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UPCOMING EVENTS

- **March 1st**
Chapter Meeting
11:30pm to 1:30pm
Tulsa Country Club
- **March 31st**
Skeet Shoot
- **April 13th**
Spring Golf Tournament 11:30am to 1:30pm
LaFortune Golf Course

PRESIDENT'S MESSAGE

By Keith Averitt

Greetings!

This month we'd like to highlight the important role played by engineers and ASHRAE in today's society. From the engineering design of products and systems to the development and maintenance of comfortable indoor environments—engineers and ASHRAE are vital to our daily lives.

Engineers bring expertise to every aspect of product development. They play a critical role in designing durable, cost-effective products that meet user requirements and comply with safety standards. Engineers also devise efficient processes for manufacturing and provide guidance for the proper use and maintenance of products.

ASHRAE stands for the American Society of Heating, Refrigerating, and Air-Conditioning *Engineers*. ASHRAE's role is to promote the science and technology of heating, ventilation, air conditioning, and refrigeration by developing codes, standards, and guidelines used to ensure comfortable and safe indoor environments. Because of ASHRAE, building owners and operators are able to regulate temperature, humidity, air quality, and air circulation in their spaces, creating the comfortable energy-efficient environment we often take for granted.

We highly encourage those interested in engineering and ASHRAE to continue pursuing these fields. Engineers and ASHRAE professionals are essential to our modern world and will always be in demand. Thank you for taking the time to learn more about the importance of engineers and ASHRAE.

Now, for those of you who have made it this far in this article, you'll be amused to know that the first four paragraphs of this article were written entirely by AI (Artificial Intelligence) using a program called ChatGPT. Not in any way to discount the importance of engineers, the point being made is that it's easy to shortcut things in life, but especially in our small community, there are no shortcuts. To the design, implementation, coordination and application of everything we do, there is a necessary process which must occur. When shortcuts to these processes occur, disaster lurks right around the corner.

During this month's Chapter meeting, we will be honoring our Life Members and Past Presidents. Our community was built on the backbone of these fine men and women. These guys did not take shortcuts! I want to encourage each and every one of you to make it a point to be at this meeting, as we honor those who have laid our foundation!

Keith Averitt

Keith Averitt
2022-2023 Chapter President
kaveritt@eei-ok.com



CHAPTER TECHNOLOGY TRANSFER/PROGRAMS

By Michael Floyd

Thank you to everyone who was able to attend the February ASHRAE meeting! I hope everyone found Robert Hanna's presentation on "VRF Designs for Cooler Climates" to be very informative, and that you'll be able to use this on future VRF projects. I'd like to thank Robert for taking time out of his busy schedule to present at our chapter's February meeting.

Our March meeting's presentation will be by Patrick Chapman. The title of his presentation is "R410A Phase Out – Industry Challenges Associated With the Transition to Low GWP Refrigerants." The main topics that Mr. Chapman will be going over are: recent regulations for both efficiency changes and lower GWP refrigerants. Refrigerant options available for different applications with pros and cons of each. Process of implementing A2L refrigerant in equipment, including new safety standards and installation requirements. And some notes on servicing units with A2L refrigerants.

Patrick has been working at AAON for almost 18 years in a variety of different engineering roles. These include sheet metal design, several roles in AAON's product engineering group, and managing the engineering side of our internal selection software program. His current role is as senior engineer in the sales department, supporting the applications engineering and warranty groups. March's ASHRAE meeting (and second to last one of this ASHRAE year) will be held on the 1st, so RSVP!

Michael Floyd
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michael.floyd@leeandbrowne.com

RESEARCH PROMOTION

By Chad Marazas

Our Research Promotion (RP) campaign is going well. We have hit 80% of our goal of \$18000. I want to thank everyone for their donations. If you haven't received your recognition award I will have them at the next meeting. Donations may be made in person, by mail, or online.

<https://xp20.ashrae.org/secure/researchpromotion/rp.html>

Chad Marazas
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TREASURER REPORT

By Austin Barton

Our chapter's current net worth as of January 31, 2023 is as follows.

BOK- General checking:	\$28,879.53
BOK-Investments-CRC-Training:	\$35,284.69
<u>Jack Tumilty Scholarship Fund:</u>	<u>\$26,518.41</u>
Total Assets:	\$90,682.63

Austin Barton
214.869.3274

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YEA

By Zach Seizinger

YEA's first event of the year will be an upcoming March Madness event. More details to be sent out when finalized, so watch for the invitation. We hope to see you there, and as a reminder, you do not have to be a YEA member to attend.



