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Case Study

General Cold Storage

ULA (Ultra Low Ammonia) Refrigeration Installation

KPAC



Konoike-Pacific California, Inc.



Summary of what we will cover.

- 1. Brief History of GCS**
- 2. New Facility**
- 3. Refrigeration Plan**
- 4. Manufacturing and Installation Photos**
- 5. Partners thank you!**

Brief history of GCS

Began as trucking co

- Needed cold storage capacity
- Added small coolers
- Added freezers
- Got up to over 12000 pallets storage and distribution

Found themselves with a combination of hfc and hcfc systems

- High power costs, high leak rates, high refrigerant costs
- Increased maintenance and regulatory issues
- Time to move forward with new building, new refrigeration

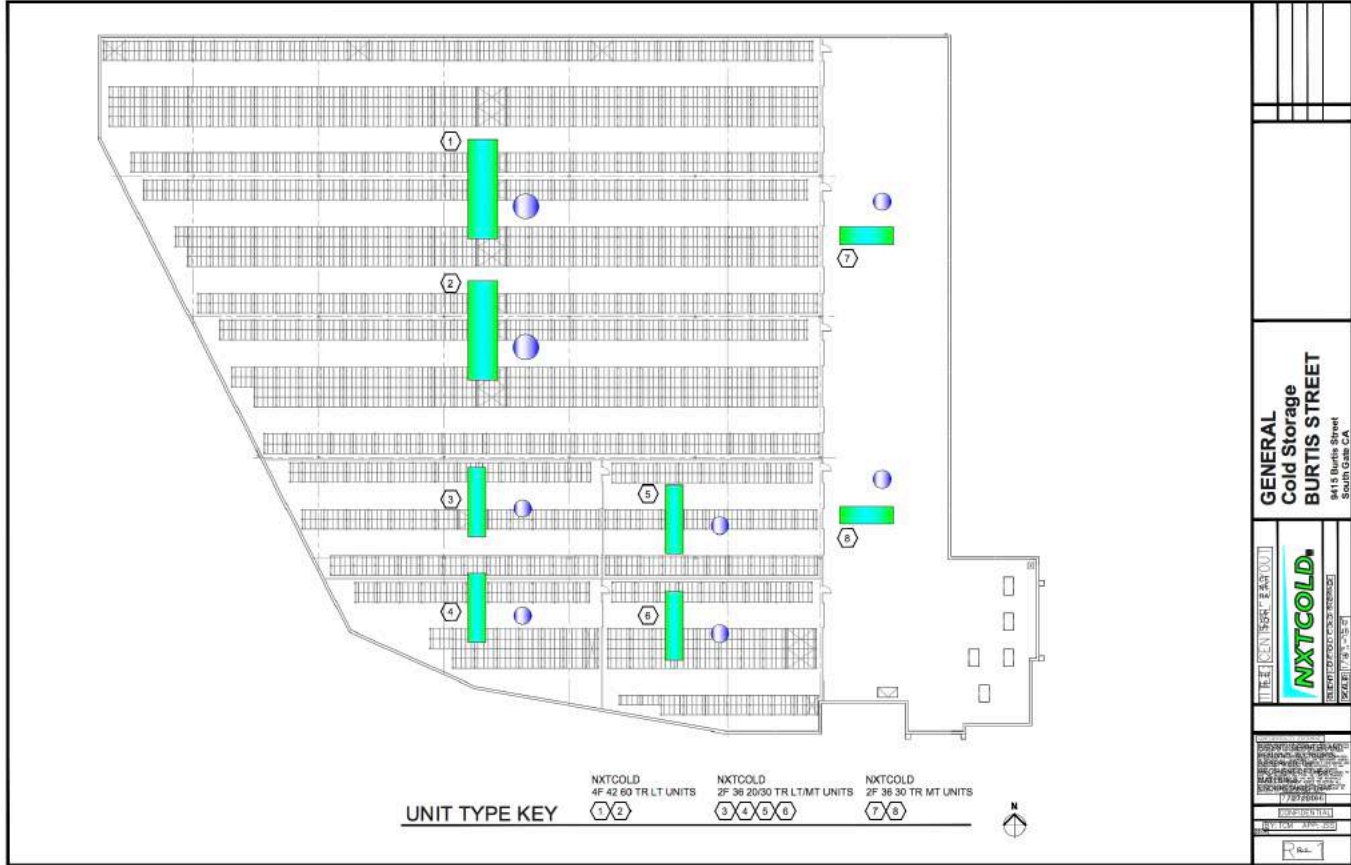
New Facility

Compliment and allow expansion of the business

- 1. Must have long life, be architecturally pleasing, have highest efficiency.*
2. Several options available. They were thoroughly vetted.

NXTCOLD was select because best met criteria.

Refrigeration Plan



Compressors & Condensers Efficiency

Space	Minimum SCT Setpoint	Proposed SST Setpoint	Base Case SST Setpoint	Proposed Average Compressor + Condenser Efficiency in Simulation kW/TR	Base Case Average Compressor + Condenser Efficiency in Simulation kW/TR
-10 Degree Freezer	70°F	-20°F	-25°F	1.6	2.4
-10 Degree Freezer #1		-20°F	-25°F	1.5	2.4
-10 Degree Freezer #2		-20°F	-25°F	1.7	2.4
-10 Degree Freezer #3		-20°F	-25°F	1.5	2.4
-10 Degree Freezer #4		-20°F	-25°F	1.7	2.4
36 Degree Cold Dock		+21°F	+16°F	1.0	1.2

Evaporators Efficiency

Zone	Guntner Model	Number of Fan Motors	Fan Motor Size (HP)	Evaporator Input Power Per Evaporator (kW)		Specific Efficiency (Btuh/Watt at 10°F TD)	
				Base Case	Proposed	Base Case	Proposed
-10 Degree Freezer	S-MANP 105.3L/48-EOMK9/6P.M	4	10	21.2	69.9	34.0	10.3
-10 Degree Freezer #1	S-MANP 105.3L/28-EOGK9/12P.M	2	3	7.2	10.7	34.0	22.8
-10 Degree Freezer #2	S-MANP 105.3L/28-EOGK9/12P.M	2	3	7.2	10.7	34.0	22.8
-10 Degree Freezer #3	S-MANP 105.3L/28-EOGK9/12P.M	2	3	7.2	10.7	34.0	22.8
-10 Degree Freezer #4	S-MANP 105.3L/28-EOGK9/12P.M	2	3	7.2	10.7	34.0	22.8
36 Degree Cold Dock	S-MANP 105.3H/26-EOGK9/12P.M	2	3	7.1	9.5	34.0	25.4

Incentives & Savings

SCE SBD calculated incentive of \$85,000 (+/-)

\$1,375,000 savings anticipated over five years.



Konoike - General Cold Storage











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The Next Logical Step In Ammonia Refrigeration
ULA (Ultra Low Ammonia) HVACR Packaged Units.



Partners with

Hillphoenix®

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Thank you very much!



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ENERGY COMMISSION

LOGIC Technologies, Inc.



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Questions & Answers ?