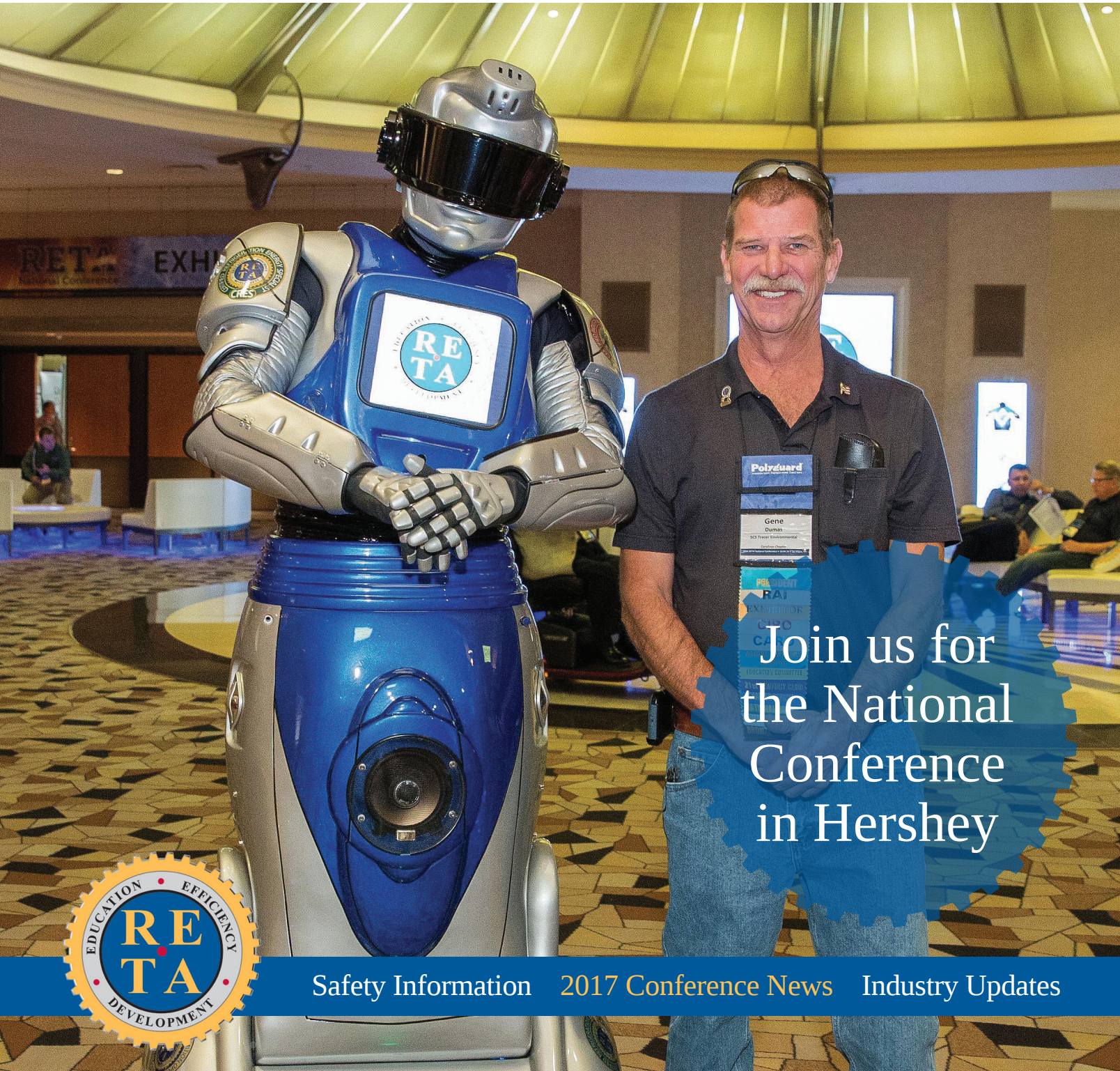


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BREEZE

The *RETA Breeze* is the official publication of the Refrigerating Engineers & Technicians Association (RETA). RETA is an international not-for-profit association whose mission is to enhance the professional development of industrial refrigeration operating and technical engineers.

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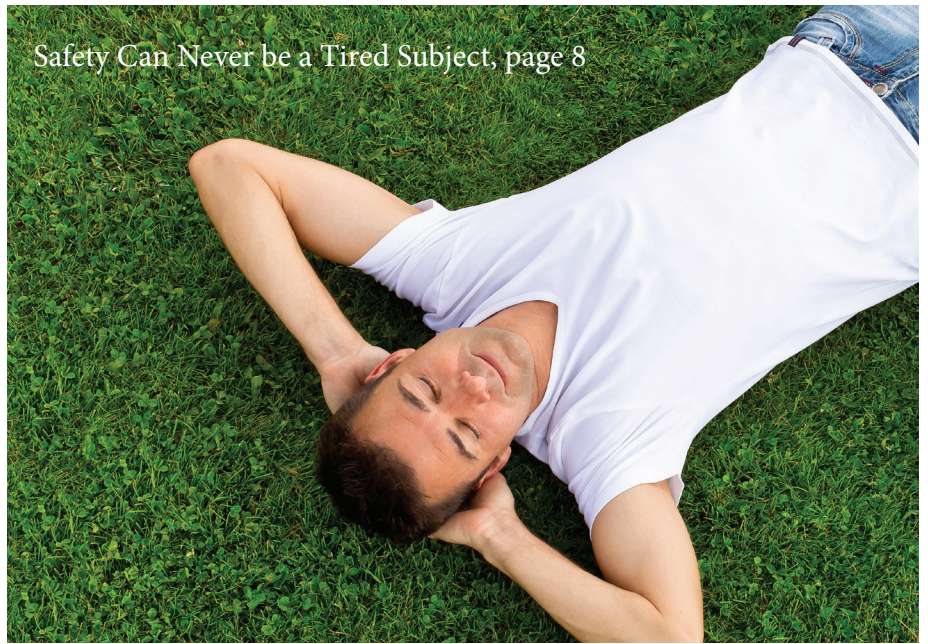
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Safety Can Never be a Tired Subject, page 8



