**SDC 301 CALCULATIONS SC Call Draft Minutes**

February 3rd, 2025 | 1:00 PM – 2:30 PM Eastern

[MEETING LINK HERE](https://zoom.us/rec/share/U5h6q2pZMfHsqnFuh8NsxT5exEQ582IU2qrcelTaSGP4UXuhsybZMuSJwJJSlM1c.EB-v4cvcFut-EW4F)

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| --- | --- | --- | --- |
| **Members & Staff**  | **Present**  | **Absent**  | **Other Attendees**  |
| **Members** Brian ChristensenCharlie HaackGayathri VijayakumarNick SislerPhilip FaireyRob SalcidoScott HorowitzWilliam Ranson | **Members** Brian ChristensenGayathri VijayakumarNick SislerPhilip FaireyScott Horowitz**RESNET Staff:**Laurel ElamRick DixonJackie DiazNeal Kruis | Rob SalcidoCharlie HaackWilliam Ranson | Gary KleinScott PuseyZachary Vergata |

Meeting began at 1:04 PM ET

* **Approve agenda**

Brian Christensen moved to approve today's agenda; Nick Sisler seconded

* **Approve 1/6/2025 meeting minutes (**[**here**](https://www.dropbox.com/scl/fi/0o7c3k9tfeun7esz5luiu/SDC-301-CALCULATIONS-SC-Call-Draft-Minutes_01-06-2025.docx?e=1&web_open_id=web_open_id-73d728fc3ac8ba02&dl=0)**)**

Nick Sisler moved to approve last month's meeting minutes, as amended, Brian Christensen seconded.

* **Discussion of comments on Addendum 77 (Gayathri / Gary - file attached)**

Gary Klein submitted a public comment after researching air source heat pump water heaters (HPWH) and finding inconsistencies in the Energy Commission’s rules. He identified two main issues: ensuring HPWHs have enough thermal energy to work efficiently and managing cold air discharge in conditioned or semi-conditioned spaces to prevent humidity buildup, which could cause mold or mildew.

There was debate about how to define HPWHs, particularly whether to include units without electric resistance. Some suggested modeling non-resistance units differently to prevent unfair credit, while others supported a broad definition. Concerns were raised about ensuring installed HPWHs meet demand and clarifying efficiency testing. It was noted that a unit should not qualify for maximum efficiency unless it operates at or above test conditions. The discussion also touched on whether UEF should be adjusted based on temperature readings. Some argued the current language does not reflect real-world conditions, while others pointed out that simulations assume standard heating and cooling temperatures. There was general agreement that UEF should be a starting point for adjustments, incorporating additional factors like COP and tank laws. Differences between standard versions were updated based on the discussion.

The standard is based on asset ratings, meaning it assumes basic conditions are met for both rated and reference homes. If these conditions are not met, adjustments are made. Resistance heat backup was highlighted as a safeguard to ensure hot water delivery, even in cases of faulty installation. Gayathri emphasized that footnote AC should apply equally to all systems, except for split systems. The group debated whether room size affects HPWH performance and if current modeling reflects this relationship. Some argued that adjusting room volume is unnecessary, while others believed surface area and conduction impact efficiency.

The discussion also covered whether backup resistance heating should be required in small spaces to avoid misleading consumers. There was also debate about keeping or removing Relative Volume (RV) from calculations. Some felt removing it would oversimplify real-world conditions, while others worried it added unnecessary complexity. Further discussion addressed how to factor room volume and airflow into HPWH modeling. The main question was whether to adjust the RV and what baseline to use. The group agreed that airflow should be based on compressor power rather than a fixed value but raised concerns about how Raters would document compressor wattage. A conservative default value was suggested based on existing models. A guardrail approach was proposed as a compromise to ensure proper airflow without assuming unrealistic performance. The group acknowledged that making major changes to room volume or vent size could delay implementation by inviting additional public feedback. To balance improvement with efficiency, they decided on minor refinements within the existing framework. Adjustments to ventilation opening size and wattage were considered to maintain proportional relationships and airflow without requiring a full reconsideration. It was also noted that compressor wattage data is not widely available on equipment labels or certifications. While requiring it in standards could encourage manufacturers to include it in the future, setting a default value was agreed upon as the best interim solution. A final concern was how electric resistance heating is described in the model. The current wording may not account for cases where it is needed but not built into the system. It was suggested to clarify that resistance heating should be included in simulations whenever the heat pump cannot meet the heating load, ensuring the model aligns with space-heating heat pumps.

