

## THE FUTURE IS NOW IN DC DESIGN

When virtual design improves the real thing: Designing automated and sustainable distribution centers with 3D technology and virtual reality.

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*Virtual Reality: A Building Information Modeling rendering of the engine room at Primus' United States Cold Storage project in Warsaw, North Carolina. (Photo courtesy of Primus Builders.) See the article on page 10.*



# IACSC Moving Forward with Growth, New Award

**T**O PROPERLY CONSTRUCT and maintain a highly functioning and efficient cold chain facility requires individuals and companies who are fluent in the intricacies of these complex buildings. For over 35 years, the International Association for Cold Storage Construction (IACSC) has been instrumental in bringing together the industry leaders and professionals involved in the design, construction, modernization and maintenance of cold chain facilities.

On November 6-12, 2016, IACSC will hold its 36<sup>th</sup> Annual Conference & Expo at the Fort Lauderdale Marriott Harbor Resort and Spa in Fort Lauderdale, Florida, where more than 250 individuals will gather to gain valuable insight. Attendees will learn of the latest innovations and technology from excellent speakers and from each other during conference sessions and the ever-popular roundtable discussions.

There will be significant opportunities to network with potential clients, industry peers, suppliers and vendors during both scheduled networking events and at the expo hall. Given the year-over-year growth in attendance, the IACSC conference has become an event not to be missed by those involved in this highly specialized sector of the cold chain industry.

Corresponding with the growth of the annual conference has been the continued development of IACSC as an organization. During the past few years, IACSC has seen significant growth, both in membership and in resources. This growth has been facilitated by focusing on key areas including education, business development and marketing awareness.

IACSC provides focused education and training specific to the cold chain industry for both its members and for facility owners and operators. Past conference educational topics include refrigeration innovations, energy efficiencies and new product developments. This year's conference will continue to offer an exciting slate of educational topics of both

importance and relevancy to every attendee.

From a marketing perspective, 2016 will mark the inaugural IACSC Built by the Best Award. The winner will be selected from a number of cold chain facilities designed and built by IACSC members. This award will recognize excellence in project quality, innovation and successful teamwork among the multiple organizations required to deliver a complicated cold chain facility. The winning project team will provide the opening keynote presentation at the November conference.

Business development opportunities remain vital to IACSC and its members. We continue to seek ways to increase our exposure and brand awareness to IARW members as well as all other cold chain facility owners and operators, with our ultimate goal of demonstrating the importance and necessity of utilizing IACSC members for the services and goods necessary in the proper design, construction and maintenance of cold chain facilities.

Over the next decade the demand for modern, efficient and quality cold chain facilities, within both the United States and abroad, will grow to unprecedented levels. The expertise and knowledge possessed by IACSC members will be vital and necessary for this growth. The importance of a vibrant and purposeful IACSC to its members, and to the cold chain, has never been greater. ☺



BRIAN KING  
IACSC Chair

## COLDFACTS

COLD FACTS magazine is published every other month by the **Global Cold Chain Alliance (GCCA)**, an organization that unites partners to be innovative leaders in the temperature-controlled products industry. The GCCA Core Partners are:

The **International Association of Refrigerated Warehouses (IARW)**, which promotes excellence in the global temperature-controlled warehouse and logistics industry.

The **World Food Logistics Organization (WFLO)**, which delivers education and research to the industry and empowers economic development by strengthening the global cold chain.

The **International Refrigerated Transportation Association (IRTA)**, which cultivates, fosters and develops commercial and trade relations between all those engaged in the transportation and logistics of temperature-controlled commodities.

The **International Association for Cold Storage Construction (IACSC)**, which provides a forum for innovative ideas, promotes standards of practice, and sponsors professional education programs for the cold storage construction industry.

### CONTACT US:

COLD FACTS Magazine  
Global Cold Chain Alliance  
Attn: Megan Costello  
1500 King Street, Suite 201  
Alexandria, Virginia 22314-2730 USA

tel +1 703 373 4300 fax +1 703 373 4301  
mccostello@gcca.org | www.gcca.org

COLD FACTS welcomes editorial ideas; contact Editor-In-Chief Al Rickard at +1 703 402 9713 or [arickard@associationvision.com](mailto:arickard@associationvision.com). Contact Mike Derda at +1 415 883 7555 or [mderda@associationvision.com](mailto:mderda@associationvision.com) for advertising opportunities in GCCA publications.

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# OSHA CONVENES SMALL BUSINESS PANEL ON PSM

*Panel seeks feedback from stakeholders and considers changes to the regulation.*

**By Lowell Randel**

In June 2016, the United States' Occupational Safety and Health Administration (OSHA) convened a Small Business Advocacy Review Panel to get feedback from small businesses about potential changes to the Process Safety Management (PSM) regulation. The small business panel is a part of the Obama Administration's overall efforts under Executive Order 13650, "Improving Chemical Facility Safety and Security," which is intended modernize policies to prevent major chemical accidents.

The Executive Order came in response to the tragic incident in West, Texas, where there was an explosion at a fertilizer facility. It was originally assumed by the government that the incident in West was the result of management failures at the facility. However, the Bureau of Alcohol, Tobacco and Firearms announced in May 2016 that the explosion in West was caused by criminal activity. Despite the finding that the explosion in West was a criminal act, agencies including OSHA and the Environmental Protection Agency (EPA) are continuing to move forward with efforts to revise chemical safety regulations.

The small business panel solicited input from small businesses from PSM regulated industries, including the refrigerated warehouse industry. GCCA actively participated in the OSHA small business panel. IARW members Brian Beazer (Winchester Cold Storage) and Charlie Newell (Minnesota Freezer Warehouse) both served as small entity representatives to the process and provided oral and written comments expressing concerns with OSHA's proposals. OSHA will consider the comments received by small entity representatives as it begins drafting a formal Proposed Rule.

The OSHA regulatory process is slower than that of agencies such as EPA. It is unclear when a Proposed Rule will be published, although it is unlikely to happen in 2016. GCCA will continue to actively work with OSHA and industry partners to communicate concerns as the regulatory process moves forward.

Below is a summary of the major changes under consideration that would have an impact on GCCA members:

#### **Safer Technologies and Alternatives Analysis**

**Current Policy:** No requirement of analysis of safer technology and alternatives under PSM.

**Issue to Address:** OSHA believes that safer technology and alternatives analysis may identify safer solutions to current risks that currently are being missed. This issue was also included in EPA's recent Proposed Rule on RMP.

**Potential Change:** Requiring employers to use the hierarchy of controls in considering safer alternatives and technology when identified hazards result in an employer-specified level of risk.

**GCCA Concerns:** The regulatory burden of requiring costly IST reviews tends to stifle

innovation. For businesses that are already looking to improve safety by implementing IST options, a formal IST review would add costs to a process by forcing them to document the activities they are already performing. Many businesses do not have the manpower or expertise to perform such analyses and lack the resources to hire it out cost effectively.

For those companies that do not implement IST options, the IST review would likely become a “paper exercise” where they document why it is “infeasible” to implement these options. If facilities are ultimately required to perform safer alternative options analyses and implementation plans, OSHA should not require that the analyses and/or implementation plans be submitted to the agency. Likewise, OSHA should not have any role in analyzing or approving such analysis.

### Updates to Recognized and Generally Accepted Good Engineering Practices (RAGAGEP)

**Current Policy:** There is no requirement that employers update RAGAGEP to reflect revisions made since the employer initially adopted it.

**Issue to Address:** RAGAGEP can change over time and OSHA is concerned that some facilities may not be implementing current best practices.

**Potential Change:** Require periodic review of current RAGAGEP and implementation of updates.

**GCCA Concerns:** Creating a new regulatory requirement for periodic evaluations of RAGAGEP changes is not necessary. The Management of Change (MOC) and Process Hazards Analysis (PHA) sections of PSM and RMP are currently sufficient to identify risks without a stand-alone requirement for evaluation of RAGAGEP. It is through these processes that facilities evaluate not just RAGAGEP updates, but other factors related to safety.

It would be unduly burdensome to require annual reviews, much less update all processes to maintain conformance with current standards without other design changes, which could impose a significant economic burden. Costs will be extremely hard to estimate and it will be virtually impossible for businesses to adequately budget for, and plan for changes to, RAGAGEP. In many cases it is also impossible to conform with all RAGAGEP because of possible conflicting requirements. The MOC and PHA elements coupled with Employee Participation and Pre-Startup Safety Review are adequate for identification of new hazards

created by process changes or to identify hazards based on incidents since the last PHA Revalidation.

### Expansion of Mechanical Integrity Element

**Current Policy:** Mechanical Integrity element, 1910.119(j), applies only to six explicit categories of equipment.

**Issue to Address:** OSHA contends that other types of equipment that do not fall in these six categories also have hazards that should be addressed by the Mechanical Integrity requirements.

**Potential Change:** Expand 1910.119(j) to include all equipment deemed “critical.”

**GCCA Concerns:** The determination of what is safety-critical can be subject to broad interpretation. Absent clear direction from the agency, as is currently in place, businesses would feel very vulnerable in an enforcement setting. A business may, in good faith, assess and make equipment determinations, but fear that inspectors may not agree with their interpretations. Facilities must have clear guidance to understand what is expected, and care should be taken to avoid penalizing facilities that have made equipment determinations in good faith.

### Emergency Planning

**Current Policy:** Employers must establish and implement an Emergency Action Plan.

**Issue to Address:** PSM has no requirement for employers to coordinate with local emergency response authorities.

**Potential Change:** Requiring emergency planning to foster coordination with local response, including:

- annual meetings with local responders
- emergency drills
- evaluation of local emergency response capabilities.

**GCCA Concerns:** Coordination with local emergency planning and response authorities is an important aspect of safety. However, additional regulation in this area is needed by OSHA because coordination is already specifically required in the RMP Rules, which apply to all PSM covered facilities in our industry. Enforcement of this issue is linked through Hazard Communication, Emergency Action, and HAZWOPER Standards. The coordination with local agencies (e.g. LEPC, fire department, police, etc.) is required by the EPA’s Chemical Accident Prevention Provisions (40 CFR Part 68.95(c)). The issue of coordination is already well covered and adding requirements would be redundant.



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Many facilities may be in an area with LEPCs that are not very active or have volunteer fire departments that are stretched thin. A clearly defined reasonable level of coordination with planning and response authorities presents a significant challenge. If facilities are “required” to coordinate their response activities, OSHA must recognize that despite the best efforts of facilities, sometimes the coordination is a “one-way” street.

### Third Party Audits

**Current Policy:** Audit every three years by persons knowledgeable in covered process.

**Issue to Address:** Audits done by independent third parties may be more effective.

**Potential Change:** Require audits to be done by independent third parties

**GCCA Concerns:** Compliance audits are useful tools for evaluating a facility’s safety. However, a third party doesn’t necessarily equate to more qualified or independent auditors. Facilities should have the flexibility to utilize internal safety experts from other facilities or corporate headquarters to perform audits. Frequently, internal auditors are more familiar with the process and the inherent risks. Internal audit teams are often more thorough than a third party and share best practices, company policies and experience from other facilities within the same company. Using internal auditors develops the auditing experience and expertise in-house where it is more accessible as opposed to losing it to a third party. Businesses should have the ability to identify the resources required to conduct audits whether it be by independent internal resource or a third party.

Hiring auditors can be a costly process. If a business has access to qualified internal auditors, it should have the flexibility to use them. In addition, GCCA is concerned that OSHA may follow the EPA’s proposals for third party audits. EPA’s proposed independence criteria are overly restrictive and could make it very difficult to find qualified auditors familiar with our industry that are not already providing services to the company in question.

### Stop Work Authority

**Current Policy:** No requirement for employees to have Stop Work Authority.

**Issue to Address:** No procedures and authority for operators to shutdown processes in imminent risk situations.

**Potential Change:** Implement a SWA program.

**Concerns:** The addition of a stop work

authority requirement is redundant with current best practices and is not necessary. Current practices of most GCCA members include robust safety committees with employee participation. Additional regulatory requirements are not likely to add any safety value. Companies should maintain the flexibility to adopt stop work plans that fit appropriately with their individual facilities. Care should be taken not to micromanage this process, which could result in unnecessary work stoppages and create significant costs for small businesses.