INSIDE THIS ISSUE

Message from the President4	Certification Honor Roll.....13
Epic Fail: The Beast Must Run!6	Good Things Come to Those Who Wait.....14
Electrifying, Shocking, Circuit Breaker Popping6	<i>The evolution of a much-needed training program</i>
<i>We need your help</i>	Yo Quiero RETA15
Safety Can Never Be a Tired Subject8	<i>Speak Spanish? RETA needs you</i>
<i>Are you paying enough attention?</i>	Key Findings16
RETA National Conference.....10	<i>From PSM/RMP Compliance Audits</i>
<i>See you in Hershey!</i>	Call for Nominations18
Thank You National Conference Sponsors11	Meet Dr. Ron Rodgers20
Are You a Responding Facility per EPA12	<i>Testing and ANSI Guru</i>
<i>What you need to know</i>	The Shade Tree Mechanic.....22
	<i>Keeping it in the family</i>



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FROM THE DESK OF THE PRESIDENT

Hi All,

Well, it's hot, it's humid, it's unbearable. Yep, the dog days of summer in the Midwest. I hope everyone is doing well. If your RETA Chapter is like mine, Chicago, you have wound down a bit and are taking a vacation until the Fall. Chicago has just finished a golf tournament to raise a little money for the Chapter, but the best part is the fellowship, along of course with a little consumption of beverages (it was HOT you know), and the customary yelling at that little white ball (why doesn't it go straight?) was observed.

While a break at the Chapter level might be happening, the National level is still going strong. The Executive Committee (ExComm) and several Board Members will be heading to RETA HQ in Albany, OR in July for a three-day business session to make ready next year's budget. Also, we will be doing some SWOT analysis to shape RETA's future. Should be an interesting couple of days.

Eric Teale, National Certification Chair, and I will be heading to Minneapolis in July to attend a "Hiring Our Veterans" roundtable. This is a discussion, at the National level, aimed at establishing programs to hire our returning veterans in the Food and Beverage industry. If you all recall, RETA, working with IIAR and ARE, set up a foundation in the spring where all of us can donate into a fund. The funds collected will be used to support returning veterans with education and training. Once they graduate, they can move into the refrigeration industry as operators, engineers, or service technicians. It's a win for the returning veterans and a win for our industry.

I can't think of a better way to thank our veterans for the sacrifices they have made for this country than to provide them educational assistance with a career path, and help getting adjusted back into our society. Let's face it, our industry needs new manpower. None of us are getting any younger.

Don't forget: our National Conference is just around the corner in September in Hershey PA, September 26 thru 29. I know Mary, Minnette, Lee and the rest of the gang at RETA HQ are planning something spectacular for us.

Bye for now.

~ Todd



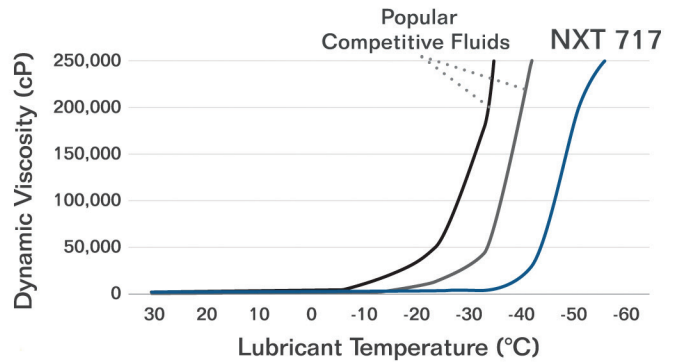
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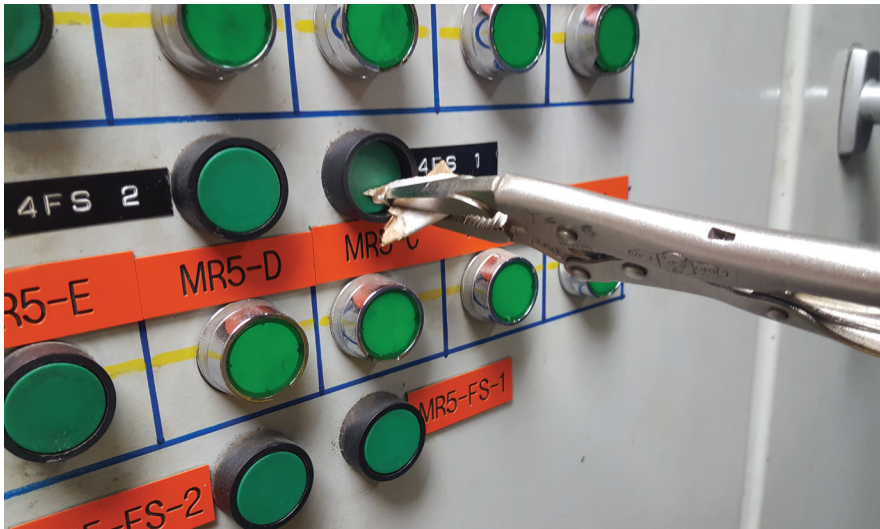
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EPIC FAIL



“THE BEAST MUST RUN!”

by Arlie Farley, CIRO, CARO
Farley's Frigeration

First off, let me start this story out with a disclaimer: my wife Tonya hates this story so this one is for you dear!! This goes back years ago when cell phones were not around and cameras were big and bulky, and we did not always have one. Thank God, or I know there would be more proof of me doing things that I should not have done.

