



***NXTCOLD***<sup>TM</sup>

## Very Low Charge (VLC) Ammonia Refrigeration Technology

John Scherer, Manager of Engineering  
Los Angeles Cold Storage Company

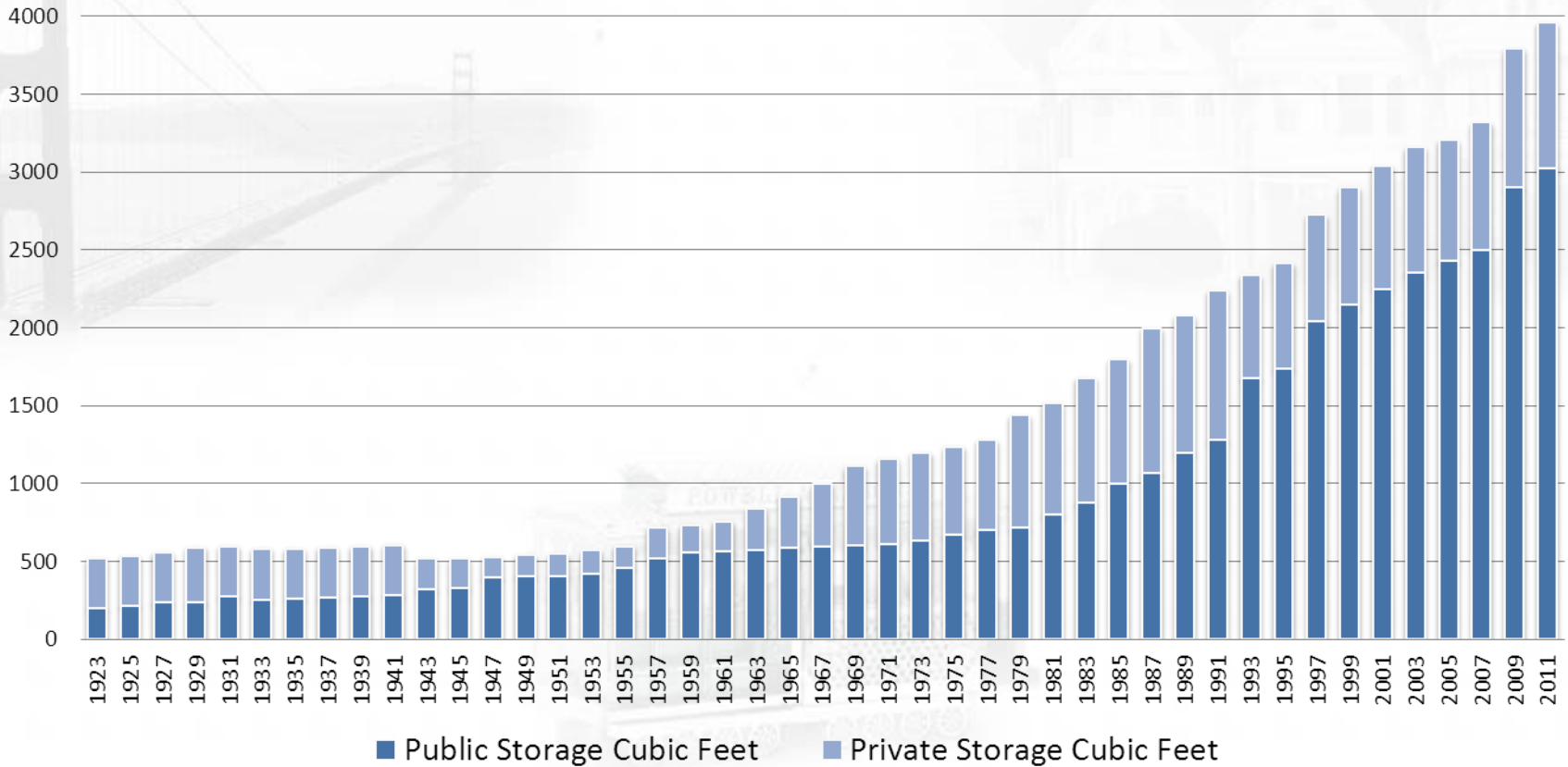
# Refrigerated Warehouse Storage Capacity

The Refrigerated Warehousing Industry has grown consistently since government began collecting such records in 1923.



