



HAPPY HOLIDAYS!

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President's Message

I hope that everyone enjoyed their Thanksgiving weekend with family, friends, great food and safe travels. The weekend temperatures were a reminder that we are approaching winter quite quickly. Before we know it the end of the year will be here and we will be celebrating the holidays.



The ASHRAE Long Island chapter welcomed November's presenter and ASHRAE Distinguished Lecturer Dr. Andrey Livchak, Ph.D., who spoke on Energy Efficient Solutions for Commercial Kitchen Ventilation. The presentation and topic was well received and important as restaurants are among the buildings with the highest energy intensity in the commercial sector. We thank Dr. Livchak for visiting the Long Island chapter.

The Long Island Chapter's Research Promotion donors were recognized for the contributions that they made last year. Thank you to RP Chair Andrew Manos, LEED AP, for presenting and thanking last year's donors.

New chapter and student members were welcomed and recognized at the November meeting as well and I would like to thank the chapter membership chair Michael Razzano and Student Activities chair Elizabeth Jedrlinic.

CHAPTER MONTHLY MEETING

| | |
|------------------------|---|
| DATE: | Tuesday, December 10, 2019 |
| TIME: | 6:00 PM - Cocktails/Dinner 7:00 PM - Dinner Presentation 8:45 PM - Conclusion |
| LOCA- TION: | Westbury Manor 1100 Jericho Tpke. Westbury, NY 11590 |
| FEES: | |
| Members - | \$50.00 |
| Guest - | \$60.00 |
| Student - | \$15.00 |

The YEA chapter chair Michael Nigro organized a social event at a Biergarten in Franklin Square NY, thank you very much to Klima NY for sponsoring the event.

Keep up with the Long Island Chapter as we will be planning several social events in the upcoming months. Interest in volunteering for the chapter and assisting in any of our committees is always welcome so please reach out to myself or anyone within the chapter if you would like to participate in any way.

Thank you and I look forward to seeing everyone at our next meeting. Happy Holidays, Merry Christmas and have a safe and enjoyable New Year's celebration.

Frank Paradiso
President - Long Island Chapter

Check the ASHRAE Website for Society news and to join/renew membership!

<http://www.ashraeli.com>

Long Island Chapter Officers & Committees

ASHRAE 2019/2020 OFFICERS

| POSITION | NAME | PHONE | EMAIL |
|---------------------|--------------------|--------------|--|
| President | Frank Paradiso | 631.632.2792 | c006@ashrae.net |
| President-Elect | James Hanna | 718.269.3768 | c006pe@ashrae.net |
| Vice President | Bill Artis | 516.732.2519 | c006vp@ashrae.net |
| Financial Secretary | Matthew Vitrano | 212.643.9055 | c006tr@ashrae.net |
| Treasurer | Murat Bayramoglu | 631.312.8818 | c006tr@ashrae.net |
| Secretary | Michael Nigro | 212.643.9055 | c006sec@ashrae.net |
| Board of Governors | Elizabeth Jedrlnic | 516.490.1621 | c006bog1@ashrae.net |
| Board of Governors | Andrew Blom | 631.626.1695 | c006bog2@ashrae.net |
| Board of Governors | Matthew Catan | 407.489.6684 | c006bog3@ashrae.net |
| Board of Governors | Michael Razzano | 516.805.3084 | c006bog4@ashrae.net |
| Board of Governors | Richard Halley | 516.490.1616 | c006bog5@ashrae.net |

ASHRAE 2019/2020 COMMITTEES

| COMMITTEE | NAME | PHONE | EMAIL |
|---------------------------|---------------------------------|--------------|--|
| Programs & Special Events | James Hanna | 718.269.3768 | c006pe@ashrae.net |
| Membership (MP) | Michael Razzano | 516.805.3084 | c006mep@ashrae.net |
| Refrigeration | Murat Bayramoglu | 631.312.8818 | c006ref@ashrae.net |
| Chapter Technology Trans- | Matthew Catan | 407.489.6684 | c006cttc@ashrae.net |
| Grassroots Government | Andrew Blom | 631.626.1695 | c006ggac@ashrae.net |
| Newsletter Editor | Liset Cordero | 212.643.9055 | c006ne@ashrae.net |
| Research Promotion (RP) | Andy Manos | 631.632.2791 | c006rp@ashrae.net |
| Historian | Matthew Vitrano | 212.643.9055 | c006his@ashrae.net |
| Student Activities (SA) | Elizabeth Jedrlnic | 516.490.1621 | c006sa@ashrae.net |
| Young Engineers in | Michael Nigro | 212.643.9055 | c006yea@ashrae.net |
| Webmaster | Bill Artis | 516.732.2519 | c006web@ashrae.net |
| Nominating | Michael Gerazounis, PE, LEED AP | 212.643.9055 | nominating@ashraeli.org |
| Reception & Attendance | Matthew Catan | | reception@ashraeli.org |
| PR & Engineering Joint | Andrew Manos, LEED AP | 631.632.2792 | pr@ashraeli.org |
| Golf Outing | Peter Gerazounis, PE LEED AP | 212.643.9055 | golf@ashraeli.org |
| Awards | Brian Simkins | 203.261.8100 | c006ha@ashrae.net |

ASHRAE LI, P.O. Box 79, Commack, NY 11725

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Chapter Monthly Meeting - Program for 2019/2020

| | |
|---|--|
| September 10, 2019 * At Westbury Manor  Dinner Presentation – Builds & NYC Code Compliance Presenter: Ian Nelson **1 PDH** Refrigeration Night | March 10, 2020 * At Westbury Manor Dinner Presentation - Natatorium Design Presenter: Joseph Schmitz **1 PDH** Student Activities Night YEA Night |
| October 8, 2019 * At Westbury Manor  Dinner Presentation— Back to Basics: Hot Gas Bypass and Hot Gas Reheat (and why mixing them up will cost you money) Commissioning for Dummies (by dummies) Presenter: Bill Artis **1 PDH** | April 14, 2020 Dinner Presentation - TBD Presenter: **1 PDH** |
| November 12, 2019 * At Westbury Manor  Dinner Presentation-- Energy Efficient Solutions for Commercial Kitchen Ventilation Presenter: Dr. Andrey Livchak **1 PDH** Membership Promotion Student Activities Night and YEA Night Resource Promotion Night | May 4, 2020 * Cherry Valley Club, Garden City, NY ANNUAL GOLF OUTING |
| December 10, 2019 * At Westbury Manor Dinner Presentation-- Fire & Smoke Damper Actuators Presenters: Rick Smith **1 PDH** | May 12, 2020 Annual Field Trip |
| January 14, 2020 * At Westbury Manor Dinner Presentation– Grow Rooms– And how to Design them Presenter: Geoff Kelman **1 PDH** | June 9, 2020 * At Westbury Manor Free Buffet Dinner for Members PAST PRESIDENTS NIGHT & OFFICER INSTALLATION STUDENT SCHOLARSHIPS TO BE AWARDED ASHRAE History Quiz and prize Give-A-Ways |
| February 1-5, 2020 ASHRAE Winter Meeting Orlando, FL | June 2020 - TBD (4pm-8pm) * Dixie II @ Captree State Park Boat Basin, NY ANNUAL FISHING TRIP |
| February 11, 2020 * At Westbury Manor – Dinner Presentation– TBD Presenter: **1 PDH** Membership Promotion Night Resource Promotion Night | August 13-15, 2020 CHAPTERS' REGIONAL CONFERENCE (CRC) REGION I |
| February 16-22, 2020 NATIONAL ENGINEERS WEEK | |