On the door of the engine room was a paper sign that was written in sharpie and it was simple. It said and I quote, “The beast must run. The beast will run. Do what you have to do to make the ***** beast run!” Well, I had to clean it up. There was an expletive, and I know that I am not allowed to write that in this article. It was only on the door for about an hour that I am aware of and it disappeared. That being said in this little beauty of a picture, sent into me by an Epic Fail groupie, looks like a Maintenance person has figured out how to keep the beast running. My favorite is the paper patching to keep the marks off of the plastic reset button housing. If something will not stay running maybe you should inspect it, and if you need to, call in help to make sure it is safe to operate. I have heard many stories of people bypassing safeties and bad stuff happening. “Working safely may get old, but so do those who practice it” – Old Guy

If you have photos of an epic fail, please pass them on to nh3fail@gmail.com the names have been changed to protect the guilty!

ELECTRIFYING, SHOCKING, CIRCUIT BREAKER POPPING

by Kent Harmon, Education Chairman

These are just some of the words that I would describe the energy and flow that has gone into the re-write of the RETA book Basic Electricity II.

Don Tragethon has been leading this group and could use some new energy to jump start the review process. Don is not only a past Executive Director of RETA and a past RETA president, he has probably contributed more hours to this organization that anyone I can think of.

Please join with a RETA legend and his high arcing, high voltage review crew and get this project pushed forward to the Certification Committee.

If you can spare some time and get this process amped up over the next couple of months we can get this project fully charged.

Please contact me at kentharmon@ammonia.com or Jim Price, Education Manager, at jprice@reta.com to get the circuit closed on joining this fantastic team.

As always, thank you, the RETA family, for continuing to advance RETA as the GREATEST OPERATOR TRAINING GROUP IN THE WORLD!

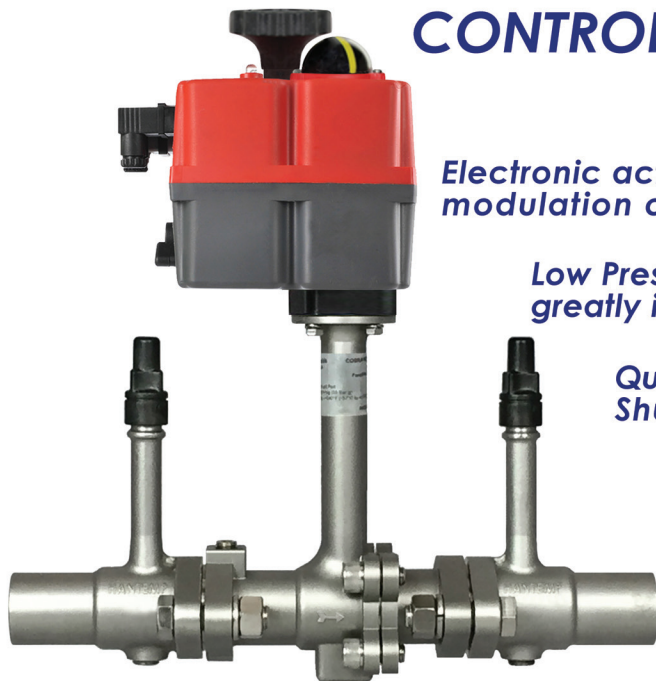
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SAFETY

SAFETY CAN NEVER BE A TIRED SUBJECT

by Jim Price, Education Manager

Recently, I was asked to speak at the local RETA Chapter in the Dallas-Fort Worth area. As I pondered a topic and searched my old presentations, I came across one on Valve Safety. It had been about four or five years since I had looked at that particular PowerPoint. It brought back some memories of the background for that presentation.

Some of the pictures got a little chuckle from the group, and on the surface, they were a little funny. Who would let their equipment get in that bad of shape? Obviously, there are a few out there who do, I have the photographic evidence. Maybe the chuckles were out of nervousness because of the shock that this could actually happen. Or maybe they were thinking of their own work place situation, “Do I have any valves that look like that?” The pictures were examples of neglect that could have easily caused serious injuries or even have been fatal. That realization takes all the fun out of it.

Also, I reminded the group, you not only have a responsibility to act safely

yourself, but to watch what those around you are doing. If you observe someone doing something unsafe and you get hurt, guess what? It hurts just as much. Moral of that story, don’t stand by and let someone else—no matter who, including your boss—do something unsafe. Stop them. If they persist, tell them you are going to move a safe distance away so that you can summon help if things go bad and they are injured. Usually that will get their attention.

Part of acting safely includes having and properly using the SOP and PPE. I am reminded of my days in the military and flying on various aircraft, yes even though I was in the Army, I flew a lot. The pilot and co-pilot always, I repeat always, went through the checklist—the aircraft SOP—before starting the engines, taxiing, taking off, landing, or doing any other maneuver with the aircraft, even shutting down. Operators and technicians need to be that diligent with the plant’s SOPs, no matter how mundane the task or how many times you have done it.

“You not only have a responsibility to act safely yourself, but to watch what those around you are doing.”

I often mention my days at Jacobs, a large consulting group. It was a ten-year learning experience and one of the lessons was that safety never takes a holiday, and safety is a never a tired subject. The philosophy at Jacobs was to develop a culture of safety, not just on the job, but at home, on vacation, and all the time in between. Zero Plus is a philosophy worth adapting. Zero on the job injuries, and zero off the job injuries.

At RETA we often say, our primary objective is for every employee at every refrigerated facility to get home safe and whole. To carry it one step further, we also want you to be safe and whole when you leave for work. To “live long and prosper” you have to **Live Safely**.

