

LEED Review Comment Response Narrative
Project: SEA Building Addition (1000125923)
Credit: Minimum Energy Performance
Design Preliminary Review

1. Provide the following:
 - a. A narrative response to each Preliminary Review comment.
 - b. A narrative describing any additional changes made to the energy models, or any significant changes to energy performance as a result of these changes (e.g., Baseline or Proposed energy consumption per end-use, Baseline or Proposed cost, etc.)
 - c. LEED Minimum Energy Performance Calculator (MEPC) updated to address the comments below.
 - d. Simulation input/output summary reports for the Baseline and Proposed models updated to address the comments below.

Response:

See uploads and comment responses below for the requested information.

2. The total building area reported in this prerequisite (28,819 square feet) is inconsistent with that reported in the Project Registration Details of LEED Online (34,856 square feet), and the difference cannot be readily attributed to attributes such as wall thickness.

Provide a narrative describing the reason for the difference or revise the energy model and MEPC as necessary to be consistent with the as-designed gross floor area.

Response:

Modeled spaces were checked for area consistency with the construction documents and the total building area was revised to 30,825 square feet, within 12% of the gross area of 34,856 square feet. The remaining discrepancy is attributed to walls thickness, columns, shafts, and chases.

3. The Minimum Energy Performance Calculator indicates that outside airflow rates have been modeled identically in the Baseline and Proposed Case buildings (as designed). However, Section G3.1.2.6 exception c requires that, when the minimum outdoor air intake flow in the Proposed Case is greater than the amount required by the rating authority or building official (see EQp Minimum Indoor Air Quality Performance for ASHRAE 62.1-2010 calculations for the outdoor airflow rate required by the rating authority - GBCI), the Baseline Case must be modeled as the greater of the outdoor airflow rate required by the rating authority or the building official and will be less than the Proposed Case. In the case of this building, it appears that the air-side systems provide outdoor airflow rates that exceed ASHRAE 62.1-2010 minimums (note that 30% increased ventilation, if pursued within EQc Enhanced IAQ Strategies, should not be modeled in the Baseline Case building).

Provide additional documentation to confirm that the Baseline Case has been modeled as the greater of the outdoor airflow rate required by the rating authority or the building official.

Response:

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The baseline model outdoor airflow rates have been revised to code minimums (ASHRAE 62.1-2016) and the proposed model outdoor airflow rate has been revised to match the scheduled outdoor airflow rate.

4. The number of Primary Baseline systems modeled does not seem consistent with the G3.1.1. Since this building is five floors, it appears that five Primary Baseline systems should be modeled; however, it appears that only one Baseline system has been modeled.

Confirm that the Baseline system was modeled correctly or revise the model to reflect ASHRAE modeling protocol.

Response:

The baseline model has been revised to have one primary system per floor for floors 2, 3, 4, and 5. The lower level remains unchanged as it is served by fan coil units instead of the primary system (AHU-4) in the proposed design.

5. It is not clear whether the Proposed Case HVAC system was modeled as designed because the LEED Summary indicates that supply airflow for AHU-4 is 22,840 CFM; however, the mechanical schedules indicate the unit provides 28,930 CFM. Table G3.1.10 (b)(Proposed) requires that the model be consistent with the design documents.

Update the model so that all HVAC system parameters (e.g. fan volumes, fan powers, efficiencies, heating/cooling capacities, etc.) are consistent with the design documents, update the Minimum Energy Performance Calculator to reflect all changes made, and update the form to reflect any changes made.

Response:

The proposed model HVAC system has been revised to have consistent airflow, coil capacities, fan powers, and efficiencies with the mechanical schedules. The AHU-4 fans have also been revised to be modeled as direct drive to be consistent with the design. The calculator has been revised accordingly. This change to how the fan power is modeled in the proposed design significantly reduced the proposed case fan power and contributed to an overall increase in energy cost savings.