Meeting Program



Dinner Presentation

“Fire & Smoke Damper Actuators”

Presented by

**Rick Smith
Regional Applications Consultant
Belimo**

**Attendees
Will Earn
1 PDH!**

| | | | |
|---------------------------|---|-------------|--|
| DATE: | TUESDAY, DECEMBER 10, 2019 | | |
| Time: | 6:00 PM - Cocktails and Hors D'oeuvres 7:00 PM - Dinner Presentations 8:45 PM - Conclusion | Fee: | \$ 50.00 Member \$ 60.00 Guest \$15.00 Student |
| Location: | WESTBURY MANOR (516) 333-7117 1100 Jericho Tpke., Westbury, NY 11590 Directions are posted at @ www.ashraeli.com | | |
| Presentation: | <p>This month's presentation will highlight the following topics:</p> <ul style="list-style-type: none"> • Smoke Control Strategies (Dedicated and Non-Dedicated Systems) • Code and Standards • Fire & Smoke Dampers and Actuators • Application Solutions from Belimo <p>All attendees will receive 1 PDH.</p> | | |
| About our Speaker: | <p>Rick Smith is currently the Regional Applications Consultant (RAC) for Belimo Americas representing the North East Region. Rick started at Belimo as the Network Administrator for the Americas and transferred into field sales and support of Belimo's line of Damper Actuators and Control Valves. After 15 years of supporting HVAC Controls and Mechanical Contractors, Engineering firms and end users, Rick assumed the RAC position to offer his assistance in HVAC related applications in regards to product selection, data analytics and advanced technical training. Rick specializes in the pre and post installation and performance monitoring of Belimo's line of energy saving "smart" actuators, control valves, and IoT end devices. Rick was instrumental in the creation and maintenance of Belimo's Energy Valve Data Analysis Tool which imports data from smart actuators to calculate performance values and energy savings reports.</p> | | |

Long Island Chapter - Past Presidents

| | | | |
|------|-----------------------------|------|------------------------------------|
| 1958 | H. Campbell, Jr. PE | 1989 | Mel Deimel |
| 1959 | Clyde Alston, PE | 1990 | Robert Rabell |
| 1960 | Sidney Walzer, PE | 1991 | Gerald Berman |
| 1961 | Sidney Gayle | 1992 | Donald Stahl |
| 1962 | William Kane | 1993 | Ronald Kilcarr |
| 1963 | Louis Bloom | 1994 | Jerald Griliches |
| 1964 | Milton Maxwell | 1995 | Walter Stark |
| 1965 | Will Reichenback | 1996 | Joe Marino |
| 1966 | Joseph Minton, PE | 1997 | Norm Maxwell, PE |
| 1967 | Irwin Miller | 1998 | Alan Goerke, PE |
| 1968 | Walter Gilroy | 1999 | Frank Morgigno |
| 1969 | Charles Henry | 2000 | Michael Gerazounis, PE, LEED AP |
| 1970 | William Wright | 2001 | Ray Schmitt |
| 1971 | Louis Lenz | 2002 | Steven M. Stein, PE |
| 1972 | Ronald Levine | 2003 | Andrew Braum, PE |
| 1973 | Henry Schulman | 2004 | Claudio Darras, P.E. |
| 1974 | Myron Goldberg | 2005 | Craig D. Marshall, P.E. |
| 1975 | John N. Haarhaus | 2006 | John Nally |
| 1976 | Richard K. Ennis | 2007 | Peter Gerazounis, PE, LEED AP |
| 1977 | Kenneth A. Graff | 2008 | Steven Friedman, PE, HFDP, LEED AP |
| 1978 | Evans Lizardos, PE, LEED AP | 2009 | Steven Giammona, P.E., LEED AP |
| 1979 | Albert Edelstein | 2010 | Nancy Román |
| 1980 | Ralph Butler | 2011 | Carolyn Arote |
| 1981 | Robert Rose, PE | 2012 | Brian Simkins, LEED AP |
| 1982 | Timothy Murphy, PE | 2013 | Andrew Manos, LEED AP BD+C |
| 1983 | Leon Taub, PE | 2014 | Richard L. Rosner, P.E. |
| 1984 | Raymond Combs | 2015 | Thomas J. Fields, P.E., LEED AP |
| 1985 | Edward W. Hoffmann | 2016 | Donald Kane, P.E. |
| 1986 | Jerome T. Norris, PE | 2017 | Andrew Dubel, P.E., LEED AP |
| 1987 | Abe Rubenstein, PE | 2018 | Richard Halley |
| 1988 | Michael O'Rourke | | |

PAOE POINTS FOR 2019/2020

| Chapter Members | Chapter Operations | CTTC | Communi-cations | GGAC | History | Member-ship | Research Promotion | Student Activities | YEA | Chapter PAOE Totals |
|-----------------|--------------------|------|-----------------|------|---------|-------------|--------------------|--------------------|-----|---------------------|
| 282 | 80 | 50 | 50 | 0 | 355 | 400 | 540 | 350 | 450 | 2,275 |

Student Activities

As we move into the holiday season, I thought it would be nice to remind students about the benefits of becoming a formal student member of ASRHAE.

Monthly ASHRAE Journal

The official monthly publication of the Society explores issues such as indoor air quality, energy management, solar developments, and more.

ASHRAE Insights

ASHRAE's monthly newspaper, ASHRAE Insights, is devoted exclusively to news and information about the Society at every level including news of special interest to students. Students are encouraged to submit articles and pictures of current student branch activities, award presentations, etc.



SmartStart Program

ASHRAE student members can continue receiving the many member benefits of ASHRAE after finishing college through the SmartStart program. The first year out of college annual membership is still only \$21. Then it is only \$78 for the second year and \$103 for the third year.

Opportunities

As an ASHRAE student member, you may participate in the following programs the Student Design Project Competition, Grants-in-Aid, Society and Local Scholarships, and Student Branch Activities. All of these programs are designed to enhance your future as an HVAC&R professional.

Enjoy discounted registration at the Annual and Winter ASHRAE Conferences

The annual dues for ASHRAE student membership are \$25.00

The Student Zone

The Student Zone web page offers valuable career and educational resources for ASHRAE Student Members. Students can obtain a list of accredited engineering institutions as well as tips on landing an exciting job in the HVAC&R industry.

