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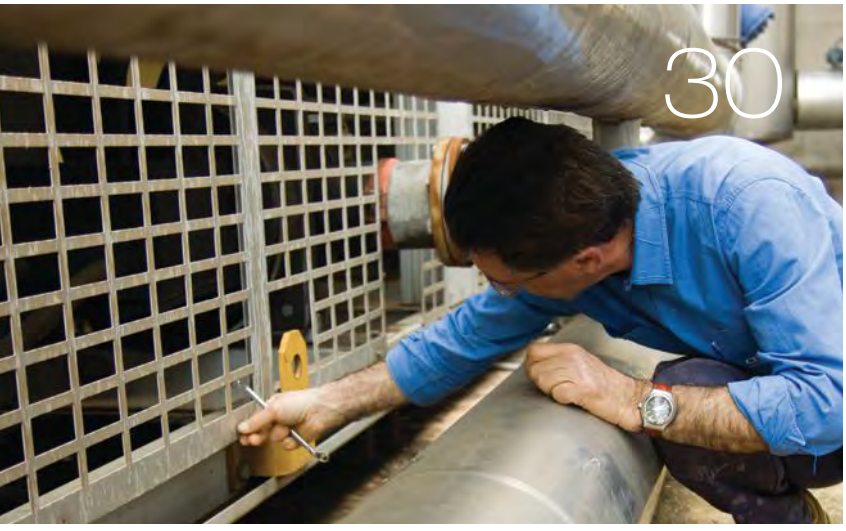

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TECHNOLOGY: The new central nervous system

JACK L. BAILEY

I'll never forget sitting in a partners meeting in the mid-1980s when the senior partner of our law firm declared we would not be getting one of those fax machines. His reason was simple. It was his opinion that clients and other lawyers were already demanding with the use of normal mail delivery; he shuddered at the thought of what it would be like if correspondence started coming through the telephone line. It was interesting to watch the question, "Do you have a fax machine?" evolve into, "What is your fax number?"

All of us saw the same technological evolution with the mobile phone. They started out as big as a shoebox, hard-wired to your car, and the question, "Do you have a car phone?" In a matter of years they shrunk to the size of a pack of cigarettes and the question changed to "What is your cell number?" In fact, a lot of people no longer find a need for land lines and only have mobile phones. And as we all know, the mobile units we use in business today can provide us with e-mails, Internet access, cameras and (oh yeah) telephone calls.

We saw a similar occurrence at IDC-USA. In the mid-1990s, we were handling all of our customer service responsibilities with three customer service reps (CSRs). In 1996 we invested in our first Prophet 21 software that managed our inventory and all of our accounting functions. Six years later we were doing four times the business and we only needed, you guessed it, three CSRs. In those early days, the CSRs were the central nervous system of our organization. All information flowed through them. Today, they are still the heart and soul of our company, but the central nervous system is our technology. Sometimes I feel like I'm running a technology company instead of an industrial distribution company.

Yes, we've all heard the saying, "Technology is great…when it works!" However, at the core of this discussion is a very clear message. Technology delivers efficiency and productivity. I think it is important that we look at technology as an ally and not some demon out to make our lives miserable.

Recently, there has been tremendous concern about manufacturing leaving the U.S. and going to other countries, taking advantage of the cost reductions provided by lower labor costs. Technology could be the very answer to keeping that manufacturing at home. American technology supersedes that in other nations and if utilized in industrial manufacturing applications, it could level the playing field in production costs. This is especially true when you consider the challenges of foreign manufacturing, such as transportation costs, unstable exchange rates and long lead times.

As things get a little crazy overseas, I see more and more manufacturing coming back to the U.S. Those manufacturers that are leading the charge to "bring it back home" are using technology as the main weapon in their arsenal. Technology comes in many forms, whether it is up in the office of the number crunchers or down on the plant floor. I would encourage everyone in the industry to step back, take a breath, and give current operations and procedures another look. Industry has always been the backbone of this great nation, and with the use of innovative technology, that will continue in the future.

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IDC-USA Announces Independent Stationers as an IDC Member Advantage Program

IDC-USA has partnered with fellow cooperative Independent Stationers to provide IDC Owner-Distributors with a comprehensive IDC Member Advantage Program for office supplies.

Independent Stationers will provide IDC Owner-Distributors with a centralized ordering Web site that allows independent dealers to source the products, invoice and deliver to each IDC-USA location. This allows Independent Stationers members to provide their local IDC Owner-Distributors with customized service not normally found in the office supply industry.

"Just like us, Independent Stationers members are independently owned and operated, bringing local expertise to the market that can't be matched by the big boxes. Teaming up with a fellow cooperative is another strong reason for our partnership to begin in 2012-International Year of Cooperatives (IYC). Principle No. 6 of the seven cooperative principles is 'Cooperation among Cooperatives'," remarked Jack L. Bailey, president and CEO of IDC-USA.

Kevin France, vice president of national accounts for Independent Stationers said, "This is exciting: two cooperatives working together to provide each IDC-USA member the opportunity to take advantage of Independent Stationers' unique office supply program. We could not be more thrilled to work with a group that has the same belief as Independent Stationers – the best place to keep your business is local. 2012 will truly be the year of the cooperative!"

King Tony America (KT Pro Tools) Now Supplying IDC-USA With High-Quality Hand and Air Tools

Professionals in 113 countries around the world recognize the King Tony name as being synonymous with high-quality hand and air tools. Since 1984, King Tony has been making hand tools of world-class quality that meet the needs of professionals in both automotive and industrial applications. In 2007, King Tony brought its brand and quality to the United States and Canada. Its tools meet or exceed the toughest standards in the United States, Europe or Asia, and its factories are all ISO certified to assure customers that they will never regret their purchase of a King Tony product.

King Tony America offers three brands in North America: KT Pro Tools, high polished chrome mechanics and maintenance tools; Mighty-Seven (M7), a uniquely engineered line of air tools; and the King Tony brand of pliers, screwdrivers and automotive specialty tools. All three brands share the King Tony global commitment to quality, service and satisfaction that has made King Tony one of the largest privately held hand and air tool manufacturers in the world.

"We are extremely energized about our new partnership with IDC-USA. I am positive that KT Pro Tools will provide IDC Owner-Distributors with not only high-quality hand tools and pneumatics products, but a true partner who is committed to growing their market share and bottom line," stated Brett Thompson, vice president of sales for King Tony America.

IDC-USA Announces Nationwide Partnership with Vacuforce for Pneumatic Components and Vacuum Solutions

Vacuforce Inc., coupled with the pneuforce.com brand, is the first vacuum and pneumatic IDC Preferred Supplier Partner for IDC-USA. This new product acquisition enables IDC Owner-Distributors to offer complete vacuum and pneumatic solutions to their customers. Pneuforce.com, a trademarked brand of Vacuforce Inc., offers a product line up consisting of pneumatic valves, filters, regulators, fittings and other popular pneumatic components.

Vacuforce started as an importer of European vacuum products. Its founder, originally from the U.K., brought together over 20 years of vacuum applications, engineering and international procurement expertise to start the Vacuforce brand of products. With generic fit, form and function products as well as innovative vacuum solution packages, Vacuforce offers the user a one-stop shop for all vacuum handling applications.

With headquarters in Mississauga, Ontario, Canada, and the main distribution center in Buffalo, N.Y., Vacuforce offers easy access for industrial distributors with high levels of inventory ready to ship. Products are manufactured in the United States, Canada, Europe and Asia.

"We are very excited about the incredible opportunity that IDC-USA brings to Vacuforce. Through their nationwide network of distribution outlets, we have immediate national representation to support the existing and future OEM and end-user customer base. Furthermore, this new IDC product offering enables the IDC Owner-Distributor access to a product range that complements the existing IDC-USA line-up extremely well," said Dan Pascoe, vice president of Vacuforce.

Lubriplate Provides One-Stop Solution to IDC Owner-Distributors for all of their Lubrication Needs

For 141 years, Lubriplate has manufactured and sold only the highest quality lubricants to all types of industries. As an ISO-9001 registered company, all of its employees have totally committed themselves to developing, manufacturing and selling quality products that meet and exceed customers' expectations.

Headquartered in Newark, N.J., Lubriplate Lubricants is truly a one-stop solution for all your lubrication needs. The company provides an extensive list of products including synthetic oil and grease, air compressor oil, hydraulic oil, multipurpose oil and grease, special application oil and grease, gear bearing and recirculation oil and grease, specialty oil and grease, food grade oil and grease, auto and marine oil and grease, motor oil, metalworking oil and machine oils. All of these products are available in pails, kegs, drums, cans, bins, sprays, cartridges and tubes.

"Having IDC-USA as an authorized Lubriplate Distributor automatically increases the availability of Lubriplate Lubricants to all industrial customers throughout the United States," according to Steve Morrow, vice president of sales for Lubriplate Lubricants Company. "IDC-USA has two very strategically located distribution centers which make it very easy for IDC Owner-Distributors to obtain Lubriplate Lubricants for their customers."

Koyo Torrington Needle Roller Bearings Add Strength to IDC-USA Product Arsenal

All IDC Owner-Distributors are now officially cross-authorized to sell the Koyo Torrington Needle Roller Bearings product line.

JTEKT Corporation has created a new business unit, Koyo Bearings USA LLC, following the acquisition of The Timken Company's Needle Roller Bearing business. The acquisition combines the strength, heritage and intellectual capital of Koyo and Torrington Needle Roller Bearings to create one of the world's largest needle roller bearing manufacturers. The new line features an extensive range of radial and thrust needle roller bearings, as well as bearing assemblies and loose needles for automotive and industrial applications.

"Koyo, an IDC Preferred Platinum Supplier, has long been a strong and loyal partner to IDC-USA. They continue to understand the value in arming our IDC Owner-Distributors with top-of-the-line products and service. In turn, IDC Owner-Distributors can provide their customers with the same. It is with great pleasure that we are announcing the addition of another Tier 1 brand name line to our product arsenal," stated Todd Carroll, vice president of IDC-USA.