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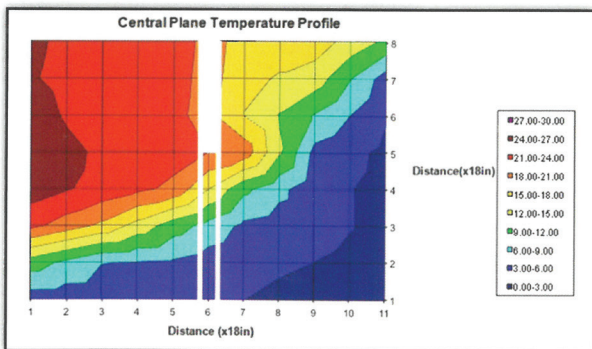
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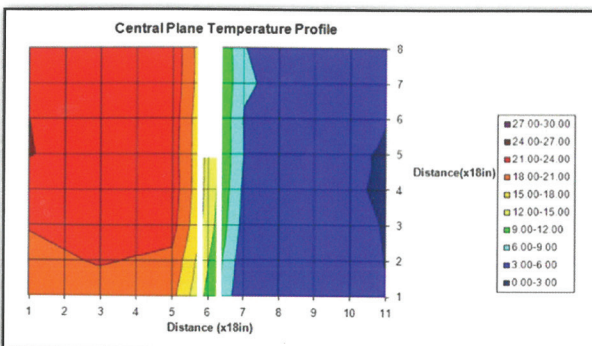
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*For details and the lab performance report visit www.hcrairdoors.com, contact your Jamison or HCR representative, or call 800-326-7700. Request the White Paper on the Evaluation of Horizontal Recirculatory Air Curtain Efficiencies – Cooler to Conditioned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



Temp profile: air door off



Temp profile: air door on

RETA National Conference 2017

THE BENEFITS OF SPONSORSHIP, PUTTING YOUR BUSINESS FRONT AND CENTER

*by Mary Hendrickx,
RETA Conference Manager*

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The RETA Conference Department believes in working with each sponsor individually while remaining flexible and results driven. We feel that sponsorship is a partnership and that Sponsors have a say in where their support goes and how it will be used.

The RETA National Conference would not exist if it wasn't for the loyal support of our Sponsors, and now more than ever we need that support.

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Contact the RETA Conference department to find out about current 2017 sponsorship opportunities!

Mary Hendrickx
mhendrickx@reta.com
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RETA is now offering three review courses at the National Conference

RETA is now offering a CARO, a CIRO, and a CRES Review Course AND a Train the Trainer Course at the National Conference. These special two-day courses are held immediately prior (Monday and Tuesday) to the Conference and are catered to each level of certification. The courses are designed as a review

of materials that may be included in the RETA certification exams.

Investment includes lecture materials, daily lunch and applicable RETA books for use during the review.

RETA National also runs CARO, CIRO and CRES testing for all would-be "RETA Heroes" all week long!

Send your Spanish-speaking operators for a day of hands-on instruction and industry technical talks in Spanish

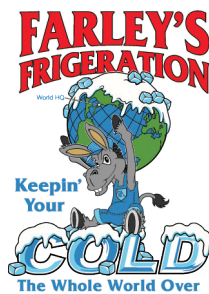
The Organizers of RETA 2017 taking place in Hershey, Pennsylvania, are pleased to offer one day of hands-on instruction and technical sessions presented in Spanish! We understand having operators take time off to attend a Conference can be a challenge. So why not send them for the day? Not only will they earn PDH Credits by attending live demonstrations of Liquid Line Break, Ammonia Charging, Oil Draining, Pressure Regulators and Relief Valve, they will have the opportunity to hear presentations offered only in Spanish. Please visit reta.com for registration information.



RETA National Conference 2017

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Are you a responding facility per the EPA?

by Chris Harmon,
Industrial Consultants

When you have an emergency response team how do you properly fill out your Risk Management Plan (RMP) submittal? If you work with the local HazMat team and call 911 for assistance, are you still considered a responding facility? This is always a discussion point when there is an audit by the EPA. The following information has been gathered from several of the EPA regions and is the consensus on this issue. According to the EPA (from General RMP Guidance - Chapter 8: Emergency Response Program):

- **Non-Responding Facility:** If your employees will not respond to accidental releases of regulated substances, you need not comply with the emergency response plan and program requirements provided you coordinate with local response agencies to ensure that they will be prepared to respond to an emergency at your facility.
- **Responding Facility:** However, most activities will qualify as a

response due to the immediacy of the dispersion of a toxic plume or spread of a fire, the volatilization of a spill, and the threat to people on and off site. As a result, if you will have your employees involved in any substantial way in responding to releases...

Once you have determined whether you are a responding facility or not, you must fill out your RMP. If you decide that you are a responding facility, then this is how you should answer the questions in Section 9, Emergency Response of the RMP submittal (as confirmed by the EPA) if you have an Emergency Response Team, even if you work with the local HazMat team and call 911 for assistance:

9.1 Written emergency response (ER) plan:

a. Is your facility included in the community emergency response plan?

Answer: YES

b. Does your facility have its own written emergency response plan?

Answer: YES



9.2 Does your facility's ER plan include specific actions to be taken in response to accidental releases of regulated substances? *Answer: YES*

9.3 Does your facility's ER plan include procedures for informing the public and local agencies responding to accidental releases? *Answer: YES*

9.4 Does your facility's ER plan include information on emergency health care? *Answer: YES*

So now you can answer the burning question of whether you are a responding facility and how to fill out section 9 of the RMP submittal if you plan on responding to any type of release from your facility.



CERTIFICATION

Honor Roll

Congratulations to our newly RETA Certified Operators, who passed the exam(s) between May 1 and June 30, 2017. For information about the examination process and preparation to take the RETA exam, please visit RETA.com.

