

Powering a Community-Focused Data Center in South Texas



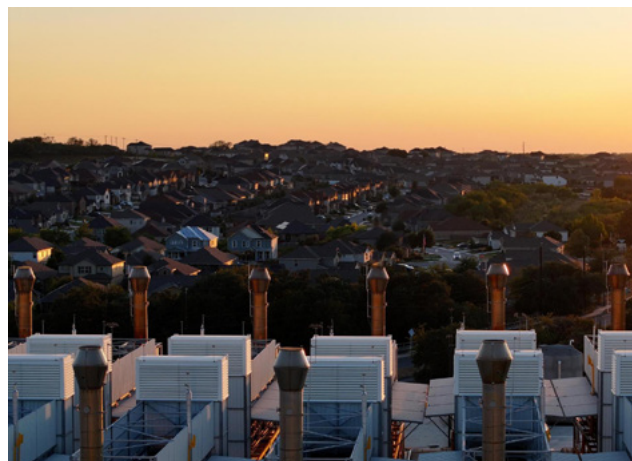
This case study explores how VoltaGrid supported a South Texas data center developer facing the surging power demands of the AI boom.

With a total need of 200 megawatts, the data center was built in 50-megawatt increments, but faced a five-year wait from the utility just for the initial power. VoltaGrid provided an immediate, phased solution that was both efficient and community-friendly.

THE CHALLENGE

The primary challenge was the long lead time for traditional utility power—over five years for just 50 megawatts.

The developer needed a faster, more adaptable approach that could align with the phased construction of their data halls. Additionally, the site was near a residential area, so the solution needed to be quiet, low on light pollution, and environmentally clean.



THE SOLUTION

VoltaGrid constructed an on-site microgrid running on natural gas, delivering each 50-megawatt block of power as the data center expanded.

This behind-the-meter solution meant no waiting for the utility and ensured a reliable, immediate power supply.



THE WORK

Built microgrid adjacent to an active neighborhood.

Removed 95% NOx and 93% organic pollutants.

Reduced noise below 65 dBA at 30 feet and around 51 dBA across the street
7.9 MMBtu/MWh reciprocating generation efficiency.

Battery-free design, reducing cost, maintenance, and fire-related risks
Minimal light impact on surrounding spaces.



THE CONCLUSION

The data center was able to go live incrementally, meeting its immediate and future power needs without delays. The project was well-received by the community, thanks to its quiet, low-emission, and low-impact design. This case demonstrates VoltaGrid's ability to deliver fast, scalable, and community-friendly power solutions tailored to the modern data center landscape.



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