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Specialty Buildings

Session 8 - Commissaries

Defense Commissary Agency



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DeCA's Mission is to Deliver a Premier Commissary Benefit to the Armed Forces Community

- Exciting shopping experience
- Delivering more than 30% savings
- Fostering recruitment, retention, and readiness
- Supporting warfighters' peace of mind by providing their families secure and affordable access to American products

The Commissary - It's Worth the Trip!

DeCA Locations

<u>DeCA</u>	<u>FY 2010</u>
– Regional offices	3
– Commissaries	252
– Country & US territory locations	14
– Central distribution centers (CDC)	10
– Central Meat Processing Plant	1

<u>Facilities</u>
– 350+
– Construction dates vary from 1906 to 2010
– Sizes vary from 1,000 square feet (sf) to 200,000+ sf
– 17+ million sf

DeCA Energy Management

- Don't forget our mission
- Determine what is using the energy
- Each store/CDC reports energy bills (usage and costs) to DeCA Headquarters on a quarterly basis
- We develop an Energy Use Index (EUI) for each location, which is all energy (kBTUs) divided by facility square footage (kBTUs/sf)
- We do the same for water usage - Annual Water Usage - gallons per square foot (Gal/sf)
- We compare all location EUIs and investigate anomalies
- We evaluate energy technology to meet our mission and goals

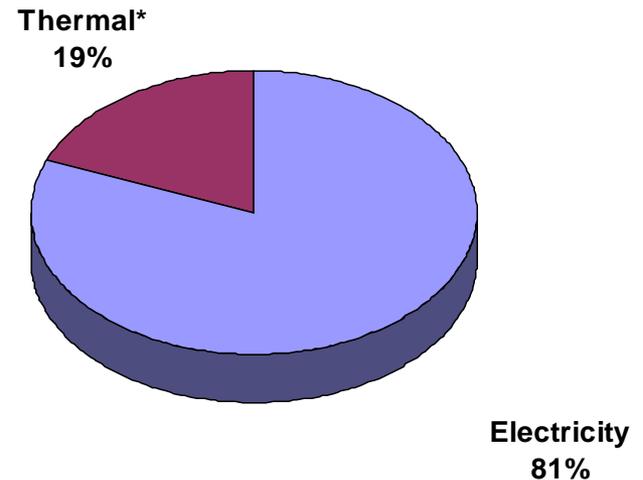
Energy Hurdles

- Open refrigeration
- Market driven requirements such as more preprocessed/prepackaged foods, which require more refrigeration
- Maintenance – A “good” maintenance person can “jump out or override” anything
- Just-in-time delivery – Improves product quality and reduces warehouse requirements