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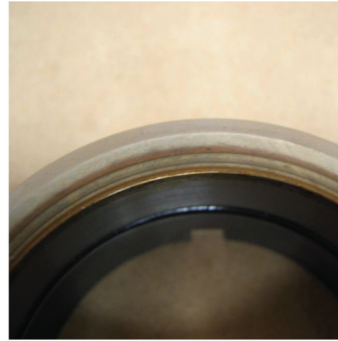
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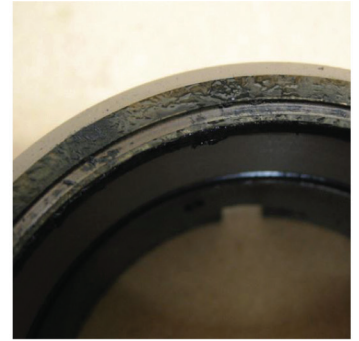
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Seal showing very nice and smooth seat face.



Seal showing discoloration and very rough, worn-out seat face.

The Risks of Using Oil Additives



Unusual failure mode caused by breakdown of oil additive after only 9 months in operation.



The Dirty Truth of Oil Additives



They promise performance, but often deliver gunk and sludge. Using "magic oil additives" can be risky. The best oil in a refrigeration system is the one recommended by the compressor manufacturer.



EDUCATION

GOOD THINGS COME TO THOSE WHO WAIT

After more than 25 years, RETA, in partnership with Hartnell College in Salinas, CA, have created an extensive industrial refrigeration training program.

by Don Tragethon

In the early 1990's the Monterey Bay RETA Chapter began a relationship with Hartnell Community College in Salinas, CA. The goal was to develop a training program to support the learning needs of industrial refrigeration operators and technicians. Classes were scheduled and delivered in the evenings, but unfortunately, the program was unable to gain meaningful traction.

Consequently, local RETA chapters developed a consortium that enrolled in a state of California Program that subsidized the training of people employed where industrial refrigeration was used. The efforts were pioneered by the San Joaquin Valley chapter and

became refined to an independent 501(c)(3) not-for-profit organization (the ARTS Academy) that was managed by Corine Schreck and her associates. The bulk of the training offered centered on RETA material and served to train people to be safe, effective operators and prepare them for RETA certification.

The ARTS Academy trained hundreds of students. One year, ARTS purchased more than \$30,000 in RETA course books. However, superfluous reporting and student vetting requirements caused the program to lose its appeal and effectiveness. The program ceased in 2012.

In that same period, a new Dean of Technical Training, Dr. Zahi Kannan-Attalah, came to Hartnell College to develop the technical program at Hartnell's East campus. Zahi contacted RETA headquarters with the hope that RETA National would work with Hartnell to pick up the goals and ideals first addressed in the early 1990s. I was

RETA National Executive Director at the time and saw that RETA National could not engage in the program development that he sought because of the strain on RETA's national operations. RETA needed 110 percent focus by staff and volunteer leadership on the challenges of the day.

Zahi was put in touch with the local chapter leadership and invited them to meet at the East Alisal Campus. They discussed Hartnell's goals and offered support from the college for meeting the chapter's goals. He proposed that perhaps the chapter would be interested in developing a training program that would use the out-of-service diesel/automotive classroom and shop. The chapter toured the metal building, then being used as a storage location.

Chapter leaders saw opportunity where many folks would see none. A steering committee was formed in January 2014 to do a needs assessment and develop a

While 15 students were needed to meet the budget goal, the class has 25 students from varying backgrounds and experiences.

program with the college. The chapter began presenting ongoing course book study in 2014 at Hartnell while discussion and negotiations continued.

In October of 2016 the Hartnell Foundation Steering Committee committed to a \$400,000 budget to support the costs of building improvement, secured storage and tooling to facilitate the programs to come. The college improved the 50-year old building to make it a good learning location.

Generous donations of equipment and materials were made by Parker Refrigerating Specialties, Danfoss and Teikoku Pump Company. I am so very grateful to these companies who graciously accepted and fulfilled my extensive parts request. These tools and apparatuses will be used in training from many perspectives.

Local companies contributed equipment and materials as well, including True Leaf Farms, Mann Packing, Western Precooling and Step Refrigeration. The RETA Chapter donated the mobile training trailer that can be configured as a two-stage system. These gifts from industries add up to more than

\$1 million if replaced with new. All these materials will definitely serve to enhance the learning of all the students who receive training.

It took the labor of volunteers to convert the building into a teaching center. More than 140 man-hours were donated in the days prior to the first training session.

The first class was an eight-hour introduction to ammonia delivered by the Ammonia Safety & Training Institute (ASTI). Fifty-five students received training that day. Thirty-five of these students were first responders from four agencies.

During the training, the first responders then practiced their new understanding by successfully responding to liquid ammonia releasing from cylinders. It was fitting that the first training presented in the new classroom was an outreach to the first responders.

On June 5, we held the first class of RETA Industrial Refrigeration Course One. Classes will continue on Monday evenings until the end of September. Four Saturday field trips to local facilities are planned as well. While 15 students were needed to meet the budget goal, the class has 25 students. These people have varying backgrounds and experiences.

Yes, good things come to those who wait. The ultimate goal is to build a program that introduces young people to the post-harvest technology industry while they are in high-school and provides a pathway to a great career.

Yo Quiero RETA

*by Kent Harmon,
Education Chairman*

Remember the old Taco Bell commercial that said yo quiero Taco Bell with the little Chihuahua dog? Well it's back sort of. Yo quiero means I love. RETA needs your help.

If you are a Spanish-speaking refrigeration operator, we need you.

The new version of RETA IR-1 is now complete. We need some Spanish speakers/readers to take book IR-1 and convert it to Spanish for all of our Spanish speaking operators. We have an increased demand for RETA's Spanish materials, so we need your help to convert this book.

Along with Jim Price the Education Manager, my job as Education Chairman is to form the team that will be responsible for this conversion. If you or anyone you know of would be interested in joining this world changing, life fulfilling, self-satisfying endeavor, please contact Jim Price or myself.

We will need a team lead and several volunteers to help this conversion go well. The more volunteers we have the quicker it will go.

