version 2 (Rev. 3)

A DOE Efficient New Homes Quality Assurance Checklist shall be completed during each quality assurance file review and field review (QA review) of homes being certified through the DOE Efficient New Homes program in accordance with the policies and procedures of the DOE-recognized Home Certification Organization for DOE Efficient New Homes (HCO for DOE). This edition of the QA checklist is mandatory for homes certified under DOE Efficient New Homes Single Family Version 2 (Rev. 3).

Instructions for Performing Quality Assurance Review

- Instructions for All Reviews:
  - **An ENERGY STAR Single Family New Homes Quality Control Review must be completed on the home in question in order for a Quality Assurance Review for DOE Efficient New Homes Single Family Version 2, Revision 3 to be completed.**
  - Items found to be out of compliance, in accordance with the HCO for DOE policies, shall be corrected. If correction is not possible, the home's certification is required to be withdrawn (please contact EfficientNewHomes@doe.gov for guidance).
  - Where items comply with the program requirements through an exception or alternative, this must be documented in Table 8.
  - Additional items may be reviewed at the reviewer's discretion and reported in Table 10: Additional Checklist Items and Exemptions.

- Instructions for File Review:
  - Complete Tables 1 through 8 below, except where marked "For Field Review Only."

- Instructions for Field Review:
  - Complete all items in Tables 1 through 9 below. Complete all File Review items ***before*** completing "For Field Review Only" items.
  - Where a National Rater Checklist item cannot be verified because it is not visible, not accessible, cannot be tested, or there are other extenuating circumstances, mark the box in the column "Not Verified" and include an explanation in an attached document.
  - In accordance with the HCO for DOE policies, a limited amount of the required QA Field Reviews may be performed at the pre-drywall stage. Mark items that are not yet installed as "N/A." If any items are "N/A" an action/explanation summary document shall be attached.

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1. Project Information

Home Address	City	State	Zip Code

2. Original Rating Information

Energy Rating Company Name			Partner status confirmed?			
			☐	Yes	☐	No
Pre-Drywall Inspection Rater Name	Rater ID #	Date of Pre-Drywall Inspection	Completion date of DOE Efficient New Homes training and assessment			
			V2 Orientation			
			SF V2 Training			
Final Inspection Rater Name	Rater ID #	Date of Final Inspection	Completion date of DOE Efficient New Homes training and assessment			
			V2 Orientation			
			SF V2 Training			

3. QA Review Information

QA Reviewer Name		File Review or Field Review?	Date of Review
For Field Review Only	Field Review Rater Name	Pre-drywall or Final/completed?	Date of Review

4. Action Items / Summary of QA

	Yes	No
All items in Tables 5 – 7 are marked “Yes.”		
If any items in Tables 5 – 7 are marked “No” or “Not Verified,” a document explaining these items is attached to this file.		

5. Documentation Collection

All items below must be collected as part of the QA data file for both file and field reviews.		Yes	No
A	Energy rating file (model).		
B	Documentation that the builder was a DOE Efficient New Homes Partner at the time of the home's certification. If documentation of active partnership cannot be verified, contact EfficientNewHomes@doe.gov.		
C	Documentation that the home is certified under ENERGY STAR Single Family New Homes National Version 3.2 or 3.3.		
D	Documentation that the home is certified under EPA Indoor AirPlus (permit date before 1/1/2027: Version 1; permit date on/after 1/1/2027: Version 2 Certified or Gold).		
E	DOE Efficient New Homes PV-Ready Checklist Version 2 (Rev. 2) is collected, with all applicable items marked "Verified," or the home meets an exemption or alternative as specified in the National Program Requirements (see Table 8, below).		
F	DOE Efficient New Homes Single Family National Rater Checklist Version 2 (Rev. 3) is collected, with no items left blank or marked "Must Correct."		
G	Documentation that the home is certified under EPA WaterSense Labeled Homes Version 2.0 ***or*** either item 5.1 or 5.2 on the DOE Efficient New Homes Single Family National Rater Checklist is marked as "Rater Verified."		

