

Cableteq USA awarded Grant to develop Next Generation Downhole Cable

Draka Cableteq USA received a \$3.2 million grant from the United States Department of Energy (DOE) to support the development of a new generation of tools that will allow Enhanced Geothermal Systems (EGS) to supply the United States with clean, carbon-neutral electrical power.

Six different Draka companies cooperated to win the grant: DCUSA, Draka Comm., Claremont, NC, USA; Draka Comm., Delfzijl, Netherlands; Draka Comm., Eindhoven, Netherlands; Draka Comm., Marcoussis, France and Draka Comm. Douvrin, France. The result will be an extraordinary new cable that will address multiple applications, which truly tells the world that Draka is an innovative, technology driven company.



EGS uses water injected deep into the earth to generate steam to run electrical turbines. One EGS power plant has the potential to generate power equivalent to more than 40 wind turbines or a coal-fired plant. The DOE has set a goal of generating 20% of the US electrical power by 2010 via geothermal sources. It is anticipated that this will be accomplished by establishing EGS plants in as many as 20 states.



A geothermal well in the Nevada desert

Under the EGS award program, Draka will develop and bring to market high temperature 374 °C (705°F) hydrogen-insensitive fiber optic cable for distributed temperature and pressure sensing throughout the wellbore and high temperature electrical cable for running pumps, sensors and tools deep inside the well. Insulated wire and glass fiber cables are a crucial enabling technology for EGS. Without wire and fiber, downhole tools such as temperature and pressure sensors cannot communicate with the surface. However, high temperatures and formation of hydrogen within the well makes the use of insulated conductors problematic and also results in the rapid degradation of glass fiber. There is currently no cable that can operate in a well hotter than 300°C for a period greater than a few days.

Mark Lowell PhD, Draka's Vice President of Innovation and Principal Investigator for the Grant explains that "EGS depend on the ability to monitor conditions throughout the wellbore. Our hydrogen-insensitive optical fiber will provide a means for obtaining temperature measurement at thousands of points in the well."