To join this great project please contact Education Manager Jim Price Sr. at jprice@reta.com or Kent Harmon at kentharmon@ammonia.com.

KEY FINDINGS

from PSM/RMP Compliance Audits

by Jake Tilley, SCS Tracer Environmental

As you probably know, facilities that comply with the Process Safety Management (PSM) and Risk Management Program (RMP) regulations are required to conduct a compliance audit on the programs at least every three years. Herein, we will examine not only what the required elements are for compliance audits, but we will also investigate some common key audit findings at ammonia refrigeration facilities.

WHAT IS A COMPLIANCE AUDIT?

A compliance audit is an internal self-evaluation of a facility's PSM and RMP programs including the written policies and procedures, as well as the degree of implementation of those programs.

Internal self-evaluation means an employee or third party (consultant) acting on behalf of the facility conducts the audit. There is sometimes confusion whether a regulatory inspection from OSHA or EPA satisfies the compliance audit requirement, and the generally accepted interpretation is that they do not.

Written policies and procedures are the details that outline how the facility complies with each of the elements of the regulatory requirements. The written

PSM plan must address the specific criteria in the regulations, or it won't do any good to implement them!

The **degree of implementation** is evaluated primarily by reviewing documentation and records kept by the facility in its ongoing implementation of the programs. This would include records such as: employee training records, preventative maintenance records, contractor safety acknowledgements and training records, operating procedures certifications, management of change packages, etc.

WHAT ARE THE RESULTS OF A COMPLIANCE AUDIT?

When conducted thoroughly, compliance audits result in findings that lead to recommendations for improvements. These findings and recommendations are very important for facilities to address and resolve, as they become a prime target for any future regulatory inspectors. In fact, the findings and recommendations from internal compliance audits can serve as a checklist of deficiencies on a platter for an inspector!

WHAT ARE SOME KEY FINDINGS FROM COMPLIANCE AUDITS?

The following sections detail findings and pitfalls that are commonly

observed by auditors at ammonia refrigeration facilities.

Employee Participation:

- operating employees not included in process hazard analysis (PHA) studies;
- not including operating employees in ongoing PSM-related meetings such as PSM committee meetings where policy decisions are made, and where recommendations from PHA studies and compliance Audits are discussed.

Process Safety Information:

- not adequately addressing Recognized and Generally Accepted Good Engineering Practices (RAGAGEP);
- inaccurate or outdated Piping & Instrumentation Diagrams (P&IDs);
- insufficient and/or inaccurate descriptions of safety systems such as ammonia detection systems;
- lacking a detailed engineering calculation for the maximum intended ammonia inventory;
- insufficient and/or lacking details regarding the pressure relief design basis (how were the sizes of pressure relief valves (PRV) and headers determined?);

Process Hazard Analysis:

- PHA recommendations not completed or resolved in a timely manner and/or no documentation to indicate status;
- potential hazards with the ammonia system not fully evaluated by an appropriate team including an expert in the specific ammonia system, and an expert in the PHA methodology;
- PHA study not updated and revalidated at least every five years;
- PHA reports and documented resolutions to recommendations not kept on file for the life of the ammonia system.

Operating Procedures:

- procedures not reviewed adequately or certified annually by an appropriate team;
- details such as valve numbers, equipment naming identifiers (ID#), safety systems and their functions not in agreement with Process Safety Information;
- safe work practices such as confined space entry, lockout/tagout and test (LOTO & T), respiratory protection, and line breaks not implemented/ documented appropriately.

Training:

- employees not trained on the written standard operating procedures (SOP), with documentation;
- training records do not match written training policy;

- refresher training not provided at least every three years;

Contractors:

- contractors failed to provide proper documentation of training and/ or qualifications;
- facility did not request or obtain contractor acknowledgements of facility safety rules such as emergency action plan, LOTO & T, hot work permits, fall protection, etc.;
- contractors were not provided a written copy of the SOPs;
- evaluations of contractor performance were not documented by the facility.

Pre-Startup Safety Review (PSSR):

- PSSRs not documented when Process Safety Information was modified or updated.

Mechanical Integrity:

- records of preventative maintenance not in accordance with either: the written policy, industry standards, or manufacturer's recommendations;
- written policy does not consider recognized industry standard recommendations such as conducting five year mechanical integrity (MI) inspections and/or conducting annual system safety checks;
- MI policy does not consider such publications as IIAR Bulletins 109, 110, 114, and IIAR-2, etc.

Hot Work Permit:

- designated fire watcher failed to sign

off on the hot work permit following completion of the hot work job.

Management of Change (MOC):

- PSM and RMP elements identified in MOC paperwork are not fully updated, such as Process Safety Information, MI policy, SOPs;
- MOC team failed to adequately evaluate the potential impacts of the change on safety and health;
- appropriate authorization is not given or documented prior to physically making the changes.

Incident Investigation:

- investigations failed to properly determine the root cause of an incident or near miss;
- incident investigation reports did not document appropriate corrective actions to prevent the incident from happening again;
- corrective action items were not fully addressed, resolved, or documented.

Emergency Planning & Response:

- employees were not properly trained in the evacuation plan and/or their responsibilities associated with the plan such as: accounting for personnel, making notification phone calls, communicating with outside emergency responders, etc.;
- outside agency notification phone calls were not made, or the calls were not made in a timely manner in case of an actual ammonia release event

Continued on page 18

KEY FINDINGS

Continued from page 17

or related injury;

- facility failed to coordinate ammonia response actions without outside responders such as Fire Department, HazMat Teams, etc.

Compliance Audits:

- audit recommendations not addressed in a timely manner;
- facility failed to maintain a documented response to each audit finding;

RMP Management Systems:

- an RMP organization chart was not prepared that detailed the personnel responsible for the implementation and upkeep of the various components in the RMP program.