Dichtomatik Radial Shaft Seals Now Stocked in IDC Distribution Centers

Dichtomatik Americas has partnered with IDC-USA to now have radial shaft seals available through the IDC Distribution Centers in Indianapolis, Ind., and Reno, Nev. Approximately $80,000 worth of inventory is stocked and ready to be ordered. Contact your local IDC Owner-Distributor to place your order today.

DICHTOMATIK® AMERICAS

IDC University Adds New Hydraulics Training Course

Hydraulic Principles and Applications
Sept.17-20, 2012
(registration deadline: Aug. 17)

IDC University is excited to announce a brand new hydraulics training course. This course serves as an introduction to basic hydraulic principles and applications. Course work combines classroom learning with hands-on training to achieve hydraulic product and system awareness and understanding. Students will be taught basic hydraulic principles related to pressure, force, area, flow and horsepower. In addition, students will understand options for hydraulic functions and fluid connectors. Course work will include hands-on training and case studies.

IDC UNIVERSITY™

IDC University continues offer the following courses:

- Bearing Training: A-zZ
- Bulk Material Handling
- ALSO NEW: Motors & Controls
- Power Transmission Principles

To find out more about IDC University and remaining course opportunities in 2012, visit www.IDCuniversity.com.

North American Electric's NBS Shaft Mount Reducers Now Available through IDC-USA

Due to the enormous success and name recognition that North American Electric and its distribution partners have established with a second-to-none quality product in the aggregate and agricultural markets, the evolution into the line of shaft mount reducers was the obvious next step. The North American Electric Belt and Screw (NBS) Shaft Mount line of reducers and accessories are designed to be drop-in replacements for the major lines that you see in the market today.

The NBS Shaft Mount Reducer Program will start with sizes 2 through 8 in both the 15:1 and 25:1 ratios, drilled and tapped with one box design for both the belted and the screw drive applications helping to minimize inventories. NAE will also offer all of the standard components including motor mounts, belt guards, back stops, bushing kits and torque arms. With no plans of stopping at size 8, throughout the year, the company will launch sizes 9 and 10. Additionally, NAE will also launch a full line of NBS CEMA flanges and accessories.

NBS Shaft Mount Reducers are now in stock and ready to order through your local IDC Owner-Distributor.

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IDC-USA®

We don't need a new government program to train manufacturing workers

Blueprint for AMERICAN Manufacturing

BY MICHELE NASH-HOFF

A great deal of attention has been focused on the resurgence of American manufacturing.

In his State of the Union address, President Obama placed American manufacturing at the center of a "blueprint" for bringing back jobs and strengthening our economy. It is gratifying to hear manufacturing being given such prominence.

However, his idea of "one program, one Web site and one place to go for all the information and help" American workers need for training or retraining for jobs would result in more government control and more deficit funding, adding to the burden of debt for American taxpayers. We don't need to wait for government to come up with a new program and spend taxpayer dollars developing new curricula for training for manufacturing jobs. We don't need to wash years of work and collaboration between industry, trade and professional organizations, colleges and universities down the drain. A great deal has already been done and is being done to train and retrain today's workers and prepare the next generation of manufacturing workers.

When considering training, we need to understand the difference between certification versus a certificate. Certificate programs are training based on proprietary criteria/ curriculum and sometimes include an exam without any recertification requirements. Numerous training companies, educational institutions and individual training consultants compete to sell training courses that purportedly include "certification." In many cases, these are not based on a standard body of knowledge as

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developed by objective third-party entities, but rather paper certificates awarded for specific training. Certificate programs are useful to prepare workers for entry-level positions in many industries.

Certifications are based upon profession and competency. Certifications are independent, third-party assessments of knowledge, skills and experience based upon a known publicly available standard overseen by industry. The exam includes legally defensible content and can be referenced back to widely available industry accepted references. Recertification is a key component and ensures that individuals show evidence of continued learning. Professional certification is a designation earned by a person to assure they meet the minimum knowledge requirements of the profession and is transferable from state to state and company to company.

NIMS

For example, the National Institute for Metalworking Skills (NIMS) was formed in 1995 by the metalworking trade associations to develop and maintain a globally competitive American workforce. NIMS sets skills standards for the industry, certifies individual skills against the standards, and accredits training programs that meet NIMS quality requirements. NIMS operates under rigorous and highly disciplined processes as the only developer of American National Standards for the nation's metalworking industry accredited by the American National Standards Institute (ANSI).

NIMS has a stakeholder base of over 6,000 metalworking companies. The major trade associations in the industry, the Association for Manufacturing Technology, the National Tooling & Machining Association, the Precision Machine Products Association, the Precision Metalforming Association, and the Tooling and Manufacturing Association, have invested over $7.5 million in private funds for the development of the NIMS standards and its credentials. The associations also contribute annually to sustain NIMS operations and are committed to the upgrading and maintenance of the standards.

NIMS has developed skills standards in 24 operational areas covering the breadth of metalworking operations including metalforming (Stamping, Press Brake, Roll Forming, Laser Cutting) and machining (Machining, Tool and Die Making, Mold Making, Screw Machining, Machine Building and Machine Maintenance, Service and Repair). The Standards range from entry (Level I) to a master level (Level III). All NIMS standards are industry-written and industry-validated, and are subject to regular, periodic reviews under the procedures accredited and audited by ANSI.

NIMS certifies individual skills against the national standards. The NIMS credentialing program requires that the candidate meet both performance and theory requirements. Both the performance and knowledge

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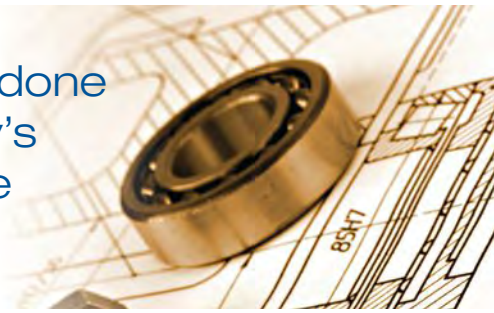
examinations are industry-designed and industry-piloted. There are 52 distinct NIMS skill certifications. Industry uses the credentials to recruit, hire, place and promote individual workers. Training programs use the credentials as performance measures of attainment, often incorporating the credentials as completion requirements and as the basis for articulation among training programs.

SME

Another professional organization that provides certification is the Society of Manufacturing Engineers (SME), the world's leading professional society advancing manufacturing knowledge and influencing more than half a million manufacturing practitioners annually. Through its local chapters, technical communities, publications, expositions and professional development resources, SME promotes an increased awareness of manufacturing engineering and keeps manufacturing professionals up to date on leading trends and technologies. SME provides the following professional certifications: Manufacturing Technologist, Manufacturing Engineering, Engineering Manager, Lean Certification (Bronze, Silver, and Gold), and Six Sigma.

SME's Certified Manufacturing Technologist program is utilized as an outcome assessment by numerous colleges and universities with Manufacturing, Manufacturing Engineering or Engineering Technology programs. Students who successfully earn the certification demonstrate broad knowledge and its application as related to the fundamentals of manufacturing, which sets them apart from other potential job candidates.

A great deal has already been done and is being done to train and retrain today's workers and prepare the next generation of manufacturing workers.



In addition, the SME Education Foundation has the mission to prepare the next generation of manufacturing engineers and technologists through outreach programs to encourage students to study Science, Technology, Engineering and Mathematics (STEM) as well as Computer Integrated Manufacturing (CIM) education. Over its 30-year history, SME has invested $17.3 million in grants to 35 colleges and universities to develop industry-driven curricula.

Tooling U

In 2010, the Society of Manufacturing acquired Tooling University LLC (Tooling U) based in Cleveland, Ohio, to provide online, on-site and Webinar training for manufacturing companies and educational institutions. With more than 400 unique titles, Tooling U offers a full range of content to train machine operators, welders, assemblers, inspectors and maintenance professionals. These classes are delivered through a custom learning management system (LMS), which provides extensive tracking and reporting capabilities. The competencies tie the online curriculum to matching hands-on tasks that put the theory to practice.

FMA

The Fabricators and Manufacturers Association International (FMA) champions the success of the metal processing, forming and fabricating industry.

FabCast, FMA's Webinar platform, utilizes Internet connection and telephone to deliver live, interactive technical education programs directly to manufacturers on such topics as laser cutting, roll forming, metal stamping, etc. Companies can train their whole team at once, even from multiple locations. Companies can break up full days of instruction into modules and spread out over a period of time (i.e. two hours four days a week, four hours once a week for a month, etc.).

PSMO

Precision Sheet Metal Operator (PSMO) Certification, FMA's PSMO Certification, is the metal fabricating industry's only comprehensive exam designed to assess a candidate's knowledge

of fundamental precision sheet metal operations. Fabrication processes covered in the exam include shearing, sawing, press brake, turret punch press, laser cutting and mechanical finishing.

FMA offers on-site, live training conducted at companies on their equipment as well as on-line training (e-Fab) that allows a company to get the training that they need, when they need it. E-Fab courses combine a full day's worth of instruction by FMA's leading subject matter experts with the flexibility of online delivery, available 24/7, 365 days a year.

ASQ

Finally, there is ASQ, which is a global community of people passionate about quality who use the tools, the ideas and their expertise to make the world work better. ASQ certification is a formal recognition that an individual has demonstrated a proficiency within, and comprehension of, a specific body of knowledge. ASQ certification crosses industry lines, including Biomedical Auditor, Quality Technician, Inspector, and Engineer, Reliability Engineer, Six Sigma Black Belt and Software Quality Engineer. Nearly 150,000 certifications have been issued to dedicated professionals worldwide.

Training and retraining workers who are unemployed or underemployed are critical for the health and growth of the manufacturing industry, which will create good-paying jobs. The focus of a one-stop Web site for employment should be to distribute the training and certifications provided by the above-listed organizations at the national level down to the local level.

Michele Nash-Hoff is author of Can American Manufacturing be Saved? Why we should and how we can. *Learn more at www.savingusmanufacturing.com.*

The SEVEN essentials of SAFETY

How to build an effective safety program

BY JESSE BRAZZELL

Whether your business is in manufacturing, construction, or any other industry, modeling your own safety efforts upon successful safety programs used by top companies will help you do a better job of meeting your objectives.

No matter what the industry, and no matter what the size or location of the organization, the most effective safety programs are built upon seven essential elements. This article examines each of those elements in detail.

