Case Study Outline

The Challenge

In 2004, a midstream operator working in the Cook Inlet fields near Kenai, Alaska, needed a dependable way to power an impressed current cathodic protection (ICCP) system on a remote gas gathering network. The site location was only accessible by helicopter so bringing in grid power wasn't economically feasible. Solar wasn't seen as a reliable choice as Alaska's northern latitude ensured there was not enough sunlight to power the system during winter. Given that difficulties and cost associated with accessing the site, the solution needed to be reliable and low maintenance.

The Solution

To solve the problem, the operator selected a Global Power Technologies (GPT) 8550 thermoelectric generator (TEG), which was installed in August 2004 to provide continuous power to the ICCP system. Over its life, the TEG provided power for cathodic protection with no major issues during operation. Downtime was minimized as annual maintenance took about an hour per year over its product life.

Success Story

After 22 years of operation, the TEG's power unit had degraded to the point where it could no longer supply adequate power to the site. The operator contacted GPT about a replacement and evaluated other technologies, including Stirling engines, long-life diesel generators and hydrogen-based systems. In the end, the TEG's track record made the decision straightforward. The TEG had proven reliable, long-lasting, required little maintenance and was simple to install. The operator chose to replace the 8550 TEG with the updated model. GPT's engineering team worked with the operator to confirm the exact configuration of the original unit and supplied a plug-and-play replacement for quick, simple installation.

Today, the new unit continues to power the ICCP system and support the integrity of the gathering system. For the customer, the decision came down to total cost of ownership. With more than two decades of dependable, low-maintenance service behind it, replacing the original TEG with another GPT unit was the easiest and most economical choice.





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