RMP Hazard Assessment:

- worst case scenario was modeled considering active mitigation measures such as active control of ventilation systems by leak detection system;
- the topography surrounding the facility was improperly classified either urban or rural;
- a report documenting the parameters, assumptions, conditions, and calculations for the worst case scenario and the alternate release scenario was not prepared.

By highlighting some key deficiencies noted in compliance audits at typical ammonia refrigeration facilities in this article, hopefully you can take actions to avoid being cited for some of these problems at your facilities!

Call for Nominations

As an association run by volunteers at both the local and national level, it gives us a lot of pleasure to honor those who choose to serve RETA in a variety of ways. Being a volunteer comes with its own personal rewards, but paying homage to those who serve allows us to publically validate these contributions and acknowledge the enormous gift their time has given to the organization.

So, this is the time of year when we ask you to think about who, in your RETA world, merits consideration for one of our annual awards.

It could be someone who always raises their hand at the Chapter meetings when a call for help goes out; or that person who approaches every situation as a teaching opportunity, furthering the understanding for those in our industry through training; or someone you just can't imagine not having around at every RETA function, event or activity

The following awards will be given out at the annual Conference in Hershey, Pennsylvania this September. They are named in honor of past RETA members who exemplified a specific strength that benefitted the RETA membership and our industry either through teaching, leadership or service.

Guy R. King Memorial Award

Recognizes outstanding job performances in education and training of members nationally and locally.

Elliott R. Hallowell Award

Honors the member whose record of service to RETA for the current year merits special recognition and reward.

Venneman Award

Recognizes an outstanding RETA member for a career marked by leadership and service to the profession and the organization.

Felix Anderson Award

Recognizes two individuals who have worked behind the scenes at the Chapter level and who are not on the national Board.

Here's what we'd like you to do ... identify who that special RETA person is in your area and jot down some reasons you think they should be honored.

Send this nomination and the supporting documentation to the Executive Director Jim Barron either by email to jim@reta.com or online at www.reta.com/nominations. Nominations must be received by July 31, 2017 in order to give the awards committee adequate time to consider the nominations.

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RETA TESTING CORNER

RETA's Testing and ANSI Guru



Dr. Ron Rodgers, RETA's Psychometrician (testing expert) and ANSI Accreditation Manager, has guided development of all RETA credentialing exams since 2002. RETA Testing Corner answers questions from RETA members, candidates and others to help qualified individuals prepare for and earn RETA credentials.

RETA invites comments on the RETA website at any time and at the end of every test. Over 350 candidates have commented about RETA exams since January 2016. One recent candidate suggested "having those in this profession write the questions."

RETA's Certification Committee (CertComm) validates, edits and reviews all RETA certification exam questions. CertComm includes eight end users in refrigeration, four in system design and consulting, one manufacturer and two from tech support, training and maintenance. They total over 340 years of experience in refrigeration system design, management, operations and maintenance and range from six to 50 years in industrial refrigeration. Three have served as President of the RETA Board.

Each RETA certification exam question must survive several rounds of careful review before it appears in a RETA exam. Each question must be supported by at least one reference available to RETA candidates, have only one correct answer, and measure knowledge or skills important to the safe and efficient operation of industrial refrigeration systems. CertComm also reviews all questions referred to in candidate comments or flagged by test performance data as specified in ANSI test accreditation standards.

RETA designs all exams to certify that a credentialed person is qualified to protect the safety of operators and employees whose lives may be at risk if refrigerant is released or other potentially life-threatening incidents occur. Each exam measures knowledge and skills RETA documented in collaboration with IIR and IARW in Ammonia Refrigeration Training Guidelines (2007). RETA will offer five credentials by 2018.

- **CARO** is the entry-level credential for operators who work under supervision.
- **CIRO** certifies that an operator is qualified to work without direct supervision.

- **CRES** certifies a candidate's qualifications to manage energy use and efficiency while maintaining the safety of refrigeration system operations.
- **RAI** focuses on the skills to prepare candidates for RETA credentials.
- A new Service Technicians credential is being developed based on IR3-2016 and RETA's Ammonia Refrigeration Compliance Guidelines (2016).

Candidates must select the BEST answer to each question. Each test measures both REFRIGERATION THEORY and APPLIED KNOWLEDGE. Credentials beyond CARO include many questions that challenge candidates to select, analyze and interpret data about operating conditions (such as discharge temperatures and pressures) to maintain or restore safe and efficient operations in refrigeration systems.

We welcome your questions about RETA's credentialing exams and activities. Send your questions by email to Dan Reisinger at dan@reta.com.

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The Shade Tree Mechanic, Volume XXVII

Keeping it in the Family



I had an interesting visit the other day with my third shift rounds man, Bobby. Bobby don't mix a lot of words. "Why can't we get more hours?"

Well I was a little surprised. My boys work really hard. I didn't really expect that any of them wanted more hours. But in Bobby's defense I never asked them. I assumed they wanted to work their shift and go home.

Bobby had done a lot of figurin. He had calculated the costs of overtime in comparison to what we were paying our service contractor. Bobby figures he can work overtime and save the company about \$45 per hour. Now I like the idea of savin some money, but I also want the work done right. Our system is way too important to let things be done ½ a**ed. But we kept a talkin.

I explained that many of the things we hire contractors for requires more trainin than our operators have. Bobby asked how many hours he would need to work to save enough money for more trainin. Ok, he had me. I believe in trainin anybody who wants trained. I never want one of my boys to get hurt because I didn't let them get more trainin.

So we made a list of stuff that we were paying a contractor to do. Then we set a schedule to complete trainin on the

items we thought could be done in house.

Once the other guys heard about this little project they wanted in. So we started out small. We learned how to clean condenser nozzles. That went really well. The water fight was fun.

