

THE LONG ISLAND SOUNDER

January/February 2004



ASHRAE Long Island Chapter, Region 1

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

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President's Message

Last month's joint meeting with the ACCA NY was an overall success. Thanks to Claudio Darras, P.E. our program director, and James Carlson, President and Anthony Carbone, President Elect of the ACCA NY for their assistance in putting everything together. Both ASHRAE and ACCA NY were very pleased with the turnout and topics chosen. Thank you to our speakers Larry Vetter and Channing Starke for their informative presentation. We plan to have this joint meeting again next year.

What lovely weather we are having here in NY!
I recently returned to NY

from a great time in Anaheim, CA for the ASHRAE Winter Meeting. Claudio Darras and I sat at the Presidents Luncheon with consulting engineers from all across the country. The two (2) gentleman from Long Beach, CA were bragging that they never have to design any systems with freeze protection!

On a recent trip to Chicago, I was working with several engineers from Texas. I suggested that they design a system to "blow-out" the pipes like we do with our hoe lawn sprinkler systems. They looked at me like I was crazy. After explaining to them that we winterize the system by routinely blowing-out the lines to prevent freeze-ups, they understood and incorporated the concept. Being an HVAC engineer in NY does have its benefits, we can design systems to prevent freeze-ups!

Due to a last minute change, President Rooley, scheduled for our February dinner presentation is unable to attend. We are honored to have Ron Vallort, P.E. the current ASHRAE Society President Elect attend and speak at our joint meeting with the NYC,



Bi-State and NJ chapters. Space is limited, so make your reservations early.

In addition there are several future events I would like to mention. First off, February 22-28 is National Engineers Week. The Long Island Chapter is scheduled to go on a field trip in March and our annual golf outing is scheduled for May. Look for future notices regarding these upcoming chapter events.

Andrew S. Braum, P.E.
President
Long Island Chapter



CHAPTER MONTHLY MEETING

DATE (Special Date):	February 5, 2004 (Special Date)
TIME:	6:00 PM - Cocktails/Dinner 7:15 PM - Dinner Presentation 8:45 PM - Conclusion
LOCATION: (Special Location)	UN International School 24-50 FDR Drive, NYC (212) 684-7400
FEES: Members -	\$45.00

Reservations requested, but not required.
Call (516) 333-7117

Long Island Chapter Officers & Committees

ASHRAE 2003/2004 OFFICERS

POSITION	NAME	PHONE	FAX	E-MAIL
President	Andrew S. Braum, P.E.	(516) 785-4200	(516) 785-9148	asb@asbengineering.com
President-Elect	Claudio Darras, P.E.	(212) 354-5656	(212) 354-5668	cdarras@akf-eng.com
Vice President	Craig D. Marshall P.E.	(203) 261-8100	(203) 261-1981	cmarshall@accuspecinc.com
Financial Secretary	John Nally	(631) 331-0215	(631) 928-4625	jn@atiofny.com
Treasurer	Peter Gerazounis, P.E.	(212) 643-9055	(212) 643-0503	pgerazounis@mgjassociates.com
Secretary	Steven Friedman	(212) 643-9055	(212) 643-0503	sfriedman@mgjassociates.com
Board of Governors	Steven Giammona, P.E.	(631) 592-2678	(631) 630-8883	sgiammona@jameslasala.com
Board of Governors	Michael Mordetsky	(631) 661-3136	(631) 661-3137	michael.mordetsky@us.belimo.com
Board of Governors	Steven M. Stein, P.E.	(212) 536-3850	(212) 764-7827	stein@derector.com