1 It takes a program

Effective safety doesn't happen by accident. It's not a random occurrence. Having a rule here and some protective equipment there is not going to deliver adequate physical protection for workers (or financial protection for their employers).

Protecting both employee and employer takes a comprehensive safety program that addresses every aspect of safety and every corner of the workplace. It must be documented in writing to ensure consistency in practice and over time.

Most of all, the plan must be implemented. That may seem obvious, but some organizations go to the time and trouble of developing a plan, only to let it sit unused on a shelf. You can put your plan in the best-looking three-ring binder you can find, but if you don't put it into practice every day at every location in which you do business, it won't do you any good.

Your safety program shouldn't present an imaginary, ideal environment that can't be achieved. It shouldn't be a work of fiction. Instead, it should reflect your current safety activities, what you're required to do to stay in compliance, and what your organization is realistically capable of accomplishing.

2 Train, train, and then train

Effective safety training is not a one-time thing. Combine human nature, the limits of anyone's memory and the overwhelming amount of information we all receive every day, and it's no surprise that successful companies recognize the need to deliver information regularly.

The first step of training is the safety orientation for new hires – ideally, before they actually begin work. Before they're put into a position where they are exposed to workplace hazards, they need to be familiar with your organization's safety culture, and have an understanding of the hazards they may encounter, your rules regarding safety practices and what to do when they encounter or observe an unsafe situation.

Keep in mind that new employees are already being overwhelmed with information. Take just as much time as you need to cover all of the orientation topics, and not one minute more. That increases the likelihood that employees will remember what's most important. They can receive more specific, more detailed training as they need it.

The companies with the

PHOTO: ISTOCK © DNY59

best safety practices tend to deliver task-specific training just before the workers perform those tasks. Examples include training for forklift operation, proper fall protection, safe use of scaffolding and procedures for aerial lifts.

Task-specific training is more effective and memorable when the trainer trains alongside the students, rather than lecturing them. Demonstrating the proper procedures imprints the information in workers' memories much more clearly than simply rattling off a list of steps and rules. Also keep in mind that most of the workers will have received previous training for the particular task or equipment, and may be inclined to tune the trainer out. Making training interactive and actively involving participants will keep daydreaming to a minimum.

Beyond task-specific knowledge, ongoing training may also include steps such as daily toolbox talks, monthly sessions focused on a particular area (or to meet compliance) and an annual safety refresher that reinforces the information delivered during the new hire orientation.

3 Built-in verification

How can you be certain that your training is effective and your workers are living up to your expectations? Your safety program should include a variety of informal and formal inspections and audits.

At the most basic level, supervisors should be required to make frequent, regular safety observations of the workers they oversee. In addition to monitoring employees for compliance with company safety standards, savvy supervisors will reward those who model best practices, thereby encouraging their co-workers to do the same.

Members of the management team should review safety practices and compliance with rules on at least a weekly basis, and more often if specific areas of concern are noted. When supervisors know that management is paying attention to safety practices, they'll be far more likely to enforce those practices.

The best companies also include independent review of their overall programs. Whether that's performed by an internal safety professional or an outside safety consultant, the objective is to verify that the review process is being followed.

4 Investigate when something falls short

No matter how well-thought-out a safety program may be, there will be times when actual performance falls short of standards or expectations. It may simply be a matter of workers failing to follow the correct procedures, or it may involve a serious injury.

When incidents occur, it's important to investigate them. The reason for investigating is not to determine who to blame, but to identify what went wrong. Was there a deficiency in the procedure? Did employees receive insufficient training? Did an unanticipated situation arise?

In addition to pinpointing

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causes of incidents, the investigation process should provide suggestions for avoiding similar incidents in the future. Performing the investigation will also give the safety professional the opportunity to identify other potential problems.

Constructive discipline

"Discipline" is a word that often carries negative connotations, but it's a very positive element of effective safety programs. Discipline is not all about punishment; it's about ensuring compliance with the safety program and other rules, and offering corrective actions and consequences when necessary.

Companies that use the best safety practices employ discipline as a way to alter behavior and condition, rather than simply threatening someone's employment status. The goal is to identify the incorrect behavior or action, and then retrain the employee so that he or she will act in the way the organization prefers.

To be effective, discipline must be consistent, and it must be consistently applied. Saving disciplinary actions for "major" noncompliance sends the message that smaller missteps will be ignored.

Supervisors must be aware of the workers' perceptions about disciplinary consequences and enforcement. After all, employees pay attention to many details, so they'll be aware of how their supervisors approach problems. Programs must also take workers' schedules and workloads into consideration when applying consequences.

Reward the right behavior

It's every bit as important to call attention to good behavior as it is to point out when people fall short. In fact, because positive reinforcement tends to be more effective, having a rewards program is an essential element of a sound safety program.

Successful reward programs shouldn't be complicated. Actually, the simpler the program, the easier it is to implement, and the more likely employees will show an interest in it. Make sure the objectives are understandable, and that employees understand the incentives from the very beginning.

Remember the time-honored advice to praise in public and discipline in private. When you publicly call attention to good practices, you enhance a worker's pride in a job well done. You also reinforce the importance of following those practices among his or her co-workers. Even a little bit of friendly competition can help you improve compliance with your program.

Get it in writing

Do you have a great safety program? Prove it! The best way to offer evidence that your safety program is achieving your organization's goals and meeting compliance is to document everything.

Having complete documentation will ensure that you meet OSHA's requirements. Just as important, if your worksite is inspected by OSHA, the fact that you've carefully documented everything and can give it to the inspector may reduce the possibility of a more in-depth audit.

Another advantage of detailed documentation is that it encourages continued compliance with your organization's safety program by serving as a visible reminder of what needs to be checked and recorded.

Ensuring that all seven of these elements are present doesn't guarantee that you'll have a perfect safety plan, or that your organization won't have to worry about incidents and injuries. However, the organizations that do address these elements tend to have cultures in which safety is considered to be very important. It's no coincidence that they usually also have significantly lower-than-normal injury and illness rates, as well as lower experience modification rates. Clearly, the benefits outweigh any additional effort.

Jesse Brazzell (JesseBrazzell@SafetyManagementGroup.com) is a Safety Advisor for Safety Management Group, an Indianapolis-based professional service organization that provides nationwide workplace safety consulting, training, staffing, program planning and implementation. Information is available at www.safetymanagementgroup.com/pub or by calling (800) 435-8850.


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Play it safe

How food processors can safely incorporate MRO chemicals into their food safety plan

BY GREG NIEBERLE, PRODUCT MANAGER, CRC INDUSTRIES

For food processors, keeping contaminants out of their product so it can be delivered safely to market is the No. 1 goal. Recent news stories demonstrate that food contamination can turn into a nightmare for food producers by causing product recalls, plant shutdowns and lawsuits from consumers who became sick or even die.

Historically, food processors have relied on their Hazard Analysis and Critical Control Points (HACCP) plan to guarantee food safety. HACCP is a systematic preventive approach to food safety and pharmaceutical safety that addresses physical, chemical and biological hazards as a means of prevention rather than finished product inspection. HACCP is used in the food industry to identify potential food safety hazards, so that key actions can be taken to reduce or eliminate the risk of the hazards. The system is used at all stages of food production and preparation processes, including packaging and distribution.

Until recently, HACCP was mandatory in only the meat, seafood and juice industries. When the federal government passed the Food Safety Modernization Act in 2011, it represented the most significant expansion of food safety requirements from Food and Drug Administration (FDA) food safety authorities since the original enactment of the Food, Drug & Cosmetic Act (FD&C Act) in 1938. The 2011 act requires all food processors to enact HACCP programs. It also imposes several mandates on entities that pack, transport, distribute or receive articles of food, and grants a broader authority to the FDA to initiate mandatory recalls and requires processors to supplement their food tracking recordkeeping. The act provides a regulatory connection to the global movement that was already changing the culture of food processing in the United States.

The Global Food Safety Initiative

Historically, suppliers have been subjected to multiple types of food safety audits to meet the expectations of multiple customers. More recently, the food industry is significantly shifting away from audits to more comprehensive certification programs for continuous improvement in food safety management. Certification to one of the Global Food Safety Standards benchmarked by the Global Food Safety Initiative (GFSI) can result in having a single solution to meet the needs of many customers, saving both time and money.

PHOTO: ISTOCK © BOJAN FATUR, CRC

The GFSI benchmarking process was developed by the GFSI, an independent non-profit organization managed by The Consumer Goods Forum, which is comprised of the world's leading retailers. GFSI benchmarking aims for common acceptance worldwide. GFSI sets the global standard for food safety certification programs and measures against it. Put simply, all GFSI-recognized programs measure a company's food safety programs against very similar base standards. Today, the more notable harmonized Global Food Standards include:

BRC – Global Food Safety Standard Edition 5

- Developed in 1998 by the British Retail Consortium

SQF – Safe Quality Food

- Developed in Australia in 1994 and purchased by the Food Marketing Institute in 2003

IFS – International Food Standard

- Developed in 2003 by the German Retail Union food retailers

FSSC 22000 – Food Safety System Certification 22000

- Previously ISO 22000, this is the latest standard to be approved by the Global Food Safety Initiative Board of Directors as recently as February 2010

Benefits of using a GFSI-recognized scheme

For manufacturers, a common approach helps address the issue of reallocation of resources through avoidance of duplicative audits. GFSI tools and training can lead to enhanced market access for even the smallest suppliers. Over time, it leads to a virtuous circle of training and continuous improvement. For retailers and the ultimate consumer, there is the reassurance of a thorough verification having taken place against internationally recognized standards, and robustness is guaranteed by stringent and international accreditation procedures for the certification bodies carrying out those controls. This "farm to fork" approach also includes benchmarked, globally recognized food safety schemes for all members of the food industry supply chain.

An important point to note is that historically it was only the manufacturers of actual food and beverage products that needed to be concerned about food safety. Today, even companies that supply food producers with items such as ingredients, packaging, containers, pallets and other products are required to have food safety programs in place if they want to do business in the food industry. The world's largest retail grocers such as Wal-Mart and Kroger require everyone involved with any step in the food or beverage production process to have recognized schemes in place if they want to do business with them.

