

CLEARResult

Overview of New Deemed Refrigeration,
Food Service and Controls Measures

EEIP Meeting

November 27, 2012



- New Deemed Savings Measures: Filing Overview
- Refrigeration and Food Service Petition
 - Measures, Applicability and Markets
- Lighting and HVAC Controls Petition
 - Measures, Applicability and Markets

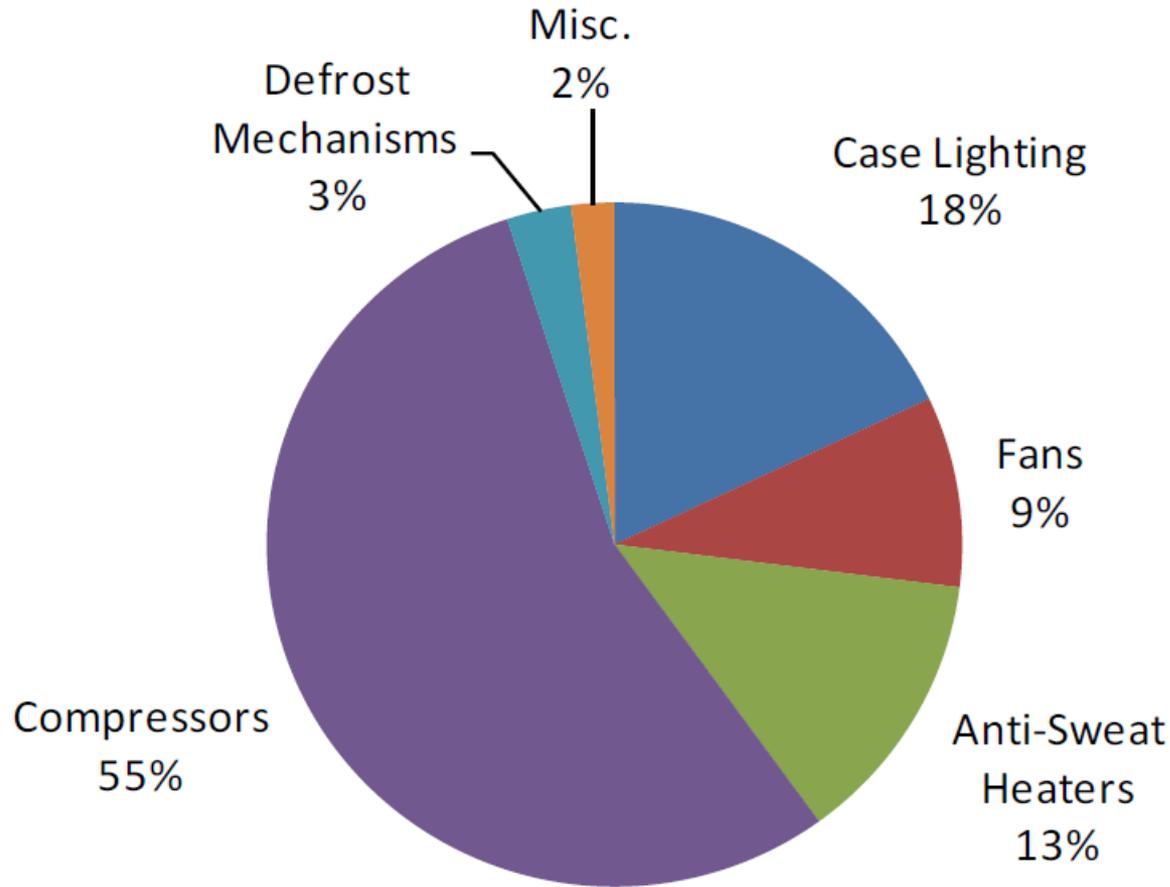
- Group of TX Utilities filed final versions on the following petitions with the PUCT on August 31st
 - Deemed Savings for Commercial Refrigeration and Food Service Measures (Docket No. 40669)
 - Deemed Savings for HVAC and Lighting Controls Measures (Docket No. 40668)
- PUCT Staff filed its final recommendation supporting approval of the Application on October 15th
- PUCT scheduled to consider this docket at November 16th open meeting

- Deemed savings are used to stipulate savings values for projects with well-known and documented savings values
 - Based on reliable, traceable, and documented sources of information
 - Deemed Savings Value and Deemed Savings Calculation - §25.181(c)(7-8)
- M&V is the process of using measurements to reliably determine actual savings created within an individual facility
 - Four IPMVP Options provide a flexible set of M&V methods (Options A, B, C, and D)
 - Definition §25.181(c)(38); Inspection and M&V §25.181(p) and Evaluation and M&V §25.181(q)