ASHRAE 2003/2004 COMMITTEES

COMMITTEE	NAME	PHONE	FAX	E-MAIL
Programs and Special Events	Claudio Darras, P.E.	(212) 354-5656	(212) 354-5668	cdarras@akf-eng.com
Membership	Craig D. Marshall, P.E.	(203) 261-8100	(203) 261-1981	cmarshall@accuspecinc.com
TEGA/Refrigeration	Richard E. Gerbe	(516) 484-1020	(516) 484-0926	reg@leapc.com
Newsletter Editor	Liset Pena	(212) 643-9055	(212) 643-0503	lpena@mgjassociates.com
Resource Promotion	Steven Friedman	(212) 643-9055	(212) 643-0503	sfriedman@mgjassociates.com
Historian	John Nally	(631) 331-0215	(631) 928-4625	jn@atiofny.com
Student Activities	Steven Giammona, P.E.	(631) 592-2678	(631) 630-8883	sgiammona@jameslasala.com
Webmaster	Alan Goerke, P.E.	(631) 331-0215	(631) 928-4625	ag@atiofny.com
Honors, Awards & Publicity	Michael Gerazounis, P.E.	(212) 643-9055	(212) 643-0503	mgerazounis@mgjassociates.com
Nominating	Michael Gerazounis, P.E.	(516) 482-3207	(516) 482-3790	mgerazounis@mgjassociates.com
2004 CRC General Chair	Alan Goerke, P.E.	(631) 331-0215	(631) 928-4625	ag@atiofny.com
	Frank Morgigno	(631) 331-0215	(631) 928-4625	fm@atiofny.com
	Don Stahl	(516) 223-2365	(516) 223-2365	dmstahl@optonline.net
Reception and Attendance	Ray Schmitt	(631) 585-6800	(631) 471-4950	therevrgs@aol.com
August 2004 CRC Golf Outing	Alan Goerke, P.E.	(631) 331-0215	(631) 928-4625	ag@atiofny.com
	Frank Morgigno	(631) 331-0215	(631) 928-4625	fm@atiofny.com

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Chapter Monthly Meeting - Program for 2003/2004

JANUARY MEETING RECAP - Our January joint meeting with ACCA of Greater NY was a success. We want to thank Mr. James Carlson, President and Mr. Anthony Carbone, President Elect for their efforts to make this first joint meeting a reality. It was a pleasant surprise to see that a significant number of ACCA attendees were also ASHRAE members. We are looking forward to repeating this event in years to come, for the benefit of both memberships.

Our first speaker that night was Mr. Larry Vetter of ENVIROSpect who offered an insightful presentation on “Mold in Construction”. Our second speaker was Mr. Channing Starke of BBJ Environmental Solutions who expanded on this topic when he presented “Mold in HVAC - What to do about it”. Our sincere thanks go to both speakers for their professional delivery on this topic.

We would like to hear your suggestions for future presentations. Send an e-mail to cdarras@akf-eng.com.
We hope to see you at our next meeting.

September 9, 2003  Technical Session - Choosing Chiller Technology Dinner Lecture - Chiller Plant Design, Variable Flow & Low Delta T Syndrome	February 22-28, 2004 NATIONAL ENGINEERS WEEK
October 14, 2003  STUDENT ACTIVITIES NIGHT Technical Session - Fundamentals of Cooling Tower Technology Dinner Lecture - Advanced Topics about Cooling Tower Apps.	March 9, 2004 (Catering near Location) FIELD TRIP The Hempstead Resource Recovery Plant American Ref-fuel Plant, Long Island, NY
November 11, 2003  MEMBERSHIP/RESOURCE PROMOTION NIGHT Joint Meeting with SMACNA Mechanical International Building Code	April 13, 2004 Dinner Presentation - Radiant Floor Heating
December 9, 2003  Holiday Party - Come and participate in our holiday meeting with a very special guest.	May 11, 2004 REFRIGERANT NIGHT Dinner Presentation - Boiler Room Design
January 8, 2004  Joint Meeting with ACCA-LI Mold in Construction - A Proactive Approach	June 8, 2004 PAST PRESIDENTS & OFFICER INSTALLATION Dinner Presentation - Steam Systems: Fundamentals & Advanced Topics
January 24-28, 2004  ASHRAE Winter Meeting and Trade Show Anaheim, CA	June 26-30, 2004 ASHRAE Annual Meeting Nashville, TN
February 5, 2004 Joint Meeting with NYC, Bi-State & NJ Chapters @ UN International School, Manhattan. Special Presentation by Ron Vallort (ASHRAE President Elect 2003-2004)	August 19-22, 2004 Chapter Regional Conference Region I Wyndam Wind Watch Hotel Islandia, NY

RUNNING PAOE POINTS FOR 2003/2004

Chapter Members	Membership Promotion Points	Student Activities Points	Chapter Programs Points	Resource Promotion Points	TEGA Points	History Points	Chapter Operations Points	Chapter PAOE Point Totals
324	0	50	0	180	400	275	0	905

February Chapter Meeting - Program



You are cordially invited to
ASHRAE LI Chapter's Joint Meeting
with The NYC, Bi-State & NJ Chapters.