There are three major contaminant categories that food processors must protect against:

1. **Microbial Contaminants** such as salmonella, e-coli and listeria.
2. **Physical Contaminants** such as broken glass, machinery parts and jewelry.
3. **Chemical Contaminants** most often associated with raw materials, ingredients and maintenance.

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This article looks at how food processors can protect themselves from the possible contamination of their products from the maintenance, repair and operational (MRO) chemicals used in their facilities day in and day out to keep the equipment up and running.

Use of lubricants, solvents, hydraulic fluids, machinery oils and similar products are a fact of life for food processors. For them, managing these MRO chemicals is a continual struggle. The maintenance department needs certain product performance, the food safety team requires third-party certification of these products, and procurement wants a single-source supplier for this category. Most importantly, the entire plant needs a system to control product usage and product storage.

Three steps to success

There are a few important steps that food processors must take concerning the maintenance chemicals used in their plant.

The first step is to identify a chemical supplier to help work through this process. Your supplier partner should have a proven program to help your site reduce and control the number of chemical products in use. Your supplier should help you to ensure that all maintenance chemicals used in the facility are National Sanitation Foundation (NSF) Registered and approved for use as a non-food compound in a food processing establishment.

Who is NSF and where did they come from?

For nearly 100 years, the "USDA Approved" stamp has been the universal assurance of safety and quality in the food processing industry. Historically, the USDA required meat and poultry facilities to use only non-food compounds and proprietary substances that had been reviewed under the USDA authorization program. However, in 1998, the USDA changed its approach and discontinued its role in classifying and authorizing the use of non-food compounds.

In December of 1999, the NSF, a not-for-profit, third-party product certifier specializing in public health and safety, revived the USDA authorization program by launching its Registration and Listing Program for Proprietary Substances and Non-Food Compounds. The fee-based NSF program mirrors the prior USDA program evaluation for all product categories. The one difference is that once a product has successfully gone through the NSF approval process, it receives a registration number. That number, along with the registration mark and category code, is listed on the label of the NSF-registered product. In addition, NSF Registration Letters are available for all registered products.

Products used in and around food processing areas, but not intended for direct food contact, or not expected to become a component of a meat, poultry or egg product, are defined as "non-food compounds." These include products such as maintenance and cleaning chemicals, sanitizers and pesticide chemicals, lubricants, water treatment compounds, shell egg cleaning, de-foaming, de-staining and sanitizing compounds, and other miscellaneous products.

Common NSF Category Codes for products found in food processing plants:

Lubricants

H1 - This product is acceptable as a lubricant with incidental food contact

H2 - This product is acceptable as a lubricant where there is no possibility of food contact

Water Based Cleaners

A1 - This product is acceptable for use as a general cleaning agent on all surfaces

C1 - This product is acceptable for use as a general cleaner/degreaser in inedible product processing areas

Solvent Cleaners

K1 - This product is chemically acceptable as a solvent cleaner for use in non-processing areas

K2 - This product is chemically acceptable as a solvent for cleaning electronic instruments and devices which will not tolerate aqueous cleaning solutions

It is critical that all MRO chemicals in use at the plant have the NSF Registration Mark and proper category code listed on the label. The codes that were listed previously enable the user to know where the product can and cannot be used in the facility. Additionally, it is also very important to have the NSF documentation to go along with this product.

The second step is to work with a chemical supplier with a visual identification labeling program for their products to ensure that maintenance employees use and store MRO chemicals in the proper locations. Best manufacturing practices typically dictate that all MRO chemicals are kept in storage cabinets when not in use, and also that H1 Food Grade Lubricants (approved for incidental food contact) are stored separately from the other NSF-registered products in use.

In addition to product labeling, it is also beneficial to post signs in areas of the facility indicating which products are permitted for use in each area. This can be achieved with the use of color coding on the sign that corresponds to the same color coding on the product labels.

The third and final step is to work with a chemical supplier that can provide free on-site training to maintenance employees in the use of MRO chemicals and food safety. These training sessions help educate the maintenance team on how they can better partner to further reduce the risk of contamination.

When dealing with MRO chemicals in a food processing plant, the bottom line is that there are chemical suppliers that can work closely with food processors and the food processor's suppliers to develop a program to help take the risk out of using these products. In addition to decreasing the chance of food contamination, having a strong program for the chemicals in use can significantly decrease the chances of any nonconformities with your program, and can ultimately lead to having a successful food safety audit or inspection.

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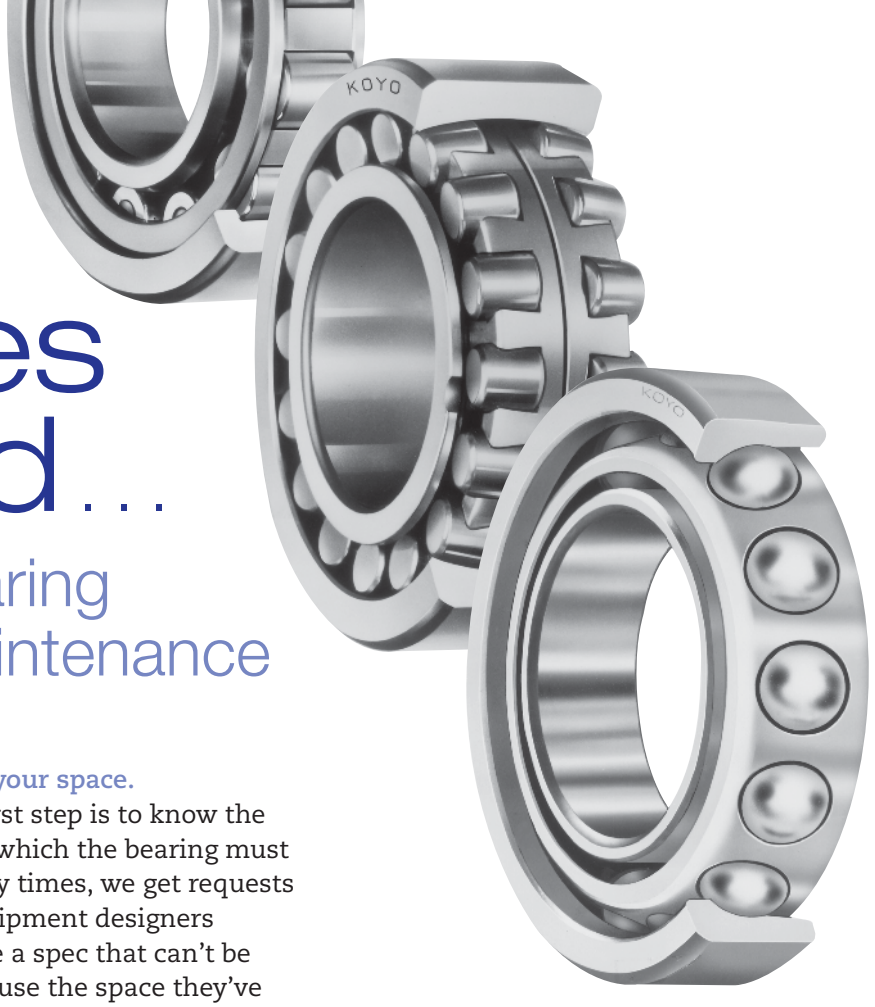

What goes around...

. . . depends on bearing selection and maintenance

BY CLAIR URBAIN

In every facet of production, the work rides on bearings. Whether you are an OEM engineer or the head of a maintenance department, you fully understand the importance of bearing selection on keeping equipment working.

Bearings fall into two main categories – naked or mounted. While both types require similar thought processes for proper selection, installation and maintenance, there are enough differences that it's best to approach them separately.

Naked bearings

Don Leonard, bearing engineer with Koyo Corporation of USA, says bearing selection is a logical, step-by step approach that can be used to leverage the capabilities of a wide variety of bearings available. "As bearing design becomes increasingly diversified, their application range is increasingly extended," he says.

To select the right bearing for the job, he recommends gathering the following information:

1. Know your space.

"The first step is to know the space in which the bearing must run. Many times, we get requests from equipment designers who have a spec that can't be met because the space they've allotted for the bearing is too small. Shaft rigidity and strength are essential in equipment operation, which drives the shaft's required diameter. The bearing's space needs to be adequate to accommodate the style of bearing to take the loads caused by the shaft," he says.

2. Know your loads.

The types and magnitudes of loads exerted upon the bearing must be known to select the right bearing. "Are the loads radial or axial? If it is an axial load, does it exert force in more than one direction? Does that load contain vibrational or impact forces?" he asks.

Leonard says that deep-groove ball bearings are able to handle radial loads with small axial loads; and angular-contact and tapered-roller bearings, in that order, can handle increasing axial loads. Pure thrust bearings cannot handle any radial load. "Spherical-roller bearings are best designed to handle mixed radial and axial loads with high misalignment," he says. "Cylindrical-roller bearings and needle-roller bearings are best suited for applications with high radial loads and no axial loads."

3. Identify shaft speed.

Once load type and magnitude are calculated, selection must consider rotational speed. Expressed as allowable speed in bearing specifications, it's driven by bearing size, cage, accuracy, load and lubrication. "Deep-groove ball, angular-contact and cylindrical-roller bearings are most often used in high-speed applications," Leonard says.

4. Level of running accuracy.

Just as a bearing may be required to run at a certain speed or load, running accuracy is often

a critical factor. "Machine tool spindles require high running accuracy; gas turbines require high speed rotation and control equipment require low friction. All of these applications require bearings in Class 5 or higher," he says. Deep-groove, angular-contact and cylindrical-ball bearings are the most common choices for these applications.

5. Rigidity requirements for deformation resistance.

The rigidity, or ability of the bearing to resist deformation from the loads and forces placed on the rolling elements and raceway surface, can influence bearing selection. "Typically, roller bearings resist elastic deformation better than ball bearings and rigidity can be enhanced with a preload. In these cases, angular-contact and tapered-roller bearings are specified. The higher the rigidity of the bearing, the better they control elastic deformation," he says.

6. (In)tolerance for misalignment.