6. Energy Rating File (Model) Review

All items below must be verified as part of the QA process for both file and field reviews.		Yes	No
I	Energy rating file (model) passes the HCO for DOE's quality assurance review checklist.		
J	ERI of the modeled home meets or exceed the DOE Efficient New Homes ERI Target for the program version applicable at the time of certification.		
K	Energy rating file (model) is consistent with the National Rater Checklist (see items 3.1 – 7.2 below).		
3.1	Modeled total building thermal envelope UA is ≤ 100% of the total UA calculated using 2021 IECC Table 402.1.2 or ≤ 100% of the total TC calculated using 2024 IECC Table 402.1.2, or envelope meets an alternative as specified in the National Program Requirements (see Table 8, below).		
3.2	Modeled windows, skylights, and doors that are ≥ 50% glazed achieve an area-weighted average SHGC ≤ 0.23 (Climate Zone 1-2), ≤ 0.25 (Climate Zone 3), or ≤ 0.40 (Climate Zone 4A, 4B) or meet an alternative as specified in the National Program Requirements (see Table 8, below).		
4.1	All heating and cooling distribution ducts and heating and cooling air handling equipment are modeled as located within the thermal and air barrier boundary or meet an alternative as specified in the National Program Requirements (see Table 8, below).		
5.2	If Item 5.2 on the DOE Efficient New Homes Single Family National Rater Checklist is marked as "Rater Verified," water heater is modeled to the applicable efficiency level specified in Item 5.2 and fixtures are modeled as low-flow (if software allows). If Item 5.2 is ***not*** marked as "Rater Verified," mark this item as "N/A."		

6.2	Modeled lighting is at least 95% LEDs.		
7.2	If the project is located in 2021 IECC Climate Zones 6-8, it is modeled with energy efficient balanced ventilation that meets or exceeds 65% SRE (@32 °F) and 1.2 CFM/Watt. If the project is located in 2021 IECC Climate Zones 1-5, mark this item as "N/A."		

7. DOE Efficient New Homes Single Family Rater Checklist Review

All items below must be verified as part of the QA process for both file and field reviews.			Yes	No
L	Rater name(s) is/are recorded.			
M	Rater inspection dates are recorded.			
N	Rater signature(s) or initials are recorded.			
O	DOE Efficient New Homes Builder ID is accurately recorded on the Rater Checklist			
All items below must be verified, with applicable documentation collected, as part of the QA process ***for field reviews only.*** As an alternative, complete and attach the DOE Efficient New Homes Single Family National Rater Checklist.		Not Verified	Yes	No
P	As-built home is consistent with the National Rater Checklist and Energy Rating File (Model) (see items 3.1 – 11.1, below).			
3.1	Insulation which is accessible for inspection matches the corresponding insulation value used in the energy rating file (model).			
3.2	U and SHGC values of windows in rated home match corresponding values in the energy rating file (model).			
4.1	All accessible heating and cooling distribution ducts and heating and cooling air-handling equipment are located within the thermal and air barrier boundary or meet an alternative as specified in the National Program Requirements (see Table 8, below).			
5.2	If Item 5.2 on the DOE Efficient New Homes Single Family National Rater Checklist is marked as "Rater Verified," installed water heater efficiency matches corresponding efficiency value used in the energy rating file (model), and installed showerheads and bathroom sink faucets and accessories which are accessible for inspection are WaterSense labeled. WaterSense label can be verified using the item's serial number (if available) if the fixture's label has been removed since installation. If Item 5.2 is ***not*** marked as "Rater Verified," mark this item as "N/A."			
6.1	All builder-supplied and builder-installed refrigerators, dishwashers, clothes washer, and clothes dryers are ENERGY STAR certified, or all builder-supplied and builder-installed dishwashers, clothes washers, and clothes dryers are ENERGY STAR certified and refrigerator meets an alternative as specified in the National Program Requirements (see Table 8, below).			
6.2	100% of builder-installed lighting fixtures and lamps (bulbs) are LEDs or the lighting meets an alternative as specified in the National Program Requirements (see Table 8, below).			
6.3	All installed bathroom ventilation fans are ENERGY STAR certified.			

7.2	Installed energy efficient balanced ventilation (HRV or ERV) matches the corresponding efficiency values in the energy rating file (model). If no balanced ventilation system is present in the home, mark this item "N/A."			
8.1	Provisions of the DOE Efficient New Homes Single Family PV-Ready Checklist marked as "Verified" are present in the as-built home or the project meets an alternative as specified in the National Program Requirements (see Table 8, below).			
9.1	One parking space is provided per dwelling unit that includes a powered 208/240V, 30A receptacle installed in dwelling unit's garage or within 6 feet of private driveway and the electric service panel identifies the branch circuit as "Electric Vehicle Charging," or the project meets an alternative as specified in the National Program Requirements (see Table 8, below).			
10.1	Individual branch circuit outlet is installed, energized, and terminates within 3 feet of each installed fossil fuel water heater, or the water heater meets an alternative as specified in the National Program Requirements (see Table 8, below).			
10.2	A space is located within the home or garage that is at least 3' x 3' wide and 7' high surrounding or within 3 feet of the installed fossil fuel water heater, or the water heater meets an alternative as specified in the National Program Requirements (see Table 8, below).			
11.1	Individual branch circuit outlet or conduit is installed to facilitate future wiring for a heat pump installation. Circuit or conduit is labeled as "For future heat pump." Or, the space conditioning equipment meets an alternative as specified in the National Program Requirements (see Table 8, below).			

