

RETA BREEZE

REFRIGERATING
ENGINEERS &
TECHNICIANS
ASSOCIATION

MAY/
JUNE 2023

WHAT'S COMING
UP THE DRAIN?





WMCA *2CB RETROFIT PUMPS

ZERO LEAKAGE • NH3 & CO2 RECIRCULATION



MADE WITH
HASTELLOY
TOUGH BARRIER.

NO
REVERSE
FLOW LINE

MAGDRIVE

VS.

CANNED MOTOR



We have Retrofits available *TYPE 2CB & COM-R



WARRENDER
warrender.com

NH3
HIGH HEAD
TRANSFER
SEAL-LESS
MAG-DRIVE PUMPS

MAIN EVENT

★ ★ ★ 7 ROUNDS ★ ★ ★



WARRENDER

MAG-DRIVE

VS.

CANNED MOTOR

- 1 Seal-Less, Zero Emissions
- 2 Low Probability Compliant
- 3 Reverse Flow Line Required
- 4 Standardized NEMA Motors
- 5 VFD Controlled & Monitored
- 6 Motor Cooling
- 7 Field Repairable Motor

RECIRCULATION
& TRANSFER PUMPS

YES

YES

NO

YES

YES

TEFC (Air)

YES



WINNER

RECIRCULATION
& TRANSFER PUMPS

YES

YES

YES

NO

YES

TELC (Liquid)

NO



2 STAGE
3 STAGE



BONUS ROUND:

WARRENDER Transfer Pumps are adaptable to existing accumulators & CPR's



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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FROM THE DESK OF THE PRESIDENT

Greetings My RETA Family!

I hope you are doing well and getting ready for the summer fun that is just around the corner. I would like to start off by giving THANKS to any one in our membership that has lost a loved one while patriotically serving our GREAT country. I know it seems like their sacrifice was in vain by watching the news and current events, but they are truly honored and never forgotten. God Bless the families of fallen soldiers and our Veterans!!!

We are currently at the sixth month of my presidency at the time of this writing. I stand amazed at the accomplishments this Board of Directors has accomplished up to this point. I am very proud to be presiding over the 2022-2023 elected Board of Directors leadership. It truly is an honor to serve with such a committed and diverse group of individuals that have a genuine love for RETA. We are definitely moving mountains this year.

The initiatives that have been introduced up to this point and passed, will position our organization to achieve a long and lasting impact for future generations of industrial refrigeration operators. These initiatives range from creating a stronger alliance with our coalition of trade organizations to promoting RETA worldwide. The current Board of Directors are focused on expanding our reach globally with the desired intent to have a profound influence that would provide an immediate impact on safe and efficient refrigeration system operation



*Bengie Branham,
RETA National President*

internationally.

As to our coalition partners, we are embracing the concept to provide Certified Operator training opportunities at our coalition conference gatherings. This has been level of cooperation discussed in the past but hasn't had an opportunity to move forward up to this point. We are now there and this particular initiative is being embraced with open arms from mostly everyone in the industry and associated memberships.

The Board of Directors have also committed funding for a Marketing Professional. This particular staff position will provide our organization the ability to focus on promoting our core values and mission statement in many areas of industry both nationally and internationally. This position will provide the organization an opportunity to establish



SCS TRACER ENVIRONMENTAL

WHERE SCIENCE GETS DOWN TO BUSINESS

Risk Management & Air Compliance

- Ammonia Detection System Calibration
- OSHA Process Safety Management
- Industrial Refrigeration **H**-III Training
- PSM/RMP, HAZWOPER Training
- EPA Risk Management Programs
- Mechanical Integrity Inspections
- Compliance & Safety Audits
- Storm Water & Spill Plans
- Compliance Tracking
- Air Permitting




SCS ENGINEERS

VOLUNTEER OPPORTUNITY

WE WANT YOU!





RETA 2023 National Conference is searching for Certified CIRO & CRST Volunteers for the following Hands-On Sessions:

- Oil Draining
- Liquid Line Break
- Dump System
- PRV Replacement
- Ammonia Charging
- Control Valve Isolation
- Repair & Setting of Metering Valves, Strainer & Dual Pressure Regulator Setting

an outreach strategy to attract non-members by promoting RETA's contributions to industry that have allowed themselves to grow indirectly and what a membership can provide to continue that growth in full capacity.

And finally, I would like to announce the appointment of Jodie Rukamp to Marketing

Chairman and Vern Sanderson to the Publication Chairman. Both Jodie and Vern have a have shown a committed desire to advance the RETA message through marketing and publications. The strategies they will initiate and move forward will definitely have a major impact in promoting RETA in the foreseeable future.

And we are only six months into this year. More to come!!

God Bless each and everyone.

FROM THE DESK OF THE EXECUTIVE DIRECTOR

Hello RETA,

Spring is here and what a beautiful time of year it is. Everything is blooming and honeybees are hard at work which brings to mind new growth and new beginnings.

The mission statement gives us a clear understanding of why RETA exists "To enhance the professional development of industrial refrigeration operating and technical engineers". As RETA members we all have an unstated obligation to help mentor, educate, and support those around us in the industry. This is the perfect time of year to grasp the new beginnings mindset and come up with new ways to support and enhance directive.

As an association, we have a long and memorable history with over 113 years of service. With such a long and notable past full of thinkers and doers, look at your role in the industry and make your mark in history. Take time to think about how you can begin to serve your fellow RETA members. This often can be as simple as helping someone who is struggling to understand a refrigeration concept or operating procedure. It can also be volunteering at a local RETA event or by becoming a chapter leader or board member. As Ralph Waldo Emerson once wrote, "It is one of the most beautiful compensations of life that no man can sincerely try to help another without helping himself...."

RETA staff and Board of Directors take this attitude of servitude and gratitude into every action on behalf of RETA. We understand that we are there to serve you – the RETA members. Staff and board members are advocates of the membership and help to ensure a clear and new path for RETA's future, while still embracing RETA's past. It's an exciting time for RETA and we can't wait to see what the rest of the year brings.

The conference staff are busy as bees while developing and planning content, opportunities, and events for the upcoming national conference in Jacksonville. With such a great educational program and exciting new events (can we say hockey anyone), we're pretty confident it will be the best one yet. The exhibitor booths are completely sold out but there are still sponsorship opportunities available. Registration is opening soon and once you take a look at the offerings and schedule, I know you'll want to join us. I hope to see you all there!

I would like to congratulate Vince Grindel on his upcoming retirement. It's with mixed emotions that I make that announcement as I am saddened by his departure, but I am immensely happy that he will be able to enjoy the fruits of his many years of hard work in the industry and possibly start some new beginnings of his own. It's been an absolute privilege and honor to work alongside such a dedicated individual. Please reach out and thank Vince for his decades of service to the industry and to RETA.

