



January 2017 Edition

Upcoming Events

Wednesday, January 18th, 2017

- Monthly meeting
- ASHRAE President

Tim Wentz

Fishing Tournament

- April 29th at Pinchers!



A message from Mr. Richard Brooks, SWFL ASHRAE President

I hope everyone had a wonderful Christmas as well as a safe and Happy New Year! Have you made your New Year's Resolution? Why not make it to attend at least 1 ASHRAE Meeting this year? ☺ We are now beginning the 2017 calendar year. Our first four meetings were HUGE successes. We have been very fortunate to have several Distinguished ASHRAE lecturers. The January meeting will be even better!! We will start 2017 with a spectacular guest speaker, ASHRAE President Tim Wentz. Our January meeting will be on a different day to accommodate Mr. Wentz's travel schedule. The January meeting will be held on Wednesday 01/18/2017 (this is the third Wednesday and not the second Wednesday). Please mark your calendar now and plan to attend this very exciting meeting. Bring a friend or coworker, and please RSVP to Joy Milliman asap.

This month I would like to highlight some of our members on the Region XII staff. We are fortunate to have four SWFL ASHRAE members participate at the Regional Level. These members are Kathleen Simpson, Jason Hardman, Jason Grabowski, and Rob Risley. Thank you for supporting ASHRAE on both the local chapter and regional levels. Your hard work is greatly appreciated. Remember, we also have Pat Graef participating at the Society Level!! Go SWFL !!!

The chapter's December meeting was great fun at the Cape Coral Brewing Company. The local owner gave us several tours and was entirely engaged in the beer making process. This was a great YEA Event as well as a Refrigeration Event. Please stop in and tour their facility if you are in the neighborhood. The owner is very proud of the local Brewery.

Our next big Research Promotion Fund raiser will be the Fishing Tournament on April 29th 2017 at Pinchers. Please see the flyer in this newsletter for more details. Also, we are very excited about some upcoming STEM events. The Robotics Programs are progressing to the state finals and championship levels. The Lee County Schools STEMtastic Event is just around the corner. Please plan to volunteer as your schedule allows. Volunteers are always welcomed. It is also a great way to give a little back to the community. Thank you in advance.

A reminder that next year's CRC, (Chapters Regional Conference), is in Argentina. This conference will take place around the first week in August. Please start planning now to attend. Additionally, the ASHRAE Winter Meeting is in Las Vegas this January. If you plan to attend the Las Vegas conference, please send me an email and let me know. We oftentimes have a Regional Dinner at the conference and we need to make sure we can contact you by email with the details.

One last thing – Our Chapter is only as strong as its Members. I would encourage all of our Members to come to at least one meeting and bring someone who is not a Member. If you are not currently a Member, consider joining. For those potential new members under 30 years of age, ASHRAE makes it very easy to get started. Ask one of the officers to tell you about the Quick Start Program. New Affiliate Membership dues are only \$52 for the first year. So we are making it EASY to become a member.

Thank you all for your support! Your volunteering efforts are what make our Chapter strong!!!

SWF ASHRAE Chapter Meeting Announcement

Date: Wednesday, January 18th, 2016
Location: HOLIDAY INN AT GULF COAST TOWN CENTER
Start Time: 5:30 – 6:45 NETWORKING
 6:45 – 8:00 DINNER MEETING AND MAIN PROGRAM
Cost: COST: \$35.00 PER ATTENDEE – RESERVATIONS ARE A MUST NO COST FOR COLLEGE STUDENTS WITH A VALID STUDENT I.D. Pre-Pay on our chapter website www.swflashrae.org
 RSVP to Joy Milliman @ JMilliman@bandiflorida.com by 12JAN17

Main Program: Adapting Today to Shape Tomorrow

As ASHRAE's president, Wentz chairs the Society's Board of Directors and Executive Committee. His theme, Adapt Today to Shape Tomorrow, is based on the goal in the Society's Strategic Plan to adapt. Wentz relates this goal to his personal history of moving from a slide rule in his early college days to a hand calculator and now a computer or smartphone as an example of the challenges and opportunities inherent in adapting to new technology.

"All of us have had to come face-to-face with the challenges of adaptation," he said. "It's in the power of adapting that lives, organizations, and communities, are transformed. Our ability to shape tomorrow is borne out of our willingness to adapt today. Together, we can create our future by adapting our resources, investments and technology to shape a more sustainable world."