Zach Seizinger
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MEMBERSHIP PROMOTION

By Brian Biggerstaff

If anyone you know is interested in joining ASHRAE, you can share the below link with them, or send them a personalized message using Connect-A-Colleague. We've kept it simple: Enter your name and email, your colleague's name and email, and press send. That's it! This pre-written invitation will be sent on your behalf, and includes options to reference an ASHRAE technical committee section, and to add a custom message.

http://web.ashrae.org/connect_a_colleague/

If you prefer to simply share a link with a friend they can join ASHRAE using the below:

<https://join.ashrae.org/>



Brian Biggerstaff
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STUDENT ACTIVITY

By Sara Fazel

Hello everyone! The NEOK ASHRAE Chapter is offering (2) College Student Scholarships this year. The scholarship amount shall be \$1000 each for two recipients. This can be used towards any educational expenses. College scholarship applications are available, and can be found at the following link: <https://forms.office.com/r/ci2MpAXBeR>. We will be collecting applications until March 22nd, so please spread the word!

Student Activities will be hosting a tour of Greenheck's campus on March 24th. Please reach out if you would like to participate!

Finally, I would like to welcome our newest student members:

- Jessica Dunway
- Logan Jones
- Joshi Mary Karan Kancharla
- Vincent Nwagwu Ume-Ezeoke



Sara Fazel
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Government Affairs

By Chad Smith

As I mentioned before, right after the first of the year is when things start really picking up for Government Affairs Committee. As previously reported, we have had two advocacy meetings with US Senator James Lankford's office as well as US Representative Kevin Hern's office from the Oklahoma 1st District.

We are working with the Student Activities committee to celebrate National Engineers week which was February 19-25th. At the time this article was written, the events had not taken place yet, but we will be promoting STEM education in local public offices and public schools. Included in this newsletter is the Mayoral proclamation we secured recognizing the engineering profession and our chapters contributions to continue to promote it.

Our biggest outreach event of the year has been scheduled. **Our Capitol Outreach Day is scheduled for Wednesday, March 8th.** We will be putting together our group who will travel to the Capitol and join with the Central OK chapter members down there to meet with our elected legislators to promote ASHRAE and the HVAC industry. There is also a flyer included in the newsletter with more details. Our member participation has dropped the last couple years, but I encourage you all to plan on joining us. We will provide talking points and it is a very laid back discussion as you are talking to your elected official and they want to know what is important to you.

Please feel free to reach out to me with any questions you have, and let me know you would like to attend. Look forward to a great Day on the Hill!



Chad Smith
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ASHRAE Northeastern Oklahoma Chapter

Government Outreach Day

Government Affairs Committee

When: Wednesday, March 8, 2023
Where: Capitol SE Entrance

We will plan on meeting in a central location in Tulsa at 7:30 AM and carpooling as a group.

If you are interested in attending this year's Government Outreach Day, please contact:

Chad Smith
chad@airetechcorp.com
(918) 704-7905

ASHRAE members play crucial roles educating public policymakers at all levels of government in every country about building systems, energy efficiency, indoor air quality, refrigeration and sustainability within the building industry.

ELECTRONIC COMMUNICATIONS

By Austin Whetstone

Winter is almost over (hopefully) and now the fun stuff can begin! We have a Par 3 tournament coming up on April 13th and a Skeeet Shoot March 31st. As always, check the Schedule of Events on our chapter website to keep up to date on these events. If any aren't listed on the website, and you would like to get them added, please reach out to myself, or the chapter email account at neok.ashrae@gmail.com.

Our Chapter meeting will happen March 1st and will be available as a Webex online as well as in person. The link for the online can be found below, as well as on the chapter website. The link to join is:

<https://ashrae.webex.com/ashrae/j.php?MTID=m5442a3c20d9adaa76ef07122b627ef87>

Meeting number:
2337 687 8347

Password:
J3SxGArJT89

Host key:
621270

Feel free to connect with us on LinkedIn or Facebook. As always, chapter information is offered on these two social media sites and our chapter website, www.ashrae-neok.org.



Click on one of these logos to visit our pages.