# Refrigerated Warehouse Storage Capacity

## U.S. Total Refrigerated Capacity



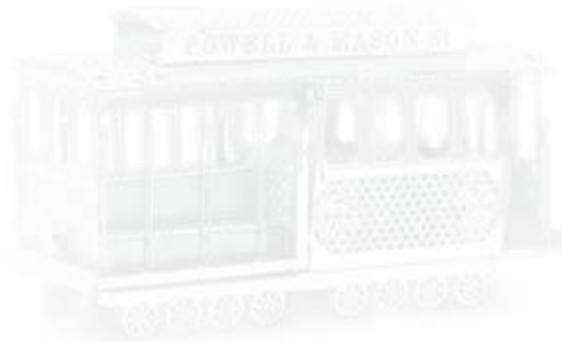
## Refrigerated Warehouse Facility Size

- While the RW industry capacity has grown eight-fold, the refrigeration systems ammonia charges have grown disproportionately larger.
- Ammonia charges for these systems typically range in excess of 10,000 pounds, up to 50,000 pounds and beyond.



# New Ammonia Technology

**NXTCOLD™ Technology was developed to help industry realize the benefits of ammonia while negating the drawbacks.**



# VERY LOW CHARGE

- **NXTCOLD<sup>TM</sup> Definition:**

**VLC = Less than 100 pounds (45.36 kg) of ammonia per refrigeration system and less than 1 pound per ton.**

# NXTCOLD™ VLC Ammonia Refrigeration System



**Worst Case Ammonia Release  
Scenario Demonstration**

# NXTCOLD™ Los Angeles Installation Roof Mounted System





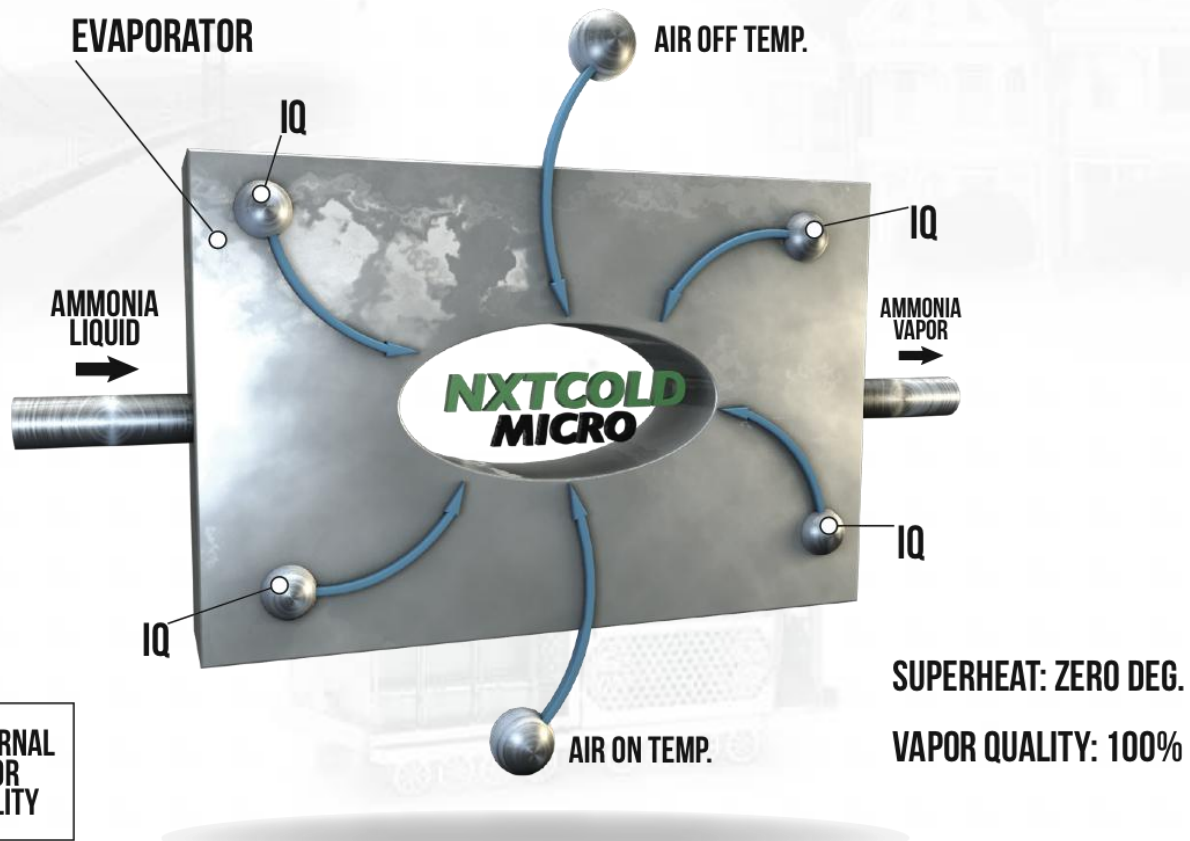
# Portable NXCOLD™ Unit



**Installed in 2.5 hours**

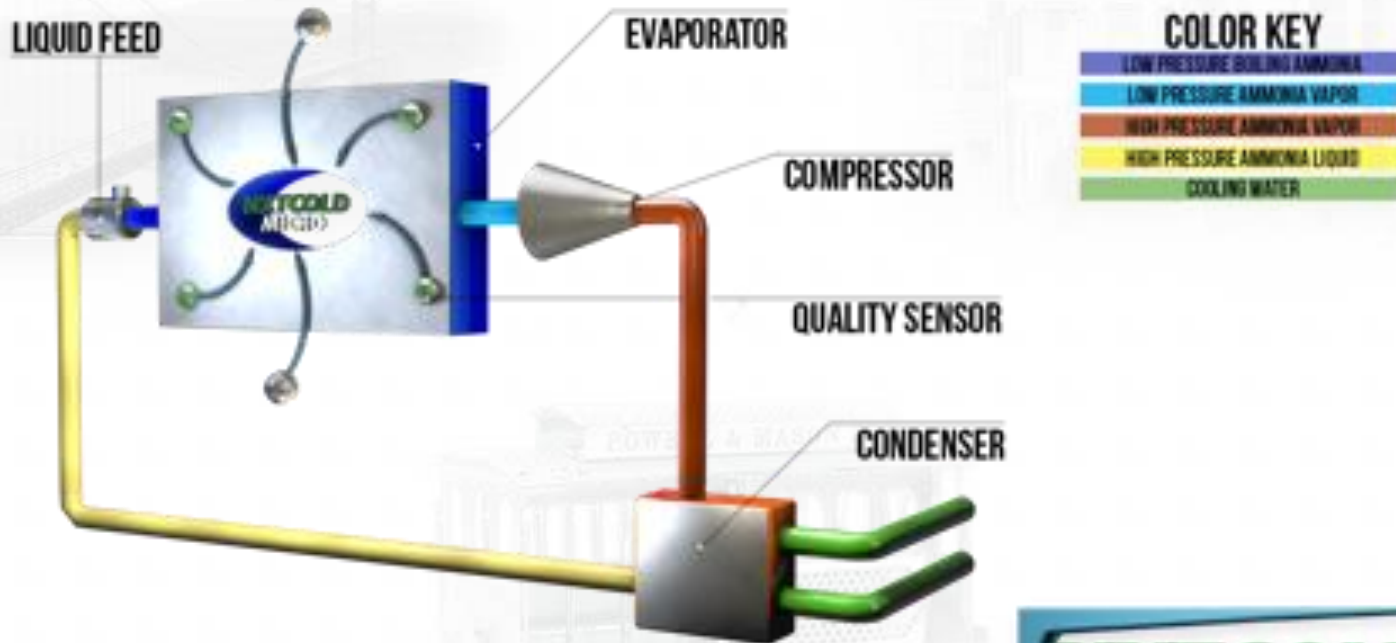
# Electronic Refrigerant Injection Control