Guest Speaker: Tim Wentz, P.E., President of ASHRAE

Tim Wentz, P.E., Fellow ASHRAE, HBDP, is an associate professor, University of Nebraska – Lincoln. Wentz was awarded a Bachelor of Science in Mechanical Engineering and a Master's in Business Administration from the University of Nebraska. Upon graduation, Wentz went to work for his family's mechanical contracting firm. As the fourth generation to join the firm, he had the opportunity to develop an expertise in mechanical design, estimating and construction management. He spent 19 years in the industry, working on a wide range of mechanical projects throughout the Midwest, including hospitals, nursing homes, schools, factories and other large commercial enterprises.

Since entering academia, Wentz has received numerous awards and honors for his teaching and service to the HVAC industry. He is the recipient of an Exceptional Service Award, a Distinguished Service Award, the E.K. Campbell Award of Merit, a Region IX Regional Award of Merit, a Region IX Chapter President of the Year and a Regional Energy Award.

The Mechanical Contractors Association of America (MCAA) has named Wentz their national "Educator of the Year" on three occasions and in 2009 awarded him its highest honor, the Distinguished Service Award. He also has received the Durham School of Architectural Engineering and Construction's Outstanding Educator Award and the College of Engineering's Holling Award for outstanding teaching and mentoring.

Wentz previously served as president-elect, treasurer and two terms as vice president on the Board of Directors and also as Region IX director and regional chair.

ASHRAE, founded in 1894, is a global society advancing human well-being through sustainable technology for the built environment. The Society and its more than 55,000 members worldwide focus on building systems, energy efficiency, indoor air quality, refrigeration and sustainability. Through research, standards writing, publishing, certification and continuing education, ASHRAE shapes tomorrow's built environment today. More information can be found at www.ashrae.org.

SWF ASHRAE Chapter
2016 to 2017

President:	Richard Brooks	Newsletter:	Heather Hsi
President Elect:	Ashley Fernandez	Webmaster:	James Martin/Matt Sutkowski
Vice President:	Kathleen Simpson	Sustainability:	Joy Milliman
Secretary:	Joy Milliman	Golf Chair:	Isaac Lima
Treasurer:	Woody Wilson	Fishing Chair:	Shane Vaughn
Research Promotion:	Isaac Lima	Reception:	Sean McGinn/Ryan Olinger
Historian:	James Martin	BOG 1:	Bill Malphus
Membership:	Ashley Fernandez	BOG 2:	John Pennington
CTTC:	Kathleen Simpson	BOG 3:	Jason Hardman
YEA:	Shane Vaughn	BOG 4:	Pat Graef
Student Activities:	Newton Freire		
Programs:	Kathleen Simpson		
Refrigeration:	Kevin Galbraith		
Honors and Awards:	Jason Hardman		
GGAC Chair:	Heather Hsi		

For Chair and Officer contact information, please visit www.SWFLASHRAE.org

CTTC – Kathleen Simpson

“Carrier Reaches Deal to Keep 1,000 Jobs in Indianapolis”

INDIANAPOLIS — Carrier Corp. is staying in Indianapolis after all. Nearly nine months after announcing it would relocate its Indianapolis operations to Mexico, Carrier has [reached an agreement with the incoming administration](#) of President-elect Donald Trump to keep nearly 1,000 jobs in the city. The company confirmed its plan on Twitter.

Trump and Vice President-elect Mike Pence are scheduled to appear in the city Thursday for a formal announcement, according to a transition official who requested anonymity. Another source, who is familiar with the plan, said state incentives are part of the deal. Carrier in a statement said it is "pleased to have reached a deal ... to keep close to 1,000 jobs in Indy."

The company's decision is perhaps the first major victory for Trump since he was elected president earlier this month. Trump campaigned on keeping manufacturing jobs in the U.S. and promised he would persuade Carrier to stay in the city — or punish the company if it refused. Although the agreement will save the majority of Carrier's Indianapolis jobs, it isn't good news for all employees. The company has 1,400 workers at its west-side furnace plant, which means there could still be hundreds of layoffs in the coming months or years.

"If they're saying they're going to retain 1,000 jobs, that would mean 400 are going away," said Chuck Jones, president of United Steelworkers Local 1999, which represents Carrier workers. Jones expressed cautious optimism about the deal, but said the union had not been briefed on it as of late Tuesday. "We're trying to find out what that consists of," he said. "We haven't had any luck."