### Root Cause Analysis

**Current Policy:** Incident Investigation must include: “factors that contributed to the incident.”

**Issue to Address:** Root cause analysis can identify systemic safety problems that need to be addressed.

**Potential Change:** Requirement of a root cause analysis as part of any incident investigation.

**GCCA Concerns:** Sufficient flexibility is needed when conducting incident investigations, including any root cause analyses. Facilities should have the ability to select the appropriate investigation methodology for the situation and their facility. There are also concerns with the definition of “near miss.” Facilities should be given deference in identifying what situations qualify as a “near miss” and trigger an investigation. What may be a “near miss” in one industry or facility may not rise to that level in a different setting.

### Process Hazard Analysis Management Sign-Off

**Current Policy:** No requirement for affirmative management statement that PHA has adequately addressed all hazards found during the analysis.

**Issue to Address:** Management sign-off can increase thoroughness of organizational review of the PHA.

**Potential Change:** If management decides not to implement or make modifications based on PHA team findings, to document that the hazards identified in the PHA are adequately addressed.

**GCCA Concerns:** GCCA is concerned about the legal and enforcement ramifications of such a requirement for management sign-off and do not believe it is necessary. There is the potential for the agency to set up management for potential enforcement actions. Some managers would be reluctant to sign such a document without knowing the potential liabilities.

This would require the retention of a lawyer to examine the documents, which will be costly for small businesses. This cost is not reflected adequately in the proposal.

### Written PSM Management System

**Current Policy:** Various pieces of a PSM system must be documented in different PSM elements.

**Issue to Address:** No required coordination of all written documentation into a single system, causing difficulties of updates/access to all relevant items of information.

**Potential Change:** A requirement that employers develop and implement a written PSM Management system that would include written procedures for all elements specified in the standard, along with a records retention policy.

**GCCA Concerns:** Adding a requirement for written PSM management systems is redundant and not necessary. Facilities are already required to document their PSM programs. Adding an additional paperwork requirement is not likely to add any safety value and will divert resources away from facility operations.

### Evaluation and Corrective Action of PSM Program

**Current Policy:** No requirement to periodically update the PSM program based on management systems and inputs such as employee suggestions, incident investigation findings, audit findings, and other leading and lagging indicators.

**Issue to Address:** Monitoring and revision of management systems and inputs ensures effectiveness in preventing incidents.

**Potential Change:** A requirement that employers develop a system of periodic review and revision based on required inputs.

**GCCA Concerns:** Adding a requirement for evaluation and corrective action procedures is redundant and not necessary. Current safety teams across the industry already provide a strong mechanism for evaluating safety issues and continuously improving operations. This, coupled with the existing requirements to conduct PHAs and Management of Change, is sufficient to meet goals outlined in the agency’s proposal. New regulations are not needed. 📧

LOWELL RANDEL is Vice President, Government and Legal Affairs at GCCA.

EMAIL: [lrandel@gcca.org](mailto:lrandel@gcca.org)





## Is your room temperature warmer than design?

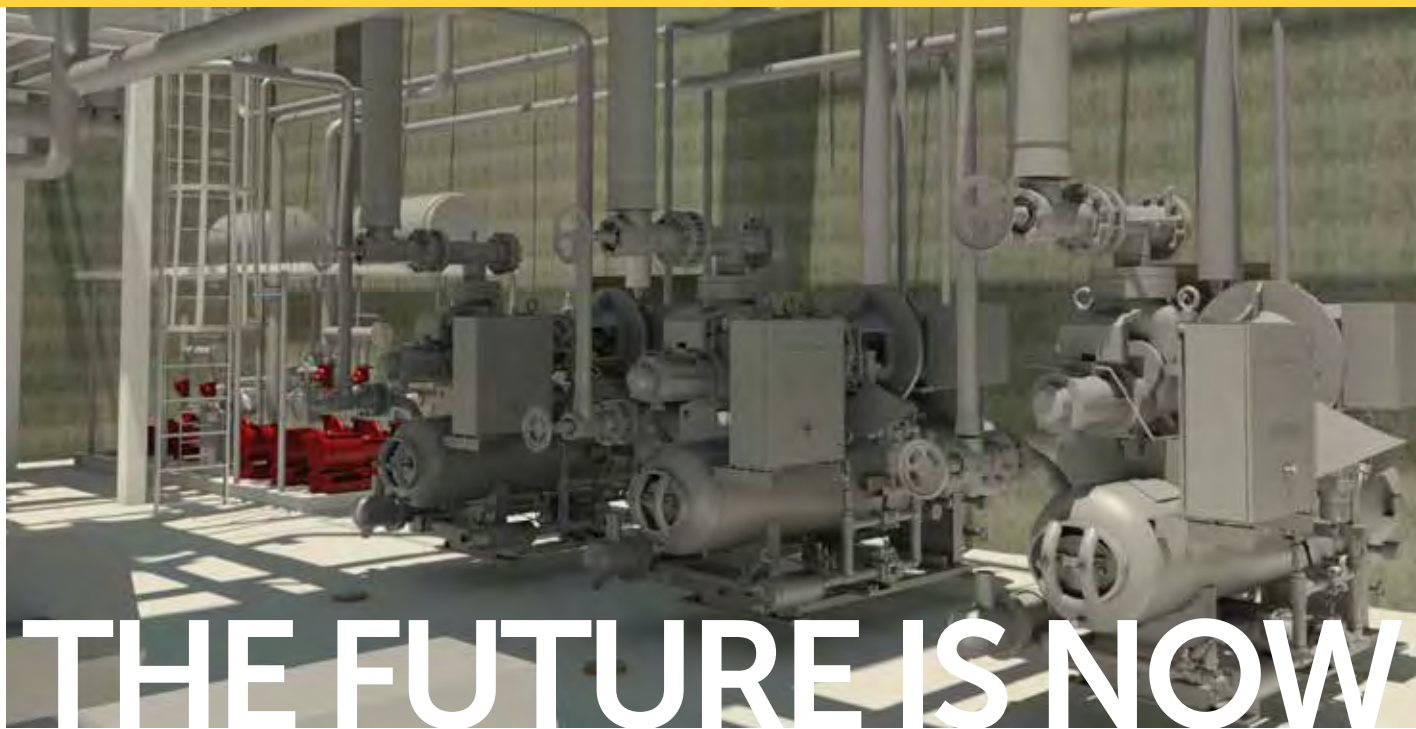
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# THE FUTURE IS NOW IN DC DESIGN

*When virtual design improves the real thing:  
Designing automated and sustainable distribution centers  
with 3D technology and virtual reality.*

The distribution center — that critical component of the cold supply chain — has seen a flurry of design innovation in the last few years. Efforts geared toward accommodating the velocity of products passing through these facilities, SKU proliferation, and the complexity of distribution requirements have triggered new and better design processes.

But now, DC design innovation is moving at warp speed as forward-looking builders are using 3D model-based processes, combined with virtual reality technology, to help their 3PL clients envision cold storage space that is increasingly maximized, optimized, automated, and sustainable.

#### Virtual View

Once the domain of the gaming world, 3D

paired with virtual reality technology now is being used to design distribution centers.

Matt Hirsch, President of Primus Builders, is delivering projects using Revit, a Building Information Modeling (BIM) software. Revit allows the design and construction teams to present to owners a digital representation of their project in 3D before construction begins. “Basically, we virtually construct buildings before we ever get in the field,” Hirsch says.

Primus has taken BIM a step further. The design-build firm is now offering 3D-VR (Virtual Reality). 3D-VR allows clients to actually feel like they are in their new building before it is built. After Primus designs the 3D renderings, they are uploaded to a smart phone via link or QR code. The viewer places the smart phone in a Google Cardboard (a virtual reality box) and is able to virtually experience being in the facility while the project is in the design phase.

“The advantages are the ability to visualize what we’re doing with much greater context than is possible with 2D design, and a much larger client team can get involved in the process,” Hirsch explains. “The local operations team and corporate engineering team can provide feedback early on in the design phase saving time and money, and that involvement can all happen remotely.”

Virtual design is coming into its own at

a time when PRWs are being asked to do so much more, particularly in value added services, than they were 10 years ago, Hirsch points out.

“Case picking and repackaging operations are adding a huge number of workers to these facilities, and management is having to completely rethink the front end, not just storage,” adds Hirsch. “You can come up with great ideas on paper of how to deal with large increases in employee numbers or truck traffic, but being able to virtually get into the facility and interact with it before building begins is invaluable.”

Another example of the benefits of virtual interaction before construction is in the refrigeration rooms and maintenance areas. “BIM permits you to model all the piping and valves. This allows maintenance crews to go in and review those areas virtually and start creating Standard Operating Procedures on how they intend to isolate valves and execute maintenance, all before the facility opens.”

Mike Lynch, Vice President, Engineering for United States Cold Storage, agrees. “Using 3D in a virtual environment allows me to see the warehouse design in a way that is much easier to recognize and identify. I can better see conflicts, such as whether that piece of steel will interfere with that rack, and resolve the conflict before it becomes a problem, which is much cheaper.”

Lynch says he also appreciates being more productive as he travels less. “With virtual models, I no longer have to travel long distances to discuss drawings, and senior executives and other members of the team can now see the end product before it’s built, which facilitates communication and feedback.”

### Moving Up

Some aspects of cold storage design and construction never change such as — location, location, location!

“The most important aspect in designing distribution centers will always be finding that perfect site on which to build — whether that’s access to a port, rail or intersecting interstates,” acknowledges Scott Guimond, Project Manager for Fisher Construction Group. “With the high cost of prime property, the second most important aspect has become maximizing the location by optimizing the cube and getting the most pallet positions possible. The return on investment equation is dependent on the maximum positions within the footprint available, in order for the dollar per pallet position to drop.”

“From a 3PL position, it is always cheaper



*The original goal for Primus’ United States Cold Storage project in Covington, Tennessee, was LEED Silver. By closely collaborating, the team was able to identify additional LEED points that led to the project achieving LEED Gold certification. (Photo courtesy of Primus Builders.)*

to build up then out, taller rather than wider, deeper, longer buildings,” points out Lynch. “Until recently, the industry has been limited to 40 feet high, but now material handling equipment and fire protection systems are being tested and approved that will allow us to be able to go up to 50 feet in three levels of pallets.”

### Automation

Another major trend in distribution center design, and one that goes hand in with building ever upwards, is automation, automation, automation!

“With automation comes labor efficiencies, maximized storage and lowered costs, and huge energy savings,” Guimond says. “Those large overhead doors that now allow so much infiltration can be reduced to a small opening the size of a pallet with a conveyor running through it, and as there is no need for lights in the automated storage space, you saving on energy and heat load.”

Hirsch adds that Primus has built eight automated facilities in the last four years.

“There is a major push towards automation, and I think the industry is at the tipping point, especially because of the continuing labor costs associated with the industry,” Hirsch asserts. “We have a PRW client that wants to double the size of their company, while adding less than 10 percent incremental employee growth, and they realize that automation is the way to do that. In Europe, I’ve visited 30,000 pallet automated operations run by five people and that’s the entire staff.”

Hirsch says that in his experience building automated facilities, the best outcomes are achieved when the mindset is not, “let’s add automation to the way we currently run things,” but the inverse, “if I have the best automation, how should I run my business.”

Hirsch contends that you have to look

holistically at a new approach to running an automated facility.

“Everybody wants one automated solution that works across the country in all their facilities, but there isn’t one automated solution for every PRW, and people need to be okay with that,” Hirsch suggests. “You have to strive for a happy medium because the reality is that if you try to build a solution that meets all your needs, you won’t be able to, and even if you could, you wouldn’t be able to justify the cost.”

Instead, Hirsch suggests designing an automated system that meets 80 percent of all business needs but that can be adjusted in the future to meet the other 20 percent.

Another observation Hirsch has about successful automation projects is that they involve people from every level of the business.

“You want to avoid scenarios such as an engineering group working on a solution without bringing the operations team in early in the process,” Hirsch says. “I’ve seen success when local facility management, engineering and operations are all actively and collaboratively involved in making solutions meet each one of their needs.”

“Automation is not a commodity and the partner you select is extremely important,” Hirsch continues. “If the conversation starts with throughput numbers and skews, you’ve already gone too far. You need to lead with an open dialog and identify goals and objectives and understand how your client is trying to service their clients.”

Hirsch adds that the most successful automation projects he’s completed have been a marriage between the PRW owner, a solid construction company and automation experts.

From the PRW perspective, Lynch says regardless of whether a build project is automated or not, what he looks for in his construction partner is, assuming all things





Automatic Guided Vehicles (AGVs) move, load, and unload pallets by themselves, like robots. (Photo courtesy of Primus Builders.)



Primus experiments with uploading 3D/VR renderings using Google Cardboard. (Photo courtesy of Primus Builders.)

are equal and price is not an issue, who does he feel most comfortable working with.

