



RESNET Protocols for Remote Field QA Reviews

3-16-2020

Minimum Requirements

All minimum rated features that are visible at the time of Remote Field QA Review must be captured in a way sufficient for the QAD to evaluate the feature (e.g. need to see manometer readings, model numbers, insulation, etc.). The term “tester” as used in this document, means the individual performing the testing and inspections in the home during the Remote Field QA Review. The tester may be the Rater or RFI receiving the QA. Alternatively, another qualified individual (Rater/RFI) may be delegated by the QAD to perform the field testing and inspection during the Remote Field QA Review, but *only if the Rater or RFI receiving QA has already completed their final inspection and submitted results.*

The following equipment will be required, at a minimum, to complete a Remote Field QA Review:

- All testing tools and equipment required to complete a Confirmed Rating;
- Lighting to illuminate even the darkest corners;
- Computer hardware device (e.g. cell phone, tablet, laptop, etc.) must be capable of live video streaming or recording (or video camera for offline recording);
- Any necessary apps must be loaded on the hardware device (see Appendix A for recommended applications). App should allow for recording of Remote Field QA Review;
- Minimum of 3G cellular or wireless internet connection (online only).

Hands-free video equipment that allows the tester to perform rating tasks and for the QAD to easily see what the tester is doing. If a Helper is available to hold the video equipment, then hands-free equipment will not be necessary.

General Preparations & Best Practices

1. Whenever possible, the Rater being evaluated shall send to the QAD the Rating Data Files that are available for the home to be used for QA, including the energy simulation file; any data previously collected in the field by the Rater/RFI for the home; if available, data from architectural drawings and specifications.
2. To confirm that all connections and equipment are working properly, the QAD and tester should complete a test of remote viewing equipment, software and/or apps to make sure that all is working properly before the scheduled session in the Field.
3. The QAD shall provide the RESNET Protocols for Remote Field QA Review as outlined in this document to the tester ahead of time and answer any questions on the process to be followed.

Preparation by the field tester

1. Make certain all hardware is fully charged with minimum of 3 hours of run time. Have extra batteries, external power supply, and/or charging cords.
2. Have the required tools (see above minimum requirements) and make certain that they are operable (including available power or a generator) and calibrated per RESNET Standards, as applicable.
3. Test the connectivity and signal strength at the project site that will be required to support live streaming video.
4. Coordinate with other trade partners/contractors who may be sharing the jobsite in order to reduce noise and distractions
5. Follow specific instructions for recommended video conferencing applications from Appendix A of this document.
6. The following need to be completed on site before the start of the event. Those items relevant to RESNET QA will be spot checked during the recorded portion of the Remote Field QA Review.
 - a. If duct testing is completed at final, setup of duct leakage equipment, including sealing off of all duct openings. If duct testing is/was completed pre-drywall, then QA of duct testing will be completed at pre-drywall QA.
 - b. Setup of blower door equipment.
 - c. Measurement of house dimensions (e.g. wall, floors, ceilings, windows, etc.).
 - d. Any other processes that will save time (e.g. setting up ladders to access attic).

Online Remote Field QA Review Process

1. The tester shall begin Remote Field QA Review from the outside with an elevation view (typically front) of the building. The address must be visible in the initial view. If street number is too small to see from a full elevation view, then the tester shall walk/zoom up to the street number sign until clearly visible to the QAD. If there is no street number signage installed on the house, then a building permit, lot/block signage, or other identification posted on-site shall be captured with the video camera to establish that the tester is at the correct location. For multifamily dwellings, the video shall capture the approach from the elevation view up to the dwelling unit that will be receive a Remote Field QA Review.
2. The QAD shall follow the RESNET QA Review Checklist, to ensure that all data for minimum rated features and, if applicable, ENERGY STAR Homes QA are subject to review. Supporting documentation such as plans, energy simulation file, and photos may be necessary to confirm some checklist items. If not available beforehand, the QAD shall collect the appropriate documentation at the conclusion of the Remote Field QA Review.
3. The tester shall:
 - a. Perform the testing and inspection following the their own typical protocols.
 - b. Demonstrate and describe, in as much detail as possible, their process for equipment and systems set up for conducting a rating.
 - c. "Think out loud" and communicate what it is they are seeing and doing.
4. The QAD shall make note of any errors or mistakes that need correction at the time of Remote Field QA Review. Teaching and mentoring is encouraged, but shall not be used in a manner that influences the Rater/RFI's final result. This is especially vital in circumstances where the Remote Field QA Review is being completed at the same time as the Rater/RFI's initial final inspection. (Note: performing field QA during a Rater/RFI's initial final inspection is allowed but is not best practice)

5. If at any point the QAD believes that the Remote Field QA Review process is not allowing them to completely and satisfactorily assess the Rater/RFI's work, they may request that another Field QA Review visit be scheduled, including making that visit in-person rather than Remote.