Until next time please be safe, have a great spring.

Best Regards, and God Bless you all.

Jim Barron

Executive Director



A handwritten signature in black ink, appearing to read "Jim Barron".

Jim Barron
RETA Executive Director

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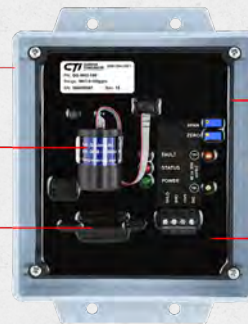
Customer service is our top priority!
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Built for harsh conditions. Designed to prevent false alarms.

Wash-down duty poly-carbonate or stainless enclosure options

Extended-life electrochemical cell offers years of reliability

Intelligent heater for temperature and moisture control



Splash guard redirects water from high pressure hose-hits towards bottom of enclosure

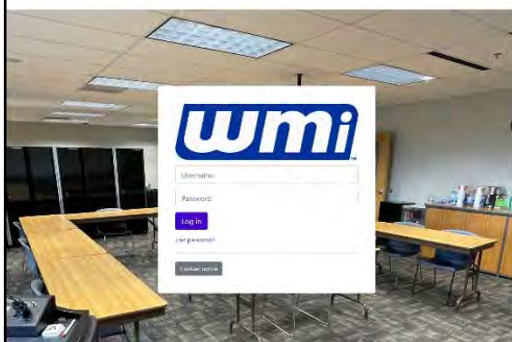
Circuit board and components potted to completely prevent corrosion



*An entrance can be a doorway or a window,
you have a choice...*

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at Indiana Wesleyan University - Fort Wayne Education
and Conference Center*

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Questions? Call (260) 615-0942

EMAIL: Registration@WMILLC.com



WHAT'S COMING UP THE DRAIN?

***What??, I'm sorry, don't you mean
"What's going Down the Drain?"***

To help answer that question, maybe we should ask "What went down the drains in the first place?" And how confident are you that it'll stay there?

Far too many facilities seem to forget about the vital part their drainage system plays in facility safety.

It's typical, most people give little to no thought to what is going down their sewer drains. You push the handle and magically "it's" gone. Out of sight, out of mind. In a residential setting this is clearly understandable. But in a food manufacturing facility, things may not be so simple.

Consider what goes down the drain in a typical food processing plant.

In an Industrial food manufacturing facility, a lot of water goes down the drain. Let me be more specific, I'm talking about Sanitary Sewer Drains. All water drains inside a facility are tied to the sanitary sewer; or at least, they should be. Please note, there is huge difference between sanitary sewer drains and storm drains. Storm drains are designed to direct rain water to surface drainage, IE, creeks, streams, rivers, lakes and eventually to the ocean. The rule of thumb about storm drains is "if it didn't fall

from the sky "rain", or if it isn't something that you would drink, DON'T put it down a storm drain.

As an example, a Refrigeration Operator that was doing a pump-down on an Ammonia cooled Ice Maker. The Ice Maker had some residual ammonia, so instead of allowing a compressor to draw the machine down, then connect a venturi; he decided to "bubble" Ammonia vapor into a barrel of water. The water in the barrel became saturated with Ammonia, so he stuck a water hose in it and proceeded to flood the parking-lot with a few hundred gallons of Ammonia Water. The parking lot drain fed directly into a storm drain and within an hour the water reached the out-fall to a local scenic River. OMG, the preverbal - - - hit the fan. There were representatives from the City Public Works, the Fire Chief and a whole bunch of stuffed

suits all wanting to know why the facility was killing fish in a public waterway.

You won't find any evidence of this incident, but you can find this one:

FROM THE DAYTON DAILY NEWS:

Toxic spill at Ohio ██████ plant kills 8,000 fish

██████ | A caustic cleaning solution released, wiped out the yogurt factory's waste pretreatment system over the weekend, creating a potent discharge that overwhelmed ██████ village's wastewater treatment plant and killed at least 8,000 fish in the ██████ Canal.

Sunfish, large- and small-mouth bass, channel and bullhead catfish, suckers, carp, minnows, shad and crawfish were among the casualties along a two-mile stretch of the canal downstream of the wastewater plant, said Joel Buddelmeyer, lead investigator of the pollution incident for the state Division of Wildlife.

The value of the fish killed exceeds \$1,000, but the exact value won't be established until investigators finalize the number of fish killed, which could exceed 10,000, Buddelmeyer said.

██████, which accounts for about half of the 900,000 gallons of waste treated daily by ██████'s wastewater plant, immediately stopped production and discharging waste after the spill was detected Monday, company spokesman ██████ said.

While the company has since resumed some production, it is having the waste hauled away under a temporary arrangement, ██████ said. Meanwhile, the village is trying to restore its capability to treat sewage after the potent brew of ██████ products and 4,000 gallons of cleaning solution discharged ██████ killed much of the bacteria that digest waste, said ██████, superintendent of water and wastewater treatment for the village of 2,800.

He said 17,000 gallons of "activated sludge" have been trucked in from the nearby village of ██████ to help raise bacteria levels.

Ohio Environmental Protection Agency officials expect it will take another day or two before the plant can sufficiently treat its sewage to meet Clean Water Act requirements and begin discharging into the canal, agency spokeswoman Dina Pierce said.



No facility wants to be subjected to this type of citation

Process water, sanitary water and wash down water, are all pretty benign. Lots and lots of water, a little debris, maybe some spilled product, a small amount of cleaning fluids. No big deal. Now consider CIP cycles. Hot solutions of up to 140F water. Along with the water there are cleaning, disinfection and rinse chemicals. CIP chemicals that may contain acids, caustics, buffers and sanitizers. COP tanks also discharging to a drain, and that's just on the Product side of the plant.

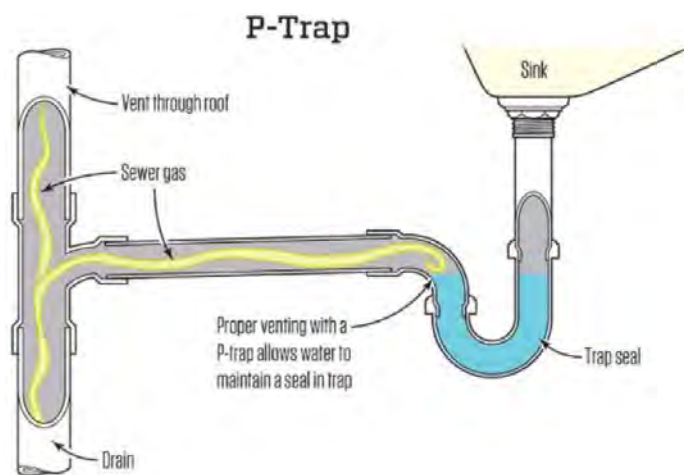
Now consider water from the utility side of the plant; Boiler blow-downs "very hot water". Cooling tower overflow, sanitary water system with lots of "stuff" all going down the same Sanitary Sewer System and comingling beneath the floor of your plant.