“The schedule must be met, communication is paramount, innovation is important, but usually my build partner is someone with whom I have already spent time fostering a relationship based on trust and cooperation,” admits Lynch.

### Partnerships

There is another kind of partnership that is becoming increasingly important, especially in building automated facilities.

“The reason you haven’t seen the industry jump on the band wagon with everyone going higher and becoming fully automated is that automation is not inherently flexible,” Lynch explains. “If you have a large customer base that is changing every few years, so are pallet heights, weight, temperature, turns and case picks.”

Lynch points out that a manual warehouse is 100 percent flexible while warehouses with automated systems operate somewhere between 40 and 80 percent on the flexibility scale. “Once your customer gets outside of those ranges, you have a problem,” Lynch admits.

“If I automate our warehouse and make that kind of capital investment, I need a big enough window to recover that investment,” Lynch points out. “But traditionally, food processors want as short a contract as possible, and we want to be as long as possible, but I know there is a way to reach a middle ground and craft creative agreements and a construction partnership that is mutually convenient.”

In fact, United States Cold Storage and

Primus recently completed a semi-automated facility in Covington, Tennessee, that is attached to a production facility – a first for the company.

“Partnerships between cold storage distributors and processors is a savings find for our cold storage clients because of economy of scale,” Guimond points out. “And if it’s a joint project, permit and fixed fees are only applied once and shared by both parties, and in some cases, not applied at all.”

As an example, Guimond references the truck impact fee, which he says is often astronomical.

“In partner-style projects, trucks or conveyors are moving product within a shared campus and not using county streets. This results in a huge reduction in truck impact fees, it’s safer for the community to have less trucks on the road, and it lowers both companies’ carbon footprint,” Guimond says.

Guimond also points out side-by-side facilities make food safety compliance a dream as product only has to be tracked from the processor to the storage facility right next door — sometimes not even leaving the building. “It’s also possible for the processor and cold storage facility to share food safety plans as well as third party auditors.”

### Sustainable Spaces

“All the major and minor food companies are pushing sustainable development and our customers bring it up all the time now,” Lynch notes. “One of the big food companies that went out for bids recently was not only evaluating price but also the PRWs’ sustainability programs, what benefits they offered

employees, and what they were doing to give back to their local communities.”

“So as both an end user and a service supplier to these food companies, we want to be better stewards of our environment and design and create our buildings to be more sustainable and have as little negative impact on our surroundings as possible,” Lynch acknowledges.

Lynch says that begins with basing decisions on where to design and build warehouses from both a profitability and sustainability standpoint.

“As 90 percent of the power we buy is carbon-based, anything that can be incorporated into DC design to reduce the amount of electricity used goes a long way to driving down the company’s carbon footprint and becoming more sustainable,” Lynch points out. “We also look at how we can use less water or reuse or reclaim waste water.”

Hirsch confirms that PRW clients are asking for sustainable buildings.

“We’ve built three LEED facilities in the past two years, and LEED certification forces us to energy model the entire facility,” Hirsch says. “We have good models but we’ve challenged our team to look at industry standards and make incremental improvements. As a result, the Covington, Tennessee, facility we built for United States Cold Storage realized a 33 percent energy reduction over the industry standard, which translates into savings of \$240,000 a year. It also achieved LEED Gold Certification.”

Hirsch adds that recognizing a ROI in LEED buildings is great but also important is how much good facility design impacts the



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wellness of employees as well as end users.

“When PRWs incorporate sustainability branding all over the facility, it can begin a conversation about company culture and how important it is to use the facility not just to move product, but to attract and retain employees,” suggests Hirsch.

“How employees feel when they go to work every day, how they interact with the building, how office areas are designed, what truck drivers experience when they are in the facility – all this impacts employee engagement, morale and turnover and can have a significant impact on the business’ bottom line,” adds Hirsch.

And the next big-bang-for-the-buck trend in distribution center design according to Hirsch -- adding to the dock the ability to reheat with temperature and humidity controls to save money and improve overall energy usage. But that’s another story. ☞



An aerial shot of the United States Cold Storage facility in Covington, Tennessee with the adjacent food processing facility in the background. (Photo courtesy of United States Cold Storage.)

**ALEXANDRA WALSH** is Vice President of Association Vision and Managing Editor of COLD FACTS.

**EMAIL:** [awalsh@associationvision.com](mailto:awalsh@associationvision.com)

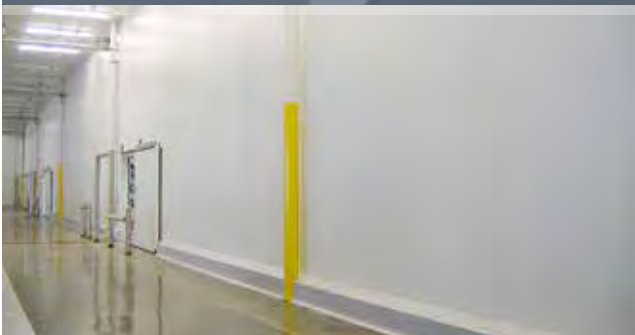


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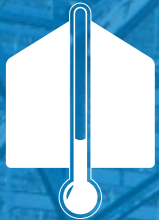


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The IACSC Cold Storage Design and Construction Showcase is produced by the International Association for Cold Storage Construction (IACSC) and is published as a special section of COLD FACTS magazine is published every other month by the **Global Cold Chain Alliance (GCCA)**, an organization that unites partners to be innovative leaders in the temperature-controlled products industry. The GCCA Core Partners are:

The **International Association of Refrigerated Warehouses (IARW)**, which promotes excellence in the global temperature-controlled warehouse and logistics industry.

The **World Food Logistics Organization (WFLO)**, which delivers education and research to the industry and empowers economic development by strengthening the global cold chain.

The **International Refrigerated Transportation Association (IRTA)**, which cultivates, fosters and develops commercial and trade relations between all those engaged in the transportation and logistics of temperature-controlled commodities.

The **International Association for Cold Storage Construction (IACSC)**, which provides a forum for innovative ideas, promotes standards of practice, and sponsors professional education programs for the cold storage construction industry.

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### CONTACT US:

Global Cold Chain Alliance  
Attn: Megan Costello  
1500 King Street, Suite 201  
Alexandria, Virginia 22314-2730 USA

tel +1 703 373 4300 fax +1 703 373 4301  
mcostello@gcca.org | www.gcca.org

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EDITORIAL: For editorial questions and input, contact Editor-In-Chief Al Rickard at +1 703 402 9713 or [arickard@assocvision.com](mailto:arickard@assocvision.com).

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# WELCOME

A MESSAGE FROM THE GCCA PRESIDENT AND CEO

## IACSC Members Offer Innovations That Impact Business Outcomes

**A**T THE GLOBAL COLD CHAIN ALLIANCE (GCCA), one of our top strategic priorities is delivering products and services that can have an impact on your business outcomes.

We are fortunate to have so many industry resources available to reach this goal, including four core partner associations that serve the key areas of the cold chain industry: warehousing, construction, transportation, and global cold chain development.

One of the strongest enduring relationships in GCCA is the partnership between the International Association of Refrigerated Warehouses (IARW) and the International Association for Cold Storage Construction (IACSC).

This special publication, the *IACSC Cold Storage Design and Construction Showcase*, demonstrates why this partnership is so important. In it, many of IACSC's leading members highlight the latest innovations that help IARW members and others involved in temperature-controlled facility operations solve some of their most vexing construction and operational issues.

For example, phase-outs of certain refrigerants, such as R-22, have led to new refrigeration solutions offered by several companies in this showcase. Firms that offer insulated panels, a critical component to every temperature-controlled warehouse, provide details on the latest innovations in panel technology in the following pages.

Companies specializing in design-build services, architecture, and engineering for the cold chain are featured, as are industry suppliers

of concrete floors, doors, lift trucks, export labels, as well as many others that provide products and services to help support your business.

All of us in the cold chain industry – especially warehouse owners and operators – appreciate the expertise and innovative products and services that IACSC members offer. I encourage you to read the *Showcase* to see some of the exciting innovations they are using to advance the cold chain through building design and modernization.

I also want to highlight that on November 10-12, 2016, IACSC will hold its 36th Annual Conference & Expo at the Fort Lauderdale Marriott Harbor Beach Resort and Spa in Fort Lauderdale, Florida. This event will draw design/build and construction professionals, refrigeration engineers, facility operators and others in the cold chain industry. I hope you can join us for this important event.

Learn more at [www.iacsc.org/conference](http://www.iacsc.org/conference).

Finally, I want to direct you to page 22 of this *IACSC Cold Storage Design and Construction Showcase*, where you will find a complete guide to all the current exhibitors at the IACSC 36<sup>th</sup> Annual Conference & Expo, plus companies featured in this publication.



COREY ROSEBUSCH  
PRESIDENT & CEO  
GLOBAL COLD CHAIN  
ALLIANCE (GCCA)

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# PRIMUS BRINGS THE FUTURE TO THE PRESENT



Primus's design-build project for The Kroger Company, a 1,100,000 SF, 85' tall cold storage distribution complex, exemplifies how new methods, technologies and attitudes are impacting the distribution chain and how distribution facilities are being built.

## AUTOMATION

The 283,000 SF dry grocery building features a fully-automated Witron AS/RS system for full pallets. There is also an Order Picking Machinery area that breaks full pallets into cases and loads pallets per specific store, per specific aisle in each store.

## INCREASED HEIGHT

The dry grocery building is 85' high. High-rise buildings have a smaller overall footprint and allow for maximum automation. This reduces the building's energy and labor costs.

## SUSTAINABILITY

Primus worked with the United States Green Building Council (USGBC) to update the LEED scorecard to reflect the indoor air quality components of cold storage facilities. This project has been submitted to USGBC and is on track to achieve LEED Silver.

## DRONE PHOTOGRAPHY

Primus flew a drone over the 300-acre site weekly. The team overlaid design drawings on top of the drone photos to produce dramatic progress reports. Primus also communicated demolition goals, future building locations and blasting areas.

## BIM

Primus implemented the BIM software Revit in the earliest stages of the design phase. Doing so allowed the design team to closely coordinate trades, detect clashes before construction began and clearly communicate design intent.

## SAFETY

Safety is Primus's #1 priority. New safety methods were implemented on this project including badging, an on-site safety professional and use of a safety consultant that performed mock OSHA inspections.

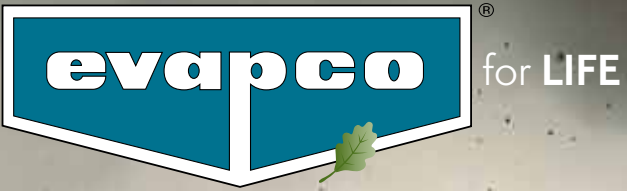


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**Faster installation.** A plug-and-play design that's factory tested and assembled for quick startup.

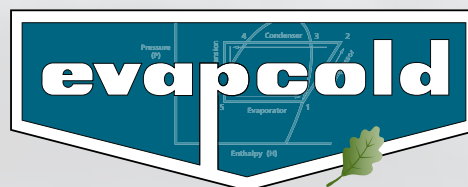
**Competitive cost.** Versus "stick built" systems, and reduces the costs associated with machine room construction and field electrical wiring.

**Reduced tax burden for owners.** The packaged system makes accounting for accelerated depreciation easier than itemizing "stick built" systems.

**Lower life-cycle costs.** Including lower regulatory and code compliance costs, lower training costs, lower electric bills and lower refrigerant costs.

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# Panels From AWIP With Solstice® LBA Offer Peak Energy Performance

All Weather Insulated Panels (AWIP) and Honeywell have come together to provide the best products to cold storage, warehouse and industrial customers while helping them meet the new energy regulations looming on the horizon. By employing Honeywell's innovative Solstice® Liquid Blowing Agent (LBA), AWIP offers the most energy efficient and environmentally friendly insulated metal panels for all industrial projects.

Though refrigerated warehouse storage space continues to grow around the world, stricter regulations pose new challenges for today's storage construction companies and warehouse owners. Based on hydrofluoro-olefin (HFO) technology, Solstice LBA is a critical ingredient in closed-cell polyurethane foam, allowing it to expand thoroughly and evenly and thus provide excellent insulating properties.

Aside from best-in-class energy efficiency, AWIP panels with Solstice LBA have the lowest environmental footprint, including:

- An R rating up to 52
- Global Warming Potential (GWP) of 1
- Not flammable (ASTM E-681)
- VOC-exemption, per U.S. EPA
- Solstice LBA listed under the EPA's Significant New Alternatives Policy (SNAP) Program

Honeywell estimates that use of Solstice materials in all its applications will eliminate more than 475 million metric tons of CO<sub>2</sub> equivalents by 2025. Learn more at [www.honeywell-climate.ticker.com](http://www.honeywell-climate.ticker.com).