Austin Whetstone
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REFRIGERATION

By Eric Mulliniks

Upcoming Field Trip

A tour of the Vicinity district energy system in downtown Tulsa is in the works. More information on this event will be sent out when available. This tour will be an opportunity to take a closer look into how thermal energy gets distributed to over 7.1 million square feet of commercial space in downtown Tulsa.

Eric Mulliniks
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ericm@aaon.com

HONORS & AWARDS

By Mike Beda

The Region VIII CRC is Thursday, April 27 to Saturday, April 29 in Monterrey, Mexico. You can go to Monterrey's CRC webpage to register and book your hotel at <https://r8crc.com/> Please plan to attend all or parts of the event.

I will submit two nominations for the Chapter Service Award to the Regional Nominating Committee this year. The names will be reviewed by the Chapter Delegates and Alternates during the Saturday afternoon business session. The awards will be presented at the 2024 CRC if everything is correct.

I hope you had a chance to attend the February chapter meeting. We inducted one member into the Chapter 'Hall of Fame'. He is:

Mark Fly, Executive Director of NAIC of AAON. He graduated in engineering physics from Southwest Missouri State University in 1980 and is a professional registered engineer in Arkansas and Oklahoma. After graduation, he joined Willard Givens & Associates, Consulting Engineers, in Springfield, MO. In 1983 he joined the NW Arkansas contractor, Ark-Mo Services and became VP of Engineering for their manufacturing division, Thermo-Aire Systems, building cold air distribution equipment. In 1989 he moved to Oklahoma City to Governair Corp as Director of Engineering of new product research, development and technical sales support. In 2006 he moved to Tulsa to AAON as Director of Engineering for Manufacturing and Research. He is currently Executive Director of the Norman Asbjornson Innovation Center in Tulsa. He holds 2 USA Patents covering High Induction Diffusers and Low Leak Air Dampers.

Mark joined ASHRAE in 1985. He attended Society meetings and in 1986, and volunteered to revise Chapter 46 of the Handbook for TC 6.9 covering Thermal Storage. This led to Chairing Subcommittee TC 2.6, Low Temp Air, Chairing Research Project 705 on Low Temp Air Distribution, then Chairman of the Publications Committee. This volunteering also led to working on Societies Special Publications, Certification Development, and Ethics Rules. He was elected to ASHRAE's Board of Directors as 'Director at Large' in 2014 thru 2017. He is currently a Distinguished Lecturer for Society. In 2019 he was appointed to the Region VIII Nominating Committee as Alternate, then Member and will complete this assignment this June. Mark has received the Distinguished Service Award, the Exceptional Service Award and is an ASHRAE Fellow.



Mike Beda
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mikebeda1945@yahoo.com

HISTORY

By Gene Redford

There are several articles about how A/C became a part of our lives and here is another one.

We take the air conditioner for granted, but imagine what life would be like without it.

Once considered a luxury, this invention is now an essential, allowing us to cool homes, businesses, hospitals, data centers, laboratories and other buildings vital to our economy and daily lives. In fact, air temperature is so important to us that 48 percent of all energy consumption in American homes is a result of cooling and heating, according to the Energy Information Administration.

Like most important breakthroughs, modern commercial and residential air conditioning technology is a result of a series of advancements by scientists and inventors who challenged themselves to come up with creative solutions to problems of the day. Scroll through our interactive timeline above and read on to learn about some of the key milestones in air conditioning history.

The Evils of High Temperatures

In the 1840s, physician and inventor Dr. John Gorrie of Florida proposed the idea of cooling cities to relieve residents of "the evils of high temperatures." Gorrie believed that cooling was the key to avoiding diseases like malaria and making patients more comfortable, but his rudimentary system for cooling hospital rooms required ice to be shipped to Florida from frozen lakes and streams in the northern United States.

To get around this expensive logistical challenge, Gorrie began experimenting with the concept of artificial cooling. He designed a machine that created ice using a compressor powered by a horse, water, wind-driven sails or steam and was granted a patent for it in 1851. Although Gorrie was unsuccessful at bringing his patented technology to the marketplace -- primarily due to the death of his chief financial backer -- his invention laid the foundation for modern air conditioning and refrigeration.