We learned in Highschool chemistry, that Acids and Caustics don't really like each other. When they get all mixed together, they will tend to off-gas. Heat from blow-downs and process hot water flushes compound the problem. We end up with a chemical soup that off-gasses.

Over a period of time, the plastic pipes installed (????) years ago when the plant was first built, will break down and erode. PVC pipe, or even worse metal pipes don't last forever. Thermal expansion, turbulent flow, chemical reactions and age, all play a factor in, not if pipes will wear-out and fail, but when they fail.

Sewer systems are designed with traps in them to prevent the backflow of sewer gasses. This device is called a P-trap. P-traps are U shaped pipe that traps a small amount of water, and forms a "seal", preventing backflow of gasses into the facility. P-traps failure takes place in two primary ways. One is by physical erosion and or damage, lots of water flowing down the drain pipe and the other by chemical erosion / determination of the pipes and P-traps.

I was recently talking with a maintenance manager at a fluid milk plant. He was telling about a drain that was draining too slow. An employee decided to use a piece of pipe to help



clear the clog. The water finally started to drain away. Unde-nounced to the employee they had knocked a hole on the P-trap. Water drained, but instead of going into the sewer, water accumulated under the slab.

Once the piping and P-traps are compromised, sewer gasses can back up into the facility. Sewer gas consists of several different compounds depending on the facilities' cleaning agents and the off-gassing this "sewer soup".

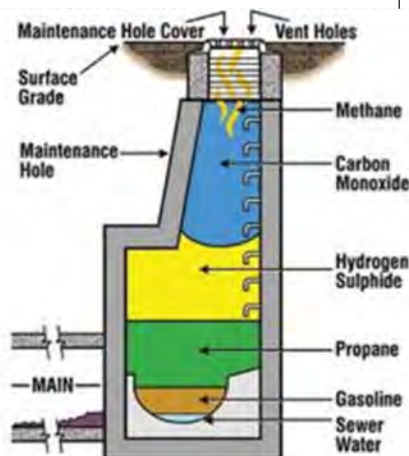
Raw sewage or "potty water" contains, let's call it "bio-mass". As bio-mass naturally breaks down in the system, it releases 2 hazardous gasses. Both gasses are can be harmful to humans. One gas is Hydrogen Sulfide "H₂S" and the other is Methane.

Hydrogen sulfide, H₂S, is a highly toxic and flammable, color-less gas with a pungent odor, some people say it smells like rotten eggs. H₂S is heavier than air, therefore it tends to accumulate at the bottom of less ventilated spaces. Although very pungent at first, it quickly deadens your sense of smell. H₂S occurs naturally as a result from bacterial breakdown of organic bio-mass, including human and animal wastes.

Methane, colorless, odorless gas that occurs abundantly in nature and is a byproduct of the decomposition of bio-mass. Methane is the simplest member of a series of hydrocarbons and is among the most potent of the greenhouse gases. Methane is lighter than air, and so it will rise into the air. It burns readily in air; the flame is pale, and very hot. Methane in general is very stable, but mixtures of methane, air and other flammable gasses, it may create an explosive atmosphere.

See the diagram of where other sewer gasses may accumulate.

Additionally, other gasses will be produced by the chemical reaction of the "sewer soup". Heat "hot water" can help acceler-ate the chemical reaction between acidic cleaning agents and caustic neutralizing agents. Both



of these chemicals are commonly used during a CIP cycle. The outcome can result in a toxic, slightly flammable sewer soup gasses.

Imagine the repercussions of inadvertently mixing ammonia discharge from your purger, with chlorinated cleaner from your process area.

Over time, a condition known as "Sick Building Syndrome" may occur.

Per the EPA:

The term "sick building syndrome" (SBS) is used to describe situations in which building occupants experience acute health and comfort effects that appear to be linked to time spent in a building, but no specific illness or cause can be identified. The com-plaints may be localized in a particular room or zone, or may be widespread throughout the building. In contrast, the term "building related illness" (BRI) is used when symptoms of diagnosable illness are identified and can be attributed directly to airborne building contaminants.

Reference: (Indoor Air Facts No. 4 (revised) Sick Building Syndrome) United States Air and Radiation (6609J) Research and Development Environmental Protection (MD-56) Agency February 1991

"Sick Building Syndrome" is not an easily curable condition. It takes extensive research and, in most cases, massive amounts of cash to remedy. If remediation is even possible.

In closing, drain and drain maintenance is a vital part of the overall safety of any industrial facility. If you haven't given this thought before, you should give this thought now.

The author, Joseph Baldwin is the President and Senior Safety Consultant at Baldwin Safety Solutions, Joe can be contacted at Joe. Baldwin16@yahoo.com should you have questions or comments concerning this article

Additional Information:

For more information on topics discussed in this Fact Sheet, contact your state or local health department, a non-profit agency such as your local American Lung Association, or the following: National Institute for Occupational Safety and Health

US Department of Health and Human Services 4676 Columbia Parkway (Mail Drop R2) Cincinnati, Ohio 45226 Public Relations Office. www.cdc.gov/niosh/homepage.html

American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) 1791 Tullie Circle, NE, Atlanta, Georgia 30329. www.ashrae.org

Building Owners and Managers Association International 1250 Eye Street, NW, Washington, DC 20005 www.boma.org

Or contact your Safety Consultant.



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We are a full-service company that offers non-bias services that meet compliance with:

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- Incident Investigation/Root Cause Analysis

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- Five-Year Mechanical Integrity Inspections
- Annual Mechanical Integrity Inspections
- Valve tagging
- Equipment/Pipe Labeling
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- Non-Destructive Testing
- Verification of Safety Devices

ENGINEERING

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- Machine Room Ventilation Calculations
- Material and Energy Balances
- Safety Relief Vent Design Studies
- P&IDs
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YOU'VE GOT A QUESTION FOR RETA HQ...

RETA HQ is open from 7:30 am to 5:00 pm (PST) Monday-Friday.

Please contact us at 541-497-2955 or TOLL FREE 1-844-801-3711.

You may also reach us by fax 541-497-2966 or the website www.RETA.com.



