



**ATMO**  
sphere

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

## 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”

# 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

- 1) Safety
- 2) Efficiency
- 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



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Thank you very much!

