Seminar Agenda

Presented by Jay Egg

Applying the Laws of Thermodynamics to Geothermal Heat Pumps (GHPs) and Indoor Thermal Comfort
Applying the laws of thermodynamics to HVAC systems
Understanding the refrigeration cycle
Calculating heating and cooling loads
The effect of air flow and insulation
How comfort is measured
Understanding efficiency

Understanding Earth Loop Systems
The hidden assets of geothermal technologies
Solar energy in the Earth
Architecture of closed loop systems
- Horizontal ground loops
- Vertical ground loops
- Direct exchange systems
- Thermal load sharing
- Mini-grids
Applications for open loop (Class V Thermal Exchange) systems
- Single well
- Two-well systems
Evaluating topography
Measuring soil conductivity
Environments for ground-loop systems: beneath yards, fields, parking lots, and buildings

Designing Geothermal Systems
Determining loop type
Making heat loss calculations
Sizing the unit
Sizing the loop
Writing a request for proposal (RFP)
Writing a driller specification
HS2 hydronic design software

Choosing System Type
Distributed GHPs or chiller plants
Basic components of geothermal heat pump (GHP) systems:
- Pumps, condenser water piping, heat pump, heat exchanger
- Forced air systems
- Hydronic systems
Domestic hot water options
Geothermal swimming pool heaters

Evaluating the Benefits of Geothermal Systems
Incentives to use geothermal
Geothermal utilities
Calculating savings and cost
Environmental benefits
Tax credits, incentives and rebates
Property Assessed Clean Energy (PACE)
State-based legislation

Maintaining Geothermal Systems
Performing routine maintenance on GHPs
Loop maintenance (automatic or periodic)
Pump maintenance/monitoring

Learning Objectives

You’ll be able to:

Apply the laws of thermodynamics to HVAC systems.
Discuss HS2 hydronic design software.
Calculate costs and savings of geothermal systems.
Determine loop types, including open loops and vertical and horizontal closed loops
Choose system components, including heat pumps, water pumps and piping.
Perform routine maintenance on geothermal heat pumps.

Continuing Education Credits
Architects
6.5 HSW CEUs (Contact Hours)
6.5 AIA HSW Learning Units
Professional Engineers
6.5 PDHs
Building Performance Institute
3.25 CEUs
Contractors
Non-Mandatory CE

Understanding Earth loop systems
Identify the environmental and economic benefits of geothermal systems
Learn how to make heat loss calculations
Explore vertical and horizontal closed loop systems
Learn about designing forced air and hydronic systems
Discuss how to maintain geothermal systems

New Orleans, LA
Tuesday, December 20, 2016
Jay Egg, Founder and Consultant with EggGeothermal

Mr. Egg founded EggGeothermal in 1990 to provide renewable energy systems to the public. As a result of the American Recovery and Reinvestment Act of 2009, Mr. Egg wrote two books for McGraw-Hill Education, and EggGeothermal entered into a new age of acceptance. Mr. Egg currently focuses his professional efforts as a renewable energy expert on renewable and sustainable energy, and on solar and geothermal exchange implementation. Among his clients are international, federal, state and local governments; developers; associations; and private entities. EggGeothermal is a training and curriculum facilitator for the U.S. Department of Energy (DOE) and the “Geothermal Workshop Series,” serving the GeoExchange Organization/American Ground Water Trust and the National Ground Water Association.

Here’s what past attendees had to say about the program and instructor Jay Egg:

“Very effective presenter with first hand knowledge of his subject.” – Professional Engineer

“Great examples of creative applications of the technology.” – Engineer

Webinar Series

Complying with ADA Standards for Accessible Design

• Complying with Federal Accessibility Requirements
  Thurs., December 8, 2:00 - 4:30 PM CST
• Applying the 2010 Revised Standards - Technical Standards
  Fri., December 9, 2:00 - 4:30 PM CST

Geothermal Heating and Cooling

• Thermodynamic Basics of Geothermal Systems
  Thurs., December 15, 11:00 AM - 12:00 PM CST
• Understanding Earth Loop Systems
  Thurs., December 15, 12:30 - 2:00 PM CST
• Choosing and Designing Geothermal Systems
  Fri., December 16, 11:00 AM - 12:00 PM CST
• Evaluating and Maintaining Geothermal Systems
  Fri., December 16, 12:30 - 2:30 PM CST

Seismic Design and Construction

• Seismology and Building Codes
  Tues., December 27, 11:00 AM - 3:00 PM CST
• Seismic Design of Building Structures
  Wed., December 28, 11:00 AM - 3:00 PM CST

Solar Photovoltaic Batteries and Design Series

• Community Solar
  Wed., December 7, 11:00 AM - 2:15 PM CST
• Introduction to Residential Solar
  Wed., December 14, 11:00 AM - 2:15 PM CST
• Solar Battery Management Systems
  Wed., December 21, 11:00 AM - 2:15 PM CST

Solar Photovoltaic Project Design and Development

• Solar Photovoltaic Project Design and Development, Part I
  Thurs., December 8, 3:30 - 5:30 PM CST
• Solar Photovoltaic Project Design and Development, Part II
  Fri., December 9, 11:00 AM - 1:00 PM CST

Continuing Education Credit Information

This seminar is open to the public and offers up to 6.5 HSW continuing education hours to architects and 6.5 PDHs to professional engineers in all states. HalfMoon Education is an approved continuing education provider for Louisiana engineers. The American Institute of Architects has approved this event for 6.5 HSW Learning Units (Sponsor No. J885). The Louisiana State Board of Architectural Examiners accepts programs approved by the American Institute of Architects. HalfMoon Education is an approved continuing education sponsor for architects in Florida (Sponsor No. 003237) and is deemed an approved sponsor in New York. HalfMoon Education is an approved continuing education sponsor for engineers in Florida (Sponsor No. 0034947), Indiana, Maryland, New Jersey, New York (NYSED Sponsor No. 35), North Carolina, and North Dakota. The Building Performance Institute has awarded 3.25 CEUs for the completion of this program. This course offers a continuing education opportunity for construction contractors, but it is not approved in any state with a contractor continuing education requirement.

Attendance will be monitored, and attendance certificates will be available after the seminar for most individuals who complete the entire event. Attendance certificates not available at the seminar will be mailed to participants within fifteen business days.

Tuition

• I will be attending the live seminar. Single Registrant - $249.00. Three or more registrants from the same company registering at the same time - $249.00 each.

• I am not attending. Please send me the CD manual package for $279.00. (S&H included. Please allow five weeks from seminar date for delivery.)

Checks: Make payable to HalfMoon Education Inc.

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For more information visit: www.halfmoonseminars.org/webinars/

Registration

Geothermal Heating and Cooling: Technology and Applications

New Orleans, LA- Tuesday, December 20, 2016

How to Register

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Fax: 715-835-6066

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