2009 Energy Use

The average commissary EUI is approximately 150 kBTU/sf/yr

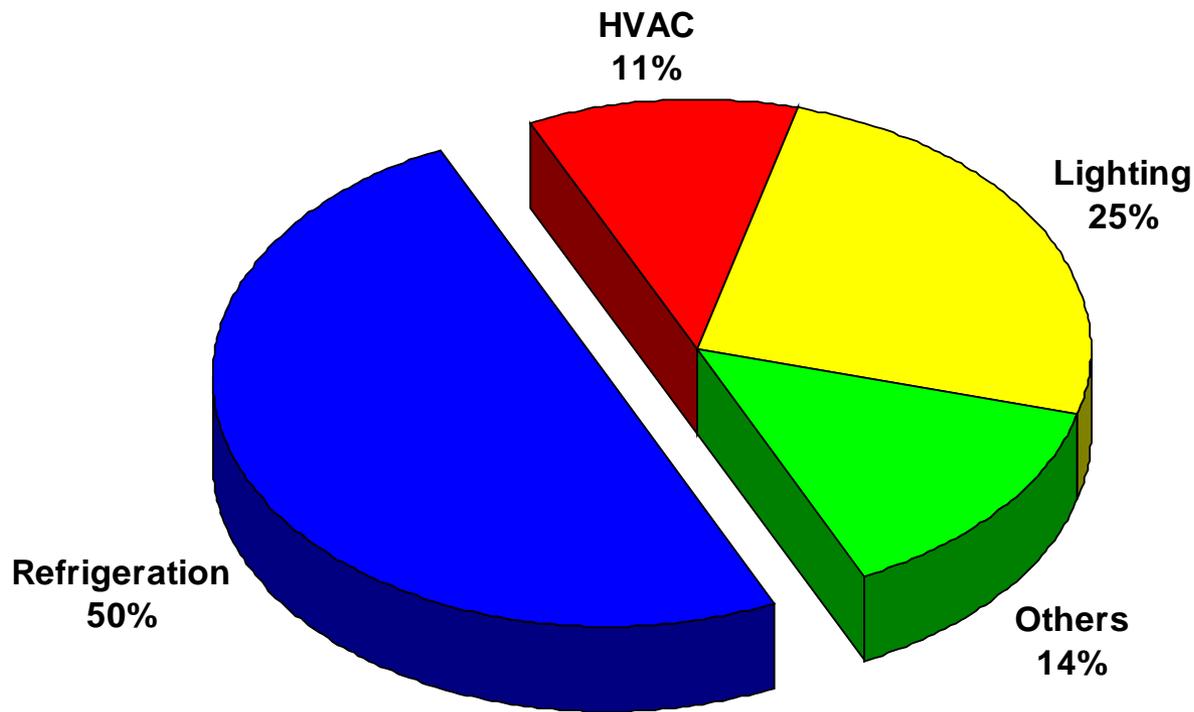
	<u>kBTU/sf/yr</u>
Electricity	118.3
Thermal*	27.4
Total	145.7



* Includes natural gas, steam, propane, fuel oil, hot water, etc.

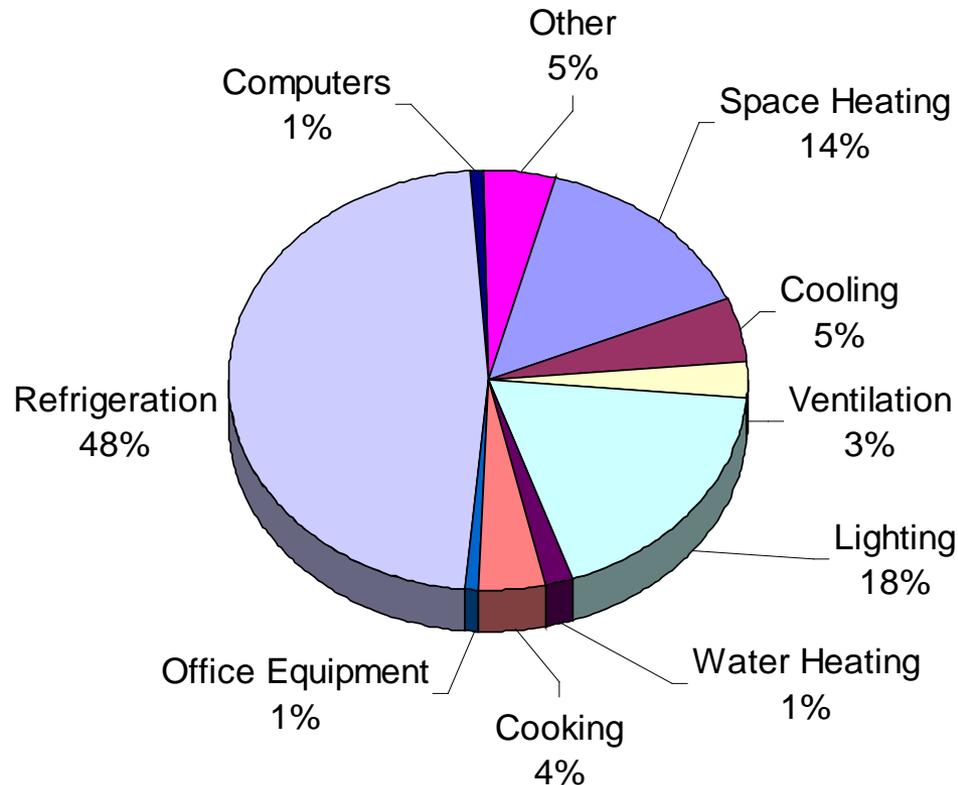
The average commissary water usage is approximately 16 gal/sf/yr

Where is the energy going at a typical Commissary?