***Thursday, February 5, 2004!**



Special Dinner Presentation

“Refrigeration Systems Design”
by Ron Vallort, P.E.

ASHRAE President Elect 2003-2004

SPECIAL* Date/Time:	THURSDAY, FEBRUARY 5, 2004 5:30 PM – Cocktails and Hors D'oeuvres 7:00 PM – Dinner Presentation 8:30 PM – Conclusion	Fee:	\$ 45.00 Member - Pre-Registration Required by Feb. 2nd (see below for details)
SPECIAL* NYC Location:	UNITED NATIONS INTERNATIONAL SCHOOL (212) 684-7400 – www.unis.org 24-50 FDR Drive, New York, NY 10010 - Business attire suggested		
Presentation:	Mr. Vallort's presentation will focus on all aspects of Refrigeration System Design ranging from the following: > <u>The type of application involved</u> – Is the system new or an addition to an existing system? > <u>The information required for design</u> – For example, ambient design conditions, room design parameters, and usage. > <u>The steps for designing a project</u> – Visiting the site, load calculations, system and equipment selection, and piping / control valve design. > <u>Design alternatives</u> – Piping arrangements with large pressure drops. > <u>Economics</u> – Installation cost vs. operating cost and the overall cost of system operation.		
About our Speaker:	<u>Ronald Vallort, P.E.</u> , is president of Ron Vallort and Associates Ltd., Oak Brook, Illinois. As the Society's president-elect, Mr. Vallort is a member of the Board of Directors and the Executive Committee and chairs the President-Elect Advisory Committee and the Regions Council, which monitors Society chapter and regional activities. He served on the Board of Directors as treasurer in 2002-03, Vice President in 1998-2000 and as director-at-large in 1992-96. Mr. Vallort has held all leadership positions in the Chicago Chapter and has received the Exceptional Service Award, the Distinguished Service Award and a Regional Award of Merit. He currently serves as president of the International Association of Cold Storage Constructors.		
PRE-REGISTRATION REQUIRED:	Please RSVP via email to cdarras@akf-eng.com no later than Mon. Feb. 2nd . Please mail \$45.00 check to: Peter Gerazounis, MGJ Associates, 100 West 32 nd Street, 4 th Fl, New York, NY 10001.		
LIMITED SEATING – ONLY 25 AVAILABLE SEATS! First Come First Serve – RSVP Today!			

Board of Governors - Meeting Minutes

A meeting of the Board of Governors was held on 1/8/04 at the Westbury Manor. Present at the meeting were: Andrew Braum, P.E., Claudio Darras, P.E., Richard Gerbe, Peter Gerazounis, P.E., Steven Giammona, P.E., John Nally and Steven Friedman, Alan Goerke, P.E. The meeting was called to order at 5:05 pm and the following was discussed:

Andrew Braum opened the meeting and called for committee reports:

Programs: February Region 1 meeting is set in New York City and 100 attendees are anticipated. Each chapter to confirm attendance. Cost is \$45.00 per person. Long Island members to confirm their attendance to Claudio via e-mail or phone call. All remaining meeting speaker slots are filled and confirmed. March's meeting will be a field trip to American Ref-fuel Company with a dinner back at the Westbury Manor. The third week of February is Engineer's Week, Long Island chapter to take table for event. Board of Governors to confirm attendance.

Research: Currently, our donation contributions are at 41% of goal. Anticipate receiving additional contributions after holidays. Set up resource promotion night for April.

History: John was able to obtain additional historical paraphernalia. Anticipate setting up a table at one of the monthly meetings to display.