City officials also remained in the dark Tuesday. A spokeswoman for Indianapolis Mayor Joe Hogsett had no comment. Whatever the terms of the deal turn out to be, they will be better than the bleak exodus of jobs that Indianapolis had spent months preparing for.

Carrier in February announced that it would begin layoffs next year and shutter its Indianapolis factory in three waves through 2019 as part of a larger reorganization that also includes the closing of Huntington-based United Technologies Electronic Controls. The company did not say whether any additional jobs would be saved in Huntington.

Carrier had been planning to shift all of its Indianapolis jobs to Monterrey, Mexico, where workers would earn \$3 an hour. The highest-paid Indianapolis employees make \$26 an hour and can earn more than \$70,000 a year with overtime. It is unclear whether Carrier will seek salary concessions as part of its agreement to stay. The company can't unilaterally enforce pay cuts, Jones said.

Credit: article by [industry@ashrae.org](#) The HVAC&R Industry, Weekly News – December 1, 2016 Vol. 15 No. 48

Membership Update – Ashley Fernandez

Hello and Happy New Year ASHRAE Members,

I would like to start by thanking each of you for being a member of our chapter. With that said, we are looking for your help in order to meet and beat our membership goal of 124 members by May 1st. We started the ASHRAE year in September with 122 members and are currently down to 120 members. Please help us encourage our fellow colleagues to attend the chapter meetings, talk to them about becoming a chapter member or have them contact me or any of our chapter officers for more information. The first meeting for a new prospective chapter member will be FREE!

The following is a list of our new chapter members from the first 6 months:

Domaris Jeanette Mitchell
Brenton Mongan

Reynaldo Antonio Miller
Oliver Sliva

Robert L. Posch

CTTC – Kathleen Simpson

“India Unveils the World’s Largest Solar Power Plant”

The country is on schedule to be the world's third biggest solar market next year. Images have been released showing the sheer size of a new solar power plant in southern India.



The facility in Kamuthi, Tamil Nadu, has a capacity of 648 MW and covers an area of 10 sq km. This makes it the largest solar power plant at a single location, taking the title from the Topaz Solar Farm in California, which has a capacity of 550 MW. The solar plant, built in an impressive eight months and funded by the Adani Group, is cleaned every day by a robotic system, charged by its own solar panels. At full capacity, it is estimated to produce enough electricity to power about 150,000 homes. The project is comprised of 2.5 million individual solar modules, and cost \$679m to build. The new plant has helped nudge India's total installed solar capacity across the 10 GW mark, according to a statement by research firm Bridge to India, joining only a handful of countries that can make this claim. As solar power increases, India is expected to become the world's third-biggest solar market from next year onwards, after China and the US.

Despite the fast-growing solar power industry, India will still need to increase its take-up of solar panels if it is to achieve the ambitious targets set by the government. By 2022, India aims to power 60 million homes by the sun. It is part of the government's goal to produce 40 percent of its **power from non-fossil fuels by 2030**. This aim has been praised by environmental groups and is hoped will also help reduce the country's problem with air quality. At the beginning of this month, the pollution level in the capital New Delhi reached its [worst levels in 17 years](#).

Credit: article by [industry@ashrae.org](#) The HVAC&R Industry, Weekly News – December 1, 2016 Vol. 15 No. 48



ASHRAE News

Free Residentially-Focused Sessions Offered by ASHRAE at AHR Expo

ATLANTA – An in-depth look at ASHRAE's work in the residential market as well as guidance on several aspects of residential design is offered in four free seminars at the 2017 AHR Expo.

The 2017 ASHRAE Winter Conference takes place Jan. 28-Feb. 1 at Caesars Palace with the co-sponsored AHR Expo being held Jan. 30-Feb. 1 at the Las Vegas Convention Center. To register for the Conference, which includes free access to the Expo, visit www.ashrae.org/lasvegas.

The four seminars are free, and no badge is required to attend. They take place Tuesday, Jan. 31, from 11 a.m. until 5 p.m.

Leon Shapiro, Conference chair, said the sessions are being held at the Expo given the large number of exhibitors with a residential focus as well as the many residential contractors who will be attendees. Statistics from the 2016 Expo show that 43 percent of visitors indicated they work in the residential sector.