No installation is perfect and some are more imperfect than others. That's why certain bearings must be specified to compensate for shaft deflection from loads, engineering design or poor installation. "Excessive misalignment can damage bearings. The higher the self-aligning capability of a bearing, the greater the angular misalignment it can absorb. Self-aligning ball and spherical-roller bearings are most tolerant to misalignment, followed by angular-contact and deep-groove bearings, then tapered-roller bearings. Cylindrical-roller and needle-roller bearings are least tolerant of misalignment," Leonard adds.

7. Mounting/dismounting ease.

One final consideration in bearing selection is the frequency that the bearing will be mounted and dismounted for component or equipment inspection. "Cylindrical-roller, needle-roller and taper-roller

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Top reasons why bearings fail prematurely:

- Over/under lubrication
- Misalignment
- Improper fit or mounting that causes vibration, creep/scuffing
- Shaft burrs
- Improper bearing selection based on speed, operating temperature or improper seals
- Debris and dust contamination from the environment or in lubricant
- Improper grease/lubricant selection
- Water contamination

How to prevent bearing failures:

- Adhere to proper/consistent lubrication schedule
- Calibrate grease gun
- Clean grease fitting before re-greasing
- Identify the type of grease being used and make sure the grease used for follow-up lubrication is compatible
- Keep operating environment as clean and dust/debris free as possible

bearings with separable inner or outer rings work well in applications where the bearing must be mounted and dismounted frequently. A sleeve makes mounting self-aligning ball bearings and spherical-roller bearings with a tapered bore easier to mount and dismount for inspection purposes," he adds.

IDC Owner-Distributors can readily tap into bearing experts to identify the optimal bearing for your application.

Mounted bearings

Selecting and replacing mounted bearings for a specific application takes an organized approach, says Andrea DesCoteaux, vice president at Moline Bearing Company, a leading supplier of mounted bearings to IDC.

"Before you pick up the phone or get ready to send a fax asking for help in bearing specification, answer these questions," DesCoteaux says. She recommends gathering the following bearing and application information:

1. Type of application: Be specific. Your information may trigger additional questions from bearing professionals to hone in on an even better bearing option.

2. Type of operating environment. What's the ambient temperature and does it differ from the operating temperature at the site of the bearing? Are there any contamination factors?

3. Type of load. Are there radial, axial, heavy or impact loads? If there are, what are their magnitudes?"

4. Range of operating speed in rpm.

5. Precise shaft size.

6. Type of mounting. Is it vertical or horizontal? Two- or four-bolt pillow block, four-bolt or piloted flange or wide-slot take-up M mounting?

7. Specific lubrication requirements?

If it's a bearing replacement, the best place to start is by identifying the failed bearing. DesCoteaux says the failed or worn bearing offers helpful information. "Check the face of the bearing's insert and housing for part numbers and also check for a metal tag that's usually found around the grease fitting. Also, know your shaft size, housing style and whether the bearing is on the drive/fixed or free side of the shaft. Also note its locking mechanism – is it a set screw, eccentric or adaptor type of mechanism?"

"Like specifying a new bearing, you need to know the amount and type of load, the operating environment application speed and any specific reason for bearing failure," she says.

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In or out?

Deciding whether or not to outsource your maintenance work

BY TOR IDHAMMAR, IDCON

As an option to reduce plant costs, plant managers may consider contracting out maintenance work. This may have some merit, depending on many factors, including the nature of the business.

One question to ask is, "Is maintenance a part of our 'core business'?" Let's look at a couple of examples. If the business is a hospital, where revenue is generated by the sale of medical services, and maintenance consists of a few specialized activities such as janitorial, HVAC system servicing and repair of advanced medical diagnostic and monitoring systems, then contracting out these activities is almost certainly the best approach. However, if your business is an old process industry where most maintenance work involves inspections and repairs to production machinery, then both maintenance and operations, as a team, are equally important to the "core business" of producing product, and maintenance should probably be carried out by trained plant employees.

Besides the "core business" consideration, there are other principles that should be applied when considering contract maintenance. To illustrate these principles, let's look at an actual case where contract maintenance was tried and failed.

A case study

The manufacturer (the company) was a multi-plant, 24/7 process industry with high maintenance costs. A decision was made to contract out the management of maintenance to an outside firm (the contractor). A legal partnership was established, with the contractor providing a maintenance manager for each site and a president to which these site managers reported. The company provided lower levels of supervision and tradespeople.

The terms of the partnership contract included payment of a management fee to the contractor, as well as significant incentive payments. The incentives were based on reducing "maintenance costs" and reducing "maintenance downtime."

While such a contract may appear elegant in its simplicity,

PHOTO: ISTOCK © TEMISTOCLE LUCARELLI

it broke four basic principles of contracting.

1) Each plant required large amounts of steam for the process. This steam was generated by boilers which burned either waste material, at a very small cost; or fossil fuel, at a very high cost. The equipment for storing, handling, drying and burning the waste material was complex and required considerable maintenance.

Shortly after the partnership was established, a large component in the waste material drying equipment failed. The site maintenance manager refused to approve the purchase of the replacement because, under the terms of the partnership agreement, there was a strong disincentive to do so. The component purchase would increase maintenance costs but have no impact on production because the plant could produce at full capacity with steam generated by burning fossil fuel.

This incident put some strain on the relationship between the company and contractor, and other similar incidents occurred. The terms of the agreement discouraged the contractor from performing maintenance on equipment required to reduce energy, chemical costs and other operating costs.

The first contracting principle is:

Any incentives must encourage the desired behavior.

From the company's point of view, the desired behavior is that which improves its overall operating performance, not just maintenance performance.

These four principles can help improve your chance of success with contracted maintenance

2) Each of the company's plants had different ownership histories and had developed their own standards, including the way in which "maintenance costs" and "maintenance downtime" were defined. In one plant, components which were in contact with the product and performed a processing function (such as filters and screens) were charged to the operating budget, while at another plant, those components were charged to the maintenance budget. In fact, different definitions were employed in different departments in some plants.

Also, "maintenance downtime" had never been adequately defined and differed widely among the plants. Downtime

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had historically been assigned to either operations or maintenance, based on who was to blame for the downtime incident, a practice that will test even the strongest maintenance/operations partnership.

Incredibly, when the partnership agreement was written, no attempt was made to define either "maintenance costs" or "maintenance downtime."

The result, predictably, was that an inordinate amount of time and effort was devoted to arguing about the allocation of costs and downtime to the company or to the contractor.

So, the second contracting principle is:

Any measures on which incentives are calculated must be defined clearly and unambiguously.

This is not a simple task, especially for "maintenance downtime." The focus should be on the root cause, not the immediate effects. In a healthy partnership, efforts should be devoted to problem solving to eliminate the root cause of downtime events, without regard to questions of blame.

In fact, as the relationship between the partners worsened, company supervisors made considerable efforts to define as much downtime as possible as maintenance, with the result that reported "maintenance downtime" increased.

3) While the contractor had a clear responsibility for the partnership agreement in the partnership president, the company did not have a matching position. Each site maintenance manager worked with the company's operations manager. This resulted in disputes being handled at the local site level, with no consistency across the company. This further strained the relationship.

Therefore, the third principle is:

There must be one company person and one contractor person responsible for the overall agreement, which must include a well-defined dispute resolution process.

4) The contractor site maintenance managers were employed on short-term contracts. Unfortunately, improvements to plant maintenance take some time, but there are short-term decisions that can be made to give the appearance of improved performance.

For example, training of apprentice tradespeople and infrastructure maintenance can be deferred to show decreased costs in the short term, and this was one result in this example. Maintenance costs did decrease, and following the termination of the partnership, it was necessary to catch up on some spending.

So, the fourth principle is:

Long-term results happen with long-term managers.

Of course, in addition to the principles in this article, any agreement must include safety, environmental and work quality standards, which must be met by both the company and the contractor.

However, following these four principles, contract maintenance may be in the best interests of any process plant, but you have to look long and hard to find a plant with more than five years of success using contracted maintenance.


Idhammar

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Six ways to turn a poor performer around

BY TIMOTHY F. BEDNARZ

Every manager will have one or two poor performers in their unit or department. They may have inherited these individuals when they assumed the manager's position and now must deal with them by either turning them around or terminating them for poor performance.

Employees' negative behaviors often impact their overall performance and mirror their personal skills, attitudes and levels of discipline and perseverance. Many individuals have the "right stuff" to be successful, and only need guidance and direction to focus their abilities and increase and sustain their performance.

It is essential for managers to be able to distinguish between employees who can be rehabilitated and those who should find another company and/or profession.

People who are being unfair to both themselves and the company by only surviving in their job need frank talk about their career options.

On the other hand, employees who are struggling but have the ambition or potential can, with the proper guidance and direction, be turned into above-average, even excellent performers. It is often more sensible financially to work with these individuals rather than recruit and train new people, and also from an ethical perspective these people deserve the opportunity to turn themselves and their work around.

Managers must have a plan and structure to transition struggling people into better-than-average performers. The following steps can be used to turn a poor performer into a highly productive employee:

Define performance levels

Many employees are genuinely unaware of what constitutes acceptable behavior and performance. Often a manager will inherit several people who were simply not properly informed as to what is expected of them. Past managers may have dropped the ball, having failed to work with these individuals to develop their potential.

The first step a manager must take is to inform the employee that his or her behavior is unacceptable and that it is negatively impacting their performance. The employee should be educated as to the various levels of performance that are acceptable and a realistic time frame established for rehabilitation and bringing his or her work into line with established standards.

Analyze behaviors

Managers must take the time to review and analyze the employee's typical work-related performance and activities in order to identify the specific behaviors that must be eliminated, modified or replaced with more productive efforts.

Such discussions can be sensitive and put the individual on the defensive. He or she must be made to understand that the time and effort being expended is done so with the belief that his or her performance can be improved. They should also understand that if the manager did not think this the case, he or she would have been removed from the company. Tactfully done, this should motivate the employee to change and make them more amenable to recommendations to improve their performance. The manager should further make it clear that a failure to improve adequately could well have dire repercussions.

Establish a coaching plan

The manager, with the employee's assistance, should develop a realistic and attainable coaching plan to assist him or her to change their behaviors

PHOTO: ISTOCK © CHRIS LAMPHEAR

and achieve acceptable levels of performance.