Publication Discounts

The ASHRAE Student Store is your one-stop shop for ASHRAE books, standards, reports, charts, and more. Student members are eligible for special prices. Log in to browse discounted publications.

Local Chapter Meeting Discounts

On Long Island, Student Members get a discounted price of \$15 to attend meetings.

Elizabeth Jedrlinic

Student Activities Chair

Elizabeth.jedrlinic@trane.com

Research Promotion

I would like to thank the companies who have participated in the annual 2020 Product Directory of Manufacturers and their Representatives.

The Product Directory has been prepared as a service to all its members and as a service to the local HVAC industry. It will be made available to all ASHRAE and non-ASHRAE members at no-cost and can be obtained from our monthly meetings or directly from our web-site.

There's still time if you would like your company listed in the directory please contact me. The deadline is December 15th. The Directory is intended to provide better communications between manufacturers and their sales representatives; engineers who specify products; contractors who purchase and install the equipment; and other interested parties. Product Directory listings are not limited to ASHRAE members and the listings are not to be considered as advertising or endorsement by ASHRAE of any product, manufacturer or representative.



This year's overall resource promotion goal is \$2,600,000 with over 75 research projects on board. Our chapter is expected to raise approximately \$20,400 towards the overall goal of which we have already raised \$3370. I am hoping I can count on the continued support of all of our past contributors who have generously supported us over the years. I also look forward to gaining the support of new contributors this coming year. Please help support ASHRAE in any way you can.

I would like say 'thank you' to all the contributors listed below whom have already donated to ASHRAE this year:

INDIVIDUALS

| | |
|------------------------|---------------|
| Brian Simkins | Mike Razzano |
| Peter Gerazounis, PE | Andrew Blom |
| Michael Gerazounis, PE | Matthew Catan |
| John D Nally | Liset Cordero |
| Andrew E Manos | |
| Mordechai Chetrit | |
| Evan Lizardos | |
| Elizabeth Jedrlinic | |
| Frank Paradiso | |
| William Artis | |
| Murat Bayramoglu | |
| Matthew Vitrano | |
| Michael Nigro | |
| James Hanna | |
| Richard Halley | |

COMPANIES

Catan Equipment Sales
Accuspec, Inc
Gil-Bar Industries, Inc.

CONTRIBUTIONS CAN BE MADE IN THE FOLLOWING WAYS:

1) You can mail your checks, made out to ASHRAE Research Promotion, to:

Andrew Manos, LEED AP BD+C
ASHRAE Research Promotion Chair
c/o Stony Brook University
Campus Planning, Design and Construction
Research and Support Services, Building 17, Suite 160
Development Drive, Stony Brook, NY 11794-6010

2) You can bring your check to any of the meetings and give it to me. I will mail it into headquarters.

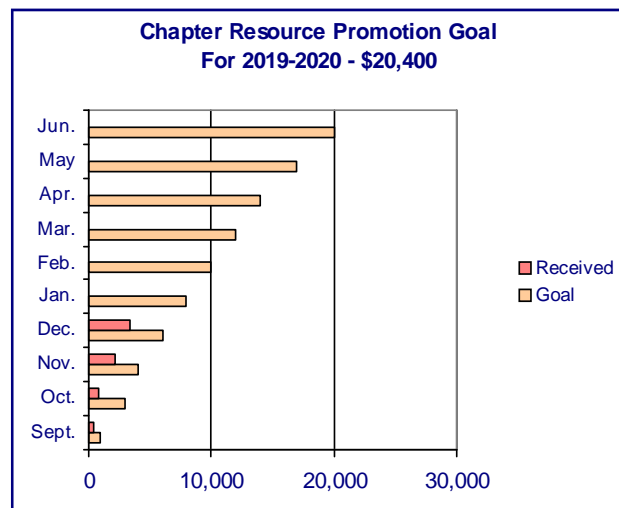
3) You can contribute via PayPal from the ASHRAE LONG ISLAND web site, just click on the donate button.

4) You can contribute directly on-line. www.ashrae.org

*** Please make sure you accredit your contribution to the LONG ISLAND CHAPTER 006 ***

Thank you again for all of your support!

Andrew Manos, LEED AP BD+C - Research Promotion Chair



YEA

We had a great turnout for the YEA/Membership Promotion Event last month at Plattdeutsche Park in Franklin Square. Special thanks to Klima and the ASHRAE Long Island Chapter for sponsoring the event for our members. Stay tuned for the next event in the spring.

More details to follow soon!



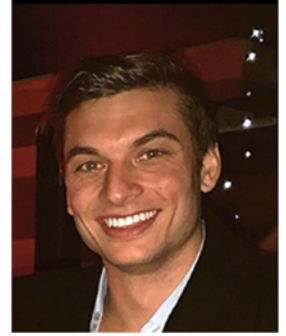
Michael Nigro
YEA Chair



CTTC

Happy Thanksgiving!! We hope that everyone had a great Holiday weekend with their families. It was great hearing from Dr. Andrey Livchak, Ph.D, last meeting about ways to reduce energy consumption of foodservice facilities by up to 50% while improving indoor environmental quality. Dr. Andrey was an incredible Distinguished Lecturer and we appreciate his visit to the chapter!

Joke of the Month: Thanksgiving Engineer



ASHRAE Certification Review: BEAP – Building Energy Assessment Professional Certification

The BEAP certification, an ANSI-Accredited Personnel Certification Program under ISO/IEC 17024 (#1139), validates competency to assess building systems and site conditions; analyze and evaluate equipment and energy usage; and recommend strategies to optimize building resource utilization.

The BEAP certification has been recognized by the U.S. Department of Energy (DOE) as meeting the Better Buildings Workforce Guidelines (BBWG) for the Commercial Building Energy Auditor.

See Chapter Technology Article of the Month on the following pages 10-13

Matthew K. Catan
CTTC Chairman

Selecting Industrial Fans

BY MARCEL KAMUTSKI, P.E.

Specifiers of electrical equipment used in industrial environments must take into account any number of factors, including: the presence of hazards, such as explosive gases, corrosive and erosive materials, and dust and other particulates; maintainability; and how the equipment will affect the surrounding environment. This column will discuss important considerations in the development of specifications, proper selection and construction of fans for industrial applications and the information necessary for an effective fan proposal.

