



Novel Energy Conversion Equipment for Low Temperature Geothermal Resources

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Geothermal Energy Production from Low
Temperature Resources

Timeline:

This project was awarded on April 30, 2010.

A kick-off meeting is scheduled for May 13-14, 2010. Installation of prototype is planned for February 2012.

Budget

Total Project Cost: \$2,172,423

DOE Share: \$1,047,714

Barriers

High cost of electricity generation
reduces utilization of low-temperature
geothermal resources

Partners

Barber-Nichols, Inc., Oregon Institute of
Technology

Objective

- Develop equipment that generates electricity from low temperature geothermal resources at a cost at least 20% below that of the currently available technology.

Geothermal Program Goal:

- “Develop low-cost, high efficiency energy conversion technologies for EGS”

Planned Research Results:

- (1) better working fluids and
- (2) improved cycle heat management.

- Johnson Controls will leverage decades of experience in developing and manufacturing commercial chiller equipment to identify and implement the equipment modifications required to generate electricity.
- Our partners contribute specialized expertise (e.g. Barber Nichols for turbine development)

- Every task includes milestones. A go/no-go decision will be made at the conclusion of the initial analysis phase (January 2011).
- The Oregon Institute of Technology provides geothermal resource and contributes to research effort.

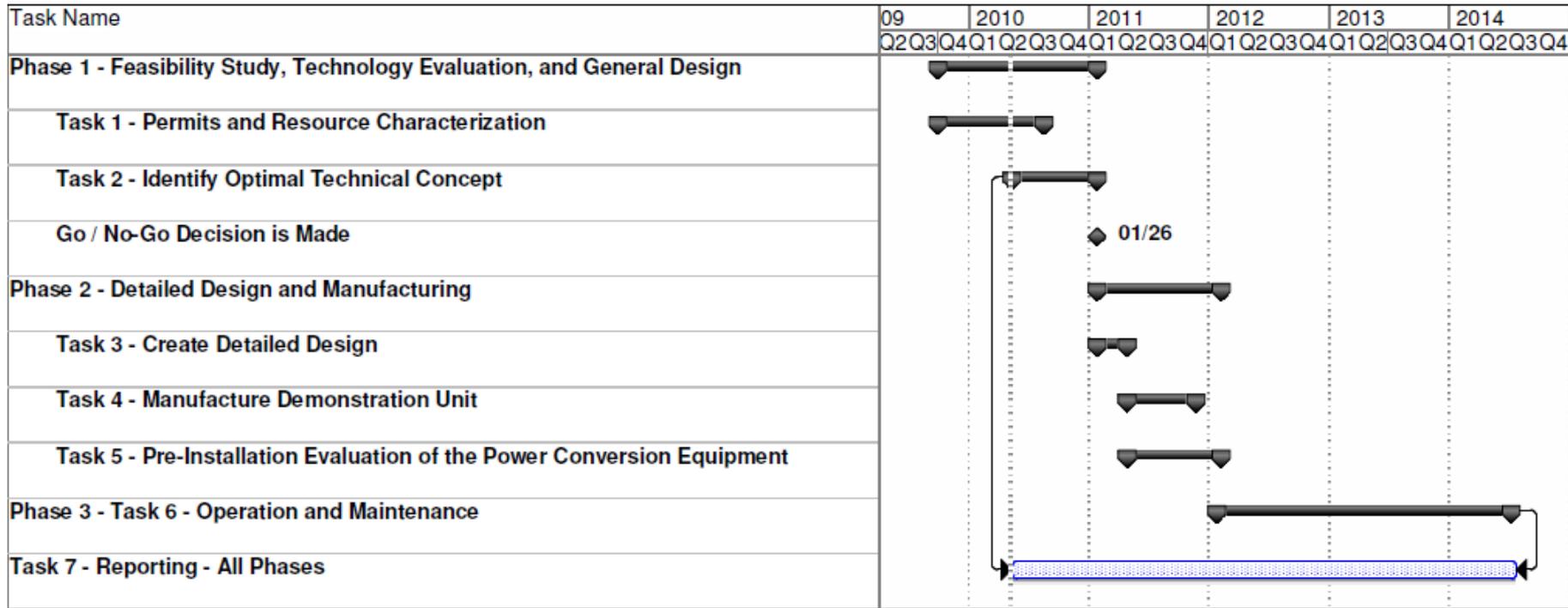
Progress:

Kick-off meeting in May 2010

Expected Outcome:

Commercial product that can generate electricity from low-temperature geothermal resources at costs 20% below the current state of the art.

Project Schedule:



Deployment Strategy:

If successful, the results of this R&D effort can easily be commercialized utilizing Johnson Controls' existing sales, project development, operations and maintenance organizations.

Research began May 2010. No significant changes in research approach from original proposal.