The coaching plan should be confined to a particular time frame with specific objectives met by predetermined points. Each goal and objective should be attainable and easily measured by both parties. The full responsibility for their implementation falls on the employee with the manager providing full support and assistance as required.

Commit to goals and objectives

Once a coaching plan is developed and agreed upon by both parties, it is important that both the employee and manager commit themselves to the outlined goals and objectives. While the employee will carry the majority of accountability for the plan, the manager must commit to fulfilling his or her portion of the responsibility as completely as possible if it is to be successful. This may include providing the employee with individualized training and reinforcement as well as other commitments of time and energy.

If managers want these individuals to make a positive change, they must actively work with them toward these goals. Developing a plan and leaving these individuals without adequate supervision and support is a recipe for failure and is unfair. It builds his or her expectations for improved performance and will result in total demoralization when they are unable to make the necessary changes on their own.

Manage goals and objectives

The implementation of the coaching plan is the most critical element of resolving negative behaviors and turning an employee's performance around. Both employee and manager must manage the goals and objectives, with the employee actively working toward their accomplishment and the manager keeping the employee focused and on track. This means he or she must positively reinforce the employee's desirable behaviors and provide redirection when old behaviors resurface. Additionally, as the manager coaches their employee, he or she is providing constructive criticism to guide and direct them in attaining their goals and objectives.

Measure progress against goals

As coaching plans are implemented, managers must measure the employee's progress at regular intervals and provide full and sufficient feedback in order for them to make needed adjustments. As the employee progresses toward the attainment of his or her goals and objectives, monitoring can be less frequent and intensive.

When the employee happily meets the stated goals and objectives, the manager should celebrate the individual's success to reinforce their good work. While some managers will assume they are just doing what is expected, any major change is worthy of celebration.

Excerpted from Negative Employee Attitudes: Pinpoint Management Skill Development Training Series *(Majorium Business Press, 2011) $18.95. Visit www.majoriumbusinesspress.com for details.*


Bednarz

In stock, at your service

Climax Metal Products Company delivers on great products, excellent customer service and fair market prices

CLIMAX
METAL PRODUCTS COMPANY

BY CLAIR DAVID URBAIN

What your customers say about your company is perhaps the best reflection of your company's ability to meet or even exceed their needs. Climax Metal Products Company, IDC-USA's Preferred Supplier of shaft collars, rigid couplings and keyless locking devices, has some customers who definitely shout their praises.

Here are some typical comments the company, which has been in business since 1946, receives from its customers:

"I wanted to take this time to thank your company for its outstanding efforts with respect to your customer service department. Your responses to our inquiries are quick, detailed and always handled with a high regard to professionalism."

"Just a note to let you know that you are doing an excellent job. Your quotes are not only friendly, but they are also quick and accurate. Thanks for the courteous and accurate service."

"Your sales associates know what they are talking about and are always glad to help."

"You always have it in stock, even on the odd sizes. You go the extra mile to help us and our customers out."

Chris Curran, president of Climax Metal Products Company, says he thinks three distinct qualities set the company apart from its competitors.

"First, while our competitors offer similar products, we consistently come through with service and inventory. We have the product on the shelf when our customers need it," Curran says.

"Second, we have a field sales rep organization that calls on IDC-USA members and their customers. These highly trained individuals are professionals who gain the information needed to select the right products to meet their customers' needs. They are experienced in gathering the information our engineering staff needs to make product recommendations. When it comes to engineered locking solutions, we have the widest product offering available," he says.

Its engineering prowess has taken it into a wide variety of facilities, and that experience gets leveraged through other inquiries and subsequent orders. "We have worked with a very diverse group of customers. Applications are interesting and almost endless. We work with companies that have needed assistance in selecting components for manufacturing jump ropes, truck hoods, exercise equipment and paper manufacturing equipment. Our products are like a widget. Many manufacturers use them, but don't realize it until they have a design change or a repair issue," Curran says.

Climax Metal Products Company's third advantage over its competition is superior delivery. The company, based in Mentor, Ohio, is centrally located, and its extensive inventory means customers with time-sensitive repairs won't lose uptime waiting for shipments to arrive.

"Our inventory is complete enough that we can pick it and have it in the delivery channel for delivery as soon as next-day or even the same day, depending on the location. If it's an engineered solution, we will likely be able to deliver it within two or three weeks," he says.

Climax Metal Products Company supplies:

Shaft Collars

Shaft collars are used to position or locate a component on a shaft. In addition, set screw collars and clamping collars can be used to limit the travel of a shaft in reciprocating applications, or used as a spacer between components. Climax Metal Products Company provides a broad assortment of shaft collars to suit many customer applications. CLIMAX Shaft collars fit imperial shaft sizes from 1/16" through 6" and metric sizes from 2mm to 80mm. Shaft collars are made from mild steel, type 303 or 316 stainless steel, aluminum or acetal. Steel collars are available in multiple finishes – black oxide, clear zinc or yellow zinc dichromate.

Rigid Couplings

Rigid couplings serve as components to time, join or align shafts at lower speeds and torque, especially when zero backlash is desired. Climax Metal Products Company provides a broad assortment of rigid couplings to suit many customer applications. Available to fit imperial shaft sizes from ¼" to 2 ¼" and metric shaft sizes from 6mm to 50mm. Rigid couplings are made from mild steel with a black oxide finish or type 303 stainless steel with a limited selection are offered using aluminum material. Couplings are manufactured both with and without keyways. Step-bore couplings are also available to attach two shafts of differing sizes.

Keyless Locking Devices

Climax Metal Products Company is now positioned as North America's leading supplier of keyless locking devices (KLDs), which are manufactured under exclusive agreement by MAV S.p.A. of Bosentino, Italy. Together, Climax Metal Products Company and MAV have more than five decades of experience in the design, specification and manufacture of KLDs and produce and sell only the highest quality products, with stock available in Mentor, Ohio, for same-day shipment and attractive lead times for made-to-order (MTO) solutions. Its dedicated customer service and application engineering team stands ready to exceed your expectations for quality, responsiveness and know-how.

CAD info ready on demand

Customers also appreciate the CAD-On-Demand system that allows users to configure, view and download 3D models and 2D CAD files of the company's products.

"Our CAD-On-Demand system simplifies the job of design engineers by providing 3D models that can be instantly downloaded and inserted directly into the engineer's own design," says Curran.

This service is in response to customer requests for 3D models of Climax Metal Products Company's product line. "Online 3D models are an important sales tool for industrial suppliers, distributors and their customers. Our ability to provide 3D data quickly and easily allows us to better meet the needs of our customers," says Curran.

Cross-reference capability

Engineers can also cross-reference competitive products with Climax Metal Products Company's products online at www.climaxmetal.com.

Installation insight

In addition to its extensive database and experience in helping manufacturers, Climax Metal Products Company's support doesn't end at the shipping dock when the part enters the delivery stream; it offers extensive installation advice to help assure fast and correct installation.

Customers can get installation advice through customer service or by tapping into a myriad of white papers and instructional files found online. The easy-to-follow instructions provide step-by-step procedures that include removal and installation tips and can help head off improper procedures that could compromise the success of the installation.

Commitment to quality

Climax Metal Products Company is a member of several associations, including the Power Transmission Distributors Association (PTDA), Precision Machined Products Association (PMPA) and Bearing Specialists Association (BSA). It's also ISO 9001:2008-compliant, which means it has a quality management system (QMS) that helps assure consistent, conforming goods and services.

"To maintain our ISO 9001:2008 certification, we monitor the levels of satisfaction of our customers (this includes you!) and feed back this information into our QMS to further improve our effectiveness and customer satisfaction," says Curran.

That commitment to quality transfers directly to its commitment to the IDC-USA organization. "We have been participating with IDC for more than 15 years, and we have consistently offered value and advantages to IDC Owner-Distributors. We are very serious and committed to our relationship with IDC and look forward to providing Climax Metal Products Company-branded as well as IDC-branded components to the organization," Curran says.

Shutdown RISK MANAGEMENT

Tips for planning scheduled maintenance to minimize equipment downtime

BY ANDREW LEVITT AND BEN WURTMANN

The highest pressure situation your maintenance department might ever encounter is a planned downtime. It requires a large amount of work in a small amount of time and the deadline for resuming production is just around the corner. Great gains can be made by increasing reliability or installing new equipment. However, there are risks. New problems can arise, and costs can mount. How do you make shutdowns a safer bet?

In project management context, the word risk is simply used as shorthand for "deviation from the project plan." Encountering at least some risk is unavoidable. The impact of that risk depends on how a shutdown has been planned. Uncertainty about the magnitude of repairs needed, over-aggressive estimates, lack of experience, and a number of other issues can contribute to delays, cost overruns and lost productivity. Some of these factors can be eliminated, but most risks can only be managed.

Seeing risk

The critical task is to accurately project the magnitude of risks involved in a shutdown and respond accordingly. As the project is outlined, several factors should be examined to develop a better view of the situation. The basic rule is that the complexity of the task is directly related to the likelihood of encountering difficulty.

In planning for a shutdown, the following factors may flag a process for being a likely delay.

Critical Path – By definition, a Critical Path task has the potential to cause serious delays. Any delay in activity on the Critical Path has the potential of delaying the whole project.

Predecessors – A task that depends on multiple tasks being completed first is subject to more possibilities for delay.

Aggressive estimates – Setting high standards for productivity doesn't mean expecting the impossible. Unrealistic estimates can cause serious bottlenecks when later tasks get delayed by overruns in the initial stages of a shutdown.

Unfamiliar tasks – Have workers performed this task before? New equipment and turn over could create a situation where workers would learn on the fly. Identifying training needs and calling in outside resources may be the difference between on time and behind schedule.

Final work – At the end of a shutdown, your workforce has been under pressure and the finish work can cause them to stumble. Proper load leveling can minimize this problem.

Rarity – Are materials or labor needed for a specific task hard to obtain? Delay with supplying these needs can cause major roadblocks. Project management reports should include a filter for specialists and resource availability.

Measuring risk

Not all problems are created equal. Solving some might be fairly easy, others might bankrupt a company. Determining which need your most urgent attention requires comparing three values: tolerance level, cost, probability.