Communication Is Key

Proper fan selection and construction requires good communication—in the form of a specification—between the consulting engineer or user and the fan manufacturer, concerning:

1. *General information, including overall project scope.* How many systems are being considered, and how many fans per system? Should all fans be delivered at once, or is staggered delivery preferred? Extended project timelines can make cost estimating difficult. To mitigate risk—for the purchaser and the manufacturer—the purchaser may need to consider escalation terms. What is the application and required service life of the fan? Industrial users often require a fan to have a service life of 20 years or more.
2. *Basic details, such as site elevation, fan location (inside or outside) and ambient conditions.* These details can have a significant impact on fan and driver sizing.
3. *The purchaser's experience successfully operating and maintaining certain fan types or arrangements.* How does the purchaser wish to control fan performance? Will the fan be operating near design conditions most of the time, in which case dampers
4. *The required operating points and efficiency.* Is efficiency an important consideration? If it is, how will the cost of power be evaluated at different operating loads? Fan performance varies by fan and load condition. Efficiency at all relevant operating points should be considered.
5. *The load cycle (time at each load condition) and frequency of fan stoppage and restart.* Certain load cycles make variable-speed control impractical, as a fan must provide a minimum pressure for a system to operate effectively. In such cases, damper control may be the best option. Perhaps the cycle changes so frequently that controlling the fan with variable speed alone becomes difficult. For example, a centrifugal fan designed for high flow and low pressure may be ideal in a single-inlet configuration for constant-speed operation, but wholly unsuitable if frequent speed changes are anticipated. In such a case, a

may be the most cost-effective means of flow control? If the fan will be operating mostly at a lower flow and pressure, variable speed may yield significant power-saving opportunities.

Marcel Kamutski, P.E., is vice president, engineering and automation, for Galtac Process Fans and chair of AMCA's Industrial Manufacturers Market Group.



double-inlet impeller with narrower flow passages and fewer operating stresses may be a better fit.

6. *Operating-speed ranges, if the fan is to be variable-speed.* Every structure has an infinite number of natural frequencies that, if excited, can lead to a resonance condition and cause severe damage to the fan and surrounding equipment. Fans can be designed so no harmful natural frequencies are within defined operating-speed ranges.
7. *The items to be supplied by the fan manufacturer.* Typically, flow-control dampers are in the manufacturer's scope, as they directly impact fan performance. What about ancillary items, such as inlet and outlet transitions and silencers? How will the fan be driven—electric motor or turbine—and who will provide the driver?
8. *Details of the application.* What is the dust load and particle size at the fan inlet?
9. *The likelihood of naturally occurring outside excitation, such as earthquakes.* If the probability is high, manufacturers will consider the possible deformation

of the fan and structure to ensure there is no undesirable mechanical contact or failure during a seismic event.

Performance Requirements

Of course, the purchaser must specify the required fan operating points. Usually, at least one load point is well-defined, including the required flow, pressure, operating temperature and gas density.

If the gas is a mixture, component quantities or the overall specific gravity must be specified to enable the manufacturer to calculate the inlet density and specific heat ratio of the gas stream.

Density is such an important consideration because most processes are designed on a mass-flow basis. Fans, on the other hand, are volumetric devices, providing the same volumetric flow rate against a constant (density-corrected) pressure. For example, a cooling-system fan that provides 10,000 cfm (4719 L/s) at sea level, where the density is 0.075 lb/ft³ (1.2 kg/m³), also will provide 10,000 cfm (4719 L/s) at a higher elevation, such as in



COLUMN HVAC APPLICATIONS

Denver, where the density is approximately 18% less. Mass flow over the cooling coils, therefore, would be reduced by 18%. Meanwhile, the fan flow rate would need to be increased to provide the required cooling.

If a fan has inlet or outlet duct connections, what are the sizes of the ducts? Is the fan manufacturer required to supply transition pieces from the duct to the fan and from the fan to the duct (evasive)? What about the losses for those transition pieces? Are they accounted for in the operating points? How much space is available for transitions? Although short transitions tend to be less efficient than long ones, modern flow-analysis tools (such as CFD) can help to improve the efficiency of short transitions. This tends to be more beneficial for large high-flow applications in which small improvements in fitting efficiency can yield large returns in the form of energy savings.

Does the customer have a preferred operating speed? Faster fans usually are smaller and less expensive but can also be less efficient. Sometimes, space permitting, a slower, larger fan can be an economically viable option.

Construction and Special Requirements

Are there any special requirements for the fan assembly? Which type of fan is preferred—axial or centrifugal? If centrifugal, is there a type of blading that is preferred or required? Is efficiency of paramount importance, or is the fan handling a dirty gas stream, in which case long-term reliability is likely to be preferred? If the gas stream is dirty, is the particulate abrasive or sticky? Are there corrosive elements?

Does the customer have preferred limits or design guidelines? Is there a requirement for minimum first critical speed of impeller and shaft? Does the fan manufacturer also need to take oil-film-bearing or roller stiffness into account?

What about bearings? Is there a preferred bearing type, such as anti-friction or sleeve? Is there a required manufacturer? Is grease lubrication or oil lubrication preferred? What are the ambient- and process-temperature limits? How will the bearings be cooled? With water? With air? With circulating oil? Will the bearings require special shaft seals? Will there be any instrumentation requirements for monitoring bearing temperature and vibration? Is a local display required, or simply the transmission of a signal to a control room? Which communications protocol is required?

Is a full local control panel required, or are

instrument-mounted transmitters sufficient? What functions will be present?

Once a fan has been specified for performance, what should be considered for static components, such as bearing pedestals and sole plates and fan casings? Does the fan have an inlet box? If it does, is the inlet box integral to the fan casing or bolted to the fan inlet in Arrangement 1 or 9 configuration? Are there any special material requirements for temperature extremes? Are corrosive or explosive atmospheres a potential hazard? Is there a minimum material-thickness requirement? If the flow is abrasive, are wear-protection plates required? Does the site have good experience with a specific type or style of protection?

Will the fan be exposed to high temperatures? If it will, should the fan casing be insulated to address personnel-protection concerns or reduce the amount of noise being transmitted to the surrounding environment? Should the vendor provide insulation mounting studs, or should that be left to the site installation contractor?

What about temperature excursions? Will the fan be exposed to even higher temperatures during upset conditions? If it will, how frequently and for how long, and what are the temperature extremes? How quickly will the gas-stream temperature change? Fans typically are suitable for gradual temperature changes, of, say, 15°F (-9°C) per minute. Some applications experience much more rapid temperature changes.

Has a preliminary plant layout been completed, and is the fan rotation, discharge and inlet-box orientation known? Industrial fans can usually be customized easily to satisfy any inlet- and outlet-angle requirements.

Is there a preferred form of coupling? Is maintenance-free a preference or a requirement? Certain couplings are ideal for variable-speed applications because they are torsionally soft and can be tuned to avoid natural frequencies. Are there any special guarding requirements? Certain industries require non-sparking guards. These can be aluminum, brass or plastic.

What sort of driver is required for the fan, and who is responsible for providing it? Will the fan be motor- or turbine-driven? Will it have a gasoline engine or a diesel engine? What utilities are available for the driver? For a motor, what is the voltage, phase and frequency? For a turbine, what is the steam pressure and quality? Are any controls required for the driver? If yes, are they local or remote?

Various other accessories, such as turning gears, which

CTTC

can be used to help start a high-inertia fan or keep a high-temperature fan rotating while it cools down, should also be specified. Will the fan require frequent cleaning to remove buildup? If yes, will this be done online while the fan is running or during a maintenance period? What is the cleaning medium? Air? Steam? Water?