8. DOE Efficient New Homes Single Family Rater Checklist Exemptions and Alternatives

Mark any exemptions or alternatives used during the original rating.		Exemption accurately recorded?	
		Yes	No
3.1	Slab edge insulation allowance for jurisdictions designated as having Very Heavy Termite Infestation.		
3.2	Up to 15 square feet of fenestration is excluded from the area-weighted average SHGC calculation.		
	Some or all fenestration is excluded from the area-weighted average SHGC calculation because it is used as part of a passive solar design.		
	Some or all windows are excluded from the area-weighted average SHGC calculation because the home is Phius or PHI-certified, windows are triple-glazed, and windows contain thermal breaks/spacers.		
4.1	Up to 10 feet of total duct length are outside the home's thermal and air barrier boundary (the 10 feet allowance may exclude jump ducts).		
	Ducts are located in a vented attic. Minimum R-8 duct insulation is used and duct leakage to outdoors is measured ≤ 3 CFM25 per 100 ft^2 of conditioned floor area. Project is located in a Moist (A) climate zone and an additional 1.5 inches or closed cell spray foam encapsulates the ducts and the ductwork is buried under ≥ 2 inches of blown-in insulation.		

	Ducts are located in a vented attic. Minimum R-8 duct insulation is used and duct leakage to outdoors is measured ≤ 3 CFM25 per 100 ft^2 of conditioned floor area. Project is located in a Dry (B) or Marine (C) climate zone and ductwork is buried under ≥ 3.5 inches of blown-in insulation.		
	Ducts meet the 2021 IECC Section R403.3.2 or 2024 IECC Section R403.4 criteria for "Ducts Located in Conditioned Space".		
	Jump ducts are located in the attic and do not directly deliver or return conditioned air from/to the heating/cooling equipment, all joints are air sealed, and duct is fully buried under the attic insulation.		
	Ducts and air-handling equipment associated with rooftop make-up air units or dedicated outdoor air systems (DOAS) that provide ventilation and/or supplemental heating and cooling are outside the building's thermal and air barrier boundary.		
	Ductwork or equipment is located outside the building's thermal and air barrier boundary but provides ventilation only.		
	Ductwork is located outside of the building's thermal and air barrier boundary in an unvented attic but meets the requirements of Section 806.5 of the 2021 or 2024 IRC.		
6.1	Use of a non-ENERGY STAR certified refrigerator.		
6.2	Up to 5% of lighting, for task or decorative lighting, is not LED lighting. The remaining builder-installed lighting is LED.		
8.1	The home has an on-site PV system.		
	The home receives renewable energy from a community solar system, with an agreement meeting the terms noted in the National Program Requirements.		
	Location has significant natural shading.		
	The home does not have at least 500 square feet of roof area oriented in between 110 degrees and 270 degrees of true north.		
9.1	The circuit is not connected to the electrical panel because the addition of a 30-amp Electric Vehicle Charging branch circuit would increase the electrical service to the next nominal size (i.e., from 200-amp to 400-amp service), the Rater retained a copy of the sizing calculations or statement from the electrical designer, and the conductor is labeled as "electrical vehicle charging."		
	The circuit is not connected to the electrical panel because the home is a model home, and the electric service panel is being used to service a temporary construction or sales office. The conductor is labeled as "electric vehicle charging".		
	The EV charging capacity is reduced based on the available existing electric distribution capacity because the local electric distribution entity cannot provide the full distribution capacity required for an additional 30A receptacle within 2 years of the estimated date of occupancy. The utility has certified this in writing and the Rater has included the utility's written explanation in the project records.		
	The EV charging capacity provided is reduced based on the available existing electric distribution capacity because an additional 30A receptacle will increase the utility side cost to the builder or developer by more than $450 per dwelling unit. The utility has certified this in writing and the Rater has included the utility's written explanation in the project records.		
	The builder has not provided any parking for the dwelling unit (private driveway, garage, or assigned or non-assigned shared parking).		

	The builder has not provided a private driveway or garage for the individual dwelling unit but has included alternative parking for the dwelling unit (assigned or non-assigned), and a completed copy of the DOE Efficient New Homes Multifamily Version 2 EV-Ready Checklist is provided.		
10.1	The installed water heater uses a branch circuit with a rating not less than 240V/30A or 120V/20A.		
10.2	The installed water heater is a fossil fuel tankless water heater or an electric water heater.		
11.1	The installed primary heating system is electric.		

