

# The Source

Stay in the loop



The International Ground Source Heat Pump Association Newsletter

January/February 2001

Volume 14, Number 1

## Take a Bite Out of Your Competition

Take a Bite Out of Your Competition - IGSHPA held its Annual Conference and Expo in Norfolk, VA. The December meeting brought together 54 exhibitors, 201 attendees, 25 students, a dancing gopher, and a shark. The Waterside Marriott Hotel provided the perfect setting to stay away from the snowstorm and seek those business deals.

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*Lisa Peterson-Cheney, Geothermal Supply stated, "This has been the best IGSHPA Annual Conference we have ever attended."*

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Dr. James Bose, Executive Director, opened the meeting on Monday, December 4, 2000. The keynote speaker was Mr. Edwin Pinero, Director, Program Operations, Pennsylvania Department of Environmental Protection.

Mr. Pinero spoke to the audience about the comprehensive energy program in the State of Pennsylvania, and how GeoExchange fits into this plan. He said that his state was "committed to sustainability, which means the ideal balance of environmental protection, economic development, and quality of life."

Larry Eitelman, Florida Heat Pump, received the first IGSHPA Achievement in Training award. Mr. Eitelman has been training accredited installers of heat pumps since 1991.

Exhibitors were thrilled with the quality of the leads found at the conference. Lisa Peterson-Cheney, Geothermal Supply stated, "This has been the best IGSHPA Annual Conference we have ever attended." Many exhibitors were happy with the regional response to the conference. Jeff Stagg, Mechanical Equipment Sales, said, "We were pleased to work with IGSHPA to make the show a great success."

Along with an exhibition hall full of enthusiastic vendors, an exciting three-track agenda was arranged for the attendees. The traditional Installation Accreditation Workshop ran concurrently with other sessions on successful marketing, regulatory issues,



*A good-natured Larry Eitelman of Florida Heat Pump, gets into the spirit of the program and allows the WaterFurnace shark to take a "Bite Out of the Competition."*

success stories, and developing markets, domestically and internationally.

Sponsorship for the IGSHPA Annual Conference and Expo came from WaterFurnace, GPU, Florida Heat Pump, Geo-Enterprises, and ClimateMaster. IGSHPA would also like to thank Mechanical Equipment Sales for hosting an oyster roast event at their facility in Virginia Beach on Tuesday.

If you were unable to attend the IGSHPA Annual Conference and Expo, you may see the vendors listing, the agenda, and abstracts on the IGSHPA web site ([www.igshpa.okstate.edu](http://www.igshpa.okstate.edu)).

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## IGSHPA Advisory Council

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ClimateMaster

Howard Newton, Vice Chair  
Trane/Command-Aire

Steve White, Secretary  
Performance Pipe

Billy Abner, East Kentucky Power Coop.  
Phil Albertson, Ditch Witch  
Larry Eitelman, Florida Heat Pump  
Scott Jones, Econar Energy Systems Corp.  
Morris Lovett, OG&E

Frank Migneco, GPU Energy  
Chuck Perry, Carrier Corporation  
Ron Robertson, Exelon Energy Services  
Phil Schoen, Geo-Enterprises, Inc.  
Chris Smith, Florida Heat Pump  
Mark Sullivan, WaterFurnace International  
Greg Wells, Middleton Group

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# Bulletin Board



## Advisory Council Meets

The Advisory Council of IGSHPA and its supporting Committees met on December 3, 2000, at the Annual Conference and Expo in Norfolk, VA.

### 2000 Election Results

The IGSHPA Advisory Council 2000 Elections resulted in re-election of: Morris Lovett, OG&E; Frank Migneco, GPU; Howard Newton, Trane; and Steve White, Performance Pipe. Greg Wells, Middleton Geothermal, was elected to serve as a new member of the advisory panel. Mr. Newton was elected by the Advisory Council members to serve as Vice Chairman.