Does the application or installation location necessitate special protection for fan components? Perhaps the fan is located in a humid environment or near a seashore with a high concentration of airborne salt. If that is the case, special paint may be necessary to protect the fan, which should be made clear to the fan manufacturer.

Sound

Are there noise limits that must be observed? The purchaser should consider general Occupational Safety and Health Administration limits on sound levels within and outside a plant environment. Defining acceptable noise limits to satisfy various criteria is beyond the scope and expertise of most fan manufacturers, so the purchaser is encouraged to work with a qualified sound engineer. Generally, if limits are not specified, fan manufacturers will assume the end user has a plan to mitigate sound once a fan is installed. Achievement of required sound levels is possible with minor design modifications, so it is beneficial to address issues at the time fans are quoted.

Typical noise-abatement strategies include inlet and/or outlet silencers to reduce noise being transmitted through ductwork and proper insulation to reduce noise transmitted through fan casings. Attenuation can be improved by increasing casing-material thickness or adding a fan-shaft seal.

Testing and Quality Assurance

What sort of testing is required to validate a fan? What kind of test standard should be followed? Smaller fans can often be run-tested in the factory at minimal expense, providing assurance that the fan will operate trouble-free once installed.

For larger fans, performance testing at the factory is possible but may not be practical. If a fan is going to be tested, the acceptance criteria should be specified or agreed upon prior to design and construction.

Are there any special analytical requirements and acceptance criteria, such as low-cycle fatigue or torsional critical speed? The results of these analyses can affect material and component selection.

Spare Parts

Does the site require spare parts for the new fan? Having items such as bearings and shaft seals on hand can be helpful in the event of a minor upset during the first run. Though this may add a small cost, it will ensure startup is not delayed.

Storage

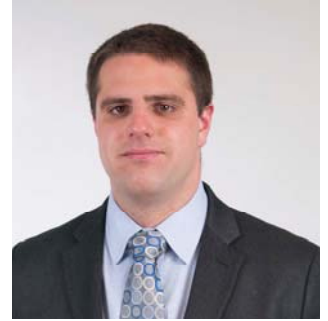
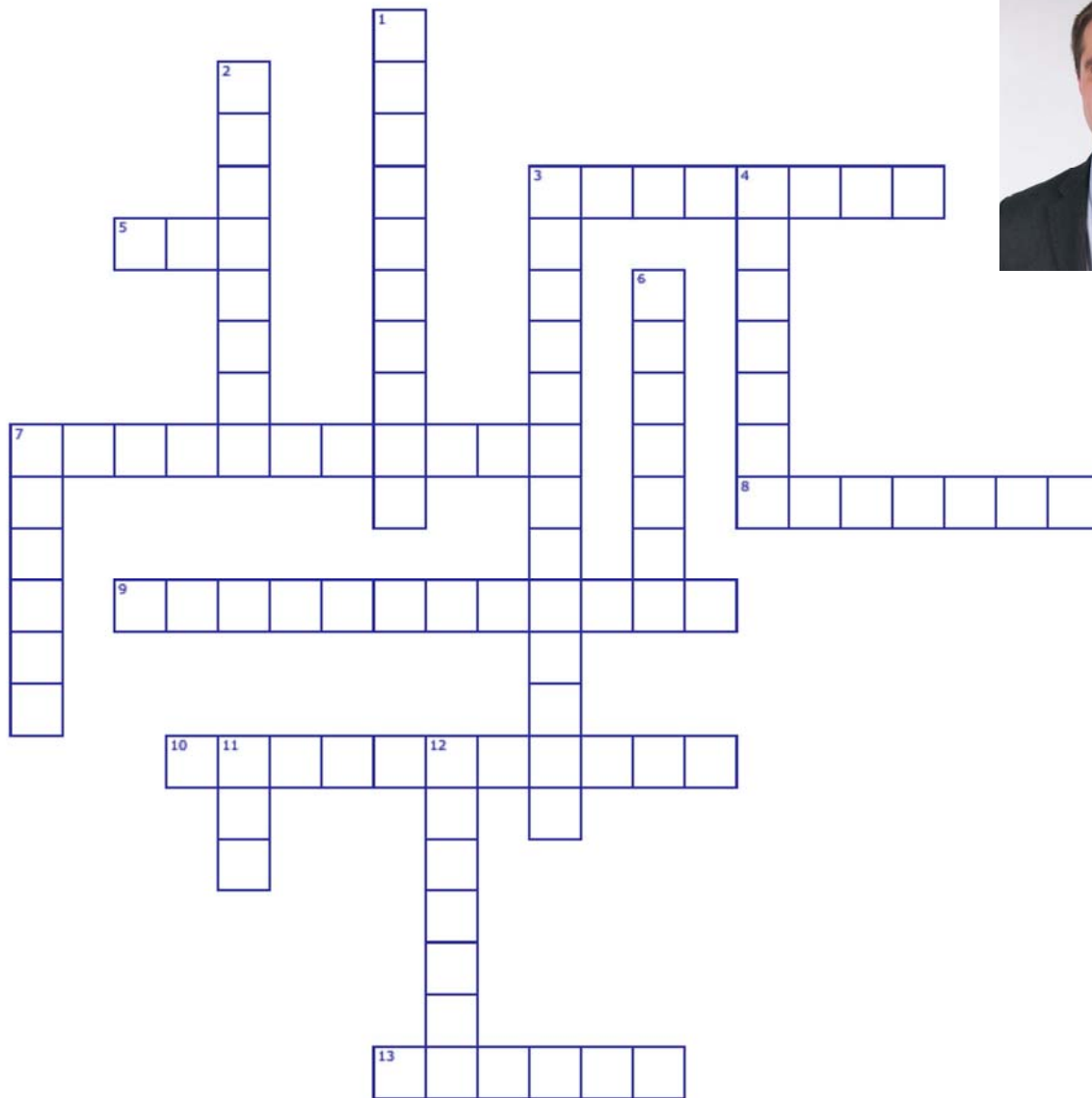
Will the fan be installed and started right away, or will it be stored? If it will be stored, for how long and under what conditions? Will it be stored inside a heated warehouse or in an outdoor "laydown" area? Answers to these questions will impact packing requirements. If the fan is assembled, ongoing maintenance may be needed to ensure it remains in ready-to-run condition.

To Learn More

For further information on preparing fan specifications and guidance on evaluating proposals, see AMCA Publication 801, *Industrial Process/Power Generation Fans: Specification Guidelines*. ■



History - Crossword Puzzle Time!