CONFERENCE CORNER



J A C K S O N V I L L E

RETA 2023 NATIONAL CONFERENCE

NOVEMBER 14TH-17TH, 2023

HYATT REGENCY
RIVERFRONT LOCATED IN
JACKSONVILLE, FLORIDA



This year's RETA 2023 National Conference will be filled with hands-on training, workshops, technical presentations, networking events, and an expansive exhibit hall with 100+ diverse exhibitors eager to speak and partner with attendees, offering solutions to support a multitude of organization roles in refrigerants.

We have several educational topics for everyone ranging from students to experts in the industry. Our conference has an all-encompassing, educational program helping you, at any level of experience and position, to grow within the industrial refrigeration industry.

Experts within the refrigeration industry submitted abstracts in the fields of manufacturing, engineering, compliance, operations, and workshops. We had an overwhelming response with over 50 submissions! The review and selection process are now behind us, and the Technical Committee is pleased to announce the 2023 sessions offered in Jacksonville.



REGISTRATION IS NOW OPEN!

RETA National conference provides a unique gathering of networking, learning, and fun into a single platform. Please remember to plan to come early for pre-conference education:

Saturday-Monday, November 11-13, 2023

8:00am - 5:00pm – Train the Trainer, CARO, CIRO, CRST, CRES Review Courses

Monday, November 13, 2023

8:00am - 4:30pm – Management of Change Workshop (\$20 fee; *preregistration is required*)

8:00am - 3:30pm – Adult and Pediatric First Aid/CPR/AED (\$50 fee; *preregistration is required*)

Tuesday, November 14 - Friday, November 17, 2023

8:00am – 11:00am & 1:00pm – 4:00pm – Certification Testing (*Friday 8:00am – 11:00am only available*)

Tuesday, November 14 – Friday, November 17, 2023

8:00am – 5:00pm – Technical, Hands-On, Manufacturing Sessions, Workshops



2023 TECHNICAL TOPIC SESSIONS:

Compliance:

- What to Expect Post Ammonia Release
- Life Cycle of a Recommendation
- Choosing a High-Quality PHA Facilitator
- Unraveling the 5-Year MI Paradigm
- IIAR Suite of Standards Update (Compliance/Engineering/Operations)

Management:

- Finding Operators: Exiting Military as One Option
- Hands On Training vs Classroom Training: Which is Really Better?
- Understanding Communication Types
- Hot Work Permits for Ammonia Refrigeration Systems (Management/Compliance)

Operations:

- Preventing Hydraulic Shock in Refrigeration Systems
- Using Statistical Methods to Ascertain Running Condition of Glycol Pump
- Ammonia Hoses Unrolled (Operations/Compliance)
- A Cold Shower (Operations/Compliance)
- Passivation of Condensers (Operations/Engineering)
- Reality Check! Energy Management from An Operator's Perspective (Operations/Management)

Engineering:

- War Stories - Tales of an Ammonia Refrigeration Engineer
- The Enhanced MEB—So Much More Than A PSM Document
- Is it Worth the Energy - ROI Workshop
- A New Hire's Guide to Thermal & Moisture Protection

Workshops/Other:

- Management of Change (Monday, November 13th; 6-hours, pre-register, \$20 fee)
- CPR / AED & First Aid (Monday, November 13th; 6-hours, pre-register, \$50 fee)
- Epic Fails
- Summary of Natural Refrigerant Codes & Standards
- WiNR Workshop
- Chapter Leaders Round Table
- The Operators Challenge
- Industrial Refrigeration Round Table - Lessons Learned
- The History of Refrigeration

Additional educational sessions such as Hands-On and Manufacturing will be available to choose from. There will be something for everyone. These sessions will not only be worth 1-2 PDH credits, but you will gain invaluable information and knowledge from a trained professional instructing the class. Each session will be held 2-3 times during the conference allowing you the opportunity to attend as many educational sessions as possible.





NETWORKING & SOCIAL EVENTS

Plan to work hard and play hard. RETA offers additional networking and social events scheduled throughout the conference. You won't want to miss the fun line-up we have planned for RETA 2023!

Monday, November 13th

Top Golf Networking & Lunch: 12:00pm-3:00pm
(\$100 fee, preregistration is required; transportation provided. Includes networking, lunch, and beverages)

Sponsorship Opportunities Available



Monday, November 13th

Autobahn Indoor Raceway Welcome Event: 7:00pm-10pm
(No additional fee, preregistration is required; transportation provided. Includes racing, video arcade, axe throwing, dinner, and beverages)

Co-Sponsored by: Farley's Frigeration & Risk Management Professionals

Tuesday, November 14th

Chapter Leader's Reception: 5:00pm-8:00pm
 Sponsored by: Evapco

Tuesday, November 14th

Exhibit Hall Opening Reception: 5:00pm-8:00pm
 Sponsored by: Evapco

Tuesday, November 14th

WiNR (Women in Natural Refrigeration)
 Networking Event: 7:30pm-9:00pm
(No additional fee, preregistration is required; All persons welcome)
 Co-Sponsored by: General Refrigeration

Tuesday, November 14th – Thursday, November 16th

RETA After Hours Lounge: 8:00pm-11:00pm
 Co-Sponsored by: Vapor Armour

Wednesday, November 15th

RETA Rumble & Breakfast: 7:00am-9:00am
 Sponsored by: Farley's Frigeration

Wednesday, November 15th

Past President's Dinner: 4:30pm-7:30pm
(by invitation only)

RETA 2022 National
 Conference
 (top to bottom)
 Monday Night
 National Automobile Museum;
 RETA Rumble &
 Breakfast; Past
 President's Dinner
 Comedian; Awards
 Night Hypnotist
 Show



Wednesday, November 15th

Jacksonville Icemen

Hockey Game: 7:00pm-10:00pm

Co-Sponsored by: Clauger USA and Farley's Refrigeration

Thursday, November 16th

Sip n Dip: 6:00pm-7:00pm

Sponsored by: Vapor Armour

Thursday, November 16th

Awards Night: 7:00pm-9:00pm

Sponsored by: LEWA

Friday, November 17th

Big Ticket Items Drawing: 1:30pm & 2:30pm

(Must be present to win!)

EXHIBITOR OPPORTUNITIES:

Wow! RETA 2023 booths are SOLD OUT! Over 100 different industry relevant companies are participating in the RETA 2023 National Conference as exhibitors. If you didn't get a booth this year, no worries, there are options to participate at RETA 2023 National Conference! Become a sponsor today! Visit www.reta.com or contact Stephanie Date today at 541-497-2955 or stephanie@reta.com.