## **NXTCOLD**™ ELECTRONIC REFRIGERANT INJECTION CONTROL (ERIC)



# ERIC System Diagram

## ELECTRONIC REFRIGERANT INJECTION CONTROL (ERIC)

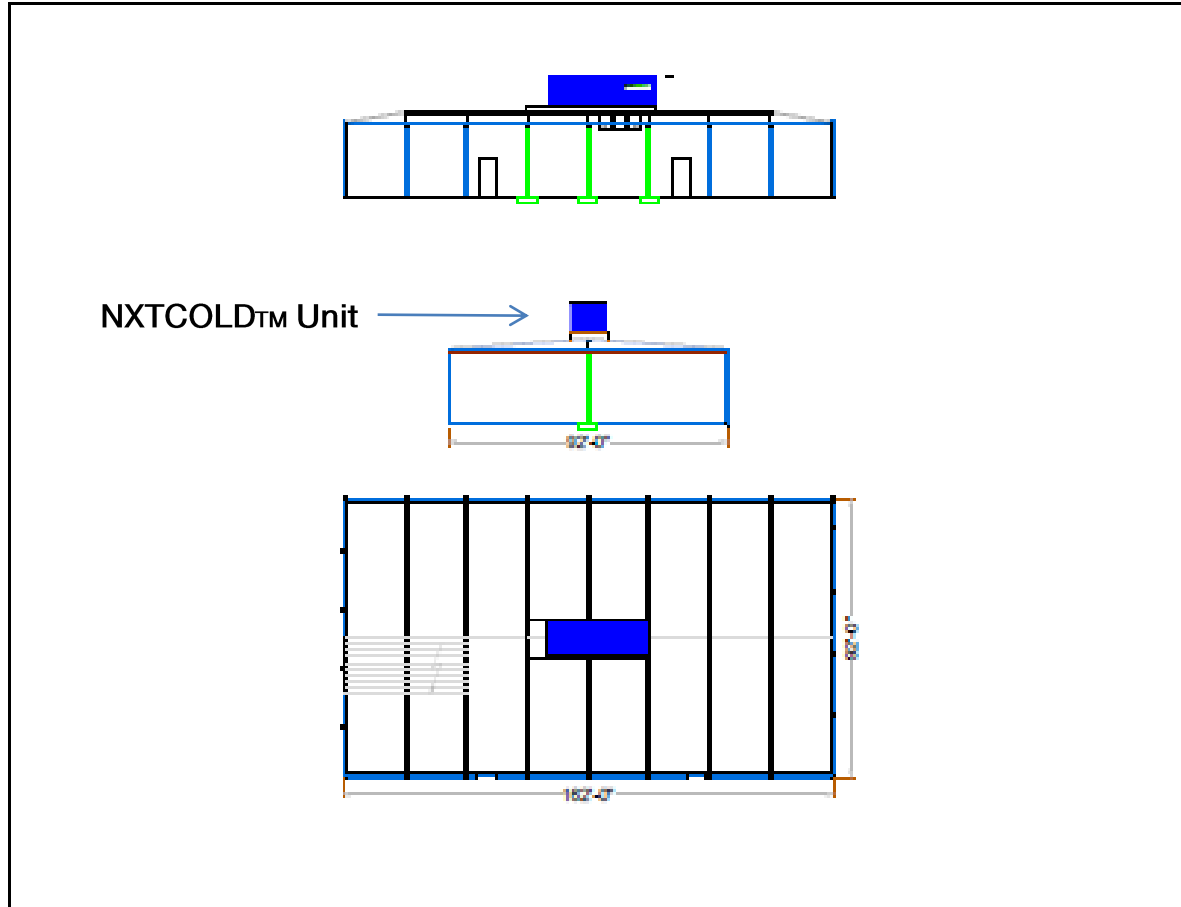


NXTCOLD™ PATENT PENDING



# NXTCOLD™

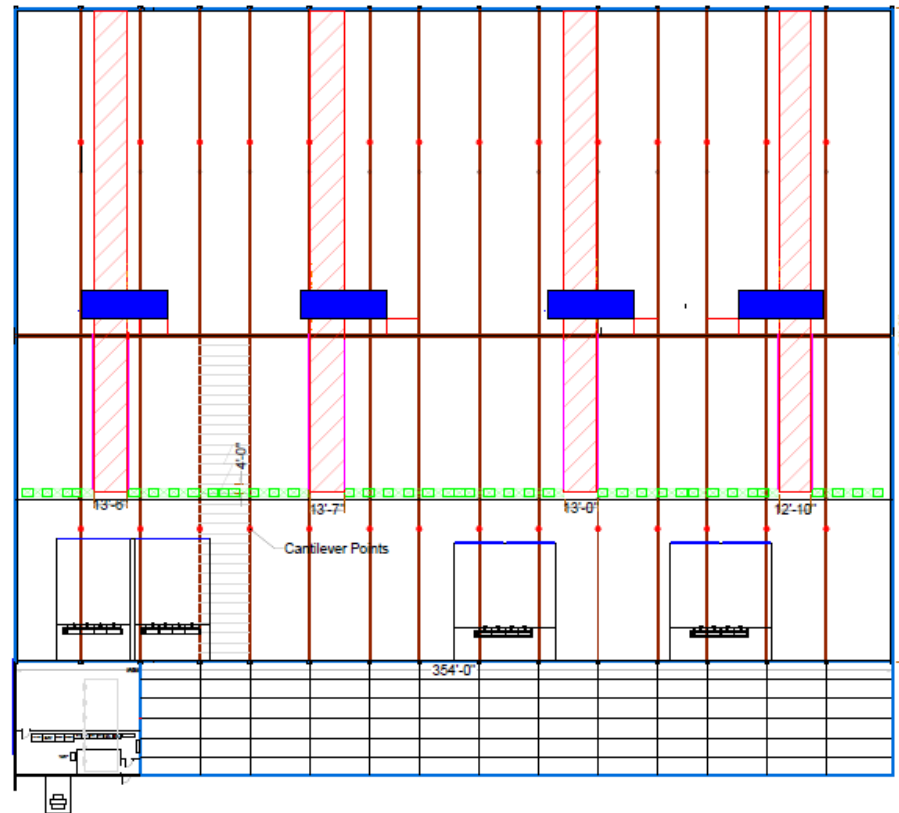
## Southern California Edison Test Project Oxnard, CA