Student Activities: Steve Giammona, P.E. wants to have a Student Activities night in April. Anticipates contacting New York Tech, Stonybrook University, Farmingdale and Hofstra. Also would like to promote student Ashrae scholarship. Anticipate getting Dr. Foresberg from Hofstra to speak at the April meeting.



Website: Alan indicated that the Long Island chapter website is fairly complete and encourages all to visit.

Address is www.ashraeli.org. Alan would like to keep updating the website for the CRC. Andrew Braum, P.E. to provide President's Message and John Nally to provide a paragraph about the chapter's history. Alan Goerke, P.E. is looking into putting the 2004 CRC registration, which we are hosting in August, onto our local website for all to download. The 2004 Ashrae annual golf outing will be in May (date TBD). Alan Goerke, P.E. to obtain contract from Cherry Valley Golf Club. John Nally and Craig Marshall, P.E. to follow through with setting up. Anticipate having food on the course, possibility of vendor sponsor.

Treasury: Peter Gerazounis, P.E. is opening a separate CRC checking account to maintain order of expenses. The signatures on the account will be Steven Friedman (incoming 2004 treasurer) Peter Gerazounis, P.E. and Alan Goerke, P.E.

Meeting adjourned 5:50 pm

Steven Friedman
Secretary

General Meeting Minutes

The meeting was called to order at 6:45 pm by Andrew Braum, P.E. Andrew spoke about our upcoming events including the CRC meeting in August 2004. He then began a group introduction between ASHRAE-LI and ACCA NY. Our guest speakers for the evening Mr. Larry Vetter of ENVIROSpect and Mr. Channing Starke of BBJ Environmental Solutions were introduced. Both meetings were very informative.

Meeting adjourned at 9:00 pm.

Steven Friedman
Secretary

Student Activities

Every year, our chapter awards up to two (2) \$1,000 scholarships to the successful students who are well rounded and show an interest in pursuing an engineering career.

Anyone interested in obtaining a copy of the application can contact me. They are also available at our monthly chapter meetings as well as on the website.

The deadline for submitting your application to a member of the Student Activities Committee is **March 9, 2004.**

The April meeting will be a Student Activities Night.

Good Luck!

Steven Giammona, P.E.
Student Activities Chair

Website

Please visit our site @ www.ashraeli.org and catch up on chapter news.

New York Energy Code Courses

New York engineers are now required to earn continuing education credits.

The following are a few upcoming Energy Code Courses sponsored by the NY State Department of State Codes Division with assistance from the US Dept. of Energy and NYSERDA.

Topics include:

- HVAC/Mechanical
- Building Envelope
- Electrical/Lighting
- Residential Construction
- Building Science

Upcoming Dates:

- 2/19/04 - Envelope & Electrical Courses, NYC
- 2/20/04 - Mechanical Courses, Albany
- 3/8/04 - Building Science & Mechanical Courses, Queens

Visit www.ers-inc.com for further details & to register for courses.

Courses are offered by Energy & Resource Solutions & accredited by the NY Dept. of State & the American Institute of Architects.

Long Island Chapter - Past Presidents

1958	H. Campbell, Jr. PE	1981	Robert Rose, PE
1959	Clyde Alston, PE	1982	Timothy Murphy, PE
1960	Sidney Walzer, PE	1983	Leon Taub, PE
1961	Sidney Gayle	1984	Raymond Combs
1962	William Kane	1985	Edward W. Hoffmann
1963	Louis Bloom	1986	Jerome T. Norris, PE
1964	Milton Maxwell	1987	Abe Rubenstein, PE
1965	Will Reichenback	1988	Michael O'Rourke
1966	Joseph Minton, PE	1989	Mel Deimel
1967	Irwin Miller	1990	Robert Rabell
1968	Walter Gilroy	1991	Gerald Berman
1969	Charles Henry	1992	Donald Stahl
1970	William Wright	1993	Ronald Kilcarr
1971	Louis Lenz	1994	Gerald Griliches
1972	Ronald Levine	1995	Walter Stark
1973	Henry Schulman	1996	Joe Marino
1974	Myron Goldberg	1997	Norm Maxwell, PE
1975	John N. Haarhaus	1998	Alan Goerke, PE
1976	Richard K. Ennis	1999	Frank Morgigno
1977	Kenneth A. Graff	2000	Michael Gerazounis, PE
1978	Evans Lizardos, PE	2001	Ray Schmitt
1979	Albert Edelstein	2002	Steven M. Stein, PE
1980	Ralph Butler		