EXHIBITOR/OPEN HALL HOURS

Saturday, November 11, 2023

Advanced Freight In: All Day

Sunday, November 12, 2023

Advanced Freight In: All Day

Monday, November 13, 2023

Exhibitor Move-In: 8am-6pm

*Top Golf Networking: 12:00pm-3:00pm

*AutoBahn Indoor Raceway: 7:00pm-10:00pm

Tuesday, November 14, 2023

Exhibitor Move-In: 8am-4pm

Exhibit Hall Opening Reception: 5:00pm-8:00pm

*RETA After Hours Lounge: 9pm-11pm

Wednesday, November 15, 2023

*RETA Rumble & Breakfast

Exhibit Hall Lunch Buffet: 12pm-2pm

Exhibit Hall Reception: 3:45pm-6:15pm

*Jacksonville Icemen Hockey Game: 7:00pm-10:00pm

Thursday, November 16, 2023

Exhibit Hall Lunch Buffet: 10:45am-1:15pm

*Pre-Banquet Sip N Dip: 6pm-7pm

(Attendance requested)

*Awards Night: 7pm-9pm

(Attendance requested)

*RETA After Hours Lounge: 9pm-11pm

Friday, November 11, 2022

Exhibit Hall Breakfast Buffet: 7:30am-10:30am

Exhibit Hall Closes: 10:30am

*Big Ticket Drawing: 1:30pm-2:30pm

**Indicates event location outside of Exhibit Hall.*

EXHIBITOR

RESTRICTIONS:

RETA 2023 is a NON-HEAVY Equipment Show. The Hyatt Regence Riverfront Jacksonville Exhibit Hall is on the second floor with weight and dimension restrictions.

Exhibit Hall Height:
21'H

Exhibit Hall Door:
7.8'H x 7.2'W

Exhibit Hall Foyer Height:
13'H

Exhibit Hall Foyer Hall Door:
7.5'H x 7.2'W

Freight Elevator Dimensions:
18' L x 8' H x 8' W

Freight Elevator Weight Capacity:
6000 lbs.

Limited Heavy Equipment exterior space is available for an additional fee. Please email Stephanie@reta.com or call 541-497-2955.

SPONSORSHIP OPPORTUNITIES:

There is still room for you at the 2023 RETA National Conference! Our sponsors are what make the RETA National Conference a success! We hope that you will continue to be a part of our conference this year as a sponsor, exhibitor, or both. Exposure is everything!

- Meals
- Sponsored Items
- Gift Cards
- Big Ticket Items
- Networking & Special Events
- Media & A/V Advertisement Options
- Hot Point & Visibility Options
- Custom Sponsorships

Can't attend RETA 2023? No problem! You can continue your sponsorship. RETA will ensure your company name is represented during the conference, even if you are not physically there. Visit <https://reta.com/page/2023-conference-become-exhibitor-sponsor> to view Exhibition and Sponsorship Opportunities.



CALLING ALL VOLUNTEERS & MODERATORS:

Join our fabulous team of volunteers at the RETA 2023 National Conference. We have several volunteer opportunities with flexible schedules for any level of participation. RETA volunteers directly impact the success of the conference with opportunities such as:

- Registration Booth
- Photographer / Photobooth
- Decorations / Signage
- Session Moderator
- Cornhole Tournament

No experience necessary. All training will be provided onsite at the conference. Please contact Stephanie at stephanie@reta.com or 541-497-2955 for more information.



SPOUSE & GUEST PROGRAM

The Hyatt Regency Riverfront Jacksonville is the perfect venue to relax and have fun. Located along the St. Johns River, you can catch some sun next to the rooftop pool, see dolphins cresting the river, or take a brief 6-minute walk to shops and dining. Accommodation offered at the Hyatt Regency Riverfront **includes 2 restaurants, 1 outdoor pool, 2 bars/lounges, 24/7 grab and go market, and a 24-hour health club.** The RETA National Conference is a fabulous opportunity to work and play. If your spouse or companion can join you in Jacksonville, you will want to consider this very special program.

Our guest program includes an exclusive Guest Program schedule of events with an array of activities and off-site adventures. Schedule of guest program events can be located by visiting www.RETA.com and selecting 2023 Conference.

*A spouse or companion may only attend the program as a partner of a registered attendee. During the registration process, you will be presented with the procedure for adding your spouse or companion as part of your registration.

Spouse/Guest Package: \$340

- Exclusive RETA Spice Gift Bag
- Top Golf Networking (\$100 fee)
- Autobahn Indoor Raceway Monday Night Out
- Daily Continental Breakfast & Buffet Lunch
- Scavenger Hunt
- Opening Reception
- RETA After Hours Lounge
- Sip n Dip Reception
- Awards Night
- Day Trip St. Augustine (\$100 fee)
- Crafting Activities
- Games & Prizes

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IN REMEMBRANCE

Theodore "Ted" Klaus - Age 67

Ted passed away April 21st 2023 after a battle with Cancer.

Ted was a devoted Husband, Father, Grandfather as well as an avid Hunter, Fisherman, Boater and Golfer. A longtime employee of DualTemp for 39 years where he started as an apprentice service technician, with hard work and knowledge moved up the ranks to service manager, construction sales and finally a title of Vice President.