We learned about oil draining. Now I don't want you to think that my boys don't know about stuff. They do, but I hadn't cross trained them as well as I should have. The better trained the team was, the more options we had as far as who got assigned work orders.

Next we tackled relief valve replacements. They were nervous at first. Then we had a problem, Jake didn't have the manifold completely backseated. We had a small release. It was small and Jake knew what the issue was right away and fixed it.

We learned how to pump equipment down. That took a little while. So many types of equipment and we learned our Standard Operating Procedures weren't as good as we thought. The SOPs are a lot better now. The Safety Guy groaned when he seen how many SOPs were listed on the MOC form.

Now we had a chat with our contractor. For the most part he's good with us doin more and calling him only when

we need him. But there are a few areas where he drew a pretty hard line.

#1 When opening a piece of equipment, even though we will be pumping it down, their service tech will verify the pumpdown. I'm ok with that it still saves us a lot of hours.

#2 They won't stand behind an oil sample unless they pull it. I thought about that for awhile and decided we could compromise. We will pull the spring samples, the contractor will pull the fall samples. That's our busy season anyway.

#3 All initial startups and charging of new equipment will be done by the contractor. This is to assure warranty considerations are met. Startups after repairs can be done by the contractor or my maintenance team depending upon how comfortable my guys are with the startup.

#4 Our Ammonia detection and ventilation systems are very important. So our contractor is doing fall calibrations and we are doing quarterly bump tests and the spring calibrations.

We still have the contractor as a backup if we get busy. Or start to fall behind. All in all I think we have a pretty good plan.

My guys will get a little more OT, the contractor will get a little less work, and my crew will be happier. Now with all that overtime, maybe they will stay away from my beer cooler ... under the shade tree.

SHOW YOUR PSM PROGRAM YOU CARE WITH A

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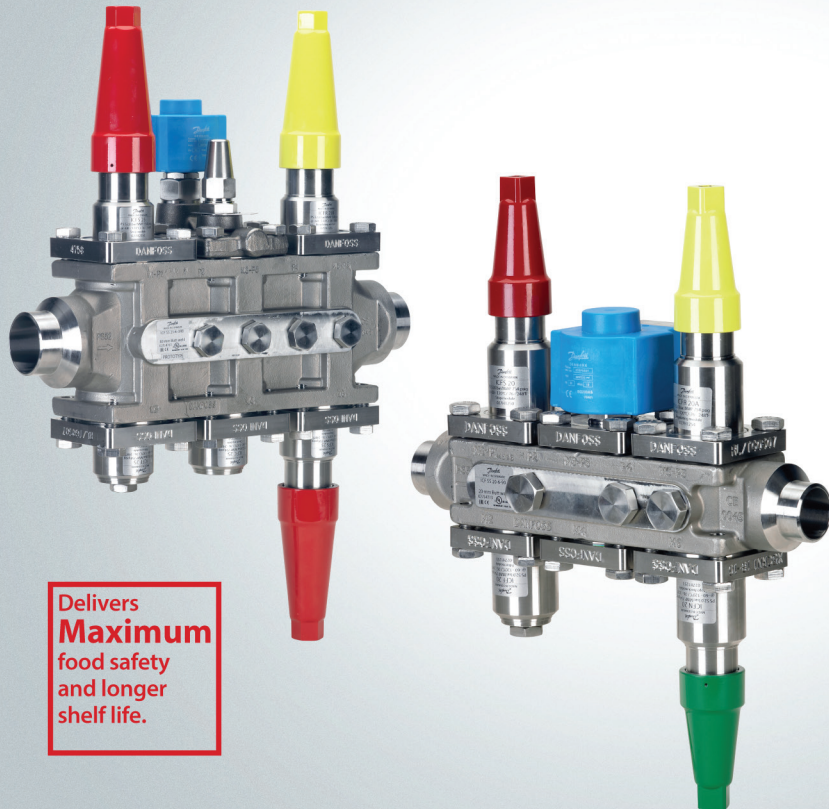
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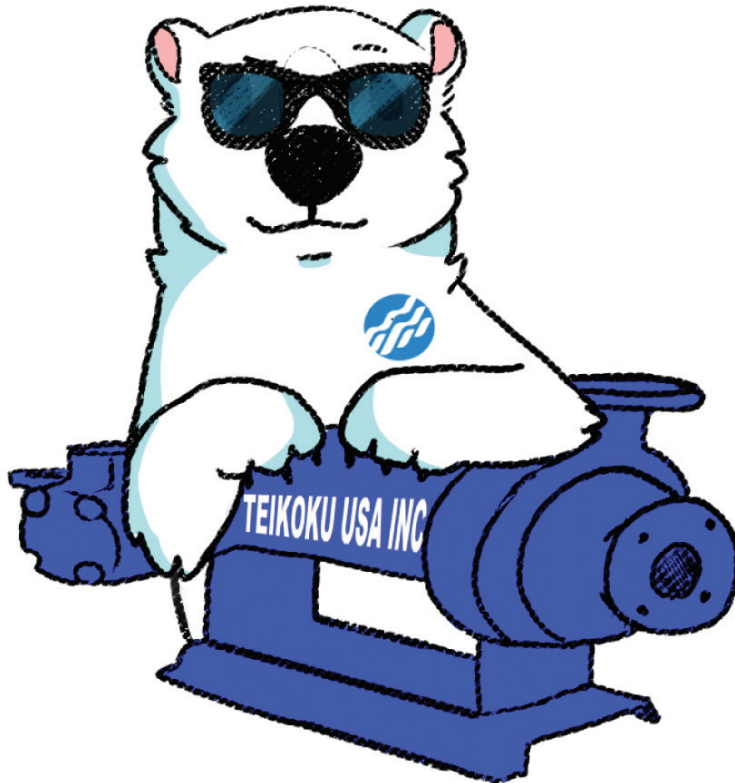
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