"The sessions highlight the growing importance within ASHRAE of residential energy use and the steps ASHRAE has taken to partner with both the public and private sectors to improve residential design and energy standards," he said. "They also serve to increase public awareness in residential energy efficiency."

He notes that design and installation have a tremendous impact on residential HVAC capacity and efficiency, so one of the seminar highlights the consequences when residential design and installation standards are not adhered to. Another session provides best practices for distributing heat in residential HVAC air and hydronic systems, while another offers real world experience on how actual energy use and thermal comfort can differ from the homeowner's expectations.

The seminars are:

Did It Really Work? Theory vs. Practice in Residential HVAC. The late, great Yogi Berra once said: "In theory, there's no difference between theory and practice. But in practice... there is." The speakers at this seminar agree with Yogi. Using measured data from both dry and humid climates, they show how actual energy and thermal comfort in real-world houses differs from expectations. But beyond the problems, the speakers also show data from specific designs and installation practices that have helped contractors meet and exceed customer expectations with simple, low-cost, reliable equipment instead of whiz-bang, expensive stuff that too often fails to deliver comfort and low energy performance.

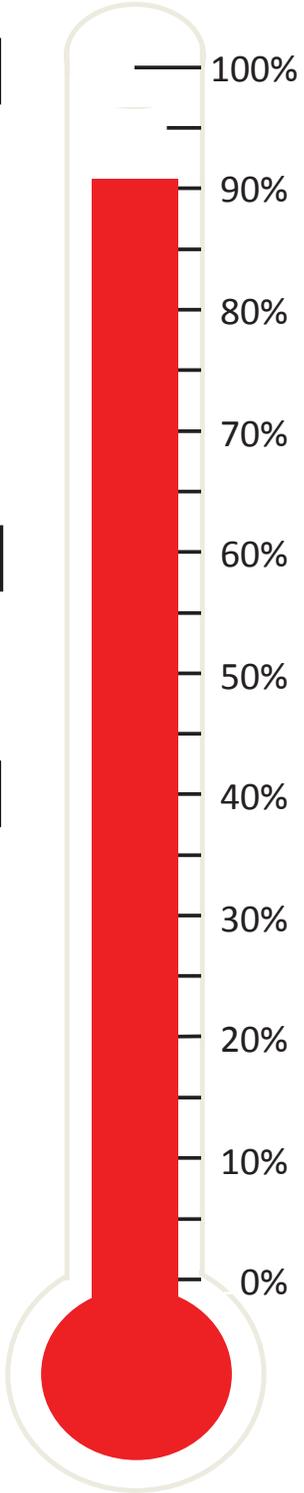
ASHRAE's Residential Initiative: Why We Care. Although ASHRAE historically has not focused on residential HVAC energy use, the residential sector consumes at least as much energy as the commercial sector, and approximately one-fifth of all primary energy in the United States. Three Presidential Fellows will present on ASHRAE's recent endeavors into the residential sector. The session covers how the Residential Ad Hoc Committee became the newly established Residential Building Committee (RBC), what purpose the RBC serves, the importance of residential design in ASHRAE standards and a summary of ASHRAE's residential market advocacy efforts with government agencies.

Flex Ducts, Hard Ducts and No Ducts: Migration Patterns for Duct Hunters (or not) in the Land of Thermal Comfort. In the land of comfort, educated homeowners are changing their thermal expectations from HVAC systems, and contractors are on the front line hunting for the best solutions. Regardless of ducts or pipes, the "migration" of heat takes a basic understanding of what works and what doesn't. It is not easy to figure out the right design for the application, especially as homes get more efficient. Low-cost ducted systems may not always work right or be the best fit. This seminar looks at best practices for distributing heat in residential air and hydronic systems, including ducted and radiant design options.

Goal Amount: \$ 15,000

Current Amount: \$ 13,565

Goal Achievement: 90%



ASHRAE SWFL RP FUND

SWFL ASHRAE REFRIGERATION JANUARY, 2017 - Kevin Galbraith, P.E.

New 2017 Department of Energy Regulations to impact refrigerated cases March 27

Further reductions in allowable energy use will be required on all refrigerated display cases shipped March 27, 2017 or later.

