

SWHC043-01: MCUA Comm AC 65 to 240 kBtuh

1. Manufacturer curves were not blended, because vendors use different techniques to achieve high part load ratings. However, it appears that all units were simulated and the models with the lowest efficiency ratings that still met the requirements were used to represent their tier. This explains why a single equipment model represents each tier. It appears to the reviewer that this approach would produce a conservative estimate of savings.

PG&E Response: Our approach is conservative in nature to assure delivery of savings

2. The lower minimum fan speed of 0.4 from the code minimum value of 0.66 from DEER was used to represent lower fan speeds achievable by multi-speed fans during low demand times, such as ventilation only operation. The DEER code-minimum fan speed value of 0.66, represents two-speed fans. This explanation for the change appears reasonable to the reviewer, however, the source of the 0.4 value should be provided.

PG&E Response: This decision is based on publicly available information and has been added into the workpaper as a new attachment, "MCLU Fan Minimum Airflows.docx".

3. There were two supporting workbooks that should have been attached to the workpaper, and appear to be missing? Were these files attached separately?
 - a. Multispeed_PkgPerfMapDemo_2018_10_09.xlsx
 - b. HigherStageCycLoss.xlsx

PG&E Response: Documents are included in this resubmittal as attachments. Note that

"Multispeed_PkgPerfMapDemo_2018_10_09.xlsx" is a CPUC-developed spreadsheet that we're referencing to demonstrate how we used the cycling loss development procedure outlined in that document to apply it to our proprietary OEM performance curves.

4. Raw data was not provided due to the performance curves come from thermophysical computer models to generate AHRI and USDOE ratings, which are calibrated using laboratory data. However, the results from these computer models, the performance curves themselves should be provided. The reviewer was unable to verify if these were provided in the missing two workbook files mentioned above.

PG&E Response: The "HigherStageCycLoss.xlsx" spreadsheet shows the compressor EIR f(PLR) performance curve used in the modeling project. Furthermore, this spreadsheet shows how the 7% cycling loss penalty was applied to the PLR curve based on CPUC guidance. This curve was obtained under NDA and we ask that the spreadsheet not be published on the CAeTRM.com or deeresources.net. The spreadsheet is password protected, PG&E can share the password with CPUC if needed.