### Committee Highlights Marketing Committee -

Jack DiEnna, Chairman

- IGSHPA Project signs for contractors
- Web site to develop project reporting area for contractors

### Membership Committee - Chris Smith, Chairman

- Individual Membership fee to be included in training fee
- Contact with members results in high retention ratio
- Members challenged to recruit new members

### Research Committee -

Marvin Smith, Chairman

- ASHRAE projects on standing column wells and in-situ testing discussed

### Standards Committee -

Phil Albertson, Ditch Witch

- Discussion of Stab fittings, anti-freeze, and pumping performance
- Marvin Smith to head up sub-committee on thermal load testing

### Training Committee -

Howard Newton, Chairman

- Accreditation fees to include \$95.00 membership fee
- Test Scoring fees increased from \$50.00 to \$75.00 per test
- Membership in IGSHPA required to stay accredited as an installer
- 3 Continuing education points achieved in two years for installers
- Sub-committee established for Advanced Fusion Course development

The complete minutes of the Advisory Council and its subcommittees will be available on the IGSHPA web site in the Members Only section.

## Heat Pumps and Other Energy Improvements Coming Soon to NAS Oceana & NAB Little Creek

**Bob Harvey**

**Norfolk, VA** – Plans are under way in the PWC Energy Management Branch (PWC) to install geothermal, or ground source, heat pumps (GSHPs) in seventeen Naval Air Station (NAS) Oceana buildings and four Naval Amphibious Base (NAB) Little Creek buildings. The work will also include other energy savings improvements in these buildings such as installing energy-efficient lights and windows, lighting controls, and improved insulation, as well as heating, ventilating and air-conditioning (HVAC) systems' improvements in two other NAS Oceana buildings. The delivery order is expected to be in place sometime during the second quarter of this year, with construction beginning early this summer.

Economics will determine the final list of buildings included in the project, but the NAS Oceana buildings under consideration include; the Strike Fighter Training Building 137, the Main Administrative Building 230, the Telephone and Disaster Preparedness Building 232, the Front Gate Pass Office and HRO Buildings 280 & 282, the Bachelor Officers' Quarters Building 460, the Officers' Club Building 480, the Golf Course Clubhouse Building 581, the Supply Building 730, the PWC and Resident Officer In Charge of Construction (ROICC) Building 820, the Hazardous Material Storage Building 826, the PWC Transportation Building 830, the Sea Bees Buildings 840 and 842, the PWC Utilities Building 920, the Weapons Building 2005, and the Air-Traffic Control Building 3030. The four NAB Little Creek buildings are all mainly administrative buildings including Building 2009 which houses the Fleet Combat Development & Implementation Team, the Post Office and Navy Criminal Investigative Service Building 2012, and the Mobile Diving Salvage Unit Buildings 2014 & 2052.

This work will be accomplished at no up-front cost to the Navy by utilizing a Department of Energy (DOE) Energy Savings Performance Contract (ESPC) to finance the costs over approximately ten years. This type of contract provides energy improvements *at no cost to the Government!* The contracted Energy Savings Company (ESCO) pays for installation of the improvements, and in turn is paid a percentage of the energy savings realized by the government on its monthly utility bills after construction is completed. The best part is that *the energy savings are guaranteed* - or the ESCO does not get paid.

ESPCs offer a means of "leveraging" limited existing funds for facilities improvements by allowing the energy savings associated with those improvements to pay for their purchase and installation. More funds are then available for non-energy related improvements accomplished through conventional funding mechanisms. Several of the NAS Oceana buildings included in this project currently have existing



*Drilling of vertical boreholes.*

HVAC systems which are in dire need of replacement. However, facilities management funds will not have to be spent from existing budgets to replace these systems because the work will be performed under this project, and the cost will be paid out of energy savings.

This project has several features which build into it a measure of insurance that the Navy receives quality equipment and systems. The ESPC contracting vehicle requires the ESCO to guarantee the savings