- Solid & Glass Door Reach-Ins
 - Electronic Defrost Controls
 - ECM Evaporator Fan Motors
 - Evaporator Fan Controls
 - Cooler Night Covers
 - Strip Curtains
 - Zero-Energy Doors
- Door Heater Controls

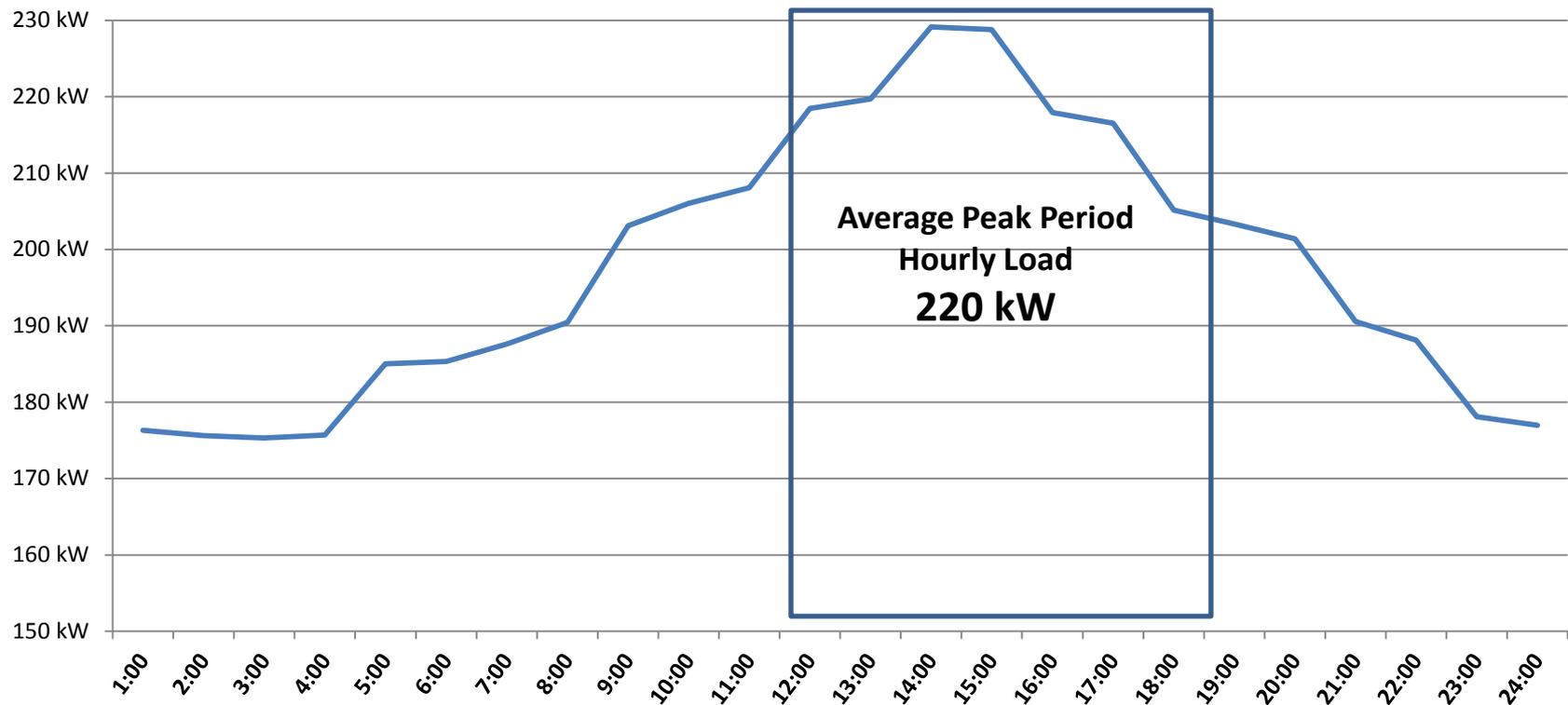
Refrigeration Consumption Breakdown



Typical Commercial Refrigeration System Electricity Consumption Breakdown

Sources: Manufacturer Spec Sheets, Manufacturer Interviews, and NCI Estimates

Average Daily Variation in Refrigeration Load in a Large Grocery Store