## ALL WEATHER INSULATED PANELS

Operating two continuous rigid-panel manufacturing facilities in Vacaville, California and Little Rock, Arkansas, AWIP's wall, roof and interior partition panels provide the best products for a variety of commercial and industrial applications, such as cold storage warehouses, wineries, coolers, freezers and food processing facilities, all of which require temperature-controlled environments.

Panels using Solstice LBA are the assured step for getting the best combination of energy efficiency, lower construction costs and visual appeal in any cold storage project.

"We now produce our DM45 insulated panels for all cold storage needs at both of our factories," said AWIP

President William Lowery. "The aim is straightforward. We want to provide the highest quality insulated metal panels for our cold storage and warehouse customers at a lower price. Solstice LBA improves the quality of our panels, showing again our commitment to providing superior products and top customer service at a competitive price."

AWIP products are recognized throughout the industry for their simple one-step installation that reduces construction costs. Now with Solstice LBA, panels from AWIP add up to a better solution for any commercial and industrial application.

With local, national and international regulations set to change to stricter tolerances in the near future, now is the time for all cold storage construction managers, architects and owners to consider the long-term viability of using insulated metal panels from AWIP.

For more information, please visit [www.awipanel.com](http://www.awipanel.com), or call 1-888-970-AWIP (2947) or contact: [Sales@awipanel.com](mailto:Sales@awipanel.com). Visit [www.facebook.com/allweatherpanels/](http://www.facebook.com/allweatherpanels/).





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# CO<sub>2</sub> Cascade Refrigeration Systems Offers New and Innovative Technology With an Attractive Return on Investment

*By Duane Marshall, CEO, M&M Refrigeration*

As the processed frozen food industry expands, new and innovative freezing and refrigeration methods are emerging. Such methods and technology are not only cost-effective, but offer significant environmental and economic advantages for food processing lines and cold storage facilities.

Specifically, a CO<sub>2</sub> cascade spiral freezing system is an ideal solution for critical food processing – including poultry, pizza, potato and beef processing – as well as the cold storage systems that support them.

## **Quality, Efficiency and Added Throughput**

A CO<sub>2</sub> cascade system utilizes a very low ammonia charge for its secondary refrigerant, working conjointly with carbon dioxide as its primary refrigerant. This combination acts with a vigorous airflow in a spiral conveyor freezing operation for food-processing production lines. The technology lowers cost, enables a high-quality food product and achieves a higher throughput – all worthwhile goals for today's competitive food-processing organizations and cold storage companies. The benefits offered by this system merit serious consideration from plant and facility owners looking to maximize quality and throughput while minimizing operating expenses.

First and foremost, a low ammonia charge of less than 500 pounds is possible. You benefit from ammonia's thermal properties and environmentally friendly characteristics without the burden of a large ammonia inven-

tory. In addition, ammonia may be isolated to the machine room, with CO<sub>2</sub> alone used in the processing or storage areas.

## **Energy Consumption Reduced Up to 40 Percent**

When ammonia is combined with CO<sub>2</sub> in a spiral conveyor system, it allows production managers to achieve freezing temperatures as low as -50 degrees Fahrenheit, increasing production yield. Product quality is improved, product contamination risk is reduced and overall throughput is increased by up to 50 percent.

A second key benefit is its energy efficiency. A CO<sub>2</sub> cascade system uses significantly less energy than a two-stage ammonia system, or many other conventional freezing or refrigeration systems, and uses significantly less energy per ton of refrigerant than most comparable systems – about 40 percent less. In today's competitive environment, this simply can't be ignored.

## **ROI in Less Than Five Years**

Once installed, energy savings and incentives contribute to the overall ROI of such a system. Typically, a

CO<sub>2</sub> cascade system yields an ROI of less than five years and in some cases less than three.

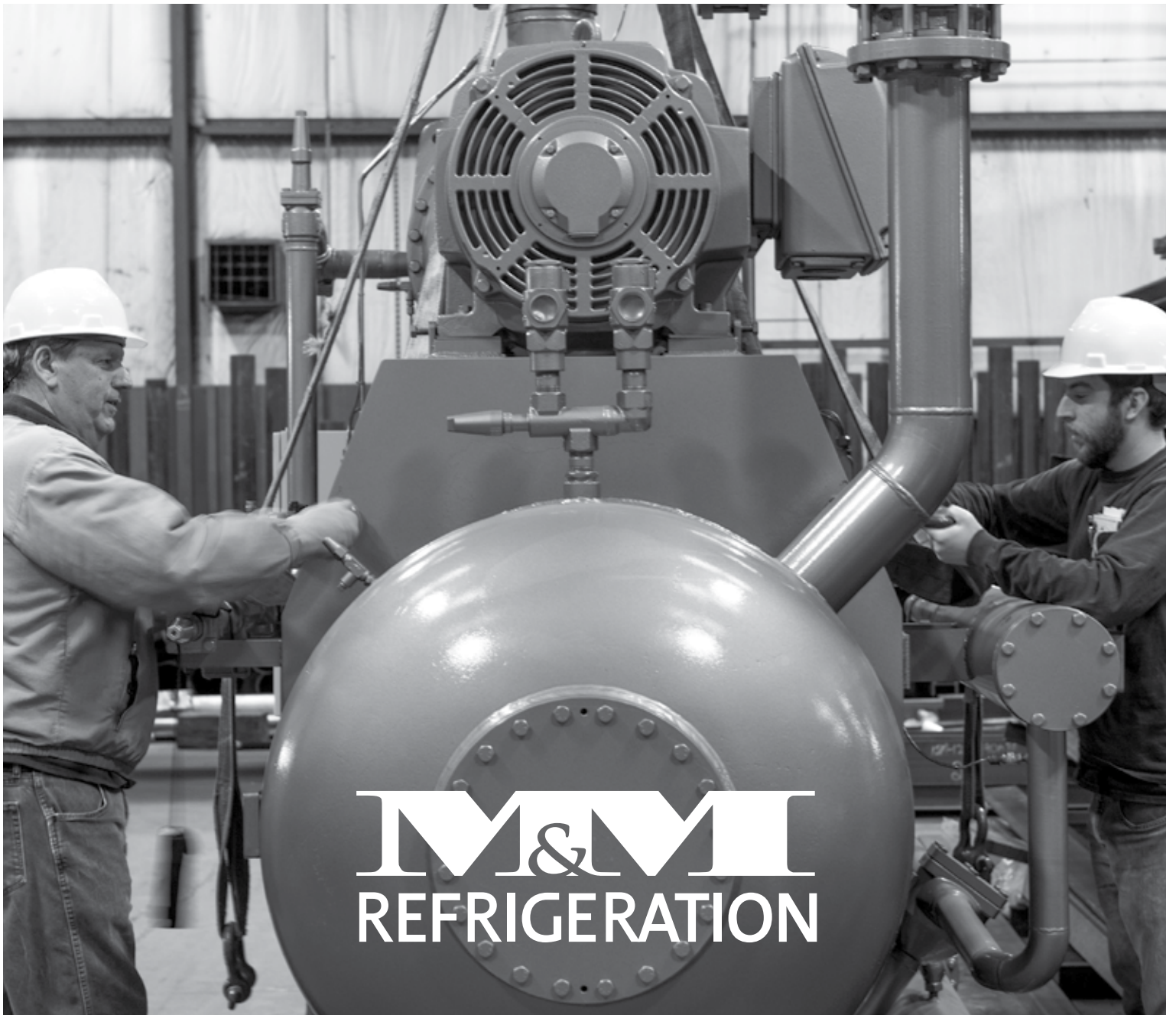
There are other advantages as well. Facility managers appreciate its compact skid design, with an approximate 30 ft. x 12 ft. footprint, and its availability in capacities up to 300 tons. This preserves spaces and expedites maintenance during downtime and shutdown. In addition, it is completely green with no ozone depletion potential. Safety and risk managers appreciate its reduced Process Safety Management (PSM) and Risk Management Program (RMP) compliance. For the facility owner, this means reduced liability and lower insurance costs, and enhanced overall performance.

In summary, for today's food processor, the environmentally friendly CO<sub>2</sub> cascade spiral system offers greater efficiency, a cleaner and safer operating environment, and a significant reduction in operating expense and risk.

*Duane Marshall is the CEO of M&M Refrigeration. For more information, contact him at [Sales@MMrefrigeration.com](mailto:Sales@MMrefrigeration.com).*



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# Colmac Coil: Pioneering Use of Low-Charge Ammonia Refrigeration Applications



Colmac Coil has pioneered the use of low-charge direct-expansion in low-temperature industrial ammonia refrigeration applications. This new technology reduces the first cost of installation while significantly reducing the ammonia charge required at warehouses.

It has been proven in recent installations that using ADX™ in industrial refrigeration systems produces additional benefits, including faster defrosting, effective operation at multiple temperature levels (convertible rooms), good response to changes in load, fast restart after power failure, and simplified maintenance and operation through elimination of recirculation pumps.

Because of the reduced ammonia charge on site and in occupied spaces, regulatory burdens can be reduced, and work spaces made safer.

This proven technology is being successfully used in multiple locations around the world, including:

- ADX™ Preferred Freezer Services – Richland WA
- ADX™ Joliet Cold Storage – Joliet IL
- ADX™ US Cold Storage – Laredo TX
- ADX™ Bidvest Tamworth – Tamworth Australia
- ADX™ Bidvest Bibra Lake – Perth Australia
- ADX™ Shepherd's Processed Egg – Spanish Fork UT

Colmac Coil is pleased to announce the next edition of the *DX Ammonia Piping Handbook*. This handbook is intended to guide the reader through the process of successfully designing and implementing DX Ammonia from +50°F to -50°F.

The third edition of this valuable technical resource includes updated and expanded system configuration descriptions as well as new P&ID style piping diagrams. To obtain a copy of the *DX Ammonia Piping Handbook*, visit [www.colmaccoil.com](http://www.colmaccoil.com).

Colmac Advanced DX Ammonia is covered by a number of USA and foreign patents, including:

- US Patent No. 7,958,738 Direct Expansion Refrigeration System and a Method of a Direct Expansion Ammonia
- US Patent No. 8,474,276 Direct Expansion Ammonia Refrigeration System and a Method of Direct Expansion Ammonia Refrigeration
- US Patent No. 6,843,509 Couplers
- US Patent No. 7,597,137 Heat Exchanger Systems
- US Patent No. 8,783,057 Refrigeration Distributor

Top Image: A+S Evaporator – Public Refrigerated Warehouse  
Middle Image: A+L Penthouse – Public Refrigerated Warehouse  
Bottom Image: A+L Evaporator – Food Distribution Center



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# Low-Charge Ammonia Systems Create New Options for the Cold Chain

Over the past 20 years, environmental legislation has resulted in the phasing out of ozone depleting refrigerants such as R11, R12, R502, and more recently, R22.

Synthetic gases developed to replace these fluids are under growing environmental pressure, including phase down and taxation, because they are potential contributors to global warming, and are thousands of times more potent than carbon dioxide.

The phase out of ozone depleting refrigerants and increasing legislative pressure on the use of HFC refrigerants has resulted in greater interest in the use of ammonia for temperature controlled storage/distribution and food production worldwide.

Ammonia has several key benefits including zero global warming potential and good operating efficiency over a wide range of applications. Its price will also remain relatively stable as the main consumer is the agricultural industry for fertilizer.

Because of regulation, safety and energy issues, modern system designs are focusing attention on challenging traditional system designs, refrigerant charge and efficiency. System designs now reduce refrigerant charge to make ammonia more accessible to users of synthetic refrigerants and help existing ammonia users reduce their site inventory.

For those wanting to make the switch, they want to do so with no disruption and minimal cost. Low-charge ammonia systems provide an opportunity to avoid the regulatory requirements of traditional ammonia plant design and at the same time reduce health and safety risks associated with leakage and flammability.

## What is Low-Charge

Advances in evaporator technology have enabled dramatic reductions in refrigerant charges when compared to traditional pumped liquid recirculation systems.

Further reductions in charge are possible for cold storage applications by moving to smaller, air-cooled packaged solutions located close to the point of cooling. In total, these charge reductions, of more than 90 percent, are achieved through elimination of vessels and shorter pipework. Overall operating costs for these air-cooled packages is equal or better than that of evaporative solutions, when accounting for water and chemical usage as well as water-treatment system maintenance.