*(continued on page 4)*

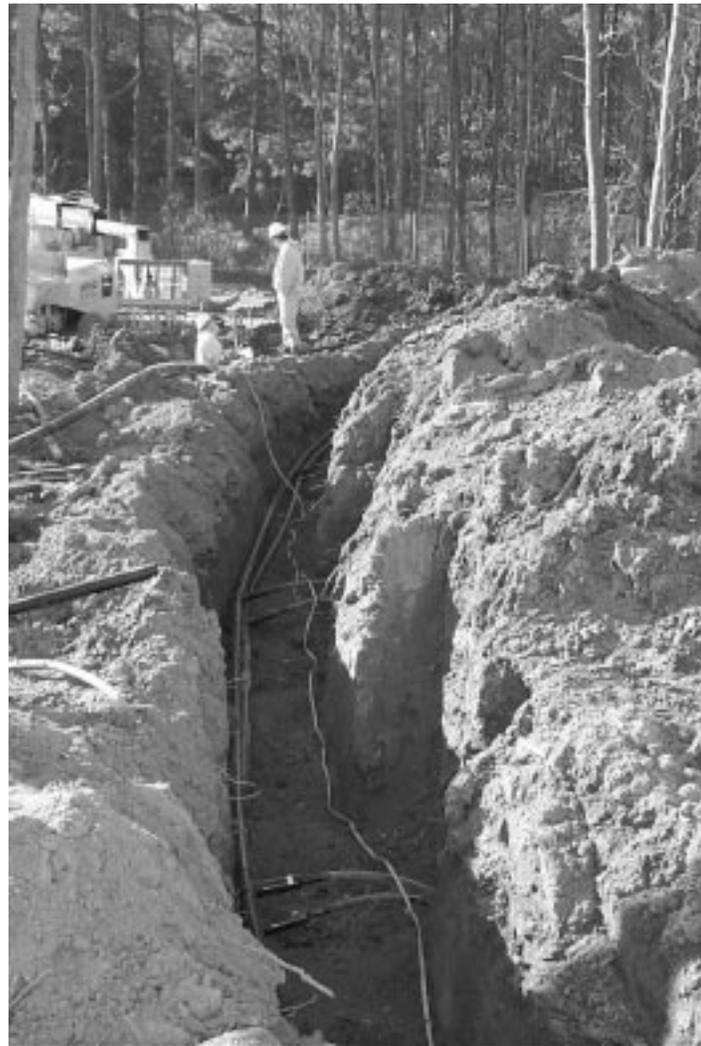
and, if the savings fall short of the guaranteed level, then the ESCO must pay the shortfall to the Navy. This provides very strong incentive for the ESCO to make sure that the Navy receives quality equipment and work, and that all systems function properly for the length of the contract delivery order.

Additionally, this project will utilize one of five different Geothermal ESPCs that DOE has put in place. The ESCOs that bid on the national solicitation for these contracts were required to be “pre-qualified” by DOE through demonstration of experience and competence in both the design and installation of GSHP systems.

Also, the project is the initial, or “seed”, project around which the DOE contracts were written, which means that information about the proposed project buildings was provided to all ESCOs and they based their bids on this information. In exchange for this assistance, the DOE is providing, free of charge to the Navy, contractual guidance and training



*Steam leak at Business Building 730.*



*Well pipe headering.*

throughout the process as well as expert technical assistance and review of proposals.

The project is moving forward through the efforts of the DOE, ASHRAE, the GeoExchange Consortium and others. In fact, the International Ground Source Heat Pump Association (IGSHPA) held its December 2000 technical conference here in Norfolk, VA, and the PWC Energy Management Branch conducted a bus tour to NAS Oceana for IGSHPA workshop attendees. The tour allowed attendees to view existing GSHP equipment and installations, and it demonstrated the variety of buildings to which the technology will be applied under this project. Taken together, the many organizations involved with the project represent a substantial portion of the geothermal industry which is very highly motivated to make sure that the project results in a top quality installation that will represent the industry well and provide good publicity for the technology.

The Oceana buildings chosen for inclusion in this project were geographically selected to enable reduction of the overall length of the steam distribution system as recommended by the Oceana Energy Vision. The buildings are generally grouped in small clusters so that, once the new GSHP systems are operational in each group of buildings, the steam lines directly feeding each building will no longer be needed, nor will the branch lines feeding each group of buildings. After the project is completed, the steam distribution system at Oceana will be more compact and efficient. In addition, all project buildings will be equipped with new HVAC systems and will receive new DDC systems to monitor and control the new equipment. These actions will serve to “... implement aggressive end-use efficiency improvements” including “energy monitoring and control system(s)....” as recommended by the Energy Vision.

Questions about the project or GSHP systems should be directed to Mr. Bob Harvey, PWC Code 332, 2<sup>nd</sup> floor of Building Z140, at 445-4885 (extension 417).





# Play Dirty!

## MayTech 2001

Stillwater, OK

May 20-23, 2001

Call 800-626-4747

for information on exhibiting or attending.

## U.S. Energy Policy - A Chance To Be Heard

On March 13-15, the Geothermal Heat Pump Consortium, in conjunction with IGSHPA, will hold the 2nd Annual GeoExchange Industry Washington, D.C. Event.