- Small to Medium Convenience Store would be 10-25 kW with very similar shape

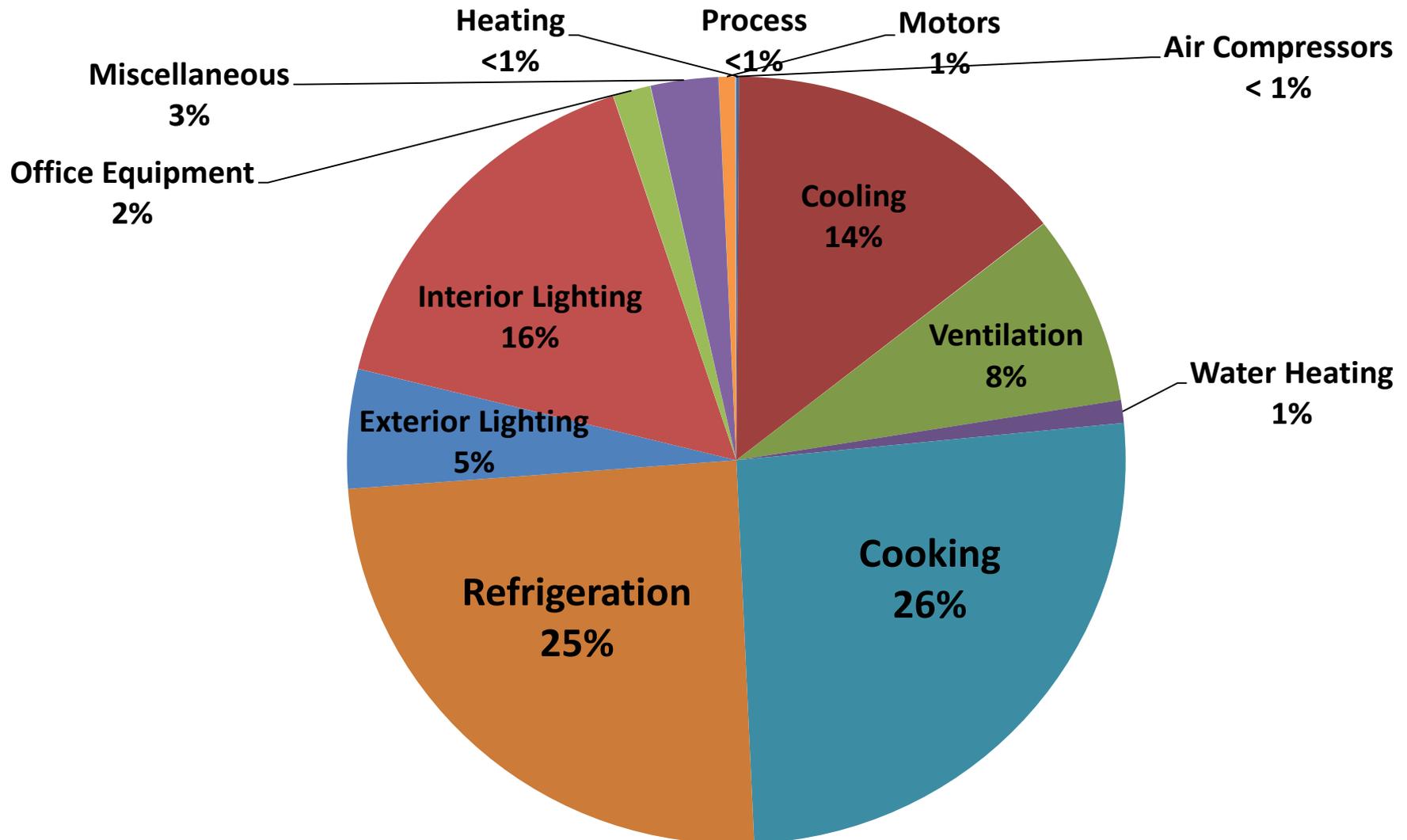
Mostly for Food Preservation in:

- Supermarkets
- Convenience Stores
- Restaurants
- Cafeterias
- Hotels
- Other Commercial/Institutional Kitchens

- Electric Convection Ovens
- Electric Combination Ovens
- ENERGY STAR Dishwashers
- ENERGY STAR Steam Cookers
- ENERGY STAR Fryers
- ENERGY STAR Hot Food Cabinets
- Vending Machine Controls
- Pre-rinse spray valves

