



FACT SHEET ON: THE CHENA GEOTHERMAL POWER PLANT



Alaska has more geothermal resources than any other state in the country, and yet until recently none of these resources had been developed for power generation. This picture has changed dramatically with the July 2006 installation of the Chena Hot Springs 400kW geothermal power plant. The Chena power plant, designed and built by United Technologies Corporation (UTC), has pushed the envelope for geothermal resource development for power generation and put Alaska squarely on the map for new geothermal technologies. Generating power from water less than 165°F, Chena Hot Springs is the lowest temperature geothermal resource to be used for power production in the world. We hope this will be the first step toward much greater geothermal development in the state. The Chena geothermal power plant has reduced the cost of power production from 30¢ (using a diesel generator) to less than 6¢ per kWhr.

The challenge for moderate temperature, small scale geothermal development has been to bring the cost down to a level where it is economical to develop small geothermal fields. United Technologies Corporation (UTC), the manufacturer of the Chena power plant, has been working toward that goal. In the past, small geothermal power plants have been built to order using tailor made components, which has greatly increased both the expense and the lead time for such units.

UTC's Research Center has teamed up with their sister divisions, Carrier and UTC Power, to reverse engineer mass produced Carrier chiller components to dramatically reduce the cost of production, and allow for modular construction. UTC first demonstrated this technology with the release of the PureCycle 225 modular power plant in 2003, which is designed to operate off industrial waste heat applications. The Chena project is the first application of this innovative approach to a geothermal heat source. The project has since received international recognition, including the 2006 Project of the Year Award from Power Engineering Magazine and a 2007 R&D 100 Award as one of the most innovative new projects of the year.



The two PureCycle 225 geothermal power plant modules installed at Chena Hot Springs