



**Power where you need it.**

**Customer Success Story:** Grant County ESD



*GPT's technology allows Grant County, and specifically their students, to actively engage and connect to the world around them without interruption.*

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## The Situation

Grant County is located in a remote part of Oregon surrounded by mountains and desert-like land. The Education Service District (or ESD) in the area is responsible for helping the State provide equitable education and successful learning environments to students. The County hosts five school districts with several elementary and high schools in each. To fulfill their mission, and to comply with State requirements for online testing, the ESD invested in technology that would put the region online.

The ESD purchased a T1 line but soon realized the high monthly cost to connect each school separately was prohibitive. Instead, they installed a repeater station on a nearby mountain leveraging a microwave spectrum to serve modems and provide connectivity.

## The Challenge

The District searched for a way to power the mountain top station - one that would require little maintenance as servicing the 6,000 foot snow-covered location was an exhausting exercise. They began with a solar panel and battery combination, which worked well in the summer but failed in the winter months when cloudy skies and strong winds interrupted service.

**Gentherm Global Power Technologies\* (GPT)** was asked to develop a remote power solution that was both low maintenance and reliable.

## GPT's Solution

GPT supplied Grant County with a low-maintenance Thermoelectric Generator (TEG) to support the solar and battery-powered systems. The TEG was appropriate for the mountain-top location primarily because it had no moving parts and worked well in extreme cold.

The District was initially surprised by the success of the TEG and it soon became the primary source for power. With the demand for services through the Internet increasing, the District bought a second TEG to support the first. The additional power added stability to the entire system and allowed the District to apply heat to the inside of the repeater station protecting additional electrical equipment at risk during sub-zero temperatures.

## Results

A reliable, low maintenance power supply allowing Internet access for the remotely-located school district.

GPT's TEGs are now the primary source of power for the microwave system and operate 24 hours a day, 7-days a week using the solar and battery power as additional sources of energy. Their presence is considered invaluable to the people of Grant County. Internet access enables teachers to access new training online, students to take required tests and offers unique learning opportunities like Spanish classes via video conferencing units. This system has also been used by the Oregon State Department of Administrative Services to hold video-conferences and public forums that are difficult to co-ordinate due to the remoteness of the County.

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