Overview

- **Timeline**
  - Start Date: January 29, 2010
  - End Date: January 31, 2012
  - Percent Complete: 1%

- **Budget**
  - Total Project Funding: $1,077,500
  - DOE Funding Share: $1,077,500
  - Awardee Share: $0
  - FY09 Funding: $0
  - FY10 Funding: $1,077,500

- **Barriers**: Unique Skill Sets and Project Diversity

- **Partners**: International Ground Source Heat Pump Association
  
  Oak Ridge National Laboratory
Relevance/Impact of Research

• Create a national certification standard for all primary personnel involved in the installation of geothermal heat pump (GHP) systems, including drillers, plumbers, electricians, heating and air conditioning specialists, engineers and architects.

• Promote GHP deployment by:
  – Increasing customer confidence in the technology
  – Reducing the potential for improperly installed systems
  – Assuring product quality and performance

• Enable deployment of higher efficiency GHP systems
  – Improved design and installation by creation of a more consistently professional workforce
Scientific/Technical Approach

• Collaborative methodology that solicits input from a variety of industry stakeholders
  – Manufacturers
  – Professional organizations
  – Trade organizations
  – Contractors
  – Designers
  – Utilities
  – Regulators

• FY10 Milestones
  – Market research
  – Investigation of existing GHP systems
  – Update of State regulations governing GHP systems
Accomplishments, Expected Outcomes and Progress

- Develop a conceptual foundation
- Identify causes of failures and successes
- Develop criteria for each function
- Create initial prototype standard(s)
- Stakeholder feedback
- Refine prototype
- Finalize standard(s)
Team qualifications

• Strong industry relationships
• Development of specifications
• Extensive training
• Academic perspective
• Federal Government GHP systems
Project Management/Coordination

- Project Management Team
- Control project scope
- Schedule tasks
- Monitor task accomplishment
- Define team roles
  - GHPC
  - ORNL
  - IGSHPA
Project Management/Coordination

GHPC BOARD OF DIRECTORS

PRINCIPAL INVESTIGATOR

ADMINISTRATION AND ACCOUNTING

IGSHPA

AEE NATE RPA UA

GHPC

AHRI GRC NGWA AIA UTILITIES

ORNL

ASHRAE FEDERAL FACILITIES NREL
Project Management/Coordination

• Communications
  – Internet site
  – Management team meetings
  – Stakeholder input
  – Workshops and conferences

• Budget management
  – Subawards
  – Vendors
GHP Industry Certification Standard Gantt Chart

- Task 1.0 Market Research
- Task 2.1 Investigate Existing GHP Systems
- Task 2.2 Update State GHP Regulations Database
  - Task 3.0 Define Criteria, Structure and Components
- Task 4.0 Develop Prototype Standard
- Task 5.0 Finalize GHP Standard
- Task 6.0 Project Management and Reporting

Days From Start Date

0 100 200 300 400 500 600 700 800
Future Directions

• Follow-on industry collaboration to develop
  – Curriculum
  – Training
  – Certification

• Coordination with complimentary programs
  – EPA/ACCA/ANSI Quality Installation Spec
  – NREL GHP Roadmap
Summary

• Final Personnel Standard January 2012
• Follow-on industry collaboration needed
  – Curriculum
  – Training
  – Certification programs
• NOT
  – Equipment
  – Design
  – Installation
  – Regulations