Wrinkled Pages, Revolutionary Solution

The idea of artificial cooling went stagnant for several years until engineer Willis Carrier took a job that would result in the invention of the first modern electrical air conditioning unit. While working for the Buffalo Forge Company in 1902, Carrier was tasked with solving a humidity problem that was causing magazine pages to wrinkle at Sackett-Wilhelm's Lithographing and Publishing Company in Brooklyn.

Through a series of experiments, Carrier designed a system that controlled humidity using cooling coils and secured a patent for his "Apparatus for Treating Air," which could either humidify (by heating water) or dehumidify (by cooling water) air. As he continued testing and refining his technology, he also devised and patented an automatic control system for regulating the humidity and temperature of air in textile mills.

This was a long article so I will try to finish it in the next addition of our newsletter.

Gene Redford
918.346.0444
glredbird@yahoo.com



MEETING MINUTES

By Eric Mulliniks

American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc.

1791 Tullie Circle, N.E.
Atlanta, GA 30329

Recording of Minutes

<u>Chapter:</u>	Northeastern Oklahoma Chapter 069	<u>Meeting Date:</u>	January 12, 2023
<u>Meeting:</u>	January 12 BOG		
<u>Attendance:</u>	11	<u>Compiled By:</u>	Eric Mulliniks

Attendees: Keith Averitt, Claire Farr, Zach Seizinger, Steve Johnson, Austin Barton, Eric Mulliniks, Matt Simmons, Sarah Fazel, Austin Whetstone, Pam Dunlap, and Mike Beda.

The NEOK August BOG Meeting was held at Elgin Park, 325 E Reconciliation Way, Tulsa, OK 74120. President Keith Averitt called the meeting to order at 11:32 AM.

President: Keith Averitt

- CRC in Monterrey – Matt Simmons and Keith Averitt are attending as delegate and alternate.
- Spring Par 3 Golf Tournament will officially be held on April 13th, 2023 at. A shotgun start will begin at 1:00 p.m. Entry fee will be \$350/team of 4 or \$100/person.
- The next Board of Governors meeting will be held on February 9th, 2023 at Elgin Park.
- Discussed skeet shooting event in Spring of 2023. The date is set for March 31st, 2023.

Vice President: Matt Simmons

- Discussed the deadline for newsletter articles. Articles and minutes must be sent out faster this month and next. February lunch meeting set for February 1st, 2023.

Treasurer: Austin Barton

- No update.

Secretary: Eric Mulliniks

- Chapter meeting minutes for January emailed out today and in confirmation process. Need a couple of move votes for approval.

Attendance / Reception: Richard Shoemaker

- No Update

CRC Delegate / PAOE: Claire Farr

- Printed copies of PAOE points.

CTT Chapter Programs: Michael Floyd.

- February speaker will be Robert Hanna.

Electronic Communications and Publicity: Austin Whetstone

- No update.

GAC: Chad Smith

- Had a short meeting with Kevin Hern.

Historian: Gene Redford

- No update.

Honors & Awards: Mike Beda.

- Honors and awards go be given in March.

Membership Promotion: Brain Biggerstaff.

- No update.

Refrigeration: Eric Mulliniks.

- Working on setting up a tour of Vicinity.

Research Promotion: Chad Marazas

- No update.

Special Events: Nolan Chance (Main), Ryan Dunkerson

- The Par 3 Tournament will be held on April 13th, 2023 at 1:00 p.m. Participants will be limited to between 40 and 50.

Student Activities: Sarah Fazel

- Mark Fly will speak to students and YEA on January 25th, 2023.
- Scholarship award given during March meeting.

Sustainability: No update.

YEA: Zach Seizinger

- Helped secure speaker for February lunch meeting.

New Items / Other Business: BOG Attendees

- Next BOG meeting on February 9th, 2023 at Elgin Park.
- Pam Dunlap reported on upcoming meeting to be held in a couple of weeks ASPE/ASHRAE event. Meeting will be held at Mother Road Market. Harrison Energy Partners is sponsoring.

Meeting was adjourned at 12:19 p.m.