PHOTO: ISTOCK © NOREBBO

Tolerance – What's your company's ability to respond to risk without unacceptable consequences? Cash reserves, overdue orders, production goals and regulatory requirements can all inform this discussion. An acceptable cost for an international operation with multiple plants could be catastrophic to a smaller custom manufacturer.

Risk tolerance is not just a fiscal calculation. You also want to assess environmental, health and safety concerns. Human lives can't be counted in the same way, but this doesn't mean that quantifying the potential for problems isn't important. Assume the worst, brainstorm for possibilities, identify consequences, and plan scenarios in detail.

Cost – The additional cost of risk can be estimated by comparing the worst possible scenario against the planned outlay. If problems occur, what will it take to get things back under control? Costs aren't just limited to the immediate expenses of fixing a problem. Will orders go unfulfilled? Contracts or customers lost? Will specialists need to be brought in? New equipment ordered? Broad brainstorming is crucial here. Expertise from all corners helps build a complete picture of possible consequences so you can tally up the costs.

You may not be able to assign a precise cost for every risk you identify; some may need to be estimated. The priority is to carefully consider the risks that have the greatest potential to cause disruption and delay.

Probability - Likelihood of an event is most accurately predicted based on prior data. Records from previous shutdowns and experienced employees can help guide this analysis. Since shutdowns tend to be rare, not every kind of risk will have hard data to review. The key is to make the best possible estimate based on experience. A reasoned estimate is more useful than a wild guess or no prediction at all. Thinking through the possible chains of events will help identify likely trouble spots based on the criteria presented above. Remember, the more complex a task, the greater the possibility of failure. Multiple inputs, critical supplies and talents, and time sensitivity all drive risk.

Let's not overlook Program Evaluation Review Technique (PERT) and Monte Carlo duration estimate methods – to enter worst case, expected, and best case scenarios (dollars and durations) for each task. Project management software can extrapolate the likelihood of a task starting on a particular date, and Monte Carlo calculations give results more detail and accuracy. Tasks unlikely to begin on their planned date are more likely to fall further behind. PERT helps quantify the confidence that a planner has in their duration estimates, and Monte Carlo calculations figure the cumulative effects of these uncertainties throughout the project.

Combine the probability that a risk will occur with the cost of

CONTINUED ON PAGE 40

the risk and compare that with your tolerance for acceptable costs and delays. If you feel the task involves risk your operation cannot afford, note this in a field in your list or project management software. These risks must be managed. Risks that are better than acceptable can be left alone. Prioritize your list of risks, separating those that must be managed from those that do not.

There are two ways to respond to risk. Risks can be avoided or they can be made less costly when they do occur.

Avoidance is a first step. Now that your team is looking for risks, some problems can be bypassed entirely. Delays with material arrival or the lack of information on the repair of a piece of equipment can be remedied with foresight. Some potential issues can be absorbed into the plan if they can't be prevented. One of the biggest possibilities for risk and delay comes from unplanned repairs. Issues that arise during the shutdown tend to be prioritized because of the surprise factor. While this might be necessary, it is far better to start out knowing the magnitude of work to be done. Have non-invasive tests been performed on equipment? Infra-red scans done to look for overheating? Vibration checks performed? Sound checks for compressed air leakage? Think of all the ways equipment can be assessed before shutdown and disassembly, so you enter the shutdown with a clear picture of what needs to be done so supplies and labor are ready.

Knowing about an issue in advance can mean the difference between a major delay while waiting for a part and having it arrive right on time. Once a problem is identified, planned and prepared for, it's no longer a risk, but a regular part of your planned maintenance.

To summarize the steps in a comprehensive shutdown risk management program:

1) Determine your tolerance for cost, customer relations, safety and environmental risks.
2) Filter for high-risk tasks.
3) Using your shortened list, come up with environmental, health and safety issues; plus financial costs for each risk.
4) Determine the probability that each risk would occur.
5) Prioritize risks based on your tolerance and the combination of each risk's probability and the magnitude of its consequence.
6) Devise mitigation plans or contingency plans or both.
7) For tasks with contingency plans, brainstorm a list of triggers that signify that a risk is turning sour.
8) Monitor the project during execution for triggers and unexpected risks.
9) Collect data and debrief after the shutdown. A history of previous problems encountered might locate future potential trouble spots.

But what about risks that aren't necessarily avoidable? Some issues can arise during the shutdown that can't be known in advance. Diagnostics have limits, and some equipment may not be possible to check until it is offline. Needed supplies might be delayed. Repair work may turn out to be more complicated than originally thought. The key here is mitigation.

Mitigation is the process of taking steps to reduce the impact of risks. This might mean building extra worker hours into a schedule so that new issues can be addressed while planned work is still done on time. It might mean having more spare parts on hand. Or it could be writing damages into a contract with an outside supplier to reimburse your company if materials are not delivered on time. The goal is to make a risk less costly if it occurs and manage the impact within your tolerance. Relate the amount that is reasonable to spend on mitigation efforts to both the cost and the probability of the risk. Some low-cost measures can take care of some small risks, while a major outlay might be prudent to protect against a catastrophic risk.

Draw up contingency plans for what to do in the event that the risk does indeed take place. These plans minimize the cost and consequence of the risk by minimizing reaction time and maximizing response efficiency. If a piece of equipment is in far worse shape than expected, the set of tasks required to bring it up to operational condition should be drawn up and saved for quick insertion into the project plan file, work packets already prepared, and parts either already on hand or ready to be ordered quickly

The cost of planning is more than returned through improved project performance

without hunting down relevant information. This allows work to begin as soon as possible. Since most risks in shutdowns come from unexpected work, contingency planning is a great source of progress for managing shutdown risk.

For each risk that remains after these preparations have been made, identify a trigger or set of triggers that indicate that the risk has occurred or is about to occur. By identifying triggers, you minimize your reaction time for the implementation of contingency plans. To determine triggers, call another brainstorming meeting with experts familiar with the risk. Find out how they would know that the risk has occurred, and then work back from there to the earliest indicator. Try to find indicators that would be apparent in the project plan during updates, such as a particular pattern of overtime or the heavy use of a certain type of specialist resource. Build filters in your project management software that represent this behavior, so that during the project you can check once a day to see if these patterns are happening.

Be sure to assign responsibility for monitoring the risk if you don't do it yourself. Supervisors and contractors also can be given access to project data. Each risk can only happen during the period that the relevant tasks are in progress, so build a risk-watch schedule. In order to closely track possible indicators, you may need to gather more information than you would otherwise. For example, if the risk is the production and delivery of a critical material, you might request that the manufacturer notify you at each production step to make sure it is on track.

The idea is not to eliminate all sources of risks, but to decide ahead of time what preparation to take. High-cost, high-likelihood events obviously need to be considered first and made part of the main planning process.

Risk quantification can be an exact science or an exercise in vague wizardry, depending mostly on how much past information you have available.

The difficult judgment call is in separating out events based on a combination of the potential disruption and the chance that it will occur. Protecting against long-shot events with devastating consequences may be more worthwhile than spending excessive advance time dealing with minor issues that are more likely.

The object of risk analysis is to plan for significant risks.

Risk response control

After you've implemented any risk elimination and mitigation measures and begun your shutdown, you need to monitor two things: the triggers that you've already determined for expected risks, and the occurrence of unexpected risks. Unexpected risks should be responded to quickly, and their causes well documented to assist in future shutdowns. Expected risks should be monitored using the risk schedule you developed. Analyze project indicators, the plant floor and communications from supervisors for evidence of triggers. If any triggers have happened, investigate further to see if the risk has indeed occurred and, if so, then import your contingency plan into the project plan and rearrange task schedules as necessary to accommodate the extra work. For major contingencies, save a new baseline to reflect the change in plans. Make note of the risk occurrence in reports as well.

If you put in the energy to complete these steps, you will have shorter, more tightly controlled shutdowns with fewer incidents. In short, the cost of planning to this degree is more than returned through improved project performance.

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Prior to moving to St. Paul in 2009, Ben Wurtmann was the Business Management Coordinator at New Standard Institute.

How your supervisor can help your career

BY KIM GOFF

Let's face it. Times are tough, and many industries are still experiencing cutbacks, layoffs and salary freezes. That doesn't mean it's time to slack off at work, however. It's just as important – if not more so – to make yourself a valuable resource and to try to move ahead with your career, even if your options are limited.

To that end, supervisors and managers can be a valuable resource when climbing the corporate ladder, not just because they sign your paycheck or approve that promotion, but because they can offer you valuable knowledge; knowledge that can lead you toward career advancement and a sense of fulfillment.

Your supervisor is a great resource for you to learn about the history of your company, how to improve your job performance and how to increase your chances for promotion. Instead of avoiding, loathing or fearing your supervisor, try to view that person as someone who can help you advance your career.

Here are three ways to utilize your supervisor as a resource:

1) Model their behavior: If your supervisor is in the position you aspire to, "model" them. That doesn't mean to dress, walk or talk like them. It means researching their rise and taking similar steps in your quest. Finding out as much as you can about your supervisor's climb up the corporate ladder can provide you with a potential blueprint for how you can achieve that same position.

When the time is appropriate (such as lunch time or during a company party), get to know your supervisor or manager better. Try to ask the following questions:

- What did they major in? What type of degree do they hold?
- Did they take any specific on-the-job training?

PHOTO: ISTOCK © ALYN STAFFORD

- What about their work history – did they work different positions in the company to get to where they are today? Was it one specific job that got them where they are today or was it a progression of jobs?

If your supervisor seems annoyed by these kind of questions, take a hint and do not persist. You want to learn from their professional experience, but back off if he or she seems unwilling to share.

2) Communicate regularly – not just once a year: Talking with your supervisor about your progress and how you can improve your chances for promotion can help you immensely. The majority of employees dread the annual or semi-annual evaluation. Instead, use this review to your advantage. Ask what he or she sees as your specific strengths and weaknesses. Ask, "What can I do to improve my overall job performance?" This eliminates any guesswork trying to figure out what you can do to get that promotion. A good supervisor will always be honest with you and tell you what you can do to improve your job performance.