REVISIONS  
DATE  
BY  
DESCRIPTION

### Blast Freezer & Storage Room

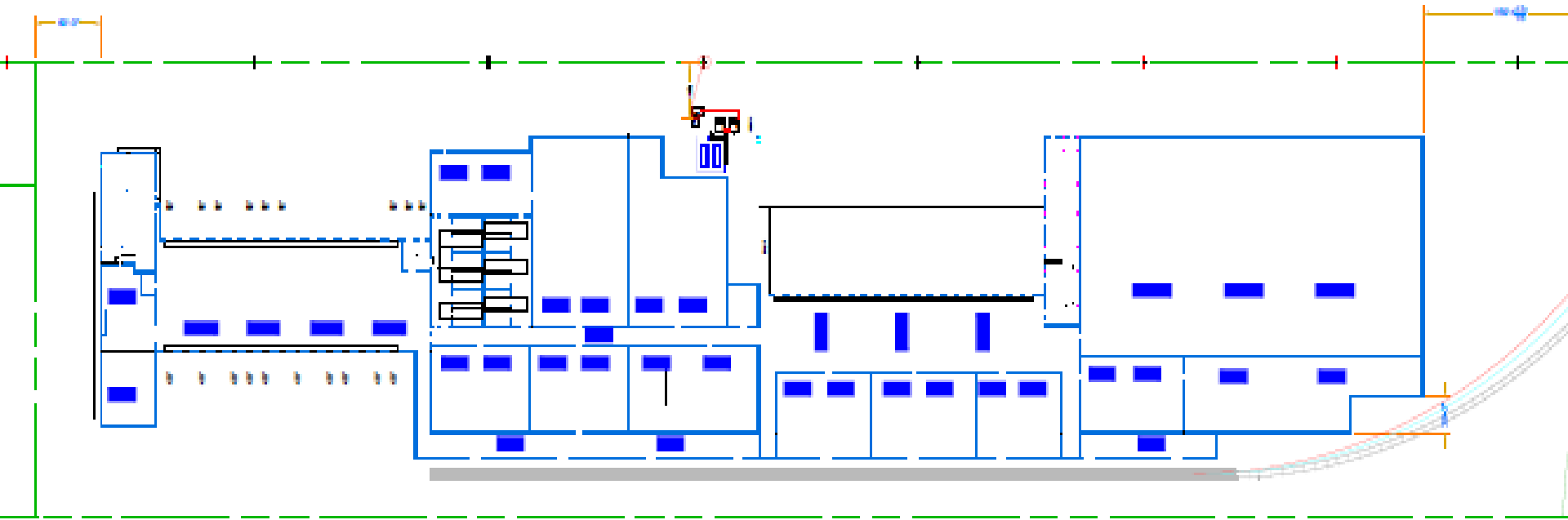
# NXTCOLD™ Oxnard Project 2



**100,000 sq. ft. Freezer Retrofit  
Refrigeration Plan**

# NXTCOLD™ VLC New Construction

## Port of Long Beach, CA



**Food Freezing, Storage & Distribution Facility  
Refrigeration Plan 250,000 sq. ft.**

# Questions & Answers





**ATMO**  
**sphere**

business case

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**natural refrigerants**

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June 18-19, 2014 - San Francisco

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Thank you very much!