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SPRING 2011

PRESIDENT'S LETTER

Twenty years ago, my partners and I worked in different sectors of the food industry. We saw a niche to be filled and aligned our services as ESI to offer a "one-stop shop" for design and construction services to the food industry.

Even in challenging times, we see foodservice providers continue to invest in facilities to allow them to offer high quality products at competitive prices. Our mission is to continue to offer clients flexible, efficient facilities by utilizing the most innovative methodologies as our standard practices.

I view our longevity as an advantage to clients because there isn't much in the industry we haven't seen. We also are fortunate to have highly educated personnel who are passionate about their work.

To those of you who we call our customers — thank you for your business. We hope you continue to put your trust in ESI. For those of you whom we haven't had the pleasure of working with yet, we hope you will give us an opportunity to discuss your next project.

Brad Barke
Brad Barke

Time to think green

Plan energy reduction savings into your next project.

It's only natural to think green when spring arrives. Then again, it literally can pay to think green — as in sustainable energy reduction — before temperatures begin to climb. Truth is, most food plant and warehouse operators think about energy only when costs are high or when a facility needs a quick fix to an energy-loss problem.



Although it's harder to effectively and efficiently reduce energy in a patchwork solution scenario, building owners can reap tremendous savings if they think ahead and incorporate energy reduction measures into their next facility renovation, expansion or greenfield project design.

Whereas ESI Constructors handles project construction details, ESI Design Services can ensure that

Cut costs, boost efficiency

It's time to take a fresh look at automated material handling.

In the past, companies experiencing growth often turned towards building a new facility, or expanding their existing facility to help accommodate additional inventory. However, during the past three to four years, financial and economic disruptions have forced companies to be much more cautious with capital expen-

ditures, and have forced them to look at things more subjectively.

It is for that reason most companies now ask, "How can I grow and expand my business utilizing my current facility?" and "How can I increase production with less cost?" To help answer these questions, more and more companies are con-

green

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customers optimize the equipment, systems and ancillary materials operating within that constructed space.

When it comes to energy saving strategies, ESI Design Services mechanical and electrical engineers can help (1) evaluate a return on investment for various design options, potential systems and/or equipment, (2) review and secure state and local energy

ESI Design

incentives and/or rebates and (3) work with local utilities on energy-saving initiatives.

ESI Design Services engineers constantly evaluate the latest energy-saving trends and technologies. Last year, for example, we kept an eye on alternative fuel sources for forklift batteries (including methanol,

which does not yet appear to be a viable option) as well as the proliferation of LED lighting fixtures (improved functionality and cost is now more in line with indus-

try). 2011 will bring more developments in everything from hydrogen fuel cells (again, for powering forklifts) to new chemical-free treatments for condenser water.

Food processors and warehouse operators may not realize we also have significant in-house expertise in industrial ventilation, steam and compressed air systems, process water handling as well as piping and pumping systems. We do not have to outsource these design matters. Rather, we can design a complete energy solution into any project.

We are well versed in all forms of energy — whether it means capturing and redirecting the heat from exhaust air or steam; or capturing and using condenser water heat to generate hot water for a multitude of other uses inside a facility and/or an office space. ■

By Casey Discasey & Robin Wolff

Casey Discasey is a senior mechanical engineer and Robin Wolff is a senior electrical engineer with ESI Design Services. Combined, the two have 38 years of experience with clients in the food, beverage, and cold storage warehouse industries.

What's next? See our 2nd quarter look at new trends in Fire Protection.



Four your CONSIDERATION

Here are four energy-saving opportunities most often overlooked by food processors and warehouses. Take a fresh look at ...

... **INSIDE / OUTSIDE AIR PRESSURES.** When warmer, unconditioned air infiltrates a cold loading dock it can result in puddles on the floors. Your refrigeration system has to work harder to deal with untreated air. Warehouse operators can fix this problem with the right balance of fans to change airflow and air pressure conditions.

... **UNUSED REFRIGERATION SYSTEM CAPACITY.** Temperature-controlled distribution centers often have large central ammonia refrigeration systems that are sized for peak load demand. However, these systems rarely, if ever, run at peak levels. Ammonia systems running closer to design capacity are far more efficient than traditional R-410a air conditioning. You can design these savings into new facilities or even reconfigure your building so that your ammonia refrigeration system also provides cooling for office spaces.

... **BATTERY-CHARGING MANAGEMENT.** Many warehouse operators don't track and/or manage forklift battery charging activities. To lower peak demand charges, building owners should consider battery-charging management systems that limit battery charging to non-peak times when electric rates are more economical or reduce the amount of batteries allowed to charge at a time.

... **BUILDING MANAGEMENT SYSTEMS.** Building owners often set thermostat controls and then let the system "run free" and manage itself — around the clock — as conditions dictate more cooling or heating. Now you can install smarter, integrated building controls that will only provide the right amount of heating or cooling to set comfort levels. Likewise, these controls can shut down a system (or certain areas) during unoccupied times.

efficiency

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sidering automation as a practical solution.