When a supervisor informs you of your weaknesses in terms of job performance, don't take it as a harsh criticism. Be grateful for this type of information; use it to forge ahead and show that you are eager to improve. Treat your supervisor with respect and show him or her that you have the right skills and drive for advancement. Good managers and supervisors want to see you succeed! The more knowledgeable you are about performing your job and improving your work performance, the more "noticeable" you will become. When your supervisor is meeting with business executives and leaders to discuss forthcoming promotions, you will have a good chance of being one of those people nominated. Or, you may be the first person they think of if a new position becomes available!

And don't forget to touch base with your manager or supervisor on a regular basis. Yearly reviews aren't enough in terms of communication. Go out of your way to discuss ideas, business trends, company or department improvements with your supervisor on a regular basis. By taking a proactive step toward communicating in a positive, helpful way, you can be the person that stands out in his or her mind when the time comes for a promotion or raise.

Co-workers may also be a reliable resource to you. They may not know specifics about the supervisor you are trying to model, but they may know general requirements expected or preferred for the type of job position you desire.

3) Network: Use your supervisor as a liaison to network with executives and leaders in your company. Getting face time may sound shallow, but people don't really know you unless they meet you. E-mail is not enough to create a solid networking relationship. Your supervisor can introduce you to influential people (company leaders, industry experts, important clients) who can help you in your career advancement. Through your supervisor or manager, you can find out about conferences and social events where you can start laying the "groundwork" for beneficial relationships. Getting your name and face out there will help influential people remember you.

Another way to make network connections and get noticed is to volunteer for company events. Always go to your supervisor first and ask permission to participate in any volunteer activities within your company, and make sure it does not disrupt your day-to-day business activities, or make your supervisor's job difficult.

Working with your supervisor instead of against him or her can help you get ahead in your career. You should never fear your supervisor or feel inferior. Use your supervisor's knowledge and experience to your advantage. You do not have to agree with his or her personal ideas, laugh at their jokes or obey their every command. However, you should show your supervisor the respect you would want in return. By using your supervisor as a resource you can gain the knowledge and connections you need to advance your career.

Kim Goff is a professional speaker and author. She speaks on overcoming obstacles, life balance, and women in the workplace, and is author of "Female Empowerment – A Personal Journey." She can be reached via e-mail at kimgoff@excite.com.

Saving the bacon

Habasit America helps a major bacon processor realize significant cost savings

BY KEVIN DAHILL

It's been said that bacon can make everything taste better. Chefs and other food preparers seem to be putting that axiom to the test, because bacon is showing up in all sorts of non-traditional ways (including bacon-flavored ice cream!). All of the new uses for bacon have created a market for pre-cooked varieties used in the home, sandwich shops and large-scale food production facilities.

A well-known processor of microwave bacon in the Midwest was utilizing plastic modular belt to convey bacon slices and bits through a microwave oven. This is normally an efficient way of cooking large amounts of bacon. The processor recognized that the belts wear out and have to be replaced every four to six months. Habasit, an IDC Preferred Supplier of power transmission, conveyor and processing belts, was invited to look at the process to introduce its M2586 belt, which was designed specifically for the microwave bacon industry.

Habasit representatives discovered that, in addition to replacing belts with greater regularity than necessary, the food processor experienced many other issues that resulted in downtime interrupting production. After surveying the maintenance staff and line workers, it was determined that these interruptions were caused by the current belt being used.

Just like when you're cooking bacon in a pan at home, the frying process produces grease that is highly flammable. The same holds true for microwave bacon. The excess grease has a tendency to build up on the modular belt, causing flame ups. An unwanted flame in a high-speed bacon facility can be a safety hazard for workers.

Other production interruptions occurred when retaining pins on the belt would start to work their way out. This resulted in conveyor jams and belt breakage, which left gaps in the conveying surface where the bacon would fall through.

The production team at the bacon processor was pessimistic about the ability of the Habasit belt to solve a problem they didn't even know they had until it was pointed out to them. However, because they're continually looking for ways to improve productivity and throughput, they gave Habasit a chance to prove their belt.

Into the frying pan

Habasit accepted the challenge to show the processor how to add life and uptime to their process.

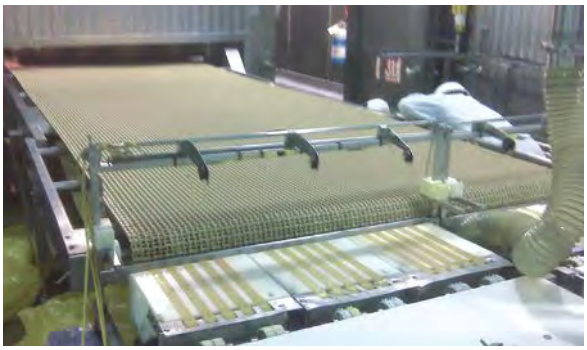
Habasit and a local distributor worked side by side with plant maintenance personnel to install the first belt. It required some adjustments to be made in the transfer areas where cooked bacon is transported to another conveyor and readied for packaging.

PHOTO: ISTOCK © JOE POTATO PHOTO

CATEGORY	SAVINGS
Belt Savings 3:1	$14,400
Product Loss Belt Replacement	$51,200
Product Loss Belt Breakdown	$220,800
Labor Costs Belt Replacement	$1,104
Labor Costs Belt Breakdown	$1,587
Production Labor For Replacement	$1,344
Production Labor For Breakdown	$11,592
Total Savings with M2586	**$302,027**

The clock was now ticking on Habasit's belt. The bacon processor and Habasit agreed on a schedule to benchmark the belt in three-month increments. After the first three months, there were no signs of wear to the belt and a noticed reduction of flame ups. After six months, when the competitor's belt would normally be replaced, there were still no signs of wear. After 18 months, the Habasit M2586 had lasted three times longer than the competition. In fact, the belt was still running after 24 months but was becoming discolored in the cooking lanes, so the processor decided to replace it for aesthetic purposes.

In the end, the bacon processor realized savings in excess of $300,000. The cost reduction was not limited to tripling the life of the belt. Considerable savings were achieved because the maintenance crew was no longer called to the line three to four times per week to fix a belt that was coming apart. Production throughput significantly increased in areas that no longer experienced breakdowns, belt change outs and flame ups. The icing on the cake (or the bacon on the burger in this case) was the ability to capture more of the grease renderings during the cooking process. The bacon grease is sold as a byproduct, resulting in extra revenue added to the company's bottom line.



Habasit proved to be the solution provider this company was looking for. Over the next three years, the bacon processor replaced all of its existing belts with Habasit belts, making them standard throughout the plant.

Kevin Dahill is an Area Business Manager for Habasit America. He can be reached at kevin.dahill@us.habasit.com.

Static Discharge Reel

Reelcraft's static discharge reel makes grounding easy and efficient. They are used to ground equipment operating in hazardous atmospheres. When properly clamped to ground, the static discharge reel dissipates static electrical buildup, reducing the chances of sparking and the potential for explosion. The reels are available with 3/32-inch O.D. steel aircraft cable or 1/8-inch O.D. nylon covered cable. Contact your local IDC Owner-Distributor or visit www.reelcraft.com.

Fan Removal Adaptor Kit

The Posi-Lock FR-104K was designed to reduce the repair time of frequent fan motor maintenance for GE converter cabinets (XLE and SLE towers only). They offer fast removal of cooling fans used in wind generator converter cabinets, and allow access to frequent motor servicing. The kit fits 5-blade fans with 4-inch hub diameters. The adaptor is milled out of solid aluminum and rated up to 1.75 tons (15 kN), and the top-of-the-line forged steel puller is rated to 5 tons (44 kN). Kit includes: 104 Manual Puller, fan removal adaptor, fan puller tip reducer, fan removal hub screws, carrying case. Contact your local IDC Owner-Distributor for more information or visit www.posilock.com.

Hoses for oil and gas industry

Veyance Technologies, exclusive manufacturer of Goodyear Engineered Products, is consistently known as technological leader in the oil and gas industry. This experience has led to the introduction of two brand new hoses, the Prospector BOP (Blow Out Preventer) 3000 and the expansion of Prospector SHR (Slim Hole Rotary) Hoses. The riggers of oil and gas exploration demand products that can produce reliably, in which the SHR and BOP excel.

The Prospector BOP 3000 is a blowout preventer hose used for hydraulic connections between the well control equipment and the control system of a well. The BOP 3000 is fire-tested and passed the EUB Directive 36. It is currently available from 3/8-inch up to 1-inch diameters.

The Prospector Slim Hole Rotary is a high-pressure rotary hose used in slim-hole, seismograph, work-over or portable drilling rigs. Used where pulsating pumping is required, this small to medium blast hose transfers hydraulic oil, mud or air with ease. The SHR is available in multiple diameters from 1 inch up to 3 inches. Contact your local IDC Owner-Distributor or visit www.goodyearrep.com.

Engineered Shaft Locking Solutions

Since 1946, Climax Metal Products Company has grown into the leading source of engineered shaft locking solutions by providing excellent customer service. CLIMAX Shaft Collars, Rigid Couplings, and Keyless Locking Devices are manufactured with unsurpassed quality and stocked in Mentor, Ohio, for shipments throughout North America. Contact your local IDC Owner-Distributor or visit www.climaxmetal.com.

Helical Ratio Multipliers

Cleveland Gear's "RM Series" Helical Ratio Multipliers are offered in three case sizes and five gear ratios per case. The housings are of rugged cast iron material, and the helical gears are surface hardened and finished steel. These ratio multipliers have NEMA input motor flanges and NEMA c-face output adaptors. They can be combined with Cleveland Gear's "M Series" modular inch series worm gear reducers and their "WG Series" metric series worm gear reducers to create double reduction helical worm gear reducers. Contact your local IDC Owner-Distributor for a catalog or visit www.ClevelandModular.com.

Mounted Spherical Roller Bearings

FYH Mounted Spherical Roller Bearings with patented sealing technology maintain positive seal contact at any angle of misalignment. Ductile iron housings withstand shock and vibration. Drop-in replacements fit most sizes of traditional Type E and SRB units. Contact your local IDC Owner-Distributor for more information or visit www.fhyusa.com.

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