

Supermarket  
HVAC&R  
Design and  
Installation



Presented by:

Jon Perry Facility Manager of Farm Fresh &  
Keilly Witman of GreenChill



# *Jonathan Perry – Facility Manager for Farm Fresh*

*18 years working for Farm Fresh in Energy, Maintenance, Design, Mechanical Installation, Building Automation Systems, and Central Monitoring*

- GreenChill Best Practices Guideline*
- FMI Technical Committee and have spoken on many topics including:*
  - Central Monitoring*
  - Technician Shortages*
  - HVAC Design (Climate Keeper)*
  - Hydrogen Leak Testing*
- Recently Spoke at HARDI International & HVACWeek*
- HVAC&R Master , NATE, RSES – CM*
- Certified Test and Balance Engineer*



# *Farm Fresh - a division of Supervalu*

- *Supervalu is the 3<sup>rd</sup> largest super market wholesaler and retailer in Nation*
- *Distributes to 4500 stores*
- *Operates many retailers:*
  - *Jewel-Osco*      - *Shoppers*
  - *Cubs Food*      - *Albertsons*
  - *Hornbacher*      - *Shop'n Save*
  - *Save-a-Lot*      - *Shaws*



# *Farm Fresh - a division of Supervalu*

- *43 Supermarkets*
- *We focus on:*
  - *Superior Service*
  - *Quality Products*
  - *Cleanliness*
  - *Exciting Variety*
- *Located in Eastern VA and NC*



# *Farm Fresh Engineering*

- *We are a Class A General Contractor*
- *27 years as a department*
- *70 to 85% of maintenance work in-house*



# *Farm Fresh Engineering*

- *9 HVAC&R Technicians*
  - *6 master tradesmen*
  - *2 Nate Certified*
- *2 Electricians*
- *3 General Technicians*
- *2 Deli / Bakery Technicians*



# *Supermarket Industry 2010*

- *36,149 + Supermarkets selling more than \$2 million per year*
- *Totaling \$562 Billion per year*
- *Making 0.98% after tax net profits*
- *Median 46,000 sq ft per store*
- *Employing 3.4 Million people*
- *Median sales \$466,011 per week*



- *(FMI Website)*

# *Standard Supermarket Construction Costs*

- *Industry 125 \$/Sq ft*
- *Typical \$5 to \$7 million per store*
- *Mechanical, Electrical, Controls,  
and HVAC about 20%*



# *Maintenance Costs*

- *Most likely 1.50 -3.00 \$/ sq ft*
- *65,000 to 130,000 \$ for an average 45,000 Sq Ft per Year*



# *Supermarket Electrical Costs*

- *\$15,000 to \$30,000 average per month electric bills*
- *300 to 500 KW demand*
- *0.06 to 0.12 \$/KWH*
- *Approximately 50%-65% HVAC&R*
- *15 to 20% lighting*



# *Refrigerant Leak Rates and Charge*

- *Approximately 3500 to 4000 lb charges per store historically*
- *Average leak rate per year 25%*
- *Average refrigerant cost 7.50\$/lb*
- *Yearly expense of refrigerant \$7500*
- *Best Leak Rate in GreenChill*
  - *9.9% for 2007 Giant Eagle and Harris Teeter*
  - *7.8% for 2008 Giant Eagle*
  - *6.9% for 2009 Giant Eagle and Sprouts*
  - *6.5% for 2010 Spouts*



Frank Davis, Sprouts Farmers Market; Keilly Witman, EPA; Jerry Stutler, Sprouts.