For chilled and food processing applications, improvements in com-

pressor and fan efficiencies allow modern ammonia chillers to surpass historical efficiency benchmarks. Additionally, variable speed reciprocating compressor technology can widen the performance gap even more compared to fixed speed screw compressor designs.

## Low-Charge at Work

Azane Inc, a Star Refrigeration company, specializes in the manufacture of low-charge, high-efficiency ammonia packages. Azane's range of cooling systems has been designed to provide a forward-looking solution for the environmentally conscious. All Azane products feature high-efficiency EC condenser fan technology and fully integrated PLC control to ensure maximum efficiency at all times.



The 168 TR Azanefreezer was installed by a major frozen food distribution chain, significantly reducing energy and costs.



The Azanefreezer is designed for use in freezer warehouses and is ideal for new build, expansion and retrofit projects. It offers a number of unique features including a patented low-pressure receiver system and a unique reverse-cycle defrost (RCD) arrangement.

The Azanechiller package is suitable for cooling both water and glycol, and these chillers are ideally suited to applications in food processing, temperature controlled storage, air conditioning in building services and process cooling. It is available in a range of capacities up to 300TR.

Recently, Azane's low-charge ammonia packages have been installed as part of a multi-million-dollar cooling project for a national frozen food chain. The new warehouse will provide regional coverage to a number of the firm's 300 retail stores.

When designing their new warehouse, the client required an efficient, long-term solution using a natural refrigerant. Azane's air-cooled packages were chosen for the project due to their low-ammonia charge and track record of efficiency and reliability.

Caleb Nelson, VP of Business Development, says, "The Azanechiller and Azanefreezer typically offer a 20 percent increase in performance compared with Freon packages. The packaged design and careful component selection also result in a very low refrigerant charge. This helps our customers save money by reducing energy consumption and avoiding costly PSM/RPM requirements."

In another case, a leading wholesale frozen food company has upgraded its existing refrigeration plant with the



The Azane team that is changing the future of refrigeration: (left to right) Mark Gage, Caleb Nelson and Alan Walkinshaw.

installation of a low-charge, air cooled Azanefreezer. The company supplies the food service industry with a comprehensive range of fresh, frozen, and grocery products.

The existing refrigeration system was in poor condition and was expensive to run – both in terms of energy cost and maintenance cost. A solution focusing on ammonia charge reduction was required – for improved safety, long-term functionality and value for money.

The perfect solution was an AF70 Azanefreezer plant, to be installed as a replacement for the existing 40-year old equipment. Topping the list of benefits is the Azanefreezer's capacity to reduce the freezer system ammonia charge from an estimated 5,000 pounds to just 360 pounds - a 93 percent reduction in charge.

Modular, air cooled, and inherently energy efficient, the new system will help to reduce running costs as well as combat greenhouse gas emissions. The high-performance system is both reliable and durable, which will ensure continued levels of excellent

customer service from this facility.

Reduced operating costs are set to slash overhead expenses, while the reduced ammonia charge also lessens the regulatory burden for the site engineering team.

The innovative modular design also allows for the easy and inexpensive relocation of the plant if necessary.

Integrated into the system is an exclusive reverse cycle defrost function – currently the only system to offer this – which defrosts more efficiently than traditional hot gas or the alternative of installing electric heaters in the cooler.

"This drastic reduction in charge, in addition to the zero global warming potential and the use of a non-ozone depleting substance, is the future of refrigeration," Nelson explains. "As a natural refrigerant system, our client has invested in a long-term solution that will be exempt from any future environmental legislation laws. With a 25-plus year life cycle and excellent seasonal efficiency, the system is a cost-effective choice that will ensure our client remains competitive for decades to come."

# Performance Redefined: Metl-Span Delivers High-Quality, Durable and Energy-Efficient Panel Solutions

Metl-Span serves the needs of the cold storage industry with its innovative wall, ceiling and roof panels for cooler, freezer and food processing buildings where temperature control and insulation values are critical.

Metl-Span insulated metal panels (IMPs) are manufactured according to exact specifications to assure uniform quality, product consistency, and optimized performance. The advanced foamed-in-place panels have a zero ozone-depleting (zero ODP) core encapsulated by two sheets of high quality Galvalume steel. And, with Metl-Span panels, there are more profile selections, surface finishes, colors and custom lengths to match all project specification needs.

These IMPs are produced by a dynamic industry innovator dedicated to manufacturing and providing the highest quality insulated building panel products.

Metl-Span has been helping architects and contractors accomplish their building design dreams since 1968 by pioneering the design, production, and sale of state-of-the-art insulated metal panels for cold storage and other industrial buildings. The company's commitment to excellence is what allows them to help architects and contractors create great building solutions and achieve proven performance.

The company ensures its customers will remain on-time and on-budget with their building projects through its unmatched customer service. Because Metl-Span employees understand their customers' needs and are committed to their success, they provide their customers with the

tools needed to incorporate insulated panels into virtually any building design.

---

Given today's emphasis on performance-driven building design and construction, Metl-Span's products offer the best solution to help optimize building efficiency for architects, contractors and owners.

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## Performance is in the Details

### **MATERIALS**

Metl-Span panels are comprised of an advanced urethane core that is injected between two pre-finished steel facings, forming a single, all-in-one unit. The result is the most thermally efficient panel available. Wall panels also have a specially formed barrier-side joint that permits the hidden application of vapor sealant within recessed grooves, creating an impenetrable water and vapor seal that is protected from the effects of extreme weather.

### **TIME**

Metl-Span panels offer a single source for the building envelope enclosure, reducing construction time and the number of trades needed for building assembly to save customers money and effort.

### **LABOR COSTS**

Insulated metal panels are designed for easy and efficient installation in order to reduce unnecessary downtime and keep customer projects on track.

Insulated metal panels reduce additional labor trades needed for building erection and address thermal, vapor, air, and moisture barriers in one product.

### **ENERGY EFFICIENCY**

As each insulated metal panel contains an advanced urethane core, the result is highly efficient insulation that drives down building energy usage and overall costs.

### **GLOBAL FOOTPRINT**

Metl-Span strives to offer production dates determined by customer needs, not manufacturer convenience. With manufacturing locations across the United States and Canada, Metl-Span offers faster service to its customers and reduced transportation costs.

### **FM APPROVAL**

Metl-Span products carry a standard FM Approval Class 1 certification. The FM Approval certification mark verifies products and services will meet stated conditions of performance, safety and quality useful to the ends of property conservation. Approval criteria for Class 1 are observation of test sample production, performance requirements, marking requirements, examination of manufacturing facilities, audit of quality assurance procedures and a follow-up program.

This FM Approval Class 1 rating ensures you get a quality product that consistently performs to the standards specified.





The third-largest Whole Foods store in the world, located in Lincoln park, IL, was made possible by integrating Metl-Span insulated metal panels with other metal building projects.

Twin Rinks Ice Center at Eisenhower park in Long Island, NY achieved the desired state of the art durability, functionality and aesthetics with Metl-Span insulated metal panels.



ifying for credits within the (LEED) Green Building Rating System.

#### **INTERIOR COATINGS & SURFACES**

To ensure a lasting, quality appearance, the interior face is treated with USDA-compliant Igloo White. For more aggressive environments, a USDA-compliant PVC Plastisol is offered. No warranty is offered for painted interior surfaces of the panel. For food processing areas, a USDA-compliant stainless steel panel is available as well.

#### **EXTERIOR COATINGS & SURFACES**

The exterior face is coated with a siliconized polyester paint finish in three standard colors. A premium PVDF fluoropolymer finish is available for projects where there are aesthetic considerations for the building exterior. All exterior finishes come with a superior minimum 20-year warranty for coating adhesion, chalking and fade resistance.

#### **TRIM**

Flashing and trim are available in brake-formed sheet metal in the same thickness and finish to match the panels.

Are Metl-Span's insulated building panel products the perfect solution?

Today nothing comes closer. And with unmatched industry experience, Metl-Span stands committed to unparalleled performance not only in the products it offers, but also the reliability and responsiveness of the service and design support it provides.

#### **ENVIRONMENTALLY CONNECTED**

Given today's emphasis on performance driven building design and construction, Metl-Span's products offer the best solution to help optimize building efficiency for architects, contractors and owners.

Metl-Span, an NCI Building Systems company, leads the industry in the development of energy-efficient and cost-effective insulated metal panel systems, through UL-certified and ISO-compliant products. Dedicated to a cleaner, safer environment from day one, Metl-Span offers an Environmental Product Declaration (EPD) that provides a detailed analysis of its products' environmental manufacturing footprint based on an ISO-compliant Life Cycle Assessment (LCA).

Metl-Span's LCA measures the impact of its products on the environment during all phases of life, from supply chain through the manufacturing process to product use and end of life. ISO LCA standards are applied to accurately report the products' impact on the environment.

As Metl-Span panels are sustainably constructed, many buildings incorporating the panels will qualify for credits in the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Green Building Rating System.

And, Metl-Span® provides LEED® support material to help architects, specifiers, and design professionals identify the sustainability benefits, attributes and performance criteria of insulated metal panels relative to qual-

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Did you know that Carnot Refrigeration is providing CO<sub>2</sub> solutions to the industrial cold storage industry? A recent 366 ton CO<sub>2</sub> transcritical solution for cranberry preservation has captured attention. The client outlined the below four objectives:

1. To design without ammonia, as an ammonia leak turns the cranberries black, which makes them unusable.
2. To minimize the quantity of parts and complexity of the refrigeration system.
3. To optimize heat recovery methods to greatly reduce auxiliary heating.
4. To only use off-the-shelf parts for ease of serviceability.

The design is simple, as only off-the-shelf parts are used. No water is required for the transcritical design, so evaporative condensing is not necessary. CO<sub>2</sub> does not negatively impact the food product or pose great health risks to employees and technicians. A safe and reliable design that is easily understood guarantees ease of use for the customer and service

technicians. CO<sub>2</sub> is an ideal gas for heat recovery, which offsets auxiliary heating requirements. The Carnot design philosophy is to successfully integrate heat recovery strategies into the building design to maximize the use of the refrigeration heat and energy savings. This complete solution is providing year-after-year financial savings up to 30 percent.

The fact is that Carnot CO<sub>2</sub> solutions, whether CO<sub>2</sub> transcritical or NH<sub>3</sub>/CO<sub>2</sub> cascade design, are quickly gaining industrial cold storage market awareness. Banana ripening rooms, distribution centers, food freezing and preservation, and plant growing rooms are all ideal applications for a Carnot CO<sub>2</sub> solution.

The facts:

- CO<sub>2</sub> replaces industrial ammonia system designs.
- CO<sub>2</sub> reduces building insurance costs when compared to ammonia.
- CO<sub>2</sub> does not harm food or plant products.
- CO<sub>2</sub> is not a contaminating refrigerant for employee work areas.

- CO<sub>2</sub> does not require any special permits for start-up.
- CO<sub>2</sub> has excellent heat capacity for warehouse heat recovery strategies.
- CO<sub>2</sub> transcritical design does not require evaporative condensers.
- CO<sub>2</sub> transcritical design has less parts and complexity when compared to ammonia design.

Check out our video for more information: [www.carnotrefrigeration.com/en/medias/video](http://www.carnotrefrigeration.com/en/medias/video).



Top Image: Industrial CO<sub>2</sub> transcritical

Bottom Image: Industrial NH<sub>3</sub>/CO<sub>2</sub> cascade



Industrial CO<sub>2</sub> transcritical



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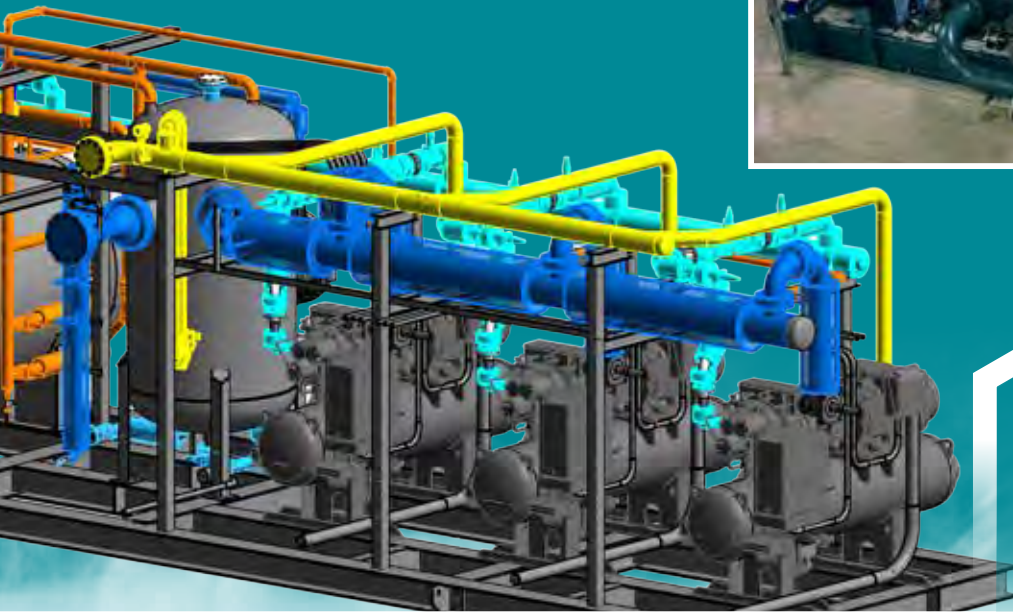
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Ward/Kraft's Cold Grip® Export Labels solve this issue. These labels have been constructed to withstand even the harshest conditions. Cold Grip® labels utilize a durable film that has been extensively tested against more than 20 different adhesives to ensure they are effective and will stick in any environment with fluctuating temperatures.