CRC 2004 Update - 8/19/04 thru 8/22/04

The year we host the CRC is upon us and we are in full swing with the final planning. The Wyndham Wind Watch Hotel will be the meeting location. Thursday afternoon will be a golf outing at the Hamlet Golf Club. Local membership is encouraged to participate. We will have a welcome reception on Thursday evening at the hotel and hosted by a local Long Island Winery. The meetings commence on Friday. That afternoon we plan on having a technical presentation followed by the Regional Banquet. We have a full slate of local tours scheduled for companions. Saturday morning is for the workshops and then at noon there will be the Awards Luncheon. We are looking into hosting a special event for Saturday evening for those staying over for the weekend.

Please check the www.ashraeli.org website for details about the event and registration information. Anyone interested in assisting at any of the activities or events, please contact me (**see next page for full itinerary**).

Alan Goerke, P.E.
CRC 2004 Co-Chairman

CRC Committee Report - 2004 Update/Schedule

ASHRAE- Chapter 1 Regional Conference

Location: Wyndham Wind Watch Hotel, Islandia, NY

Dates: Thurs 8/19/04 to Sun 8/22/04

Next summer we will be the host chapter for the Chapters Regional Conference. Region 1 in the Northeast consists of 15 chapters. The last time we hosted the event was 15 years ago. Mike O'Rourke and Don Stahl bring a wealth of knowledge with their memories from the past conference. Thanks to our DRC Lynn Bellenger for attending our CRC planning meeting this month and offering her advice on hosting a successful regional conference. She is also going to attend another meeting when we get closer to the meeting date. The dates for the CRC are set. Please mark your calendars for August 19th to the 21st. The Wyndham Wind Watch Hotel will be the meeting location. Thursday afternoon will be a golf outing at the Hamlet Golf Club. Local membership is encouraged to participate. We will have a welcome reception on Thursday evening at the hotel and hosted by a local Long Island Winery. The meetings commence on Friday. That afternoon we plan on having a technical presentation followed by the Regional Banquet. We have a full slate of local tours scheduled for companions. Saturday morning is for the workshops and then at noon there will be the Awards Luncheon. We are looking into hosting a special event for Saturday evening for those staying over for the weekend. Depending on schedules, we may book a play, ball game or a concert. Anyone interested in assisting at any of the activities or events, please contact me.

SCHEDULE:

<u>Thursday, 8/19/04-</u>		<u>Saturday, 8/21/03-</u>	
7:00 am to 6:00 pm	Registration	7:00 am to 6:00 pm	Registration
8:00 am to 5:00 pm	Golf- Hamlet Golf Club located at the hotel	6:30 am to 9:00 am	Hospitality Breakfast
8:00 am to 5:00 pm	Companion Activity	6:45 am to 7:50 am	Caucus
6:00 pm to 10:00 pm	Welcome party/ wine reception	8:00 am to 9:00 am	Business Meeting
10:00 pm to 12:00 pm	Hospitality Suite Open	8:00 am to 11:45 am	Companion Activity
		9:10 to 11:45 am	Chapter Workshops
		12:00 pm to 1:45 pm	Awards Luncheon
<u>Friday, 8/20/04-</u>		1:45 pm to 3:00 pm	Second Business Meeting
7:00 am to 6:00 pm	Registration	3:00 to 4:00 pm	Executive Session
6:45 am to 7:50 am	Caucus	5:00 to 9:00 pm	Social Event
8:00 am to 11:45 am	First Business Meeting		
8:00 am to 11:45 am	Companion Activity		
12:00 pm to 1:30 pm	President's Luncheon		
1:45 pm to 4:45 pm	Technical Session & Chapter Workshop		
6:00 pm to 10:00 pm	Cocktail reception & President's Banquet		
10:00 pm to 12:00 pm	Hospitality Suite Open		