- All new refrigeration equipment purchased for use in U.S. since Jan 1, 2012 must comply with Federal Energy Regulations per Energy Policy Act of 2005. Ratings based on amount of refrigerated display area and refrigerated volume.
- Incremental cost of equipment targeted for a 25%-70% rate of return versus base technology.
- 2017 will require 20% reduction for vertical open multi deck remote refrigerated and 12% reduction for remote refrigerated vertical closed low temp (Doors), 3% reduction for remote refrigerated horizontal open (islands). See table below Effective 3/27/2017

Key	M = Med Temp L = Low Temp I = Ice Cream	RC = Remote SC = Self-Contained	TDA = Display Area V = Volume	
Case Structure	Equipment Class	2017 Energy Limits	2012 Energy Limits	
Vertical OP en	VOP.RC.M	0.64 x TDA + 4.07	0.82 x TDA + 4.07	← -20%
	VOP.RC.L	2.2 x TDA + 6.85	2.27 x TDA + 6.85	
	VOP.RC.I	2.79 x TDA + 8.7	2.89 x TDA + 8.7	
	VOP.SC.M	1.69 x TDA + 4.72	1.74 x TDA + 4.72	← -3%
	VOP.SC.L	4.25 x TDA + 11.82	4.37 x TDA + 11.82	
	VOP.SC.I	5.4 x TDA + 15.02	5.55 x TDA + 15.02	
Semi-Vertical OP en	SVO.RC.M	0.66 x TDA + 3.18	0.83 x TDA + 3.18	← -18%
	SVO.RC.L	2.2 x TDA + 6.85	2.27 x TDA + 6.85	
	SVO.RC.I	2.79 x TDA + 8.7	2.89 x TDA + 8.7	
	SVO.SC.M	1.7 x TDA + 4.59	1.73 x TDA + 4.59	
	SVO.SC.L	4.26 x TDA + 11.51	4.34 x TDA + 11.51	
HoriZontal OP en	HZO.RC.M	0.35 x TDA + 2.88	0.35 x TDA + 2.88	
	HZO.RC.L	0.55 x TDA + 6.88	0.57 x TDA + 6.88	← -3%
	HZO.RC.I	0.7 x TDA + 8.74	0.72 x TDA + 8.74	
	HZO.SC.M	0.72 x TDA + 5.55	0.77 x TDA + 5.55	
	HZO.SC.L	1.9 x TDA + 7.08	1.92 x TDA + 7.08	
	HZO.SC.I	2.42 x TDA + 9	2.44 x TDA + 9	
Service Over C ounter	SOC.RC.M	0.44 x TDA + 0.11	0.51 x TDA + 0.11	
	SOC.RC.L	0.93 x TDA + 0.22	1.08 x TDA + 0.22	
	SOC.RC.I	1.09 x TDA + 0.26	1.26 x TDA + 0.26	
	SOC.SC.M	0.52 x TDA + 1	0.60 x TDA + 1.00	
	SOC.SC.L	1.1 x TDA + 2.1	0.75 x V + 4.10	
	SOC.SC.I	1.53 x TDA + 0.36	1.76 x TDA + 0.36	

2017 vs 2012
Energy Limits

Energy Reduction
Manageable,
BUT
Closed Cases
More Difficult

		2017	Vs	2012	
Vertical Closed Transparent	VCT.RC.M	$0.15 \times TDA + 1.95$		$0.22 \times TDA + 1.95$	← -28%
	VCT.RC.L	$0.49 \times TDA + 2.61$		$0.56 \times TDA + 2.61$	← -12%
	VCT.RC.I	$0.58 \times TDA + 3.05$		$0.66 \times TDA + 3.05$	
	VCT.SC.M	$0.10 \times V + 0.86$		$0.12 \times V + 3.34$	← -47%
	VCT.SC.L	$0.29 \times V + 2.95$		$0.75 \times V + 4.10$	← -60%
	VCT.SC.I	$0.62 \times TDA + 3.29$		$0.67 \times TDA + 3.29$	
Horizontal Closed Transparent	HCT.RC.M	$0.16 \times TDA + 0.13$		$0.16 \times TDA + 0.13$	
	HCT.RC.L	$0.34 \times TDA + 0.26$		$0.34 \times TDA + 0.26$	
	HCT.RC.I	$0.40 \times TDA + 0.31$		$0.40 \times TDA + 0.31$	
	HCT.SC.M	$0.06 \times V + 0.37$		$0.12 \times V + 3.34$	← Greater than 80% Reduction
	HCT.SC.L	$0.08 \times V + 1.23$		$0.75 \times V + 4.10$	←
	HCT.SC.I	$0.56 \times TDA + 0.43$		$0.56 \times TDA + 0.43$	
Vertical Closed Solid	VCS.RC.M	$0.10 \times V + 0.26$		$0.11 \times V + 0.26$	
	VCS.RC.L	$0.21 \times V + 0.54$		$0.23 \times V + 0.54$	
	VCS.RC.I	$0.25 \times V + 0.63$		$0.27 \times V + 0.63$	
	VCS.SC.M	$0.05 \times V + 1.36$		$0.10 \times V + 2.04$	
	VCS.SC.L	$0.22 \times V + 1.38$		$0.40 \times V + 1.38$	
	VCS.SC.I	$0.34 \times V + 0.88$		$0.38 \times V + 0.88$	
Horizontal Closed Solid	HCS.RC.M	$0.10 \times V + 0.26$		$0.11 \times V + 0.26$	
	HCS.RC.L	$0.21 \times V + 0.54$		$0.23 \times V + 0.54$	
	HCS.RC.I	$0.25 \times V + 0.63$		$0.27 \times V + 0.63$	
	HCS.SC.M	$0.05 \times V + 0.91$		$0.10 \times V + 2.04$	
	HCS.SC.L	$0.06 \times V + 1.12$		$0.40 \times V + 1.38$	
	HCS.SC.I	$0.34 \times V + 0.88$		$0.38 \times V + 0.88$	
Pull Down	PD.SC.M	$0.11 \times V + 0.81$		NA	



