

ASSESSMENT OF POWER GENERATION CAPACITY OF THE WESTERN GEOPOWER LEASEHOLD AT THE GEYSERS GEOHERMAL FIELD, CALIFORNIA

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ABSTRACT

This paper presents a technical feasibility analysis of the Western GeoPower Corporation's ("WGP") 25.5 MW Unit 1 power project at The Geysers steam field, California; the WGP leasehold covers 567 acres. A commercial power plant (P.G.&E. Unit 15) operated at this leasehold during 1979 to 1989; the plant was shut down and dismantled, and the wells were plugged and abandoned, mainly due to the unduly high rate of decline in well productivity then experienced throughout The Geysers field. A new geothermal power development at this site has several attractive attributes: (a) a long production history and a large amount of resource data are available; (b) a substantial infrastructure still exists intact at the site; and (c) the decline rates in reservoir pressure and well productivity throughout The Geysers field are far lower today than when the original plant operated. An assessment of the geological characteristics of the field indicates that at least 423 acres of the leasehold can potentially supply steam to a power plant. Based on the potentially productive acreage and the 10-year production history of the original wells, steam reserves within the leasehold are estimated to be sufficient to supply a 25.5 MW plant for a project life of at least 20 years.

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