With the use of our labels, you can eliminate the use of paper labels and

stamps, where condensation will cause the ink to run and blur. Even when applied to wet, dry and fully frosted surfaces, Cold Grip® labels outperformed every other label in the industry.

In temperatures from -40° up to 325° Fahrenheit, Cold Grip® labels stick every time. There are well over 200 facilities that are IARW members that are currently using Cold Grip® Export Labels in their cold storage facilities.

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# COMPANY RESOURCE GUIDE

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This Guide includes companies that participated in the Showcase and/or are exhibiting at the 36th IACSC Conference & Expo. Companies that purchased exhibit booths at the 36th IACSC Conference & Expo by August 19, 2016 when this publication went to press are noted with an \* next to their name.

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HCR pioneered the air door market 37 years ago and now has over 4000 worldwide installations. Until recently there was no authoritative, independent third-party test lab data that documented the efficiency of the unique HCR air door. A three-month evaluation was recently completed, and those results are now available to the marketplace.

Creative Thermal Solutions (CTS) is a leading test lab for products in the HVAC and refrigeration industries. They test products that claim to offer increased energy efficiency, reduced energy consumption, and environmental sustainability. CTS labs recently conducted an extensive thermal performance analysis on HCR air doors. **The results verified that the HCR Model AC (Single Air Door) is 80% energy efficient\* when stopping air infiltration and energy transfer between rooms with different temperatures.**

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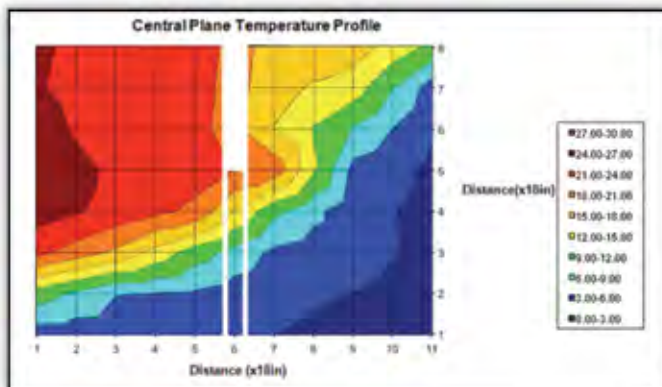
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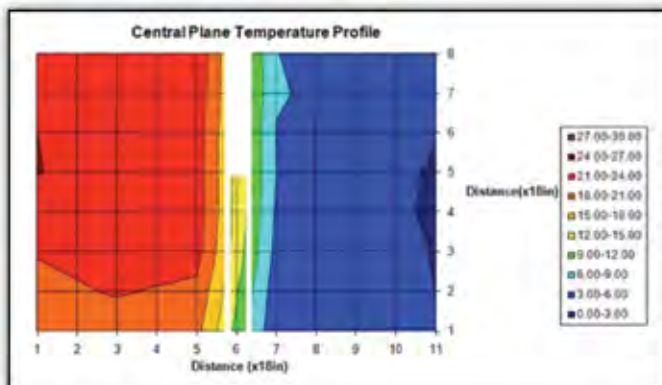
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Temp profile: air door off

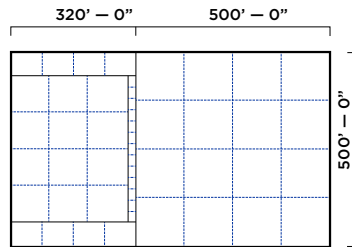


Temp profile: air door on

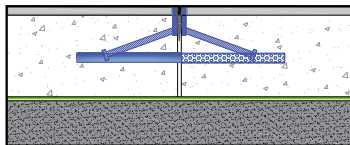


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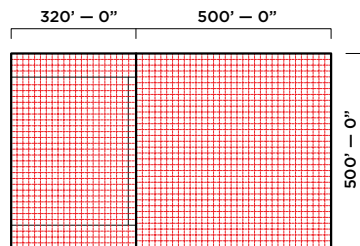
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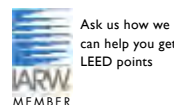
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# FRESH GLOBAL TRENDS

*Growing demand for fresh produce is impacting supply chains.*

By Alexandra Walsh

The global demographic profile is shifting, driving change across the food industry in terms of the way consumers are shopping, the products they're purchasing, and the way in which they are eating, says Jim Lemke. As president of Robinson Fresh, Lemke has global oversight of the company's fresh produce and temperature controlled supply chain activities.

## Young Driving Fresh

"Millennials and Generation Z are asking for more fresh products, driving different global trends, and this leads to new challenges for our industry and opportunities for us all," notes Lemke. "They are talking about fresh, tweeting about fresh, and taking pictures of their every meal. They are using Instagram and Snapchat to connect their friends to their choices and show them how they ate some fresh, exotic berry from South America."

Lemke notes that this youthful demographic has driven a 20 percent growth in fresh categories over the last decade.

"It's important for retailers, foodservice,

and wholesalers to address changing tastes and behaviors in order to stay relevant in an increasingly competitive environment," says Lemke. "These quick trends can sometimes upset inventories overnight."

Another issue impacting global fresh supply chains is the growth of an emerging middle class, with more disposable income, that demands bigger, higher quality items. Lemke says this is evident in increased interest in well-known brands from North America that people can recognize, like Green Giant and Welch's, and certain items like large grapes and avocados.

Lemke says the other side of this coin is the

distribution supply chain has to grow alongside the growth in volume.

"In North America, we can take any order and deliver it anywhere because of our intensive logistics networks. In Asia, logistics are less mature and managing the supply chain is a constant process as we rely on distribution partners and look for new facilities from which to ship."

## Demand in China

In China, there are 1.4 billion people, and as the Chinese middle class continues to grow in size and disposable income, more consumers can afford to add additional fresh items to their daily diets. China is already the largest international market for U.S. food and agricultural products, accounting for 20 percent of all U.S. farm exports. The resulting demand for fresh is creating new opportunities for suppliers and reshaping global consumption.

Lemke is also seeing increased interest in e-commerce in Asia, and he says it represents some of the company's fastest growing business areas.

"There is minimal delivery to the consumer,

it's mostly online ordering and then the consumer picks up the products. We are still trying to figure it out as our biggest concern is shelf life and maintaining the cold chain," Lemke adds.

### Europe Likes Them Sweet

While normal flows of produce that occur because of season shifts are ongoing and pretty consistent still, Lemke says he is seeing an emerging west to east movement.

"While fashion trends typically flow from Europe to the United States, from a fresh fruits and vegetables perspective, the trends quite often flow in the other direction," asserts Lemke.

As an example, Lemke says over a decade ago, the United States started leaning on sweet potatoes as a dominant commodity in restaurants because of their healthy attributes. In Europe, sweet potatoes have had massive growth rates over just the last three years, primarily driven by younger consumers.

Initially, Europe looked to the northern tip of Africa for sweet potatoes, but because of product quality and increased consumption,



They are using Instagram and Snapchat to connect their friends to their choices and show them how they ate some fresh, exotic berry from South America."

—JIM LEMKE, *President, Robinson Fresh*

now areas of Europe are importing sweet potatoes from the East Coast of the United States. "This has created an increased need for more storage facilities in ports on the U.S. East Coast for exports to Europe – a great example of fresh trends driving supply chain needs," Lemke points out.

In addition, Lemke notes that items like melons, avocado and limes, which used to be exported to Europe from South America, are now coming increasingly from Mexico and Central America. "When we speak to European buyers, they think logistics are too difficult to manage in those regions. But, we explain that logistics are very easy for us in

those areas and we can offer product from dependable growers that we use for our mature North American business so – why not try?"

### Global Supplements Local

The local sourcing demands for produce are very seasonal, with harvest schedules ranging from one week to a few months depending on the size of the grower, which in turn forces the supply chain to move around a lot. This, says Lemke, drives additional needs for cold storage capacity in numerous rural cities around the United States and Canada.



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“The modern day supply chain has multiple channels of distribution, and in reality, when buyers can’t purchase local and organic products year round, they look to those who can offer them a consistent supply from all parts of the world as necessary,” acknowledges Lemke. “Therefore, even our local supply chains are represented and supported by regional and global supply chains in order to fulfill this demand created by the consumer.”

The demographic shifts around the world that are leading to changes in consumer demand for year-round fresh product and a global shift in supply chains is an opportunity to adopt a flexible mindset.

Lemke has a message for GCCA’s cold storage companies. “Our constant focus is trying to extend the shelf life of fresh products, and the quicker we can cool down most produce from the fields, the longer the shelf life. So, if you have cold storage capacity in rural areas, particularly in farming communities, give us a call, and we’ll see if we can match up your capacity with some of our growers.”

The demographic shifts around the world that are leading to changes in consumer demand for year-round fresh product and a global shift in supply chains is an opportunity to adopt a flexible mindset, says Lemke.

“We have to ensure we are not sitting back and resting on the predictability and consistency of our business’ past. The produce industry been around forever, but is constantly evolving, along with the distribution infrastructure, consumer demand, and consumer confidence in fresh.”

**ALEXANDRA WALSH** is Vice President of Association Vision and Managing Editor of COLD FACTS.

**EMAIL:** [awalsh@associationvision.com](mailto:awalsh@associationvision.com)



*The quicker produce harvested in the field can be cooled in a storage facility, the longer the shelf life of the product.*

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# DEVELOPING TALENTS STRATEGICALLY ENSURES COMPANY SUCCESS

*Hire right and identify potential leaders before they are needed to fill positions.*

By Sheryl S. Jackson

Talent management" is more than a buzzword in the human resources (HR) environment. It is a strategy to create a high-performing, sustainable organization that meets business goals today and into the future.

"Talent management aligns all human resource functions with the overall goals of the business, which creates a focused, strategic approach to identifying, hiring, promoting and training employees," explains Jeremy Lurey, Ph.D., President and Chief Executive Officer of Plus Delta Consulting. While it is a critical function to ensure an organization's sustainability, talent management is not just a department or a division within a company – it is a cultural philosophy that results in hiring the right people, identifying and developing future company leaders, and retaining key employees.

Succession planning is often the reason Lurey is brought into a company, and talent management is a natural part of the discussion. Although talent management focuses on developing talent and leaders from within the organization, it is different from many companies' practice to promote from within.

Talent management is a strategic effort to identify promising leaders who can rise through the ranks with the proper support, training and mentoring, versus promoting

someone based only on years of service or technical skill, Lurey points out. "It is a proactive approach compared to the more traditional approach of getting someone in the open position as quickly as possible."

Two years ago, Americold Logistics, began to implement a talent development program that relies on a strategic partnership among HR and talent development staff along with senior leadership. "The logistics industry has a more mature workforce than others with an average age of 55 years old," points out Kathryn Mullen, Senior Director of Talent Management at Americold. "They have significant experience and essential skills, and are ideal mentors for newer associates entering the industry."

A performance review process that requires managers to meet with associates several times each year to discuss career and job objectives, conduct a mid-year assessment and perform an end-of-year evaluation, enables Americold associates to receive ongoing feedback on performance throughout the year rather than solely at a traditional once-a-year review. Not

only does this help managers and associates identify training needs or other support early, but it also gives managers an opportunity to get to know employees' strengths and identify those who can assume more responsibility.