Big Reductions on Closed Cases

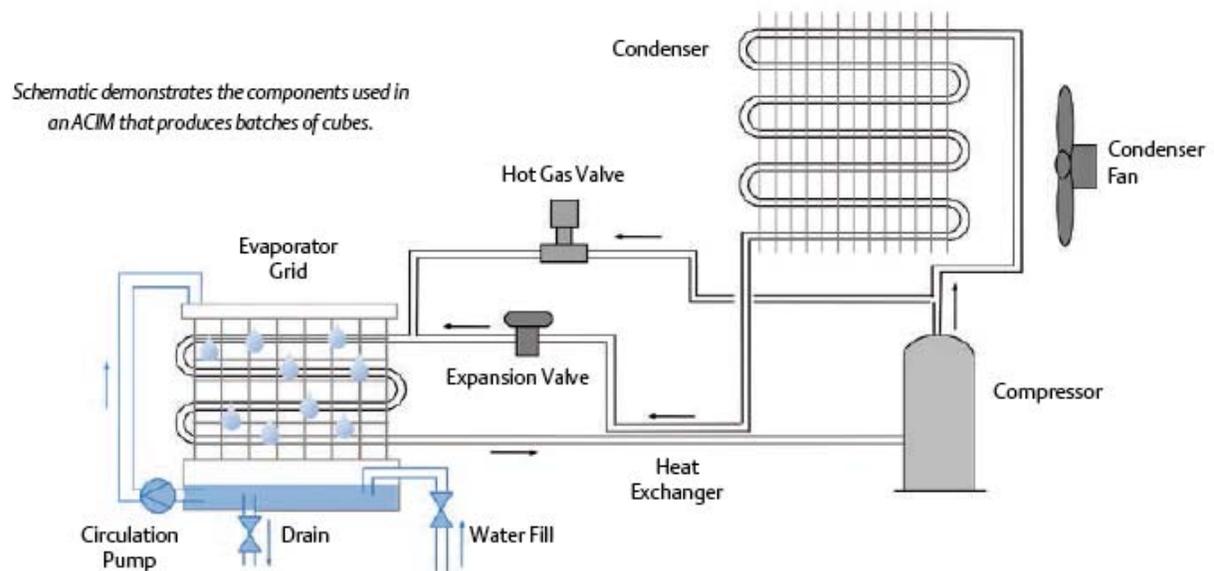
Vertical Med Temp Remote
Vertical Self-Contained
Horizontal Self-Contained

Graphic credit – Larry Howington Hill Phoenix, FMI 2014 ES&D

- Compliance is enforced at the manufacturing level. Cases must be certified and tested per ASHRAE 72/AHRI 1200. Punitive actions have taken place against (7) case manufacturers for non-compliance.
- Canadian provinces have also followed with corresponding legislature within provinces. Proposed amendment 14 will require the U.S. Department of Energy 2017 limits for all of Canada.

