**Comment/Explanation\*:***Please be as specific as possible as to what should be changed and why.*  
\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The EPA is supportive of a HERS pilot on alternative off-site construction verification methods as an opportunity for the industry to gain much needed on-the-ground experience with this type of construction. The EPA believes this pilot’s “guiding principles” are well-stated and shares the following feedback to improve the pilot’s odds of success and ensure that it results in the type of data analysis that might justify a future adoption of these types of protocols by the ENERGY STAR New Construction program.

Specifically, data would need to demonstrate that alternative methods are likely to result in a similar level of quality assurance / quality control as current protocols. Therefore, it is important to set up a measurement and evaluation system that enables a rigorous analysis comparing the results of each new verification “option” with the current methods (in-person inspection by a third-party rater). For example, such a plan might include periodic in-factory assessment by a rater, with data collected in a standardized, objective format. This type of empirical analysis is proposed to supplement, rather than replace, the anecdotal feedback called for in the current proposal.

In terms of scope, we recommend that special efforts be taken to include in the pilot the range of components and factory setups that exist under the broad umbrella of “off-site construction.” This includes everything from panelized walls to full “eight-sided-box” modules. It also includes various sub-markets like multifamily construction, high-end single-family homes, and spec designs. The pilot should also strive to cover plants dedicated to modular housing as well as those co-producing modular homes with manufactured (HUD code) homes.

To maximize the chance for success, we recommend adding an in-person qualification period as a first step before switching to any of the new pilot verification options, in a similar vein as the MINHERS sampling protocol (Chapter 6). For example, the rater could visit the factory, perform trades training, and complete in-person inspections on some number of homes/modules to ensure that the factory can produce modules that meet intended specs before moving forward.

Finally, we encourage the pilot to put as much energy into generating new ideas as proving out this initial list of concepts. We sense that the ultimate solution may be yet to be devised, and that the winning ideas may be generated during the pilot itself, as the rating industry gains real-world experience with this type of manufacturing environment.

Additional specifics related to the verification options follow:

**Option 1 –** **Virtual/Remote Inspection of Factory Built Components:** There is an important distinction between a virtual/remote inspection, which involves real-time review and failure correction, and recordings that are reviewed only after-the-fact. Based on the title and description (for example, of a HERS organization that performs “inspections that are in essence the equivalent of being on-site full-time”), we understand the pilot to be proposing the realtime approach, which we support. However, under “HERS Provider Requirements”, there is no mention of real-time monitoring by a rater, nor details on how the rater would be notified that a panel/module is ready for review, or how the rater would communicate realtime feedback to the plant staff. We recommend fleshing out more details on how this realtime review is envisioned.

On an editorial note, under “Plant/Factory Requirements,” we are unclear what the distinction is between a (thermal envelope) compared with b (thermal air barrier) and c (insulation). We suggest aligning the list of items that a rater is permitted to verify with the minimum rated features from Normative Appendix B of BSR / RESNET / ANSI 301.

Also, we recommend specifying the minimum retention period for digital record/video storage.

**Option 2 –Third-Party Inspectors certified as RFI’s:** The proposal’s statement that “deputizing” plant staff is currently allowed under MINHERS appears to conflict with a plain reading of Section 102.2.9.2.2, which says that “homebuilders and their employees are not allowed to conduct ratings on the homes they build or for which they have a financial interest.” We would appreciate clarity on RESNET’s current policy intention in this regard.

In any case, for this concept to be successful, we believe it will be necessary to implement stronger mitigations against the conflict of interest from having the plant employ the RFI, and to identify effective ways for a Provider to provide more immediate oversight.

While this concept may be worthy of exploration in a pilot, it should be subject to the same measurement and evaluation plan discussed above, involving periodic inspection by a third-party rater to assess whether the plant-employed RFI is achieving the verification goals.

**Option 3 – HERS Provider Protocols for Insulation Inspection:** Based on our understanding of IPIA / DAPIA, it is unclear whether this option offers sufficient quality assurance and risk protection for home certification organizations and energy efficiency programs. Again, it may be appropriate to experiment with this option in the pilot period, provided it is subject to the same measurement and evaluation plan. If it is discovered that the IPIA / DAPIA inspections are ineffective for Standard 301’s minimum rated features, it would be recommended to remove this provision from the standard.