2003 Commercial Buildings Energy Consumption Survey (CBECS)

Energy Consumption for Food Sales (2003 CBECS)
Total Energy Intensity - 199.7 (kBtu/sf)



DeCA Standards

- Heat Recovery/Reclaim
 - HVAC
 - domestic hot water
- Maintain Sales Area Humidity/Dew Point below 52°F
 - desiccant wheels
 - dual path systems
- Refrigeration Monitoring Control System (RMCS)
 - monitors and controls refrigeration, HVAC, and lighting
 - monitors utilities at some locations
- Energy Star Equipment
- Return Air Beneath Display Cases
- ECM Motors
- Maximize Day Lighting
- Using EPA SNAP Refrigerants
- Antisweat Heater Controls
- T-8 and T-5 Lighting
- Night Curtains
- Low Water Flow Devices
- LED Lighting for Low Temperature Glass Door Display Cases and Walk-Ins
- Maximize Glass Door Display Cases for Frozen Products
- Occupancy Sensors
- Multiplex Compressors

DeCA Standards



Frequently Requested

- Renewable Energy
 - solar power
 - geothermal
 - wind
- LED Lighting
- LEED



Ongoing DeCA Energy Conservation Measures, Testing, and Evaluation

- NS Mayport, FL
 - Phase 1
 - Floating Head with Ambient Temperature Relief
 - Antisweat Set Points
 - Domestic Hot Water Heat Reclaim Coil Location
 - Operate Air Handlers on Demand Outside Store Hours
 - Phase 2
 - Multideck Display Door Retrofit
 - Various RMCS Feedback Controls
 - lighting
 - heat reclaim
 - Various HVAC Control Strategies
 - Various Lighting Equipment

Ongoing DeCA Energy Conservation Measures, Testing, and Evaluation (Cont)

- NAB Little Creek, VA
 - Solar Hot Water System
 - Day-Lighting via Solar Tubes
 - Test DeCA Foot-Candle Lighting Standards
- RMCS via Internet
- Eglin AFB, FL
 - Close Up Tub/Coffin Cases

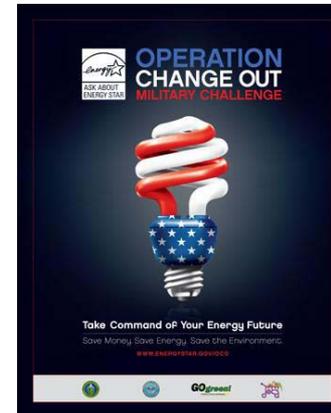


Under Design DeCA Energy Conservation Measures, Testing, and Evaluation

- NNSY Portsmouth, VA
 - Small Store - Install Glass Door Display Cases instead of Open Multideck Display Cases
- Lackland AFB, TX
 - Greenhill/EPA Partnership
 - CO2/Glycol Secondary Refrigeration System
- Ramstein AB, GE
 - Large Store - Install Glass Door Display Cases instead of Open Multideck Display Cases
- Ansbach, GE
 - Vegetated Roof
 - Photovoltaic Panels

Additional Energy and Environmental Items of Interest

- Energy Star Partner Retailer
- Encourage Compact Fluorescent Lighting
 - Operation Change Out
- Federal Electronics Challenge
- Encourage Reusable Bags
- Recycling



Summary

- DeCA has always considered the environmental, sustainability, and energy efficiency factors as key components of our business model.
- DeCA continues to investigate life-cycle, cost appropriate, initiatives to reduce operating costs, and comply with the numerous regulations and executive orders.

Questions?

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