Building on the success of last year's visit with political movers and shakers, GHPC and IGSHPA encourage members of both organizations to attend this meeting and utilize the chance to be heard. The technology we all believe in and represent can be part of the solution to the "energy crisis" currently grabbing the media headlines. It goes without saying that the more industry representation we have on Capitol Hill, the greater chance we have to influence the energy direction that the Bush Administration will take.

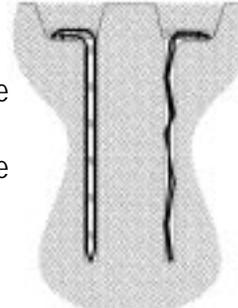
For an agenda of activities, contact Sara Quinn at GHPC (QUINN@GHPC.ORG). 

## CGD Course

Before the 2nd Annual GeoExchange Industry Washington, D.C. Event, IGSHPA will hold a workshop for the Certified GeoExchange Designer program. The course will begin on March 11. The full three days will prepare students to take the CGD examination. Upon successful completion of the course, students may then apply for certification from the Association of Energy Engineers (AEE). To register for the CGD Workshop, contact Heath or Shelly at 1-800-626-4747. 

### GeoClip U-Bend Installation vs. Standard U-Bend Installation

- GeoClip**
- Optimum pipe positioning
  - Optimum pipe separation
  - Superior heat transfer



- Standard**
- Random pipe positioning
  - Random pipe separation
  - Inferior heat transfer

The GeoClip was specifically designed to maximize borehole thermal conductivity, yet facilitate superior borehole grouting to protect the environment in Vertical closed loop heating and cooling wells. Research indicates that positioning up-bend pipes at the borehole wall directly across from one another significantly increases the heat transfer rate of the vertical heat exchanger over a standard installation, regardless of the backfill or grouting material used.



Geothermal Bore Technologies, Inc.

1-800-588-0608

www.geoclip.com

## Richard Simmons Drilling Co., Inc.

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**Fax: (540) 254-1268**  
**simmonsdrilling.com**



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Protecting the Ground Water  
Reducing Energy Costs

# IGSHPA Member Develops Breakthrough Technology

**Fort Wayne, IN** – WaterFurnace International, Inc. in Fort Wayne, Indiana, has agreed to form a joint venture with Hardin Geotechnologies in Indianapolis, Indiana, to market a breakthrough technology. The joint venture, known as water+®, is based upon a patented process developed by Jim Hardin, founder of Hardin Geotechnologies, that delivers potable water from the local water company to any home or commercial building as a free source of heating and cooling.