Across

- 3. Chapters first president
- 5. Young Engineers in ASHRAE
- 7. Hotel hosting chapters silver anniversary
- 8. Name of our newsletter.
- 9. 2013 chapters president.
- 10. ASHRAE President
- 13. Proudly displayed at our monthly meetings

Down

- 1. 2014 field trip to a ice rink in
- 2. Location of the 2015 CRC.
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(Crossword Puzzle Answers Located on Page 18)

Matthew Vitrano
History Chairman

Refrigeration

REFRIGERANT CONTROL DEVICES

(SUMMARY OF ASHRAE HANDBOOK 2018 CHAPTER 11)

CONTROL SWITCHES

A control switch includes both a sensor and a switch mechanism capable of opening and/or closing an electrical circuit in response to changes in the monitored parameter. Control switches respond to a variety of physical changes such as pressure, temperature and liquid level.

Operating controls turn systems on and off (thermostats)

Primary controls provide safe continuous operation (compressor or condenser fan cycling)

Limit controls protect a system from unsafe operation (high pressure cut out switch)



Pressure Switches

Pressure-responsive switches have one or more power elements (bellow, diaphragm, bourdon tube) to produce the force needed to operate the mechanism. Refrigerant pressure is applied directly to the element, which moves against a spring that can be adjusted to control operation at the desired pressure.

| Type | Function |
|--|--|
| High-pressure cutout (HPCO) | Stops compressor when excessive pressure occurs |
| High-side low pressure (HSLP) | Prevents compressor operation under low ambient or loss of refrigerant conditions |
| High-side fan cycling (HSFC) | Cycles condenser fan on and off to provide proper condenser pressure |
| Low-side low-pressure (LSLP) | Initiates defrost cycle; stops compressor when low charge or system blockage occurs |
| Low-side compressor cycling (LSCC) | Cycles compressor on and off to provide proper evaporator pressure and load temperature |
| Lubricant pressure differential failure (LPDF) | Stops compressor when difference between oil pressure and crankcase pressure is too low for adequate lubrication |

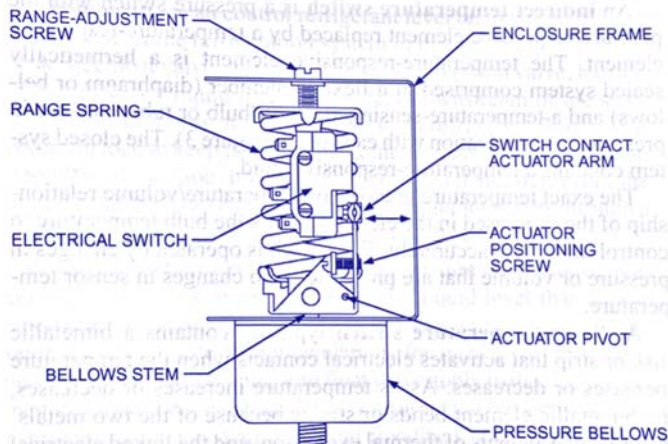


Figure 1 Typical Pressure Switch (ASHRAE Handbook 2018 Section 11)

Refrigeration

Temperature Switches

An indirect switch is a pressure switch with the pressure responsive element replaced by a temperature responsive element. A direct switch typically contains a bimetallic disk or strip that activates electrical contacts when the temperature increases or decreases.

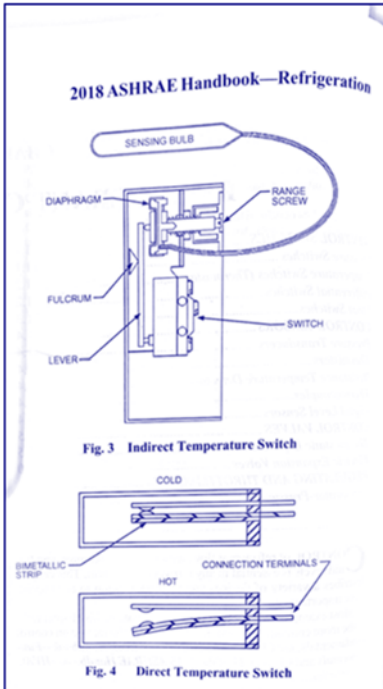


Figure 2 Direct and Indirect Temperature Switches (ASHRAE Handbook 2018 Section 11)

Differential Switches

Differential control switches typically maintain a given difference in pressure or temperature between two pipelines, spaces or loads.

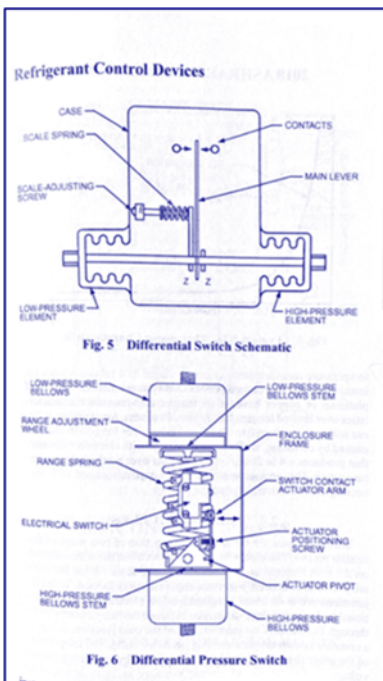


Figure 3 Differential Pressure Switches (ASHRAE Handbook 2018 Section 11)

Refrigeration

Float Switches

A float switch has a float ball, the movement of which operates one or more sets of electrical contacts as the level of a liquid changes. Float switches are connected by equalizing lines to the vessel or an external column in which the liquid level is to be maintained or monitored.

