New Geothermal Terms and Definitions

A Guide to Reporting Resource Development Progress and Results to the Geothermal Energy Association
New Geothermal Terms and Definitions

- A system facilitating the reporting and organization of geothermal project development information

- Why develop a new system for reporting industry development information?
  - The development of national geothermal reporting codes
  - The growing need to develop an accurate reporting system and method that is more reflective of industry growth
How Should Industry Proceed?

- April 2010, GEA and industry representatives discuss how to proceed in regards to formulating geothermal reporting codes and improved reporting of project development.

- May 2010, GEA’s Board directs it to develop a new set of Geothermal Terms and Definitions and establishes a committee to consult GEA in the process.

- June 2010, GEA and the New Geothermal Terms and Definitions Committee meet to begin the formation of the new reporting system.
The Committee

- SAIC
- GeothermEx (Schlumberger)
- Energy and Geoscience Institute
- Idaho National Lab
- Great Basin Center of Geothermal Energy
- Cornell University
- Calpine
- Gradient Resources
- Ormat Technologies
- Islandsbanki
- Nevada Energy
- Ram Power
- Falcone and Associates

Source: USDOE, EERE
Should GEA Develop a US Reporting Code?

- US Geothermal Resource Base Compared to that of Other Countries
  - Fundamental differences in resources exist
  - Australia and Canadian resources just beginning to be developed

- Industry stage and pace of development varies from country to country
  - Geothermal has been producing electricity for 50 years in the US

- Elements of the reporting codes applied but GEA’s is not currently pursuing the development of a US Reporting Code
However...

- Emerging trends and factors called for a new approach

  - Increasing number and variety of projects in development
    - Emerging technologies and practices: low temperature systems, producing system expansions, EGS, oil and gas coproduction, geopressured ...
    - Projects in development have increased from 34 in 2006 to 188 in 2010

  - A revised reporting system could further improve the viability of GEA’s reported development information

- A new approach is still needed
What is the same?

- Followed the basic structure of GEA’s four phase reporting system used in previous industry updates
  - **Phase I**: Resource Procurement and Identification
  - **Phase II**: Resource Exploration and Confirmation
  - **Phase III**: Permitting and Initial Development
  - **Phase IV**: Resource Production and Power Plant Construction
What is Different?

- A list of geothermal resource terms and definitions by resource type (i.e. conventional hydrothermal, coproduction, EGS, etc.)

- Development criteria is divided into 3 sections under each phase
  - Resource Development: pertaining to activities involving the exploration and direct development of the subsurface resource
  - Transmission Development: pertaining to activities involving the planning for and development of transmission systems necessary to provide electricity from the resource
  - External Development: pertaining to activities necessary to commence resource development. Permitting, PPA’s, lease purchasing, etc.
  - Specific definitions provided for each criteria.
What is Different?

- **Phase I Project**
- **Resource Development Criteria:** Satisfied
- **Transmission Development Criteria:** Satisfied
- **External Development Criteria:** Satisfied

- “Possible Resource Estimate” is the estimated capacity (MWe) of the subsurface geothermal resource

- “Possible Installed Capacity Estimate” is the portion of the Possible Resource (MWe) that is viable for the economic production of electricity under existing conditions

Source: USDOE, EERE
New Geothermal Terms and Definitions

- GEA consulted with the New Geothermal Terms and Definitions Committee on a month-by-month basis over the course of 6 months.
- Process transparency was important
  - GEA presented on the New Geothermal Terms and Definitions at its Las Vegas Workshop in July 2010 and to its Board of Directors in December 2010
  - Provided opportunities for industry wide feedback prior to finalization
- Still a work in progress
- Access the New Geothermal Terms and Definitions at: [http://geo-energy.org/reports.aspx](http://geo-energy.org/reports.aspx)
Thank You!

www.geo-energy.org
Dan Jennejohn
danj@geo-energy.org
202.454.5261