

Comments on the Draft 1 of Version 3.0 ENERGY STAR® Commercial Refrigerators and Freezers

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Page 3, Line 113 Table 1: Energy Star Requirements for Commercial Refrigerators, Freezers

1. There are energy jumps at the volume section break points at 15CF, 30CF and 50CF, and causing the following issues:

For a **15CF** freezer, the requirement is **4.8KWh/day**, but for a **14.99CF** freezer, the requirement is **4.95KWh/day**. It does not make sense.

For a **29.99CF** freezer, the requirement is **9.15KWh/day**, but for a **30CF** freezer, the requirement jumps to **9.7KWh/day**. It does not make sense either.

2. Refer to the attached graph, the Gradient on the 4 volume section does not properly reflect the weighting of volume. Logically, the weighting factor (e.g. the gradient of the graph) shall become small as volume increase.

A new formula is proposed to solve the above issues for discussion:

Solid Door Cabinet Freezer

$0 < V < 15 \quad 0.25V + 1.2$

$15 < V < 30 \quad 0.22(V-15) + 4.95$ (4.95kwh/day is the number at 15CF for both section)

$30 < V < 50 \quad 0.19(V-30) + 8.25$ (8.25kwh/day is the number at 30CF for both section)

$50 < V \quad 0.16(V-50) + 12.05$ (12.05kwh/day is the number at 50CF for both section)