Gayathri will work with Gary to update the language in the Addendum offline.

* **IR 301-2019-026 discussion (Gayathri - file attached)**

An interpretation request, submitted by Sam, sought clarification on whether a signed manufacturer’s certificate or report listing U-factor and SHGC could be considered equivalent to a manufacturer’s datasheet. The discussion noted that the standard already references manufacturer data sheets and product literature in section 4.5.2.1 for cases where site observations cannot confirm a building’s thermal characteristics. However, custom or site-built glazing systems often lack NFRC labels or certified directory listings, making manufacturer reports a necessary alternative. Scott explained that manufacturer reports often contain extensive technical details, including software modeling outputs, and should be formally recognized as valid documentation.

Some group members were concerned that the broad term “reporting” could allow informal manufacturer statements to be considered sufficient. To clarify, the group agreed to refine the language, replacing “certificates or reporting” with “signed and dated documentation provided by the manufacturer.” This revision ensures that only official documents are accepted while preventing inconsistent interpretations. The request was edited to reflect the change and the group approved the revised language.

Brian Christensen moved to recommend this interpretation as modified to SDC300. Motion passed via voice vote.

The recommendation will now be forwarded to SDC 300 for final approval.

* **IR 301-2019-037 discussion (Gayathri - file attached)**

Interpretation request that was submitted by Zachary, on the call, focused on challenges in meeting HERS index requirements for a project using central exhaust fans with ECM/VFD motors. The project initially failed compliance when modeled using motor horsepower but passed when brake horsepower from manufacturer documentation was used. They questioned the use of motor horsepower instead of brake horsepower, noting that fans rarely operate at full power. Concerns were raised about its dependency on operating conditions like duct static pressure, which is not required to be measured and could lead to inaccurate ratings.

Zachary worried about the potential misuse of brake horsepower calculations if not verified, as engineers could manipulate static pressure values for better ratings. To address this, he submitted this interpretation request to clarify whether the standard’s definition of “horsepower” includes brake horsepower or only motor horsepower.

The committee discussed how to interpret horsepower in fan power calculations. One suggestion was to measure the actual wattage used by the fan while running instead of relying on static pressure measurements. Some group members believed this method was already allowed, but there was uncertainty about whether the standard specifies using motor horsepower or brake horsepower for performance calculations.

It was ultimately decided that actual wattage consumption, which can be measured in the field, is most relevant for energy modeling. The committee agreed to reject the interpretation request as written but noted that alternative approaches, such as measuring actual fan power, could be considered in a future addendum.

* **ACH50 Appendix C misalignment (Philip - file attached)**

The discussion focused on whether attic height should be included in calculating a building’s infiltration rate. Brian argues that the effective building height remains unchanged regardless of whether the attic hatch is open or closed. The debate revolves around a possible disconnect between Standards 301 and 380. Standard 380 defines infiltration based on volume, while a change in Standard 301 now bases height only on ceiling height, creating inconsistencies. This misalignment affects how infiltration values are used to determine ventilation requirements. The group recognized that unless the standards are brought back into alignment, calculations may lead to conflicting results.

This discussion will be continued during the next committee meeting.

* **SCC comments on Addendum 82 (Neal)**

None

* **New business**

None

Meeting adjourned at 2:30 PM ET