



MAREN GEOTHERMAL PLANT IMPROVES HOT BRINE FLOW MEASUREMENT RELIABILITY WITH MAGNETIC FLOWMETER



Maren Plant

RESULTS

Total reliability in application at 175°C

Eliminated maintenance activity and costs

Improved availability generates additional power

Established a new standard for geothermal plants



Application

Maren, a fast growing Turkish Geothermal Power company that owns and operates four power plants in the area of Germencik/Aydin for a total of 116 MWe, was facing challenges involving the measurement of water to their power generators. To determine the efficiency of the generator, Maren evaluates all process measurements such as actual pressure, temperature, and flow rate. With a series of planned expansions and investments, flow measurement was critical to growth.



Challenge

175°C temperature is the key issue. Maren determined it was nearly impossible to find a magnetic flowmeter with a liner capable of withstanding the process temperature. Other technologies, such as in-line USM, clamp-on USM, and insertion-type vortex meters experienced sensor coating issues and could therefore not be used. Flow measurement was needed to allow the plant to determine if generators are working properly and performing at peak efficiency and productivity.



Solution

Maren contacted Emerson to explore solutions to this challenging application. Thanks to the experience Emerson has in critical process flow metering and in the specific field of geothermal applications, a Rosemount[®] Magnetic Flowmeter was proposed on a trial basis in the brine line at 175°C. During the trial period, the meter worked perfectly enabling Maren to operate the production line in automatic control resulting in optimized production and increased efficiency.

Maren has changed all meters in its main power plant, adopting 58 units of Rosemount 8705 Magnetic Flowmeters. The meters have been operating without issue since their installation resulting in the elimination of the frequent flowmeter maintenance, improved accuracy which has resulted in increased productivity. Maren now intends to use Emerson's Rosemount Magnetic Flowmeters in the next power plants that are slated to be built.

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