ASHRAE CRC 2004 Committees

Budget/ Finance: Don Stahl, Peter Gerazounis, Steve Stein

Hotel: Alan Goerke, John Mazza, Ray Schmitt

Golf: Frank Morgigno

Welcome cocktail/ wine party/ Banquet/ Catering/ food & beverage service:

Joe Marino, Mike Gerazounis, Steve Giammona

Entertainment: Craig Marshall

Mailings/ printing/ publicity/ website: Steve Friedman, Henry Schulman, Claudio Darras

Gifts- Registration and Dignitaries: Ray Schmitt

Companion Activities/ Transportation: John Nally, Peter Gerazounis

Reception/ Welcome: Steve Giammona

Trade Show: Stan Kozyra

Technical Programs: John Mazza

1st person listed is the Committee Chairman

Alan Goerke, P.E. - CRC 2004 Co-Chairman



TEGA

Evolution of Interconnecting Refrigerant lines on Split Systems

As equipment evolves and refrigerants change, the practices employed to install interconnecting refrigerant piping should also evolve. Efficiency and reliability rely heavily upon the methods used to interconnect the condensing unit with an air handler.

Old practices are not necessarily correct for a system to function properly and in most cases these practices actually hinder overall system performance.

Some of the techniques discussed below would have been considered “bad engineering” in the past, but currently work effectively with today’s modern scroll compressors and R-22 refrigerants. A successful application is based on proper selection of equipment and properly designed interconnecting piping.

When selecting equipment the following information should be used as a guide:

- Selection of coil should be based on a minimum suction temperature of 40 degrees Fahrenheit for VAV systems. This will essentially promote stable performance over the systems entire operating range.
- Hot-gas bypass should be avoided in comfort cooling applications. It is seldom needed in properly designed systems and often wastes energy. If a designer is concerned about coil frosting, the use of evaporator defrost control should be considered.

In order to maximize system efficiency and reliability, consider the following general guidelines when laying out interconnecting piping:

- Limit the overall line length of piping. Whether the piping is horizontal or vertical, suction or liquid, it is important to minimize piping runs to avoid added pressure drop and problems with the refrigerant. Both will reduce compressor efficiency and capacity.
- Always use Type L copper tubing for R-22 applications.
- Whenever possible, utilize the manufacturer’s software to ensure proper suction and liquid line sizing for your application. Piping distances, both vertical and horizontal, can be evaluated to ensure the piping is properly designed.
- Pitch the liquid and suction line one inch toward the evaporator for every ten feet of run.
- Always use and properly maintain filter dryers. It is extremely important to keep the refrigerant clean.

Pressure drop in the suction line adversely affect unit capacity and efficiency. High-pressure drops can reduce compressor capacity and efficiency. Accordingly, when considering suction line sizing, it is important to follow the following criteria:

- Different pipe sizes should be used for horizontal and vertical lines. This makes it easier to match line pressure drops and refrigerant velocity to suction line requirements.
- In order to ensure proper oil entrainment and avoid sound transmission, size the suction line so that the refrigerant velocity equals or exceeds the required minimum velocity as determined by the equipment manufacturer.
- Riser traps are not needed if the riser is properly sized to maintain velocity. The use of traps only increases the suction line pressure drop.

- Insulate the suction line if condensation and dripping pose a problem, or to prevent refrigerant from condensing inside the line if the piping is exposed to low temperatures.

In order for equipment to function properly, sufficient sub-cooling must be maintained at the expansion valve. To provide proper operation throughout the range of operating conditions, the liquid line pressure drop should not exceed the unit’s minimum sub-cooling value less 5 degrees Fahrenheit. General guidelines for refrigerant piping are listed below:

- The smallest practical line size for the application should be used. Limiting the refrigerant charge improves compressor reliability.
- When designing the liquid line, remember that every ten feet of vertical rise will reduce sub-cooling by 2.8 degrees Fahrenheit, and every ten feet of vertical drop will add 1.1 degrees Fahrenheit of sub-cooling.
- Solenoid valves are required to prevent liquid refrigerant from filling the evaporator when the compressor stops and slugging when the compressor restarts.
- If the liquid line is routed in an area warmer than the outdoor air temperature, the line must be insulated to prevent the refrigerant from flashing.
- Use a moisture-indicating site glass to visually check the liquid column for bubbles.

