

VACOM TECHNOLOGIES
SUSTAINABLE REFRIGERATION-FOCUSED CAPITAL PROJECT
DEVELOPMENT

NASRC LOW GWP & EE EXPO

January 15, 2020
Presented by Matt Lish



AGENDA

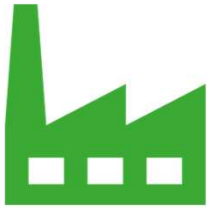


- / VaCom Overview
- / Sustainable Capital Project Development
- / Project Examples
- / Upcoming

VACOM OVERVIEW



The Food & Bev Industry Leader in Energy Efficiency & Refrigeration Control Systems



600

Facilities Served



150

MWh of Power Reduction



92

\$M Utility Incentives Delivered

3

VACOM INDUSTRIAL REFRIGERATION CONTROLS SYSTEMS

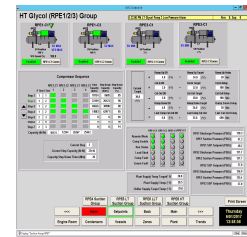


/ Open Software

/ Non-Proprietary Hardware

/ Refrigeration Expertise & Focus

/ The VaCom Process Advantage:



4

ANALYSIS – FACILITY AND SYSTEM SIMULATION

VaCom
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Inputs:

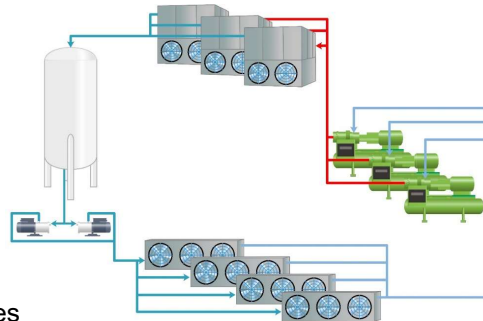
- / Loads
- / Equipment Ratings & Performance
- / System Design – Equipment Relationships
- / Energy Rates & Billing Methods

Process:

- / Apply Energy Efficiency Measures & Controls Strategies
- / Iterate for Optimum Performance

Outputs:

- / Energy Savings - Expectations
- / Solid Financials



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BEYOND THE SIMPLE PAYBACK...

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Project Drivers & Factors To Consider

- / Safety
- / Energy Savings...
 - / Savings Uncertainty
 - / Savings Persistence
 - / Long Term Energy Planning / Goals
- / CO2 Reduction...
 - / Also Its Quantification... Carbon Pricing
 - / Corporate Goals / Targets?
- / Product Quality
- / Reliability of Production
- / The Value of Speed & Flexibility

6

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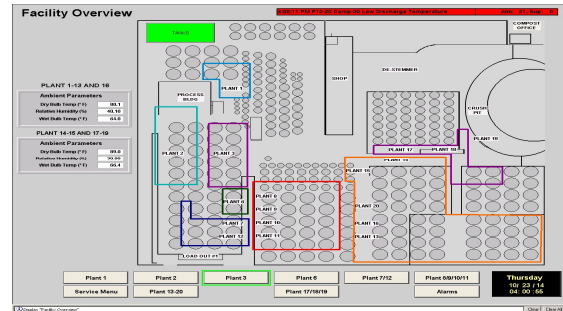
PROJECTS – ONE OF THE WORLD'S LARGEST WINERIES



// Original Conditions: Fixed operation and Manual Controls

// VaCom: Variable Chiller Control & Setpoint Optimization Strategies

Results: 20% Energy Savings Over Multiple Years (> \$1M USD Savings)



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UPCOMING PROJECTS & TRENDS



Upcoming Projects

- FPIP Grants - WON
- HFCs to CO2 Conversion - Industrial Bakery
- NH3 Compressor & Controls Upgrades – Large Winery

- Applied for:
 - Controls Optimization – Industrial Dairy / Cheese Production
 - HFC to CO2 Refrigerant Conversion + Controls Optimization – Frozen Food Production
 - Equipment Replacement & Controls Optimization – Food Production

→ Now is the Perfect Time for Natural Refrigerant Conversions & Energy Efficiency Capital Projects



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