9. Verification of Key Equipment Performance

All items below must be verified, with applicable documentation collected, as part of the QA process ***for field reviews only.***		Not Verified	Yes	No
O	Installed heating equipment has specifications which match the efficiency levels used in the energy rating file (model).			
P	Installed cooling equipment has specifications which match the efficiency levels used in the energy rating file (model).			
Q	If Item 5.2 on the DOE Efficient New Homes Single Family National Rater Checklist is not marked as “Rater Verified,” installed domestic water heating equipment has specifications which match the efficiency levels used in the energy rating file (model). If Item 5.2 ***is*** marked as “Rater Verified,” mark this item as “N/A.”			
R	If refrigerator is installed, labeled annual energy use specifications match the levels used in the energy rating file (model).			

10. Additional Checklist Items and Exemptions

Use this space to list additional items reviewed and describe any other exemptions or alternatives that were used (attach additional pages, if needed).		
Checklist Name	Item #	Notes

Certification Review

DOE has developed a process, called Certification Review, to address cases where a homeowner has concerns about the DOE Efficient New Homes certification of their home. The purpose of a Certification Review is to determine whether a home should maintain its certification. There are two possible outcomes: (1) the home will maintain its DOE Efficient New Homes certification or (2) the home's certification will be withdrawn. To find out more about DOE's Certification Review process, visit https://www.energy.gov/eere/buildings/complaints-and-doe-efficient-new-homes-certification-review.

As part of the DOE Efficient New Homes Certification Review, the ENERGY STAR Certification Review Process must also be implemented because ENERGY STAR certification is a requirement for DOE Efficient New Homes certification. Details on the ENERGY STAR Certification Review Process are located in the ENERGY STAR Single-Family New Homes Quality Assurance & Certification Review Checklists, accessible on the program's website: https://www.energystar.gov/partner_resources/residential_new/homes_prog_reqs/national_page.

Certification Review Process

When an HCO for DOE receives an eligible homeowner inquiry, the HCO for DOE will initiate a Certification Review of the home and assign it to an appropriate individual according to organization's policies. The assigned reviewer shall complete the Certification Review within 60 days by performing the following steps:

1. Collect Documentation. Collect all pertinent documentation using the Document Collection sections of the Quality Assurance Checklist. Inability to collect a required documentation item constitutes a failure, in which case proceed directly to Step 3: preparing the certification review report.
2. Perform Home Inspection. Coordinate a time with the homeowner to inspect the home. During that inspection, complete the remainder of the Quality Assurance Checklist based on observations of the current state of the home.
3. Prepare Certification Review Report. Prepare a report that includes the completed Quality Assurance Checklist, documented observations of the home's current state, and a determination of whether the Certification Review passes or fails. If the assigned reviewer is a third-party, the reviewer must share a copy of the report with the HCO for DOE, which will in turn provide a copy to the homeowner. If the reviewer is internal to the HCO for DOE, the HCO for DOE must provide a copy to the homeowner. Regardless of who develops the report, the HCO for DOE must also provide a copy to DOE (EfficientNewHomes@doe.gov).

If the assigned reviewer determines that the Certification Review fails, the DOE Efficient New Homes certification of the home shall be withdrawn.

If the assigned reviewer determines that the Certification Review passes, the DOE Efficient New Homes certification of the home shall be maintained. In that case, the homeowner has the opportunity to appeal the determination. Refer to the HCO for DOE's policies for details on the appeals process.

Instructions for Performing Certification Review

This document should be used in conjunction with the applicable DOE Efficient New Homes Program Requirements, Rater Review Checklist, and PV-Ready Checklist. Additional program requirements may be inspected and included in the Additional Checklist Items and Exemptions table above. Alternatives and exceptions in those documents, including those in the footnotes, should be considered where applicable. Where a program revision or policy record entry has lowered the stringency of a requirement, the most recent policy may be used, even if it was not in place at the time of original certification.

In general, the benefit of doubt should be given to the original rating unless it is definitively clear that a requirement was not met at the time of certification. The assigned reviewer should apply judgment in accounting for normal aging of construction materials over time, such as the settling of blown insulation.

Homes are eligible for Certification Review only if there have been no significant structural changes to the home since it was built. If such modifications are observed, the assigned reviewer has the prerogative to suspend the inspection and share documentation of the observed modifications with the HCO for DOE in lieu of the Certification Review Report.

If any individual item on the Rater Quality Assurance Checklist is marked as “No,” the Certification Review is considered to have failed.

Guidance on Destructive Testing

At the behest of the homeowner, destructive testing may be used to inspect items that would otherwise not be visible. For example, if it were suspected that no insulation was installed in an exterior wall, observation holes could be drilled in the interior gypsum board. The homeowner bears the complete responsibility for arranging all demolition and repair for destructive testing that they elect to undertake. Before undertaking destructive testing, it is recommended that homeowners consult with a qualified expert who can use non-invasive methods like infrared imaging to prioritize areas of concern. Demolition work, such as drilling observation holes, must occur in the presence of the assigned reviewer performing the Certification Review. Areas that are exposed outside the presence of the assigned reviewer shall be ignored for the purpose of the Certification review.