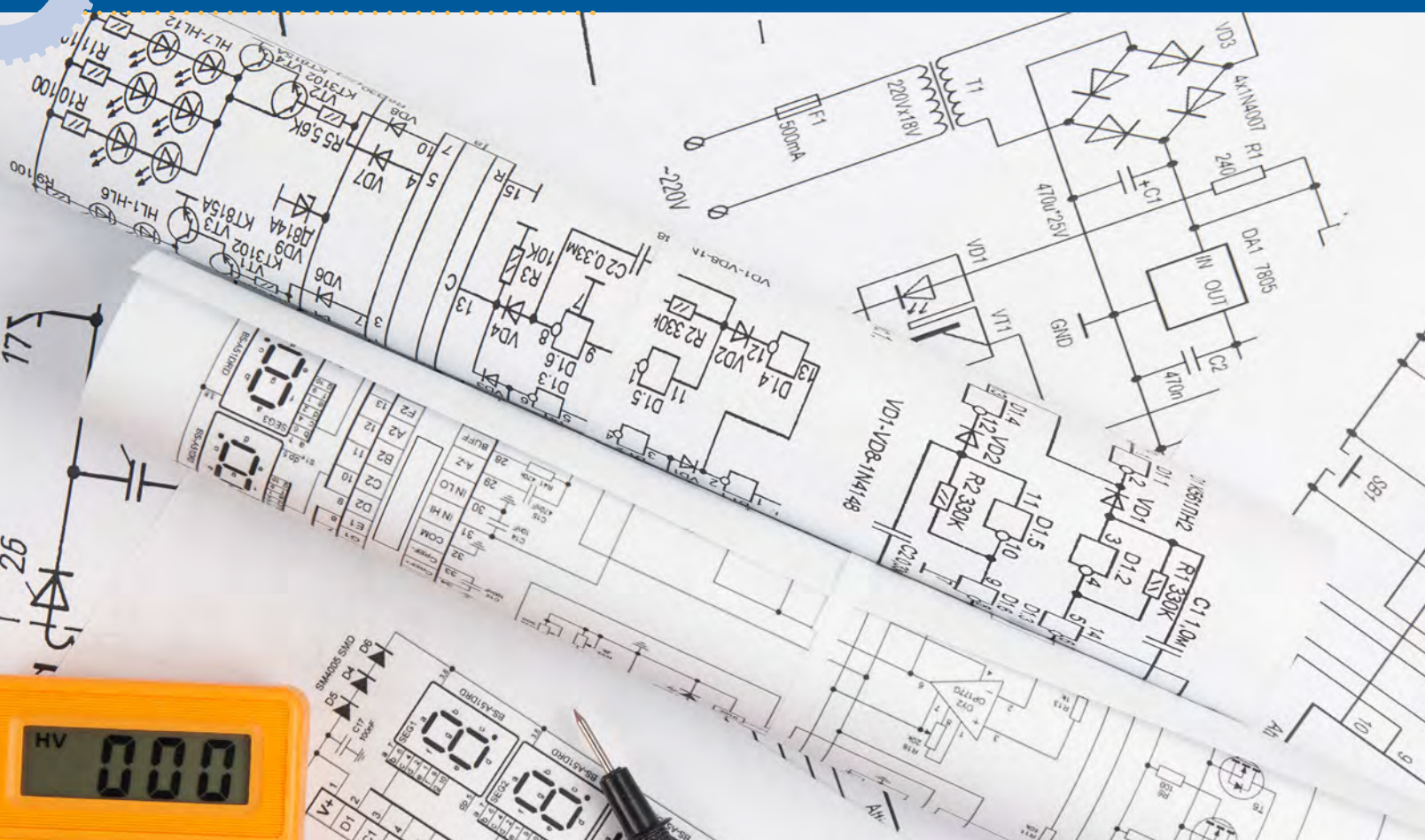
He loved people and always had a joke, "wise crack" or a story to share. If Ted was there, you knew a good time was going to be had. He had numerous friends both in and out of our industry and was a firm believer in being a friendly competitor.

Ted was a longtime active member and supporter of the Chicago chapter of RETA. He served as an officer as well as chapter president several times and was currently on the board of directors. He had also served RETA National board as a committee member in the past.

Ted never missed an opportunity to attend the National conference and enjoyed the comradery that accompanied the event as well as the numerous golf outings he participated in.

He also donated both his time and support to many charities, the one closest to his heart was Embrace Emily which was started for one of his daughters. The family has mentioned donations to this charity are appreciated. You can find them at <https://embraceemily.org>.

EDUCATION CORNER



Recently a meeting of the Education Committee was held to discuss the status of the ongoing projects, efforts, and ways forward. The main topic for discussion: how to involve more members in the Education Committee projects. The RETA Board of Directors has set the goal of having each and every book reviewed on a 5-year rotation. This goal ensures the material is fresh and relevant. To accomplish this goal RETA needs your help.

The Education Committee is pleased to announce the long-awaited arrival of **Basic Electricity TWO – Ladder Diagrams** is finally available in the RETA Bookstore. This book was originally produced in 1986 as a means of helping RETA members read and use ladder diagrams. BE2 was revised and updated

in 2006. This most recent edition has been in the review and update process for several years. The goal has been to try to keep up with the rapidly changing controls landscape.

Exciting new projects include an update for the **1970 edition Controls Theory and Fundamentals ONE & TWO**. In the works is a new Spanish version of IR-1.

Your Education Committee Chair is currently working on the layout of volunteers regarding the book reviews based on the meeting back in April. AND Here is where we call for volunteers to assist in the review process. We CAN'T do this without you and you can earn continuing education credit (PDH) for participation in the Education Committee.

Please contact: Eric Girven, RETA Education Committee Chair, EGirven@scsengineers.com or Jim Barron, Executive Director, jim@reta.com.

Finally, I am both happy and sad to officially announce my retirement. It's been an honor and privilege to work with all of you. William James once said, 'The greatest use of a life is to spend it on something that will outlast it.' I feel that we have done excellent work in the Education Committee, leaving a legacy which will carry on throughout the years. I'm proud of what we have accomplished together, and I want to thank you all for letting me be a part of your team.

BLOWING OFF SOME ~~STEAM~~ AMMONIA

- REVISITED

By Bill Lape, SCS Engineers

It never seems to end. Every time one of our engineers goes to a facility to perform an audit, PHA, or MI inspection, we find SRVs installed in a manner in which all we can do is shake our head.

Maybe the installing contractor ran out of pipe in the picture above, or maybe the prevailing winds at this facility are from left to right in the photo. At any rate, this PRV installation does not comply with IAR2-2021, Sections 15.5.1.2 and 15.5.1.5, which state:

15.5.1.2: The termination of discharge piping relieving to atmosphere shall be not less than 15 ft (4.6 m) above grade and not less than 20 ft (6.1 m) from windows, doors, and ventilation intakes. These PRVs are less than 15 ft above grade.

*15.5.1.5: *The termination of the discharge shall be directed upward and arranged to avoid spraying ammonia on persons in the*

vicinity. Since the PRVs are not connected to the relief piping, they are not discharged upwards when they lift.

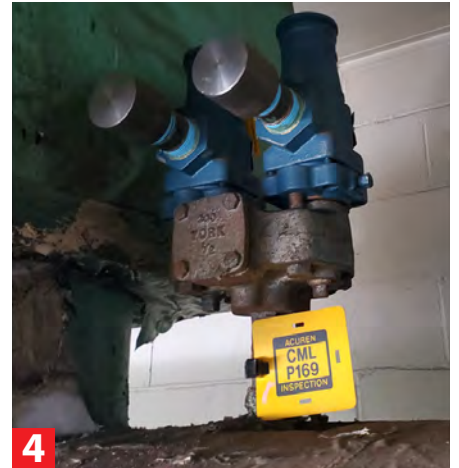
The PRVs in picture 2, while directed upwards, do not fully comply with Section 15.5.1.2, as they are inside a machinery room and will most certainly spray ammonia on persons in the vicinity.