During the last 30 years automated warehousing has evolved from massive vendor-driven designs in very specialized, fully-automated structures to more of a commodity

systems also can work for almost any type of company that handles food including grocery and foodservice operators, public refrigerated warehouses or food processors.

Recent trends also have shown companies looking for help with their “slow mov-

This system has reduced forklift labor by 90 percent, and improved sortation and queuing for pick-to-belt items, which will result in a 30 percent increase in order selection and order consolidation productivity.

The system has been designed with the ability to migrate into fully automated selection of up to 80 percent of the total master case throughput of the facility. This process will be an add-on that capitalizes



ESI Constructors

approach involving conventional structures. No longer do companies have to build a new highly specialized building for a single vendor’s proprietary automated system.

“Facility owners need an expert who’s not affiliated with an automation vendor.”

A number of warehouse operators are turning to mini mechanized systems with automated storage and retrieval system (AS/RS) replenishment. These systems may be used as stand-alone units, or implemented with existing pick-to-pallet jacks, pick-to-belt or pick-to-tote solutions. These hybrid

ers.” Since slow movers proliferate and inundate the typical warehouse, most facilities want access to all kinds of specialty products (only in small amounts) — but still want them delivered with their regular deliveries at little or no extra cost.

ESI recently helped a southwestern convenience store company automate a distribution center. In this instance, ESI designed a multi-level system with an AS/RS crane for pick-to-belt and pick-to-pallet activities within the same module.

This approach allows the operator to combine fast movers and slow movers in the same system — further amortizing the cost of the automated system by doing replenishment with the automated crane for fast movers. It also allows the owner to maximize overhead clearance in its existing facility.

on the newly installed AS/RS conveyor and sortation infrastructure.

Labor savings, improved selection accuracy, ease of integration and related operating requirements make these systems a great choice in helping companies be much more competitive in the marketplace.

Even so, not every building is designed for automation or even needs automation. Facility owners need an expert — not affiliated with an automation vendor — to examine each case.

This way, ESI can provide its customers with an unbiased value of automation to their individual operation. Our experts can help facility owners select systems that represent a correct “fit.” If you haven’t looked closely into the automated material handling market, its time to do so. ■

By Steve King

Steve King is a regional vice president for ESI Constructors, Inc. King has more than 30 years project management, design and construction experience in the food industry.

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> United Fresh - Booth No. 609

Click to view details on our website.

ESI keeps USF moving

Given the nation's economic condition, any foodservice market growth is a good thing. So when U.S. Foodservice, Inc. wanted to expand its multi-temp distribution center in Boca Raton, Fla., we knew their success depended on our success. As part of the company's South Florida Division, Boca Raton is a broadline distributor



Our Partners / Project Profile

servicing hospitals, hotels, military bases, schools and restaurants. This location operates seven days a week, 24 hours a day, which meant that ESI had to perform all construction activity while the facility

remained fully operational. This project involved a 170,561-square-foot addition to their existing facility. ESI expanded the facility's refrigerated dock; added more freezer, cooler and

dry storage areas; expanded and renovated several office building rooms and expanded the facility's central plant anhydrous ammonia refrigeration system.

ESI completed this project on time and on budget (with no change orders) by June 30, 2010. Because the facility was fully operational, it required months of planning for connections, tie-ins and scheduled shut-downs for services and utility lines. Even so, U.S. Foodservice never lost one day of operation and was able to meet all customer demands. ■

The 411 on: REFRIGERATION

WHAT'S NEW: Original equipment manufacturers are enhancing and/or introducing equipment to increase cost efficiencies. These efforts are improving compressors, evaporators, pumps, control valves and motor drives. A few examples? New screw compressors feature variable VI, reduced oil lubrication and increased performance ratings. New evaporators utilize stainless steel tubes, hermetic refrigerant liquid pumps and motorized control valves. Variable frequency drives also help optimize refrigeration system efficiency.

WHAT TO WATCH: Understandably, owners may shy away from new, first-time innovations such as refrigerant cascade systems, glycol systems, or harvesting systems. However, owners may want to test and implement some of these new equipment systems in smaller expansion projects. That way, owners can minimize potential risk and investment compared to greenfield sites utilizing these new technologies.

WHAT ESI CAN DO: Innovative industrial refrigeration leaders — particularly those using ammonia systems — are specialty design-build sub-contractors. Most owners and general contractors must rely on the project expertise and pricing determined by the refrigeration sub-contractor. Although this may be successful and beneficial, an owner may pay more or be locked in with the specific refrigeration contractor. We can use our in-house expertise and evaluate multiple refrigeration contractors to determine the best value partner for a project team.

By Tim Nguyen
Tim Nguyen is a regional vice president with ESI Constructors, Inc. Nguyen has 20 years experience in the food, beverage and cold storage warehouse industries.

This project earned a **2010 Gold "Projects of Distinction" Award** from the national Associated Builders & Contractors, Inc. organization (Wisconsin chapter).