

Fall 2010

Continuing Education Courses

Presented by:

*The Electrical Association of
Philadelphia*

“Geo Thermal Systems – 4 Hour Course”



Theory on operation of Geo Systems

How a heat pump operates?

Heat transfer (Traditional system vs. Geo systems.)

Types of loop systems and how they operate.

- ✓Flow centers and zone valve operation and requirements.
- ✓Tools required for servicing and installing Loop Systems.

Rules of thumb on;

- ✓Closed loop water pressure and temperature.
- ✓Common chemicals used in loop systems.

Open loop water pressure and temperature.

- ✓Common issues with fresh water.

On demand domestic hot water systems and de-super heaters.

Real life examples of energy savings using Geo technology.

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|--------------------|---|
| Date: | Tuesday, October 12, 2010 |
| Schedule: | 3:30 p.m. – Registration – 4:00 p.m. – 8:00 p.m. Course |
| Cost: | Member Rate - \$35 Non-Member Rate - \$45 |
| Location: | The EAP Offices Plymouth Meeting, PA - <i>(Directions with confirmation)</i> |
| Instructor: | Bill Valinote |

Required Text / Materials

- No required text book.

About the Instructor

Bill Valinote has been working in the HVAC industry for 18 years. He has worked for Conectiv Services, UGI, Control LLC, and currently is employed by Oliver Heating & Cooling, where he is a Field Supervisor and Instructor. Bill is a graduate from CHI Institute.



“FIRE ALARM SYSTEMS 101”



Simplifying the rules for Fire Alarm installations:

Definitions.....Regulations

Single Family Dwellings.....Multi Family Dwellings.....Commercial Properties

Save money using the right installation methods and pass inspections the first time.

- Do I still have to install a separate Fire Alarm Disconnect switch?
- Why do I need a bottle of red marking liquid on my truck?
- Where does it say I can't put the smoke detector circuit on a dedicated circuit?
- Must I use AFCI protection? GFCI?
- What is meant by “common areas”?
- Do I need a pull station on every landing of a multifamily dwelling unit?
- Is conduit required for all commercial fire alarm installations?
- When is central station reporting required?
- Who knows when I must use plenum FA cable?
- Do I have to destroy a single-family dwelling just to interconnect smoke detectors?
- Are “wireless” smoke detectors permitted yet?

CEUs: (8 hours) for Philadelphia, New Jersey and Delaware
Date: Thursday, October 21, 2010
Schedule: 7:00 a.m. – Registration – 7:30 a.m. – 4:30 p.m. Course
Cost: Member Rate - \$265
Non-Member Rate - \$360
Location: The EAP Offices
Plymouth Meeting, PA - (*Directions with confirmation*)
Instructor: Rich Van Wert

Required Text / Materials

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-No required text book.

About the Instructor

Rich Van Wert is Past-President of Benjamin Franklin Chapter of the International Association of Electrical Inspectors (IAEI), Senior Electrical Inspector for Middle Department Inspection Agency, Commonwealth of Pennsylvania UCC Inspector, City of Philadelphia Electrical Inspector and State of New Jersey Approved Instructor No. 359.

Rich has been employed in the Electrical Industry for more than 35 years. He is currently a Senior Electrical Inspector with Middle Department Inspection Agency and has taught full-time electrical courses for Bucks County Technical School, as well as presentations at: US Steel Fairless Works, Penn State University, the IAEL, the Electric Education Center and The Electrical Association of Philadelphia.

1 DAY SOLAR CALCULATION COURSE



Here is your chance to get your feet wet and learn what the Solar PV World is like.

We start with the first problem in the design of the PV system and that is shading problems. Will the tree shade the roof? Looks pretty good at high noon on June 4th but how about 9 AM on February 10th of each year? Will a proposed building going up across the street put shade on the existing PV array on the roof of your building? Is the whole PV plan feasible in the first place? What are the incentives?

Next is the design of a PV system. How large should the array be? How much KWH will the system produce? Should the system tie into the electrical utility grid?

What are the mathematics of the rebates and tax credits? What will the system really cost to install?

Okay so we have settled on an array size and location, what's next? Sizing of the following items:

1. DC power wiring (conductor sizing) up to the combiner.
2. DC power wiring (conductor sizing) from the combiner to the AC Inverter.
3. AC power wiring from the Inverter to the Main CB panel or Electric Service
4. Overcurrent Protection for both AC and DC systems.
5. AC and DC disconnects.