Because the PRVs in Picture 2 do not discharge outdoors, they also run afoul of Section 15.5.1, which states in part:

15.5.1: Atmospheric Discharge. Pressure relief devices shall discharge vapor directly to the atmosphere outdoors in accordance with this section. Need I say more?

As do the PRVs in Picture 3, which were installed on a screw compressor in the same machinery room.

At first glance, virtually any ammonia refrigeration operator or safety professional



would take great issue with the PRVs in Picture 4 that are actually plugged with carbon steel caps threaded onto the pipe nipples that are screwed into their outlet ports. This particular vessel was actually protected by a different set of PRVs attached to the suction outlet of the vessel, as shown in Picture 5.

Now, the PRVs in Picture 5 do not comply with IIAR2 because they violate Section 15.4.1, which states in part:

15.4.1: "Stop valves shall not be installed in the inlet piping of pressure relief devices. There is a stop valve on the inlet to the PRVs in Picture 5. While the ASME Boiler & Pressure Vessel Code allows for stop valves to be installed on the inlets to ASME certified relief valves, as long as they are administratively managed in accordance with the provisions of Appendix B-7, IIAR2 does not. In fact, this particular instance may not comply with the ASME appendix if not administrative controls are in place to manage the removal of the locking devices and to ensure that an overpressure situation cannot result while the equipment is isolated from the PRVs.

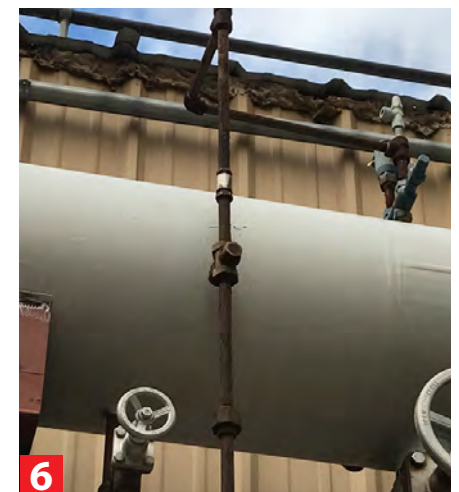
For Picture 6, the reality is that if the three-way valve is positioned such that this cobbled up level indicator is functional, then it will violate Section 15.3.1 of IIAR2.

Section 15.3.1.1 states:

15.3.1.1: Pressure vessels and equipment built and stamped in accordance with ASME B&PVC, Section VIII, Division 1 (2017), shall be provided with pressure relief protection in accordance with ASME B&PVC, Section VIII, Division 1.

If, in fact, this vessel is not ASME stamped, then it violates Section U-1 of Section VIII, Division 1, of the Boiler & Pressure Vessel Code. This section of the B&PVC does not apply to vessels that have an inside diameter, height, width, or cross-sectional diagonal that do not exceed 6 inches, which this vessel clearly does.

The last set of pictures are my favorite, and since the facility has been closed, I don't mind sharing them. In Picture 7, we see some PRVs tied into what looks like a discharge pipe. The pipes entering the vertical discharge header appear to be branches from other relief valves.



When, in fact, those pipes are actually the rungs of a ladder, as you can see in picture 8.

Picture 9 gives a view of the full discharge header.

How many sections of IIAR2 does this installation violate? Well, let's count them.

15.4.5: Discharge piping shall be supported in accordance with Section 13.4

*13.4.1 *Piping hangers and supports shall carry the weight of the piping and any additional expected loads.* Did they account for the weight of the operator climbing the ladder to get to the catwalk?

*13.4.2 *Refrigerant piping shall be isolated and supported to prevent damage from vibration, stress, corrosion, and physical impact.* Hard to isolate the piping when it is integral to something else.

15.5.1.3 The discharge termination from piping relieving to atmosphere shall not be less than 7.25 ft (2.2 m) above a roof. Where a higher adjacent roof level is within 20 ft (6.1 m) horizontal distance from the relief discharge, the discharge termination shall not be less than 7.25 ft (2.2 m) above the height of the higher adjacent roof. It is hard to tell from the photo, but the discharge is less than 7.25 ft above the roof on which the photographer stands, which is less than 20 ft horizontal distance from the discharge.

*15.5.1.5: *The termination of the discharge shall be directed upward and arranged to avoid spraying ammonia on persons in the vicinity.* The discharge is horizontal.

15.5.1.6: Piping discharging to atmosphere shall have a provision for draining moisture from the piping. None is visible.

PRVs and their associated piping are intended to help keep us safe in the event of an overpressure situation. The risks of them failing to do their job rise dramatically when the codes and standards governing their design and installation are not followed.

If you have pictures of some Epic Fails from your "Brother-in-law's" facility, please send them to NH3isB2L@gmail.com.

Bill Lape is Project Director for SCS Engineers. Bill is a Certified Industrial Refrigeration Operator, a Certified Refrigeration Service Technician, and a member of the National Board of Directors of the Refrigerating Engineers and Technicians Association





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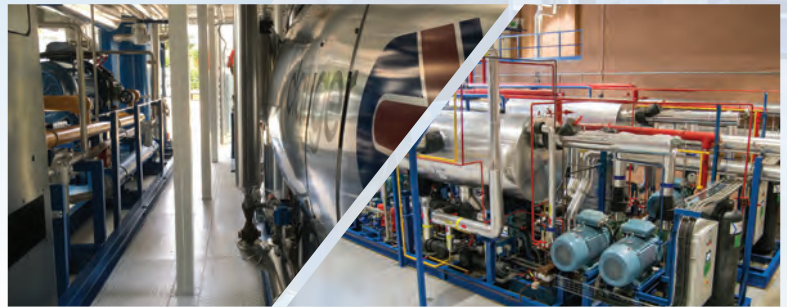
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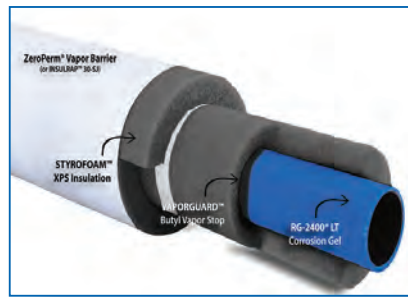
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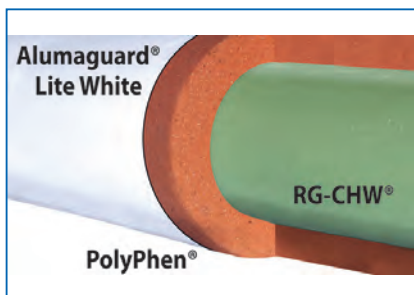
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CERTIFICATES VS. CERTIFICATION

WHAT'S THE DIFFERENCE?