Offline Remote Field QA Review Process

1. The tester (or a Helper) shall capture video recording of the entire inspection process, taking special care to ensure good lighting and coverage of all minimum rated features visible at the time of inspection. For hard to see items, such as equipment model numbers, supplement the video with separate, time-stamped digital photos.
2. The tester shall begin Remote Field QA Review from the outside with an elevation view of the building. The address must be visible in the initial view. If street number is too small to see from a full elevation view, then the tester shall walk/zoom up to the street number sign until clearly visible to the QAD. If there is no street number signage installed on the house, then a building permit, lot/block signage, or other identification shall be captured with the video camera to establish that the tester is at the correct location.
3. Rater/RFI shall:
 - a. Perform the testing and inspection following the Rater/RFI's typical protocols.
 - b. Demonstrate and describe, in as much detail as possible, their process for equipment and systems set up for conducting a rating.
 - c. "Think out loud" and communicate what it is they are seeing and doing.
4. The QAD shall review the video, photos and other supporting documentation and then complete the RESNET Field QA Review Checklist, to ensure that all data for minimum rated features and, if applicable, ENERGY STAR Homes QA are subject to review.
5. The QAD shall make note of any correction items visible at the time of Remote Field QA Review.
6. If at any point the QAD believes that the Remote Field QA Review process is not allowing them to completely and satisfactorily assess the Rater/RFI's work, they may request that another Field QA Review visit be scheduled, including making that visit in-person rather than Remote.

Helper

A helper may be used during this quality assurance process. Please note on documentation and state verbally that a helper is present.

Helpers are permitted to act as a general helper (e.g., run the camera, prep for test, etc.).

Helpers are not required to hold a RESNET credential. Regardless of credential, helpers are NOT permitted to be involved with any aspect of the evaluation of the minimum rated features and may NOT discuss testing with the Rater/RFI during the Remote Field QA Review.

General advice for completing Remote Field QA Reviews

Asking Questions without Prompting the Rater/RFIs being QA'd (applicable only where the Rater or RFI being QA'd is present)

1. The QAD should limit prompting when doing so could impact the results of the rating or evaluation.
2. Recommendation: when prompting, ask the Rater/RFI, "I'd like to pause for a second. Can we discuss your process for a bit before continuing?"
 - a. If the tester is comfortable pausing for discussion
 - i. Ask them to make a note of where they left off
 - ii. Ask the Rater/RFI any clarifying questions about their process without giving them cues or direction on the process
 - b. If the tester is *not* comfortable pausing for discussion
 - i. Be respectful of their process and assure them that it is fine to proceed and that you will clarify later
3. If you find it is clear that the process is not aligned with the RESNET protocol, document the issue.
4. Ask the Rater/RFI to "continue where they left off" and have the Rater finish their result for that test.
5. Document their results.

Providing Instructions to Rater/RFI being QA'd (applicable only where the Rater/ RFI being QA'd is present)

1. There may be circumstances where the Rater/RFI clearly makes a mistake in their process. In some cases, these corrections can be made effectively after the Rater is given the final results of their Remote Field QA Reviews. However, if at any point the QAD is not confident in the accuracy of the Rater's result, they may decide that the results are not valid and request that another quality assurance visit be scheduled.
2. Once the Rater has finished capturing their final results for the minimum rated feature in question, the QAD, at their discretion, may provide instructions to the Rater on how to improve their process.
3. If the results from the Rater's guided corrections provide confidence in the final rating results, then those values may be used for comparison with the Rater's original result to determine a pass/fail for RESNET QA purposes.

Cancellation/Reschedule

1. Both the QAD and the Tester have the right and responsibility to call out any identified health and safety concerns that could put the tester at risk. In the event that such risks are present in the tested home, appropriate safety protocol shall be followed and when necessary, the Remote Field QA Review event shall be rescheduled.
2. Just as in any Field QA Review, circumstances may arise that prevent the QAD from being able to complete a full review of the available minimum rated features. Loss of connectivity, battery failure, and poor sound/visual quality are just a few examples. The QAD may, at their discretion, cancel the Remote Field QA Review event and require supplemental Field QA Review(s) when sufficient verification of minimum rated features is not possible.

Appendix A

Useful Links*

1. [Google Duo](#)
2. FaceTime
3. [Facebook Messenger](#)
4. [Skype](#)
5. [SightCall.com](#)

*Note, RESNET does not endorse any specific video conferencing platform. This is a quickly evolving and competitive marketplace. The above list is not intended to be exclusive and newer applications may exist that meet the protocol requirements.