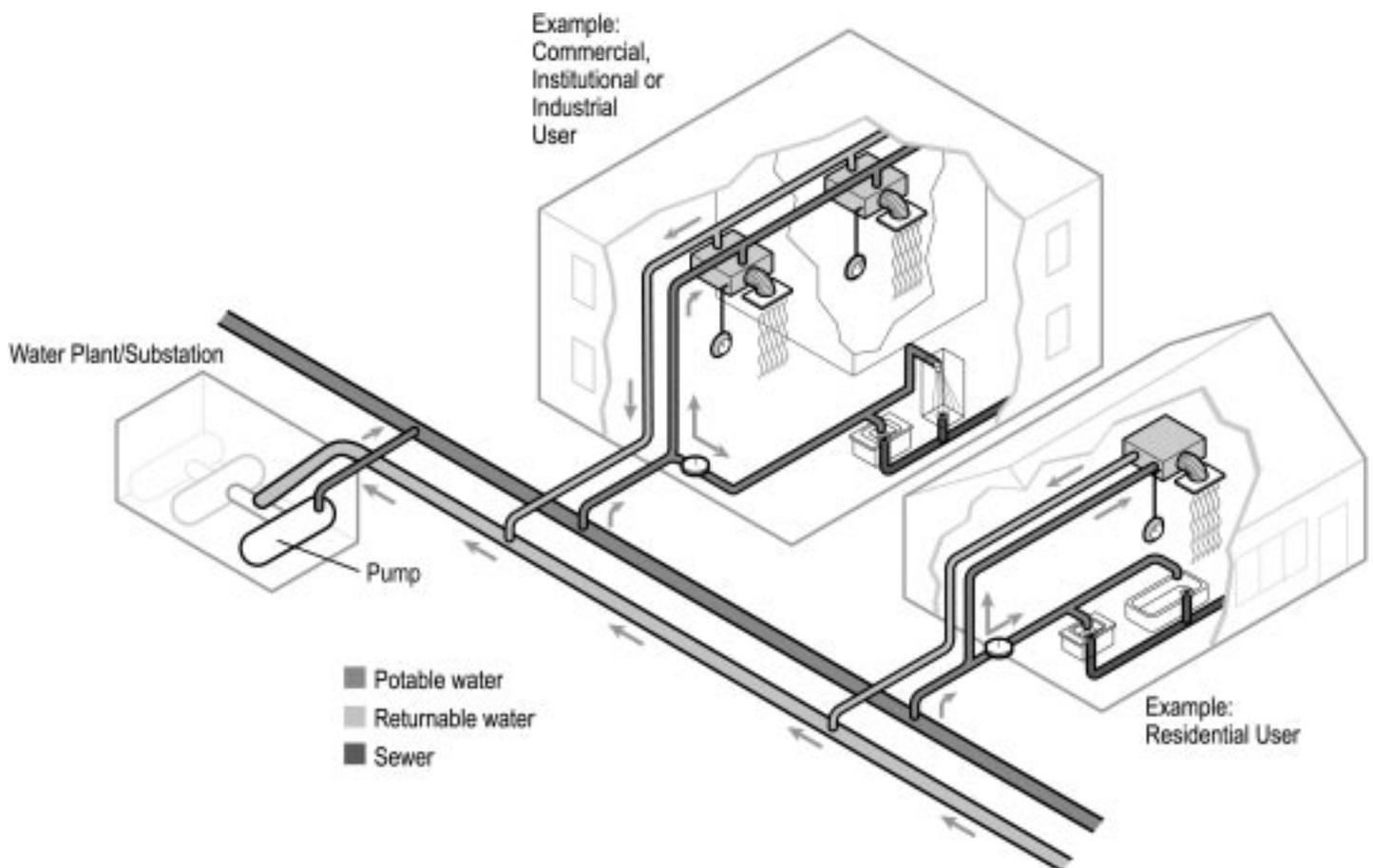
Water+ is an independent operation available to all heating, air conditioning and refrigeration manufacturers who make geothermal or water source units. With water+ as the loop, it's possible to reduce installation costs and receive the comfort of a high efficiency and environmentally friendly geothermal system—while dramatically lowering utility bills.

According to Bruce Ritchey, President/CEO of WaterFurnace, “This technology changes the economics of heating, cooling and refrigeration.

It eliminates the need for rooftop units and cooling towers on commercial buildings and for outdoor air conditioners for homes. The cost of the system will be equal to or less than conventional systems but will be dramatically more energy efficient with lower maintenance costs.”

James R. Shields, WaterFurnace Chairman of the Board said, “This is a real breakthrough for the company. It allows us to compete on the basis of cost. In the past, our system was typically more expensive to install, but we could sell them on the basis of energy- and maintenance-savings that pay back the price difference. Now, we can meet or beat the first costs and have even better energy savings.”

WaterFurnace International and Hardin Geotechnologies are both IGSHPA members. More information on water+ can be found on the WaterFurnace website at [www.waterfurnace.com](http://www.waterfurnace.com). 





## Calendar of Events

**February 26-March 1, 2001**  
**ACCA Annual Conference and Trade Show**  
Air Conditioner Contractors of America  
Las Vegas, NV  
cglynn@acca.org  
202-518-3204

**February 26-March 1, 2001**  
**Heat Pump Overview**  
Alabama Power Co.  
Verbena, AL  
www.alapower.com  
800-634-0154

**March 11-13, 2001**  
**Certified GeoExchange Designer Workshop**  
IGSHPA  
Washington, D.C.  
www.igshpa.okstate.edu  
800-626-4747

**March 14-15**  
**GeoExchange Industry Event**  
GHPC/IGSHPA  
Washington, D.C.  
www.ghpc.org

**March 20-22**  
**IGSHPA Installation Workshop**  
Alabama Power Co.  
HVAC Training Center, Verbena, AL  
mpmilwee@southernco.com  
800-634-0154

**May 28-30, 2001**  
**Russian Technologies for Industrial Applications**  
Russian Foundation for Basic Research  
Ioffe Physical-Technical Institute, St. Petersburg, Russia  
IERFRI@pop.ioffe.rssi.ru  
www.ioffe.rssi.ru/IWRFRI  
(812) 247 99 68

## Water Furnace



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## TJ Ogden