Americold uses a 9-Block Performance Matrix to identify potential leaders and create opportunities to support their development. "The process begins at the facility level, and then assessments move to district and region levels," explains Mullen. Using assessments based on actual behavior and performance, Americold leaders use the matrix to differen-



*Developing talent in your organization is critical.*



tiate between highly-skilled associates who have the potential to grow into greater roles and highly-skilled associates who are working at the level at which they are most valuable. Once an associate is identified, he or she will be offered opportunities for training, more responsibility, supervisory roles or special projects to develop their potential.

“We are early in the Americold Leadership Development Program, which is designed for recent graduates who are just starting their careers,” Mullen says. “The four ALDP members in each class will rotate through different departments and divisions over a two-year period to gain experience in all areas of warehouse management.” Following the program, ALDP participants will be qualified to serve as general managers of a small site, or operations manager at a larger site, she adds. “We have Regional Vice Presidents who have been promoted all the way from entry-level warehouse roles into senior management positions with Americold.”

In addition to formal goal-setting, performance assessment, and leadership potential assessment, there are other components to talent management that contribute to a cold storage company’s ability to attract, retain and grow future leaders, says Lurey.

- **Collaborate on hiring decisions**

“When HR hires employees or warehouse managers hire employees in a vacuum, the results are less successful than when HR and managers work together,” Lurey says. “HR knows how to find the best people but doesn’t know the warehouse environment as well as the manager. However, the manager is almost always short staffed and is focused on filling positions quickly, which doesn’t always result in finding the best person.” A blended approach to the hiring process results in a good fit for the manager and the associate, which increases the probability of a long-time, high-performing employee.

- **Offer leadership development and group coaching**

“Group workshops to discuss leadership challenges, one-on-one coaching and a well-defined learning curriculum based on an individual’s specific needs is critical to growing leaders,” Lurey says. Small companies can look to industry and professional associations for conferences, webinars and other training opportunities.

## INTERNSHIP PROGRAM GROWS TALENT FOR ENTIRE INDUSTRY

While it is important to identify and develop top talent within a cold storage and logistics company, Kevin Margeson, President of Commercial Warehousing, Inc. also believes it is important to give students who have not yet entered the industry an opportunity to discover career options in the global cold chain.

“We offer two summer internships each year to give students a chance to develop real world experience,” says Margeson. The company benefits also, he points out. “These are very bright young people who are technically savvy and very good with analytics. They fill some gaps in knowledge and skills that we have and provide a perspective that brings value to our operations.”

Feedback from students ranges from a comprehensive project report developed for a class and shared with the company to notes from former interns who say they adjusted their course selections based on what they learned in their internship to better prepare them for the career options they discovered, says Charles Thompson, Vice President of Operations. “The report produced by the students included a very detailed time study and recommendations – some of which we’ve implemented.”

Each year, managers throughout the company submit a request if they have a project or tasks for which they can use an intern during the summer. If an intern is only needed for a portion of the summer, then the intern may work in two or more areas throughout the internship, says Margeson. “Each intern position has a job description that clearly defines the work to be done,” he says. This clarity is needed so the schools know what students will learn and so that students know what is expected.

Margeson adds, “Internship programs are a good way to support local universities and schools, and to give students an opportunity to understand the range of career opportunities in our industry.”

“Allowing employees to work with other departments is a cost-free way to allow them to spread their wings and learn about other parts of the company,” Lurey suggests. This cross-functional work can be project-based or can be a temporary assignment, whichever works for the company and employee.

Implementing a talent management approach requires a business leader who thinks strategically, Lurey says. “In smaller companies that do not have a formal HR position, it takes a very strategic owner or senior leader to head up the process.”

The value of a formal program to identify talent is the ability to build a pipeline of future leaders who are ready to assume supervisory, managerial or senior leadership roles, notes Lurey. Proactive identification of associates who can move up ensures a smooth transition and no loss of institutional knowledge, he adds.

Just because a cold storage company may be small, doesn’t preclude it from implementing a talent management program, Lurey says. “Start small and pick one thing to address. A pilot project that puts HR and warehouse supervisors working together to hire the right person or improving the onboarding of new employees by standardizing orientation and training, can be good first steps,” he says.

“No matter what size the company is, there is nothing more unfortunate than five or 20 years down the road, an employee leaves unexpectedly due to illness or early retirement, and there is no one with the knowledge, training and ability ready to step into the position,” Lurey points out. ☎

**SHERYL S. JACKSON** is a freelance writer based in Alpharetta, Georgia, who specializes in industry issues and trends.

**EMAIL:** [sherylsjackson@bellsouth.net](mailto:sherylsjackson@bellsouth.net)



# LOOKING BACK TO SEE AHEAD

*Lessons learned from cargo claims.*

By Craig J. Helmreich

**U**nder the United States' Carmack Amendment, currently codified at 49 U.S.C. §14706, a motor carrier is liable for the change in condition to the goods it transports in interstate commerce.

To establish a claim, the claimant need only prove the shipment was tendered to the carrier in good condition, was delivered in different condition, and the damages involved. The motor carrier can use certain specific defenses (act of God, inherent vice) to attempt to avoid liability. However, these defenses only carry the day if they are the sole cause of the loss.

## **Carrier Liability**

If carrier liability is this easy to prove, why is there so much cargo claim litigation?

Significant case law has developed over the years allowing a motor carrier to limit its liability if certain preconditions are met. Typically, courts require the carrier to maintain a tariff or rules document and make it available to the shipper upon request, or on its website.

The carrier is also required to offer a choice between levels of carrier liability (i.e. a higher level of carrier liability in exchange for a higher transportation charge). The carrier must secure the shipper's selection of the level of carrier liability it prefers. Finally, the carrier must issue a bill of lading before the shipment moves.

In *Pileco v. Dallas Mavis* (a case presented in the U.S. legal system) the shipper prepared the bill of lading on a form with fine print at the top, which incorporated the terms and conditions of the motor carrier's tariff. The court found no need to protect the shipper from itself. Despite the fact that the shipper had never read the carrier's tariff or the limitation set forth therein, the court held the shipper to the limitation of liability set forth in the

carrier's tariff and limited the motor carrier's liability to \$100,000 on a claim of approximately \$1,000,000.

However, other U.S. courts are not as willing to limit a motor carrier's liability based on constructive notice (i.e. without evidence the shipper knew of the limitation in the carrier's tariff). Several cases in the U.S. Federal District Courts within the Seventh Circuit (Illinois, Indiana, and Wisconsin) have required actual knowledge of a motor carrier's limitation of liability and have found constructive notice insufficient, no matter who prepared the bill of lading or provided the form. This illustrates the importance of understanding the differences between cargo claim decisions in the various courts, as filing in one jurisdiction may result in a decision adverse to your interests, whereas another jurisdiction may have been more favorable.

When faced with a limitation of carrier liability that could result in the shipper's recovery being limited significantly, as was the case in *Pileco*, the shipper or its subrogated shipper's interest insurer occasionally attempts



to make a creative argument that the motor carrier's limitation of liability is not enforceable. One such argument is the concept of material deviation.

### Material Deviation

Material deviation is a legal theory borrowed from maritime law that allows a shipper to argue that the carrier deviated from the transportation instructions so significantly that the carrier should not be able to enforce its limitation of carrier liability.

Material deviation has not been applied in surface transportation cases outside the courts within the Federal Second Circuit — primarily those in New York. However, shippers, or their subrogated insurers, continue to assert the argument. In most of the cases, a contract required specific security provisions (a team of drivers, the vehicle to be attended at all times, restrictions on where the vehicle could be parked, etc.). The shippers typically argue that the motor carrier did not comply with the security requirements set forth in the contract and, as such, should not be able to rely on the contract's limitation of liability.

If material deviation has not been successful often, why is it worth considering?

Although material deviation has fallen out of favor with the courts and is not typically used to undo a motor carrier's limitation of liability, recent changes to the law may lead to a resurgence of material deviation arguments.

### Sanitary Transport

The FDA's new rule regarding the Sanitary Transportation of Human and Animal Food requires shippers to take steps to make sure the food covered by the rule is transported safely. Thus, shippers are expected to, by contract and otherwise, require brokers and carriers take specific actions to protect food during transportation.

Like the security requirements in the material deviation cases, it is likely that motor carriers who do not follow the protection requirements will be faced with a material deviation-like claim from the shipper — arguing that the carrier's otherwise enforceable limitation of liability is not enforceable.

As a result, the FDA Rule is causing a flurry of redrafting of bills of lading, rate confirmation sheets, brokerage terms and conditions, motor carrier tariffs, and transportation contracts to assign the responsibilities required under the rule.

To the extent your company is involved in shipping, transporting, or receiving food for human or animal consumption within the United States, it is imperative that you review your various documents to ensure they take into account the requirements of the new rule.

Likewise, you should understand what provisions your trade partners are likely to seek in their contracts and other documents. ☞

**CRAIG J. HELMREICH** is a Partner at Scopelitis, Garvin, Light, Hanson & Feary in Indianapolis, Indiana. The International Refrigerated Transportation Association (IRTA), a core partner of the Global Cold Chain Alliance, has established a special relationship with Scopelitis Garvin Light Hanson & Feary (Scopelitis), a law firm specializing in transportation legal issues.

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# MEMBER NEWS

## NEWS FROM MEMBERS OF GCCA CORE PARTNERS

**AGRI-NORCOLD** acquired Bring Frigos cold storage activities in Denmark. This makes Agri-Norcold the largest company in the frozen food industry in Denmark.



**AZANE** refrigeration engineer and VP of Business Development, Caleb Nelson, will present at the ATMOSphere America conference to discuss the importance of safe, efficient, and reliable low-charge ammonia systems, and examine the benefits of the air cooled range of Azane products.



**GREEN SPAN PROFILES** added 20,000 square feet of manufacturing space at its Waller, Texas, headquarters using its own insulated metal wall and roofing panels.



The Green Span Profiles headquarters featuring its own metal walls and roofing panels.



**HASAK COLD STORAGE** promoted Ireneo Reyes to Operations Manager of its facility. He joined the company in October 1994 as a day laborer, earned certification as a forklift operator, and was acting Union Steward for four years.

He also served as a Shift Supervisor and was an acting Plant Manager until his promotion.



**KINGSPAN HERCULES** and **ASSA ABLOY ENTRANCE SYSTEMS** formed a strategic partnership to create a complete product offering of high performance cold storage and controlled environment doors. The companies will combine the HERCULES brand of cold storage doors and the Albany Rapid Roll high-performance door product line to create an expanded product range, sales and distribution channel to serve the controlled environment and cold storage market.



**PREFERRED FREEZER SERVICES** is building a new facility in Pasadena, Texas. The new warehouse, to be named Houston Gulf Coast, is the company's fourth in the Houston area and its 37th in the United States. The completed freezer will be 9.6 million cubic feet and have multi-temperature capability as well as blast freezing capabilities. It is set to open March 2017.



**RSA LOGISTICS** broke ground on the new facility for its latest venture, RSA Cold Chain, in June 2016, in the presence of a delegation headed by Ahmed Al Ansari, Acting CEO of Dubai World Central Corporation, also known as "Dubai South."



**VAPOR ARMOUR INC.** launched a "Saved Energy" financing product, the Vapor Armour Incentive Program, where facility owners have the ability to finance – on or off the balance sheet – recognized energy saving capital expenditures. The company's products (Vapor Armour™, Vapor Shield™, and Vapor Lock™) are designed to eliminate ice and condensation in thermal controlled buildings, and have been verified by third parties as an energy saving application. Accordingly, these products and their application qualify for up to 100 percent financing through national saved-energy lenders.



**VIKING COLD SOLUTIONS** completed another energy efficiency installation, helping the San Diego Food Bank – the largest hunger relief organization in San Diego County – reduce costs and feed over 100,000 meals to hungry San Diegans. The Jacobs & Cushman San Diego Food Bank has installed Viking Cold's patented Solar Thermal Energy Storage System that leverages rooftop photovoltaic systems during the day and thermal energy storage at night. When PV generation is unavailable, the system reduces electricity consumption by 95 percent, delivering green, cost-effective, around-the-clock energy management. The system is among 24 built and installed by Viking Cold Solutions in cold storage warehouses and grocery stores in Bermuda, Puerto Rico, St. Thomas, California, New Mexico, and Texas. ☺

# SAC SOLUTIONS

## SCIENTIFIC ANSWERS TO COLD CHAIN CHALLENGES

This column highlights a cold chain question and answer submitted through the GCCA Inquiry Service to the team of experts on the WFLO Scientific Advisory Council (SAC).

**Q:** Can we store shelled peanuts and whole onions in the same room with no cross-contamination effect? The peanuts are shelled in 2,200-pound tote bags. The onions are boxed and shipped on pallets.

