**SDC 301 CALCULATIONS SC Call Draft Minutes**

April 7th, 2025 | 1:00 PM – 2:30 PM Eastern

[MEETING RECORDING](https://zoom.us/rec/share/0xliWoiOT-QhlEkKjIY2YOvhc4L06LUkUOSoVKEL-6ua-RxPcjSjEl4h6W6D0AM3.MrGTNylC-kPeuz7K)

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| **Members & Staff** | **Present** | **Absent** | **Other Attendees** |
| **Members**  Brian Christensen  Charlie Haack  Gayathri Vijayakumar  Nick Sisler  Philip Fairey  Rob Salcido  Scott Horowitz  William Ranson | **Members**  Brian Christensen  Nick Sisler  Philip Fairley  Scott Horowitz | Charlie Haack  Gayathri Vijayakumar  Rob Salcido  William Ranson | Neal Kruis  Rick Dixon  Robert Sullivan |

Meeting began at 1:06 PM ET

**Approve agenda**

* Brian Christensen motioned to approve the agenda. Nick Sisler seconded. The motion passed.

**Approve 03/03/2025 meeting minutes (**[**here**](https://urldefense.proofpoint.com/v2/url?u=https-3A__www.dropbox.com_scl_fi_3lmlf2kia937gpcqrcq3z_SDC-2D301-2DCALCULATIONS-2DSC-2DCall-2DDraft-2DMinutes-5F03-2D3-2D2025.docx-3Frlkey-3D20gyuq2m7si2obs3ig5bhnbnf-26e-3D1-26st-3Ddeeb6vi4-26dl-3D0&d=DwMDaQ&c=euGZstcaTDllvimEN8b7jXrwqOf-v5A_CdpgnVfiiMM&r=7XUwxAZbmftOVV1BsRddTg&m=XFbQ4BO7tUA3Q9riHkYQbSeQ99GunrthlVEPcXfOohjsT6NwBWWslLd0J_Y3UnKA&s=bDyo6iPhe2DUxk6DyezSYEi4jIHN4GIYXx7D9X1F_eA&e=)**)**

* Change to year on item #2 noted (202*4* needed to be 202*5*)
* Brian Christensen motioned to approve the minutes as amended. Nick Sisler seconded. The motion passed.

**Discussion on PDS-02 of Addendum 82 (Neal - file attached)**

* Neal Kruis explained that the first draft of Addendum 82 went out but didn't receive much feedback. The committee intends to do more outreach next time.
* Changes from the first draft are highlighted in red, while new changes made since the first draft are shown in blue. These focus on technical changes and clarifications.
* Clarifications on Fan Power: Rated fan power was considered an overloaded term and has been revised to simplify understanding.
* Coefficient of Performance (COP): Neil Kruis clarified the method for calculating COP has been adjusted. Footnote should be extrapolated independently, not COP. COP, being a quotient, doesn't extrapolate linearly, so this approach ensures accuracy.
* Extrapolation Above 47 Degrees: Neal Kruis discussed changes that were made in how performance is extrapolated for different systems (single-speed, two-speed, and variable-capacity). These systems now have linear extrapolation, which is considered more intuitive than the previous constant extrapolation.
* Cooling Power Extrapolation: Neal Kruis shared that for cooling systems, they removed hard limits on the maximum cooling temperature. Instead, there's now a linear extrapolation, with a cap at 50% of the lowest speed cooling power when temperatures drop below 82°F.
* Backup Heat and Defrost Strategies: A clarification was added regarding backup heating during defrost periods for heat pump systems. Backup heat (either electric or fossil fuel) is only used when it’s available and required. Some systems might turn off the indoor fan and run in reverse mode (without supplemental heat) for more efficient defrosting.
* Indoor Fan Energy: Neal Kruis shared that there’s a revised method for calculating indoor fan energy. The rater now measures fan power and airflow, adjusting these measurements based on different conditions to ensure accuracy.
* Airflow Rates: There was confusion about default airflow rates, specifically the differences between design airflow rates and measured ones. When airflow isn't measured, a default design airflow rate can be used but must be degraded according to system conditions.
* General Clarifications: The intention is to distribute a second draft for feedback again, hoping more comments are provided than in the first round.
  + More emphasis is requested on providing clarifications and making technical terms more understandable, consider footnotes.
  + The feedback loop will likely inform further adjustments to the standards and assumptions.

**Discussion on Addendum 81 MF/SF Hot Water and 90i (supplemental heat)**

* Neal Kruis reviewed Addendum 81, with references to 90i (sent via email), which includes the modifications from Addendum 81.
* Changes to Addendum 81: Addendum 81 addresses the single-family and multifamily hot water heater equations, particularly regarding the reference home case.
  + Equations in Addendum 81 are being updated for clarity, including the inclusion of reference home equations.
  + A discussion followed about reducing the equations to simplified versions for clarity, especially around cycles per year based on occupancy profiles.
* Confusion Around Units:
  + Clarification was provided regarding the transition from gallons per day to gallons per hour in standards to accommodate hourly schedules for calculations.
  + Philip Fairey proposed that the simplified equations be kept in the normative text, with detailed calculations included in an informative note.
* Multifamily vs. Single-family Distinction:
  + Philip Fairey confirmed that this was the first time multifamily distinctions were introduced in these equations.
  + Scott Horowitz suggested replacing "SF" and "MF" with "1" and "2" for consistency, which was agreed upon.
  + Preference was voiced for keeping the detailed equations for context, allowing users to reduce them to simpler forms as needed.
* Numerical Clarification Raised & Source of Equations Requested: The equations were derived from Rex’s data and an ASHRAE paper by Danny Parker and Philip from 2014.
* It was suggested that future iterations of such documents should clearly note where numbers, such as “8.16” and other constants, originate to ensure clarity in the long term.
  + The committee/attendees requested to include more comprehensive notes on the origins of values like the "8.16" and other constants used in the equations.
  + The committee will continue to simplify and align equations based on standard cycles per year (SCY).
* Neil Kruis recommended adding informative notes to clarify these numbers.
* Rick Dixon and Philip Fairey will finalize adjustments to Addendum 81 and 90i; and that changes or corrections can wait until January 1, 2026.
* Updates will be shared with the SDC (Standards Development Committee) without further review by email.
* The next meeting will focus on finalizing Addendum 81 and addressing any new business.

**Proposed changes to Rated Home Air Exchange Rate (Brian - file attached)**

**New business:** The committee did not have enough meeting time remaining to discuss new business. The committee agreed this would be addressed at the following meeting.

**Meeting Adjourn Time:** 2:33 PM ET