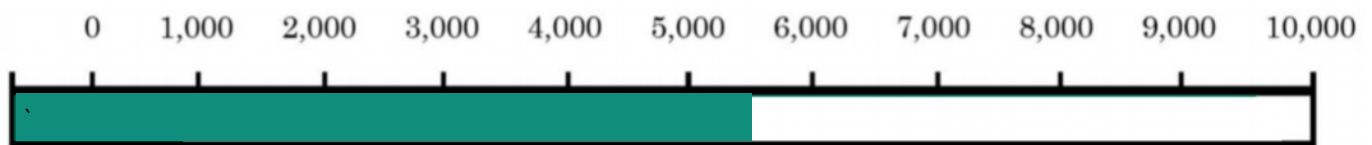


2022/2023 Calendar of Events

<u>Important Dates</u>	<u>Meeting</u>	<u>Location</u>
September 15, 2022	Board of Governors	Elgin Park
September 29, 2022	Golf Tournament	LaFortune Golf Course
October 5, 2022	Chapter Meeting (Lunch)	Tulsa Country Club
October 12, 2022	ASPE&ASHRAE EXPO	Oklahoma City Convention Cent
October 20, 2022	Board of Governors	Elgin Park
November 2, 2022	Chapter Meeting (Lunch)	Tulsa Country Club
November TBD	Board of Governors	Elgin Park
December 7, 2022	Chapter Meeting (Lunch)	Tulsa Country Club
December 15, 2022	Board of Governors	Elgin Park
January 18, 2023	Chapter Meeting (Lunch)	Tulsa Country Club
January 12, 2023	Board of Governors	Elgin Park
February 1, 2023	Chapter Meeting (Lunch)	Tulsa Country Club
March 1, 2023	Chapter Meeting (Lunch)	Tulsa Country Club\
March 31, 2023	Skeet Shoot	TBD
April 13, 2023	Spring Golf Tournament	LaFortune Golf Course
April 27-29, 2023	Monterrey ASHRAE CRC	Monterrey, Mexico

Check back in each subsequent newsletter as new events will be added as they are scheduled.

2022/2023 NEOK PAOE Points





2022/2023 Chapter Volunteers

Officers

President	Keith Averitt	918-624-1005	kaveritt@eei-ok.com
President Elect	Matt Simmons	918-417-9953	msimmons@eda-fki-engineers.com
Treasurer	Austin Barton	918-359-9107	barton.a@mcintoshok.com
Secretary	Eric Mulliniks	918-640-1542	emulliniks@eei-ok.com

Board of Governors

BOG	Steve Johnson	918-955-4462	Steve.johnson55@cox.net
BOG	Susan Crenshaw		SCrenshaw@harrisonenergy.com
BOG	Ray Gomez	918-584-0102	gomez@phillipsgomez.com
BOG	Mike Beda	918-706-8309	mikebeda1945@yahoo.com

Committee Chairs

CRC Delegate	Keith Averitt	918-624-1005	kaveritt@eei-ok.com
CRC Alternate	Matt Simmons	918-417-9953	msimmons@eda-fki-engineers.com
Attendance/Reception	Richard Shoemaker	918-812-2149	rjii@shoemakerac.com
Audit	Dan Owens	918-359-9110	owens.d@mcintoshok.com
CTT/Programs	Michael Floyd	918-836-0271	michael.floyd@leeandbrowne.com
GAC	Chad Smith	918-704-7905	chad@airetechcorp.com
Historian	Gene L. Redford	918-346-0444	glredbird@yahoo.com
Honors & Awards	Mike Beda	918-706-8309	mikebeda1945@yahoo.com
Membership Promotion	Brian Biggerstaff	918-219-4030	bbiggerstaff@eei-ok.com
Newsletter	Matt Simmons	918-258-6890	msimmons@eda-fki-engineers.com
Nominating	Chad Smith	918-704-7905	chad@airetechcorp.com
Publicity / Social Media	Austin Whetstone	918-237-3663	austin@okchiller.com
Refrigeration	Eric Mulliniks	918-382-6432	ericm@aaon.com
Research Promotion	Chad Marazas	918-688-6784	cmmarazas@trane.com
Special Events Co-Chair	Nolan Chance	918-877-6000	nolanc@midwestmachinery.net
Special Events Co-Chair	Ryan Dunkerson	918-430-6793	rdunkerson@es2ok.com
Student Activities	Sara Fazel	918-584-9976	Sara.fazel@airetechcorp.com
Sustainability	TBD		
Webmaster/ECC	Austin Whetstone	918-237-3663	austin@okchiller.com
YEA	Zachary Seizinger	918-998-0007	zseizinger@eei-ok.com