Improved Simulation model for Automatic Commercial Ice Machines (ACIM)

This year at the International Refrigeration and Air Conditioning conference engineers from Emerson presented a concept for the simulation of automatic commercial ice makers. The simulation will allow prediction of component conditions and loads. The model allows engineers to input and simulate among variables to enhance design and operation. The model was validated versus data from operation of an ice machine and achieved accuracy within 5 percent.



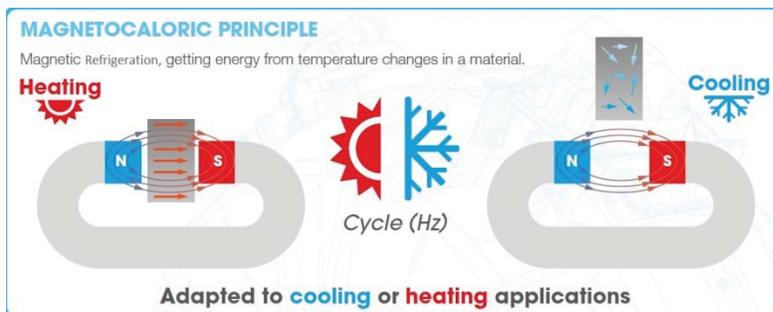
Article and graphic credit: Emerson E360 Outlook, Vol. 1, Issue 1

Bids solicited for first projects in ASHRAE flammable refrigerants research program.

ASHRAE announces a multi-million dollar research program to develop a fact base for the application of flammable (A2L) refrigerants. A total of (9) research projects are expected to be completed and published in 2017. It is expected updates to standards and codes will follow. Currently two projects are open to bid with a third expected by the end of 2016. AHRI, the Department of Energy (DOE), and Johnson Controls are joining ASHRAE to sponsor the projects. Article credit: www.ashrae.org

Magnetic Refrigerated Case to Debut in United States

Cooltech Applications has partnered with U.S. refrigeration display manufacturer Structural Concepts to apply a magnetic refrigeration system (MRS). The technology replaces the gas vapor compression system with a Magnetocaloric Effect which produces cooling by cycling a magnetocaloric material thru magnetic and demagnetic fields. Temperature is increased or decreased by rapid cycling of the magnetic field. A glycol and water coolant is then used to remove the rejected heat.



$$E = m C_p \Delta t$$

E: Energy

m : mass of the magnetocaloric material

C_p: thermic capacity of the material

Δt: temperature increment

Article credit: <http://www.businesswire.com/news/home/20160629005918/en/Cooltech-Applications-Launches-Magnetic-Refrigerated-System-USA>

Image and reference credit: www.cooltech-applications.com



**Southwest
Florida
Chapter**

Proudly Invites You To Join Us For Our:

2017

**ANNUAL BACKWATER FISHING
TOURNAMENT**

Saturday April 29th, 2017

PRIZES will be awarded for:

- **Best Team Catch (SNOOK, REDFISH & TROUT) total combined length**
 - **1st Place (CASH), 2nd Place and 3rd Place**

*** LONGEST Tournament fish by LADY ANGLER**

*** LONGEST Tournament fish by JUNIOR ANGLER**

Entry Fee is \$100.00 per person

Paid entry includes:

Tournament Entry, Tournament T-shirt, Tickets for Drawings, and Awards Dinner

Dinner tickets can be purchased separately for \$25.00 each. Children under 12 years of age are \$10.00 each. Awards dinner will be held at Pinchers (located at 5991 Silver King Boulevard, Cape Coral, Florida 33914).

A Mandatory Captain's Meeting will be held Friday April 28th, 2016 @ 6:00 PM at the Islamorada Fish Company Seafood Restaurant in the Bass Pro Shops Fort Myers (located in the Gulf Coast Town Center). **One representative from each Team is required to attend to pick up Rules, Tournament T-shirts and register your vessel! This is a catch and release tournament.**

***Please direct all questions to: Shane Vaughan via phone at (239) 340-0260,
or e-mail at svaughan@bandiflorida.com***

ASHRAE (American Society of Heating, Refrigerating, and Air-conditioning Engineers), founded in 1894, is an international not-for-profit organization of 53,000 persons. ASHRAE's mission is advancing the art and science of heating, ventilation, air conditioning and refrigeration to serve humanity and promote a sustainable world through research, standards writing, publishing and continuing education. A portion of Tournament proceeds are donated to ASHRAE research on behalf of the Southwest Florida Chapter.