Dr. Ron Rodgers, RETA's Psychometrician (testing expert) and ANSI Accreditation Manager

One of the more confusing elements of the credentialing world are the levels of standards and credibility that exist among programs claiming to certify qualifications. This also is true in industrial refrigeration. A primary reason for this confusion is the false claims from programs that have not made the investment and commitment to meeting any third-party standards.

CARO, CIRO and CRST are the only industrial refrigeration credentials in the world that have met the American National Accreditation Board (ANAB)

standards. In April ANAB extended its accreditation of these RETA certifications to March 2028. RETA earned this extension after submitting a 74-page application with 86 attachments to document its efforts to meet ANSI 17024-2012 Standards.

RETA's new team of assessors reviewed the application and documentation before conducting a two-day visit to RETA HQ in Albany, OR, in March. They cited several additional steps RETA needed to take to improve its programs to be reaccredited. One of these, for

example, included upgrades in use of the video surveillance system RETA requires in its own network of test centers. RETA's ANAB assessors recommended reaccreditation for CARO, CIRO and CRST only after RETA documented these additional program improvements.

RETA also must submit annual reports and is subject to additional visits from its ANAB assessors to maintain its accreditation. RETA's ANAB accreditation is respected throughout the world because no other program meets the international standards that are incorporated into ANSI 17024.

The next level of value and credibility is the ANAB Certificate accreditation for programs that meet ASTM E2659-18 Standards. Currently no programs available to industrial refrigeration operators and technicians have met these standards. Certificates never expire. RETA certifications expire after three years and must be renewed.

The bottom tier in this hierarchy of credibility and value are course completion certificates that are self-proclaimed credentials. Their sponsors may claim that they are equivalent to RETA certification, but they have met no third-party standards to support their claims. Some programs have titled books and their “credentials” to add to this confusion by appearing to be similar to CARO, CIRO or CRST. They are not the same.

RETA also has created many additional tools and resources to help candidates for CARO, CIRO and CRST prepare to earn its certifications. None of these qualify a candidate for RETA certification, but they are helpful tools as candidates prepare to earn a RETA credential.

RETA wants all candidates to be successful. RETA has designed books, study guides and practice tests to help every candidate earn RETA credentials that help them succeed throughout their careers. That is an essential part of our commitment to help refrigeration operators and technicians meet RETA's mission to improve safety and efficiency throughout the industry.

CARO, CIRO and CRST candidates have access to all of the resources listed below to help them prepare to pass a RETA exam and earn their certification. Links to many of these are available on the certification screens on RETA's website.

- Study Guides inform candidates about the content of the test, identify reference books that support questions on the test, and include reference documents that will be needed to pass the test. These references will appear on-screen next to questions during the test, but candidates must know when

to use them just as they must know when to check the manual or specifications for equipment in their refrigeration system.

- An ammonia Safety Data Sheet (SDS) is included in the references for each test. Some questions on each test can be answered by looking in the SDS, but failing candidates often answer these questions incorrectly because they did not take time to check the SDS before selecting their answer to a question.
- Study Guides for CIRO and CRST also include a sample operating system screen, a ladder diagram, and questions to help candidates learn how to use these tools to diagnose what is happening at various points in the system.
- RETA's website provides a supplementary answer key for these questions with explanations of how to determine the answer to a question and the rationale about why each question is important to improving safety and efficiency.
- RETA Practice Tests also are designed to help candidates prepare. Each practice test is about half the length of the full exam. They also allow candidates to see what the references will look like on-screen during the test and practice how to navigate within the references document.
- Passing a RETA Practice Test does NOT earn a candidate a credential because practice tests are not secure. Candidates can take them at home or at work. Some also take practice tests as open book exams. Candidates are welcome to use whatever methods help them prepare to pass the full exam.
- RETA also offers chapter tests and book tests to reinforce learning as candidates prepare to take a full RETA examination. These may allow a candidate to receive a course completion certificate from some programs, but they are not equivalent to earning RETA certification.

- Some recertification candidates do earn Professional Development Hours (PDHs) with certificates that count toward renewing their RETA certification. However, this applies only AFTER a person already holds a current RETA certification.

RETA's accreditation assures its members and credential holders that those who earn RETA credentials have demonstrated competence levels that qualify them to operate and support refrigeration systems safely and efficiently.

Many prominent industry employers require operators and technicians to earn a RETA credential as part of their qualifications. This gives employers confidence that they are hiring a qualified operator or technician.

OSHA inspectors in many states often begin a visit to a refrigeration facility by asking how many RETA-certified operators are employed there. This also can lead to reduced energy costs and insurance rates.

But the greatest benefits commonly go to the individuals who earn a RETA credential with higher earnings. Many companies increase the compensation for an operator or technician who earns a RETA credential. Earning a RETA credential can benefit both the employer and the person who earns it.



Harry Wilkins
RETA Certification
Manager



Dr. Ron Rodgers
RETA Accreditation
Manager and
Psychometrician

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CERTIFICATION

Honor Roll

Congratulations to our newly RETA Certified Operators, who passed the exam(s) between March 1, 2023 to April 30, 2023. For information about the examination process and preparation to take the RETA exam, please visit [RETA.com](https://www.reta.com).

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Myles L. Austin
William Backstrom
Paul J. Bailey
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Roderic Bolstad
Fabian S. Carrillo
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Hunter F. Sansom
Michael D. Spears
Stephen Sutton
Seth E. Thomas
John Thompson
Kyle A. Thompson
Titus Torres
Kelly S. Townsend
Dylon White
Brant K. Williams
Richard Womble
Christian Zelenak

CIRO - Certified Industrial Refrigeration Operator

Philip S. Armstrong
Robert Bacon
Richard T. Beck
Ismael G. Blanco
Kristian Boltenhouse
David A. Browning
Christopher B. Crawley
Kyle Crumley
Francisco A. Flores
William E. Flowers
Taylor Hurwit
Christopher J. Jones
Robert Kraft
Andrew Logozzo
Steven Moreau
Stephen D. Nelson

Mark L. Orton
Robert Patterson
Mario A. Perera
Mark Priddy
Nickolas Reyna
Anthony Rieman
Kurt S. Ross
Evan Ruter
Joseph M. Sheehan
Seth Shilling
Todd M. Stewart
Peter J. Tebo
Ryan Toering
Hector Vasquez Jr.
Carol J. Walston

CRST - Certified Refrigeration Service Technician

Jim Bremmer
Ptryk Faulhaber
Jeremy Hands
Robert Hoffman
Steven Kaminski
John D. Kauffman
Jacob M. Larkin
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