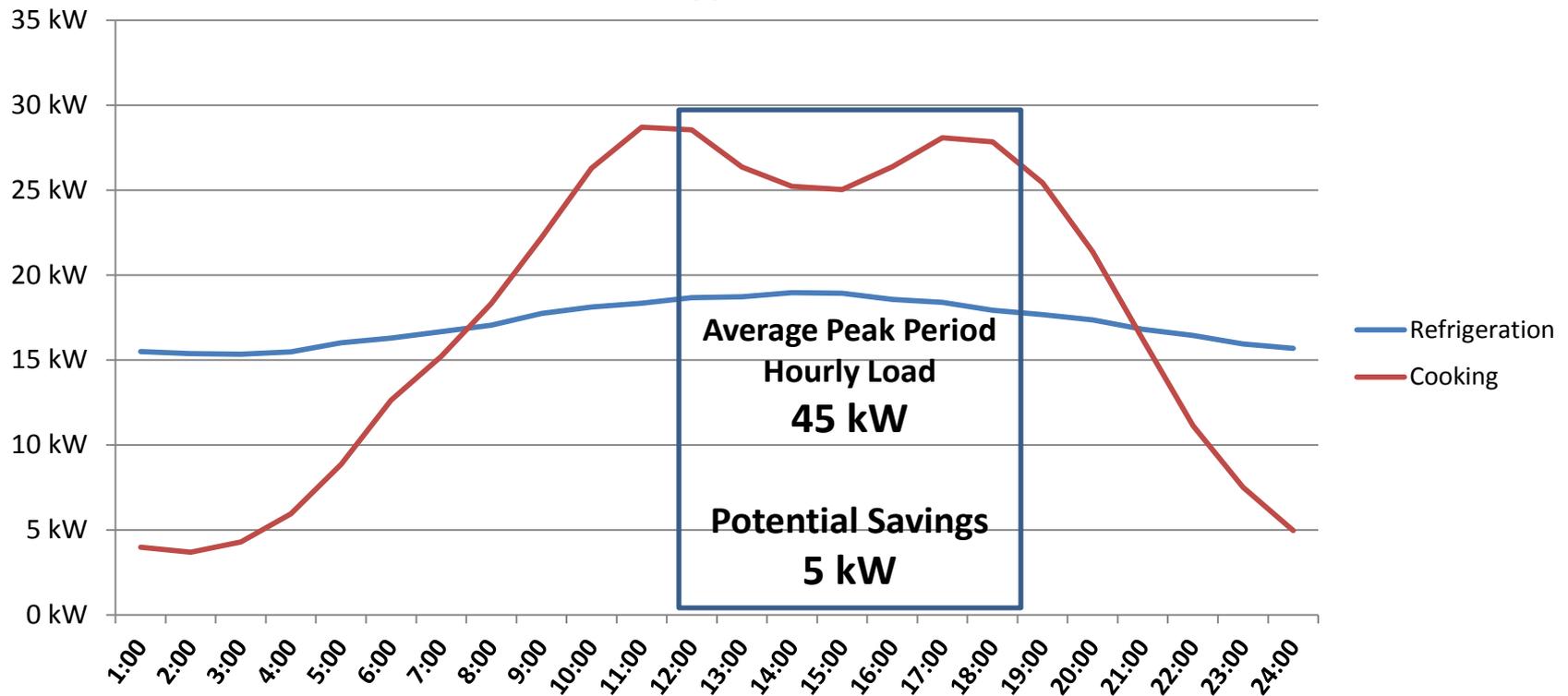


Typical Restaurant Electrical Energy Use



Typical Restaurant Electrical Energy Use

Average Daily Variation in Refrigeration and Cooking Load in a Typical Restaurant



Mostly for Food Preservation in:

- Restaurants
- Cafeterias
- Hotels
- Other Commercial/Institutional Kitchens
- Convenience Stores & Supermarkets

Measure Description

Add a VFD on an existing AHU supply fan (up to 100 hp) to replace either outlet damper, inlet damper or inlet guide vane part-load control.

- New construction and constant-volume systems are ineligible;
- Accounts for the interactive air-conditioning demand savings during the utility defined peak period.





Occupancy Sensor and Daylighting Control energy (kWh) savings

No changes to the existing occupancy sensor or daylighting control *Energy Adjustment Factors (EAFs)*

Occupancy Sensor and Daylighting Control peak demand (kW) savings

- Texas does not currently have any peak kW savings values for lighting controls.
- Extensive primary and secondary research supports creation of peak demand (kW) Power Adjustment Factors (PAFs)

Occupancy Controls: Guestroom, Dorm and Multi-family

Measure Description

- Installation of occupancy controls have been shown to reduce unnecessary energy consumption in unoccupied guest rooms, while offering additional conveniences to management and staff.
- This measure captures the potential energy and demand savings resulting from controlling HVAC, lighting, and receptacles in unoccupied guest rooms.



QUESTIONS?

CLEAResult

Kyle Hemmi
khemmi@clearesult.com
512.416.5966

