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Abstract

This presentation introduces recent Toshiba's geothermal activities and our solutions for geothermal application. Geothermal Power Generation uses geothermal fluid from underground and the steam separated from it contains corrosive materials such as chloride, and hydrogen sulfur, and also the steam is wetted when flowing to a turbine, therefore, there is high possibility of corrosion and erosion. Especially we have to pay attention to prevent from SCC (Stress Corrosion Cracking).

We have developed suitable solutions for geothermal turbines such as anti-erosion/corrosion countermeasures, low vibration stress configuration, moisture removal technology, and so on. Those technologies have been applied for Geysers geothermal power plants in the US and realized continuous operation for 10 years without any turbine cleaning and overhaul and also sustained the efficiency of the turbine. The projects have proved our steam turbine's reliability.