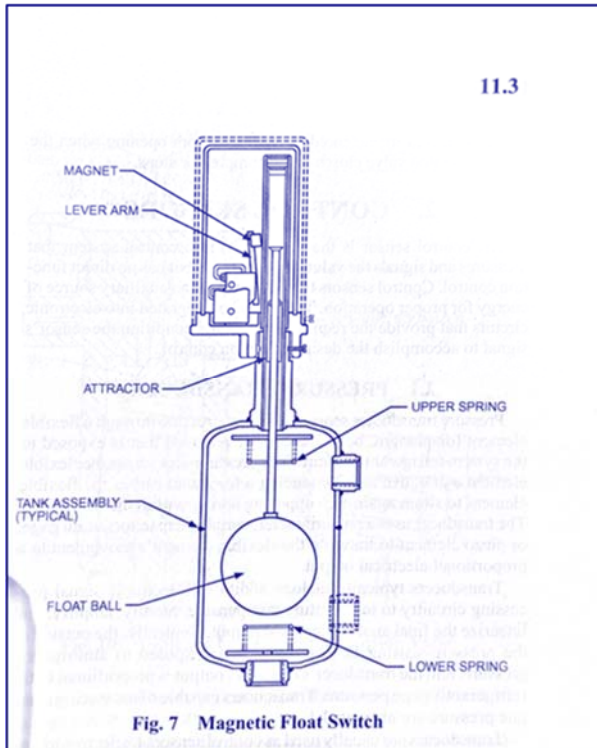
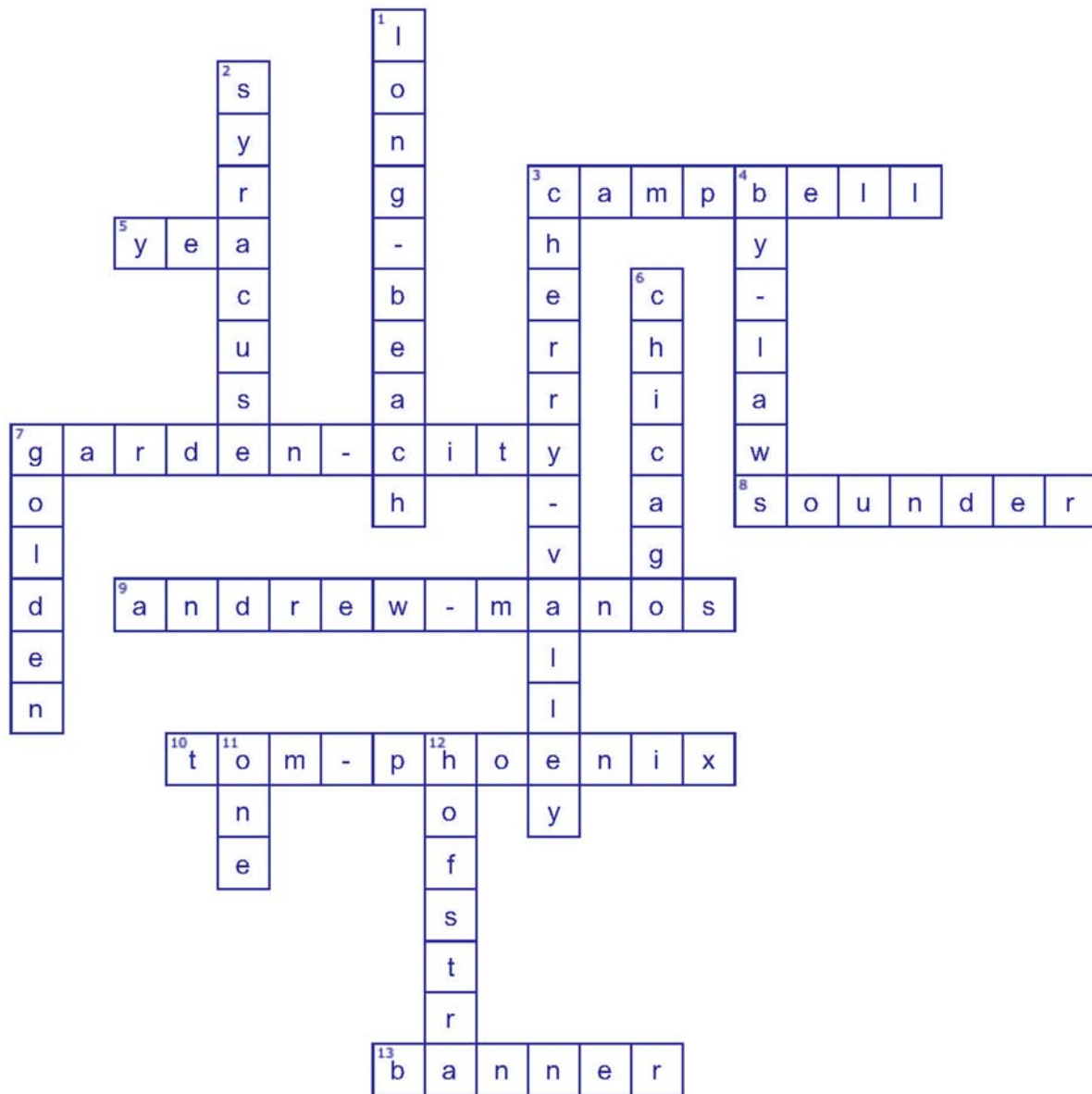


Figure 4 Magnetic Float Switch (ASHRAE Handbook 2018 Section 11)

ASHRAE handbooks provide vast amount of information for engineers at all levels. Take a look.

Murat Bayramoglu
Refrigeration Chair

History - Crossword Puzzle Answers (from Page 14)



Across

- 3. Chapters first president
- 5. Young Engineers in ASHRAE
- 7. Hotel hosting chapters silver anniversary
- 8. Name of our newsletter.
- 9. 2013 chapters president.
- 10. ASHRAE President
- 13. Proudly displayed at our monthly meetings

Down

- 1. 2014 field trip to a ice rink in
- 2. Location of the 2015 CRC.
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Grassroots Government Activities Committee (GGAC)

The following is from the ASHRAE's government affair update:

ASHRAE Members Meet with New York

On October 29, Thomas Reyes, Government Affairs Chapter Chair, and Jin Jin Huang, Chapter President, both of the ASHRAE New York Chapter, attended a meeting with officials from the New York State Department of Environmental Conservation (DEC), New York Department of State (DOS), and the New York State Energy Research and Development Authority (NYSERDA). Other meeting participants included representatives from Underwriters Laboratory (UL), AHRI, several manufacturing companies, and the real estate community. Reyes organized the meeting, which was focused on refrigerants and updated safety standards (ASHRAE Standards 15-2019, 34-2019 and UL Standard 60335-2-40 Third Edition). Implementation process and timeline of the recently-passed Climate Leadership and Community Protection Act was also discussed. The act was signed by Governor Cuomo on July 18, 2019, and will go into effect on January 1, 2020. ASHRAE will continue to work with NY State and industry peers to provide the technical support and guidance needed as the new bill and associated policies come into effect in the next coming years.



NYSERDA Remarks

On October 29, ASHRAE Central New York Government Affairs Chair, Brendan Hall, spoke at the Buildings of Excellence Awards ceremony. The Buildings of Excellence competition is a \$40 million competition with monetary awards being given out in each of three rounds and run by NYSERDA. Kicked off in early 2019, the Competition recognizes and rewards the design, construction, and operation of very low or zero carbon emitting multifamily buildings. Hall spoke about the challenges and opportunities from net zero energy projects and highlighted ASHRAE's Advanced Energy Design Guide.

Andrew Blom

Grassroots Government Activities Chair

Membership Promotion

We would personally like to extend gratitude to anyone who brought down prospective members or who encouraged others to sign up during our membership promotion evening last month. As we have new members continuing to sign up, there is still concern that many of our longtime members have not renewed their membership yet. To renew online go to <https://www.ashrae.org/membership/renew>. Please note to confirm your contact information while you are renewing your membership.

If you would like the newsletter sent to others, like schools, vendors, clients, etc. please let me know and we can add them to the database as well or they can do it <http://www.ashrae.org/newsletter.html> and read the newsletters online or sign up there themselves. There is no charge for this service. I hope to see you at the December 10th Holiday party and while there if you have any questions and/or concerns about membership, please feel free to ask anytime.



I would like to informally welcome our new members this month:

Samuel Robert Manzollilo
Neehad Tawhid Islam
John F Levey

Looking forward to another great month and thank you in advance for your support, time & guidance.