What else? How do I size the lag bolts for a wood rafter roof? Do I really have to size them? How about voltage drop? How it is calculated and what are the limits? What is the worst case NEC cold weather factor all about? What is the amperage limit on how much current can be back fed into a circuit breaker panel?

These questions and the accompanying calculations will be covered in the eight hour course

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| Date: | Thursday, November 4, 2010 |
| Schedule: | 7:00 a.m. – Registration 7:30 a.m. - 4:30 p.m. Course |
| Cost: | Member Rate - \$315 Non-Member Rate - \$345 |
| Location: | The EAP Offices Plymouth Meeting, PA (Directions with confirmation) |
| Instructor: | Rich Van Wert |

Required Text / Materials

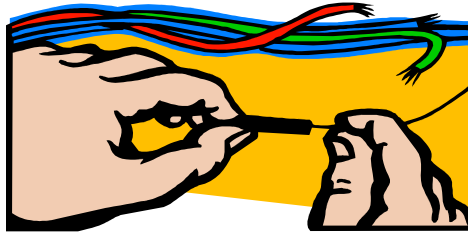
-Bring 2008 NEC code book.

About the Instructor

Rich Van Wert is Past-President of Benjamin Franklin Chapter of the International Association of Electrical Inspectors (IAEI), Senior Electrical Inspector for Middle Department Inspection Agency, Commonwealth of Pennsylvania UCC Inspector, City of Philadelphia Electrical Inspector and State of New Jersey Approved Instructor No. 359.

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DATA CABLING 101



Data Cabling 101 is an intensive one day, hands on workshop on data cabling installation and testing practices. Topics covered will include; cable construction, standards, components, tools of the trade, installation, termination, testing and certification. In class students will install connectors and jacks, construct, test, troubleshoot and certify a small network up to the one gig Ethernet standard

Date: Friday, November 5, 2010
Schedule: 7:00 a.m. – Registration
7:30 a.m. - 4:30 p.m. Course
Cost: Member Rate - \$295
Non-Member Rate - \$395
Location: The EAP Offices
Plymouth Meeting, PA
(*Directions with confirmation*)
Instructor: Rich Agard

Required Text / Materials

-There are no required texts for this course.

About the Instructor

Richard Agard has been a technical instructor for over twenty years. Besides his teaching for the Electrical Association of Philadelphia, he also teaches at Engineers Club of Philadelphia Penn State Abington, The Thompson Institute in Philadelphia and at Septa's Light Rail Training Center in Upper Darby. He was formerly head of the Electronics Department at the Philadelphia Wireless Technical Institute where he developed the states first ETA certified fiber optic training program. He was a communications system Technician at Septa for over eighteen years where he has worked with Fiber Optics since the early 1990's He was formerly director of the cabling division of the Electronic Technicians Association International where he was instrumental in including more NEC questions in the data cabling certification exam.

The Electrical Association of Philadelphia

Fall 2010 Educational Opportunities

Registration Form

On - Line Registration is now available – www.eap.org

Name(s): _____

Company: _____

Address: _____

City, State, Zip: _____

Phone: _____ Fax: _____ Email: _____



Please check the seminar(s) you wish to attend:

| <u>Seminar</u> | <u>DATE</u> | <u>EAP MEMBER FEE</u> | <u>NON-MEMBER FEE</u> |
|--|-------------|-----------------------|-----------------------|
| <input type="checkbox"/> Geo Thermal (4 Hour Course) | October 12 | \$35 | \$45 |
| <input type="checkbox"/> Fire Alarm Systems 101 | October 21 | \$265 | \$360 |
| <input type="checkbox"/> 1 Day Solar Course | November 4 | \$315 | \$345 |
| <input type="checkbox"/> Data Cabling 101 | November 5 | \$295 | \$395 |

Total from above: \$ _____

Check # _____ enclosed.

Credit Card # _____ VISA MasterCard AmEx

Expiration Date: _____ CVV2 Code: _____

Name on Card: _____ Signature: _____

- Full course descriptions and on-line registration / payment may be found at www.eap.org.
- Make checks payable to: The Electrical Association of Philadelphia or "EAP". **Payment is required at time of registration to reserve your seat. No Refunds!**
- All courses are held at The EAP Offices. Directions will be sent with confirmations.

Please return this form and payment to The Electrical Association of Philadelphia

527 Plymouth Road, Suite 408
Plymouth Meeting, PA 19462
Fax – (610) 825-1603
If you have any questions please call Lisa
(610) 825-1600, ext. 14, or email lisa@eap.org