It is imperative to follow proper procedures when specifying, designing, and installing a split air-conditioning system. Without such procedures, the reliability, efficiency, and capacity will be compromised.

Richard Gerbe
TEGA Chair

Geothermal Training - Geothermal Project at Richard Stockton College of NJ

DATE: Wednesday, February 11, 2004
LOCATION: Morristown, NJ

GEOTHERMAL TECHNOLOGY II: FOR DESIGN PROFESSIONALS 9:00 AM – 12:00 PM
Architects earn 3 AIA Learning Units - Registration begins at 8:30 with a Continental Breakfast

COURSE DESCRIPTION: This course will review Geoechange Technology giving overviews of two case studies. Life cycle cost analysis will be discussed in detail. Project design details will be taught: Heat/Gain Loss Data; Test Bore & Thermal Conductivity Test; Borehole Layout; Software Applications and Ventilation Issues.

(Suggested Prerequisite: Some knowledge of Geothermal Technology is assumed. Quick overview will be given.

INSTRUCTORS: Lynn Stiles, Ph.D. Richard Stockton College of New Jersey
Howard Alderson, P.E.

Course Fee \$ 125.00 Cost reduced to \$100.00 if 4 or more employees from same firm attend

GEOTHERMAL CONTRACTING & BUSINESS DEVELOPMENT 1:00 PM – 4:00 PM

COURSE DESCRIPTION: Useful for engineers, construction managers and contractors. This course provides details on marketing, proposal writing, budgeting and bid process. NJ regulatory & classifications. Vendor and trade ally information. Covers issues related to grouting materials and size of piping. Details on construction site management; completing a job on time and under budget.

Course Fee \$ 95.00 Cost reduced to \$75.00 if 4 or more employees from same firm attend

DISCOUNT FOR ALL DAY TRAINING \$ 195.00 (4 or more employees \$ 150.00)

REGISTRATION:

Email or Fax the Following Information to Ms. Diane-Hulse-Hiller:

- Indicate Course (Geothermal Tech. II, Geothermal Contracting & Bus. Dev. or All Day-Both)
- Indicate Contact Information: Name, Company, Address, Phone, Fax and Email
- Indicate Payment Information (Check in Mail or Credit Card Information-MasterCard, Visa or Amex)
- Indicate Other Registrants from the same Company (Name and Email address)

Phone No.: 609-652-4677
Fax No.: 609-652-4972
Email: diane.hulse-hiller@stockton.edu

LUNCH PROVIDED - FOOD and FACILITY COMPLIMENTS OF JERSEY CENTRAL POWER & LIGHT

Directions to JCP&L in Morristown: <http://www.neep.org/boc/MrstownDir.PDF> or PH 973 455 8200

Make checks payable to Richard Stockton College of NJ, Geothermal Project. Your payment must be received in advance to hold your registration.

Please mail your checks to:

Richard Stockton College of New Jersey
Geothermal Project
PO Box 195
Pomona, NJ 08240-0195

CLASSIFIEDS

**As a Courtesy to all Long Island Chapter Members,
All Classifieds Ads Submitted to the Newsletter will be Free of Charge.**

**If you would like to place an ad advertising job opportunities or if you would like to advertise that you are looking for employment please contact our chapter's Treasurer,
Mr. Peter Gerazounis, PE via email at pgerazounis@mgjassociates.com
or at 212-643-9055 for further details.**

Sales Engineer Wanted: Accuspec Inc. a manufacturer rep firm and systems provider the Hospital, Pharmaceutical, Museum Archival Storage, Laboratory marketplace. We are seeking a sales engineer with a HVAC background. Responsibilities will include calling on owners and consulting engineers in the Long Island and New York City Area. Prospective candidates should be self-motivated with a technical sales approach and a strong sense of customer service. All inquiries shall be kept confidential please reply to **Craig Marshall email: cmarshall@accuspecinc.com or fax: 203-261-1981.**

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