Happy Holidays & to another great ASHRAE year!

Michael Razzano
Membership Promotion Chair

Elizabeth Jedrlinic & Michael Nigro
Membership Promotion Co-Chair

BOG Meeting Minutes

BOG September Meeting Long Island Chapter
September 10, 2019 / 5:00 PM / Location: Westbury Manor

| Board of Governors | | |
|-------------------------|---------------------|---|
| President | Frank Paradiso | X |
| President Elect | James Hanna | X |
| Vice President | William Artis | |
| Financial Secretary | Mathew Vitrano | X |
| Treasurer | Murat Bayramoglu | X |
| Secretary | Michael Nigro | X |
| BOG-1 | Elizabeth Jedrlinic | X |
| BOG-2 | Andrew Blom | |
| BOG-3 | Mathew Catan | X |
| BOG-4 | Michael Razzano | X |
| BOG Immediate President | Richard Halley | X |
| Committee Member | Matthew Catan | X |
| Committee Member | Brian Simkins | X |
| Committee Member | Andy Manos | X |

President (Frank Paradiso) Chapter Operations [min-600/Par-1200] Total Points: 50

- Review Minutes. **Quorum achieved 5:15, Motion Passed**
- Newsletter: Newsletter and meeting notice separate.
Please have your articles to Liset by Monday November 25th.

Programs (James Hanna)

- Fundraising opportunities for cocktail hour sponsorship
- Suggestions for topics & presenters for the remaining programs open slots
December Presentation with Belimo (Was Topic Selected?)
Michael R. may have a topic/presentation opportunity.
- Field Trip: Early thoughts with Membership committee
Sterilization Plant , May 2020
Brewery
Dry-aging Room
Grumman?

Chapter Technology Transfer (Matthew Catan, Murat Bayramoglu) [min-550/par-1050] Total Points: (50)

- MBO's for the year?
- Work with James (Programs) for PDH certified presentations
- PDH Sign in sheet and Presentation Survey sheets

Financial Secretary (Matthew Vitrano)

- Develop Monthly finance report with using actual bank statement with all the credits and debits accounted for.
- Review at BOG meetings - monthly income and spending.
- Matt to update asap**

Treasurer (Murat Bayramoglu)

- Account status?
- 2019-2020 Long Island Chapter Assessment (\$2,688.00) by December 31, 2019.
- CRC 2017 profit share still outstanding, review accounting to find paperwork and update amount if incorrect.
- All hands on deck to seek and fundraise sponsorships for chapter operations
- Invoice/update Newsletter Advertisements early in the chapter year (Andy with help from Matthew V. & Michael N.)
- CRC Reimbursement**

Government Affairs (Andrew Blom) [min-500/par-650] Total Points (0)

- Activities:
- Update local Politician list
- Public relations Andy Manos

BOG Meeting Minutes

Historical (Matthew Vitrano) [min-100/par-300] Total Points (355)

- Articles/interviews of past president's Potential life-members/fellows or historical journal articles.
- Boards are going to be updated.

Honors and Awards Chair (Brian Simkins)

- Service awards/Technical Awards
- Candidate Projects
- If there are any projects let Brian know

Research Promotion (Andy Manos, Michael Nigro, Matthew Vitrano) [min-800/par-1050] Total Points (0)

- Vendor Book status.
- 50/50, (other ideas to increase raffle purchases)
- Head Start on Full circle, 150 pp. (Please donate, thank you if you have donated already)
- RP Goal is \$20,400.

Refrigeration (Murat Bayramoglu)

- Northrop Grumman visit (Mike R)

Membership Promotion (Michael Razzano, Co-chairs, Elizabeth Jedrlinic, Michael Nigro) [min-500/par-800] Total Points (300)

- Membership Upgrades: 5 new members recognized this month and in newsletter.
- Discussion/suggestions on increasing chapter meeting attendance & Increase chapter membership:
- November is membership promotion night, discussion on promotion thoughts.
- Plan a social event with YEA?

Eisenhower Park BBQ – Spring?

Student Activities (Elizabeth Jedrlinic) [min-500/par-800] Total Points (350)

- Stony Brook, Suffolk Community College, Hofstra, NYIT and others.
- Discuss which local universities/colleges student chapters are active and which can be re-activated.
- November is student activities night, any ideas about a brief update on info for Student members?
- Any ideas for social events that can include students
- Liz to begin working on presentation on STEM

YEA (Michael Nigro) [min-300/par-800] Total Points (450)

- MBO's for the year?
- 2019 Collaborate with Membership Promotion and Student Activities for Social events throughout the year in order to interest new chapter involvement, volunteers etc.
- November is YEA night, any updates for social events?

Reception & Attendance (Matt Catan, Michael Razzano)

- Crushing it 2.0 :
Actively monitor membership list at reception.

Electronic Communications [min-250/par-650] (50)

- Recovery of old address (Still Ongoing)
Email from Tom Fields, will investigate
- Add Historical Newsletters to website (2018-19 Chapter year)
- E-Communication committee
Webcasting meeting idea for LI chapter (Society hosts go to meeting.)
Looking for volunteers to assist Bill and learn to maintain:
Email service / Weebly website / Linked In

Golf (Peter Gerazounis/Tom Fields)

- May 4th 2020: Cherry Valley Golf event.
Consider changing style of play to best ball

New Business...

Next BOG Meeting: 12/10/10 @ 5:00 PM
Location: Westbury Manor

Join ASHRAE on Social Media!



Follow **ASHRAE on Twitter** @ashraenews for up-to-date news, events, and articles about HVAC&R. Search #MyASHRAE on Twitter to see member photos from around the world.

Follow us on [Twitter](#)



Most Popular Tweets

Does It Cost More To Build Green? Benefits include reduced operating costs & construction waste.

Online Thermal Comfort Compliance Tool Included In New ASHRAE User's Manual.

87% of households in the US have #AC, 5% do in India. India's tough choice on air-conditioning and climate.



The November issue of the Journal is tested for binding strength to see how many times a page can be turned before the binding would fail.

Harvard & SUNY Upstate Medical University find that workers are healthier and happier in certified green buildings.

ASHRAE Standard 90.1 has been redefining energy savings since 1975. A new version is available now.

Adapting historical buildings for sustainable reuse.

Get To Know ASHRAE



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Certified

ASHRAE, accredited by ANSI under ISO/IEC 17024 for the High-Performance Building Design Professional (HBDP) program, has certified more than 2,000 Built Environmental Professionals.

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- Assure employers and clients of subject mastery
- Serve as a springboard for continued professional development
- Offer an easy-to-apply process

FOR MORE INFORMATION GO TO - <https://www.ashrae.org/education--certification/certification>

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If you would like to place an advertisement in the Long Island Sounder, please contact our Chapter Financial Secretary, James Hanna @ 718.269.3768 or by email at finsec@ashraeli.org for further details. Thank you.

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