# AMERICA ATMO

### **Through the Eyes of a Contractor**

### "The Future of Industrial Refrigeration"



#### **Environmentally Sound Engineering is** the Future of Industrial Refrigeration

By: Steve Jackson

PermaCold Engineering, Inc.



PermaCold Engineering was founded in 1993 by three men that truly believed,

### "Refrigeration is an Engineered Product!"

Our Mantra Was... "Be Better Everyday"



### PermaCold Engineering, Inc.

- Full Service Industrial Refrigeration Engineering Contractor
  - 90% Natural Refrigerants
- Four Offices in the Pacific Northwest
  - Portland, OR Seattle, WA Pasco, WA Meridian, ID
- Licensed & Operates in 16 Western States
- The North Atlantic (PEI) to American Samoa
- Average 130 Employees
- Full Service (17 Integrated Verticals)
- Employees Represent Five Generations



### "Efficiency to Regulatory to Environmental"

### The PermaCold Story

ATMOsphere America/ San Diego / June 5-7, 2017



### Now The Bad News:

Unfortunately, over the last 40 to 45 years basic refrigeration systems have become a commodity!

- Geared to the low-bid selection process
- The focus being on short-term initial cost, rather than long term life cycle (ROI)
  - Rule of Thumb Engineering
  - Catalog, Software & Mfg.'s Rep. Equipment Selection
  - Overkill Safety Factors
  - Contractor Selection (GC's & Architects)



In 2012 PermaCold Engineering, Inc. adopted a new mantra:

### "Our Planet, Our Responsibility"

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## The Secret Sauce "The ROI" (Return On Investment)



### Environmentally Sound (or) "GREEN" Industrial Refrigeration Systems Engineering! -Develop a Quality and Accurate ROI-



### "Assess the facility and the process, accounting for all the factors affecting the refrigeration system!"



# PermaCold Engineering has discovered that saving the planet also saves much more:

- Power Consumption
- Water Consumption
- Sewer
- Chemical Use
- Labor (Safety)
- Maintenance
- Piping and Materials



#### The Potato Story



How much? Water? Sewer? Chemical? Horse Power? Safety? Maintenance? Efficiencies?



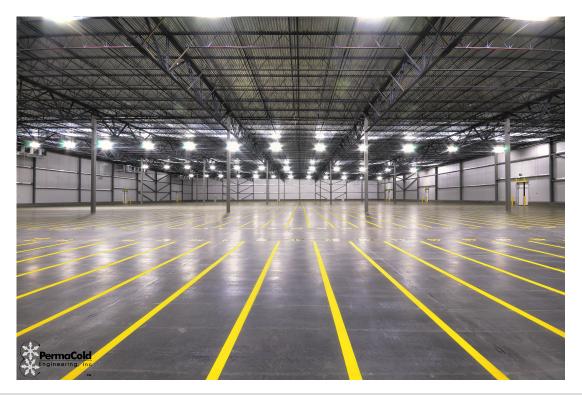
### Be Sure to account for "Load Shedding!"

- LED Lighting
- Computer Control Systems
- New R-Values
- Defrost Strategies
- Aluminum Evaporator Coils
- Modern Doors





#### LED Lit Cold Storage





### The Big Story

1) Cost

- 2) Maintenance
- 3) Efficiency
- 4) Safety
- Safety
  Efficiency
  Maintenan
- 3) Maintenance
- 4) Cost





### Blending The Secret Sauce! "Understand The Generations"



The Great Generation The Traditional Generation The Baby Boomers The Generation X The Millennials The Linksters

Born Before 1925 Born Between 1925 & 1945 Born Between 1946 & 1964 Born Between 1965 & 1979 Born Between 1980 & 1994 Born After 1994



#### Thank you very much!