**A:** There is a possible flavor and odor issue in storing peanuts and onions in the same room. The important real issue is flavor and odor of the onions. The warehouse should consider the required duration of storage, and therefore the proper storage conditions they need to maintain. The ideal storage condition should be set for the most sensitive product, which in this case is the onions. Onions need to be maintained at low temperature (0C, 32F) and low (65-70 percent) relative humidity.

Answer provided by Dr. Elhadi Yahia from the United Nations Food and Agriculture Organization. Dr. Yahia's expertise is in postharvest technology of perishable foods. Dr. Michael Jahncke, Chairman of the WFLO Scientific Advisory Council from Virginia Seafood Agricultural Research & Extension Center, also contributed to this answer. ☺



# ASSOCIATION NEWS

NEWS ABOUT GCCA CORE PARTNERS

**GCCA** will host a European Warehouse Council meeting 16-17 October, 2016, in conjunction with the SIAL show in Paris. The GCCA European Warehouse Council is a bi-annual meeting where European warehouse members can discuss trends in their country with their European peers, learn from each other on latest developments and exchange views on the future of the industry.



**IARW** released its annual Global Top 25 List of the largest temperature-controlled warehousing and logistics providers in the world. Accompanying the Global Top 25 is the IARW North American Top 25 List. IARW has also compiled a list of the largest operators in Latin America and the Caribbean and Europe, reflecting the strength of the cold chain in both regions. The lists are determined by total capacity of temperature-controlled space. All lists are available on the GCCA website.




The third annual **WFLO** Institute Latin America concluded with the first-ever Latin America graduating class for students who completed this three-year training program for temperature-controlled warehouse operators. Over 30 students took part in this year's program, which is hosted annually. This event took place 11-13 July, 2016 in Panama City, Panama. Graduating students included: Salvador Figueroa, Almatrans, Dominican Republic; Elvis Quezada, Almatrans, Dominican Republic; Juan Carlos Hencker, Refrisistemas, Costa Rica; Raul Hernandez, Precisa Frozen Ltda., Chile.



The 36th **IACSC** Annual Conference & Expo will be held November 10-12, 2016 at the Marriott Harbour Beach Resort in Fort Lauderdale, Florida. This event is the only one in the world dedicated to cold storage construction, design,

and maintenance. Attracting over 200 warehouse operators, contractors, and suppliers, the event features opportunities to discuss and learn about the latest trends, regulations, and technologies impacting cold storage construction, along with a world-class Expo.



The **IRTA** Refrigerated Transportation Best Practices Task Force released three new resources to help the cold chain industry comply with the Sanitary Transportation of Food Regulation. The *Refrigerated Transportation Best Practices Guide*, *Refrigerated Transportation Summary and User Guide*, and the *Sanitary Transportation of Food Compliance Matrix* are available to members and nonmembers on the GCCA website at [www.gcca.org](http://www.gcca.org). 



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**Polartika, S.A.**  
Palín, Escuintla, Guatemala



## IARW ASSOCIATE MEMBERS

**CBRE, Inc.**  
Los Angeles, California, United States

**Lee & Associates**  
Rosemont, Illinois, United States



## WFLO MEMBER

**ABA Business Solutions Corporation**  
Ho Chi Minh City, Vietnam



## IRTA MEMBER

**Denney Transport, Ltd.**  
Commerce City, Colorado, United States



## IACSC ASSOCIATE MEMBERS

**Custom Cooler, Inc.**  
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**Cornerstone Specialty Wood Products, LLC (Manufacturer of ResinDek)**  
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# 2016-2017 CALENDAR

SEPTEMBER 14-16, 2016

**IARW North Atlantic Chapter Meeting**  
Québec City, Québec, Canada

SEPTEMBER 18-20, 2016

**IARW Southeastern Chapter Meeting**  
New Orleans, Louisiana, United States

SEPTEMBER 21-23, 2016

**IARW Pacific Chapter – Fall Meeting**  
Sunriver, Oregon, United States

SEPTEMBER 22-23, 2016

**IARW Southwestern Chapter Meeting**  
San Antonio, Texas, United States

SEPTEMBER 26-27, 2016

**IARW Heartland Chapter Meeting**  
Chicago, Illinois, United States

OCTOBER 8-11, 2016

**GCCA Cold Chain Pavilion  
International Baking Industry  
Exposition (IBIE)**  
Las Vegas, Nevada, United States

OCTOBER 11-12, 2016

**Cargo Logistics America Expo  
& Conference**  
Long Beach, California, United States

OCTOBER 16-17, 2016

**GCCA European Warehouse Council  
Meeting**  
Paris, France

NOVEMBER 10-12, 2016

**36th IACSC Conference & Expo**  
Ft. Lauderdale, Florida, United States

DECEMBER 16-17, 2016

**2016 Indian Cold Chain Expo (ICE)**  
Indore, Madhya Pradesh, India

FEBRUARY 19-22, 2017

**53rd WFLO Institute – East**  
Atlanta, Georgia, United States

MARCH 19-22, 2017

**53rd WFLO Institute – West**  
Los Angeles, California, United States

APRIL 23-25, 2017

**126th IARW-WFLO Convention**  
Dana Point, California, United States

\*For more details go to [www.gcca.org/events](http://www.gcca.org/events)



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# COOL PEOPLE

PROFILING INFLUENTIAL PEOPLE CONNECTED TO THE COLD CHAIN INDUSTRY



## MELISSA HUNT

Director

S&D Cold Logistics Pty Ltd  
New South Wales, Australia

Melissa Hunt is the 2016 recipient of the GCCA's Global NextGen Award. Finalists for the NextGen Award are recipients of industry awards that recognize exceptional achievement by young professionals in the cold chain in a specific region or country. Hunt represented Australia as the recipient of the Refrigerated Warehouse and Transportation Association of Australia's (RWTA) 2015 Frank Vale Award.

### **CF:** (COLD FACTS) What attracted you to the cold storage industry?

**MH:** I was not attracted to the industry as much as I was born into it. My father worked within the logistics industry, and some of my fondest childhood memories are when he would take me with him on business trips to visit large cold storage facilities. I fell in love with the action and excitement of the production within the warehouses and after graduating from university and working in a variety of professional roles for seven years, it was wonderful to come home in 2006 and join our relatively new growing family business.

### **CF:** What do you like best about your job?

**MH:** I love what I do and I have a real passion for temperature controlled warehousing



In 10 years, I aim to see substantial growth in our family business with a diversification in the type of projects we undertake in our warehouses."

and distribution. I am very proud of the responsibility and role that we play in providing the population of Australia and the world with food security for their families.

The benefits of working in a growing family business are the variety of the tasks I have to perform in a single day. I have been involved across the full spectrum of activities that our business undertakes for the past eight years, and I have in-depth knowledge of every facet of the business. The challenges, the control I have to influence positive win-win outcomes, and the variety in my days is what I like most about my job.

### **CF:** Tell us something about the Australian cold chain that your non-Australian colleagues might not know?

**MH:** The Australian market is changing. We have a lot of our manufacturing moving overseas, we have a growing population, and a new free trade agreement with China. This is pushing demand for our industry and is also changing the nature of our business models.

### **CF:** This isn't the first industry award you've received but what did winning the GCCA's Global NextGen Award mean to you?

**MH:** Winning at the national conference in Australia in 2015, and then again in Las Vegas at the Global Cold Chain Alliance conference in 2016, was an absolute dream come true. I put in an enormous amount of effort and time preparing for these two contests, leaving no stone unturned. With such a demanding life balancing family and business, most of the preparation was done in the very early hours of the morning and late at night once my paid job was done and

while my three beautiful babies slept.

I knew, win or not, as long as at the end of the competitions I had done my absolute best, that is all I could ask of myself and that is the role model I wanted to be for my children. After working to accomplish this goal of winning these awards for so long, I have been filled with a sense of happiness but also now I need to live up to the expectations of being bestowed such an honour. I won't lie to you, being the first Australian, and the first woman, to win the NextGen Award is pretty awesome and something I am proud of.

### **CF:** What would you like to be doing professionally in 10 years?

**MH:** With the new reporting requirements and customer expectations, we have found our industry is shifting towards technical systems and robotics running our warehouses. I need to continue to learn about this aspect of our business and the innovations that our industry is experiencing to ensure that our family business is at the forefront of change and not affected by it.

In 10 years, I aim to see substantial growth in our family business with a diversification in the type of projects we undertake in our warehouses. My vision is to have a blend of general pallet storage warehousing complemented by repacking projects and robotic manufacturing all under the roof of our own cold stores – and all of this managed with the highest standards of good practice and cost efficiencies.

I think it is easy to do well when what you do gives you so much joy and happiness, particularly in my case, when I get to share the daily experiences with my family that I love. ☺



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Creative Thermal Solutions (CTS) is a leading test lab for products in the HVAC and refrigeration industries. They test products that claim to offer increased energy efficiency, reduced energy consumption, and environmental sustainability. CTS labs recently conducted an extensive thermal performance analysis on HCR air doors. **The results verified that the HCR Model AC (Single Air Door) is 80% energy efficient\* when stopping air infiltration and energy transfer between rooms with different temperatures.**

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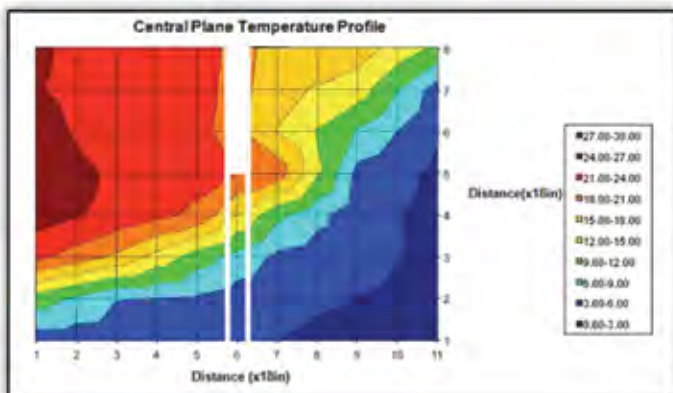
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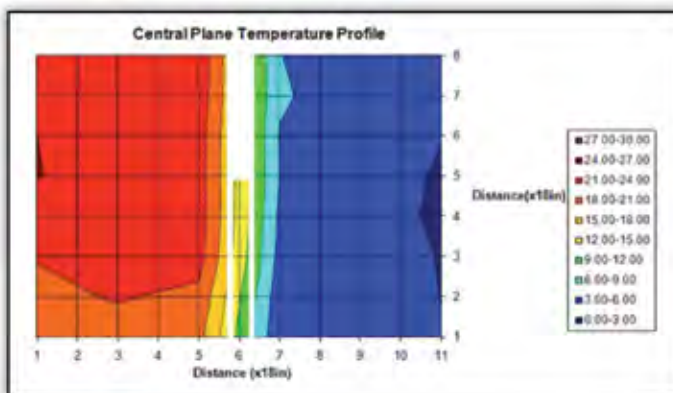
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\*For details and the lab performance report visit [www.hcrairdoors.com](http://www.hcrairdoors.com), contact your Jamison or HCR representative, or call 800-326-7700. Request the White Paper on the Evaluation of Horizontal Recirculatory Air Curtain Efficiencies – Cooler to Conditioned Space, D. Rhyner, HCR, Inc.



Temp profile: air door off



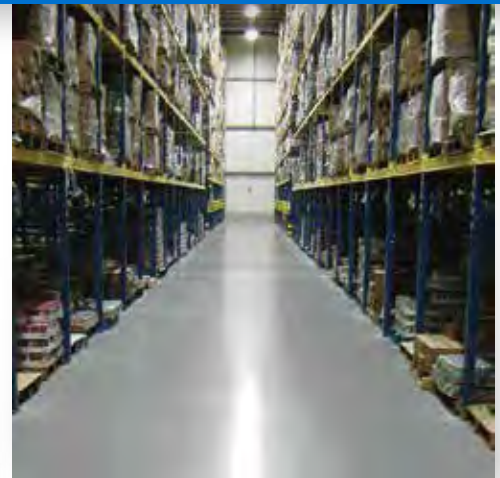
Temp profile: air door on

# FLOOR FACTS



- 1** 1/5 the joints of regular floors,  
1/2 the joints of 'jointless floors'  
= reduced axle and transmission repairs and smoother rides
- 2** Low operator fatigue and better pick rates  
= higher employee retention and easier management
- 3** Long lasting surfaces that clean more easily and reflect light well  
= increased morale and faster, safer driving

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