

CNG GAS DELIVERY

Monitoring and Totalising Compressed and Liquefied Natural Gas Deliveries

1. The Challenge

[CNG Direct](#) supplies compressed and liquefied natural gas to customers across Southern California using a fleet of gas trailers, regulator trailers and LNG installations. Operators could see the instantaneous flow of gas at each site, but had no reliable way of knowing how much gas had actually been dispensed. Trailers also move between customer sites, so knowing where each asset was mattered as much as knowing what it had delivered.

Every site is configured a little differently, so the solution had to be adaptable in the field: setpoints, unit conversions and the widgets on each dashboard needed to be adjustable by CNG Direct's own team.



2. The Solution

[Generator Services](#) installed Senquip QUAD devices on CNG Direct's trailers and LNG sites, each connected to a flow meter, a pressure transmitter and a temperature transmitter.

Custom scripting on the QUAD converts the raw flow measurement into the units operators work in: SCFM, SCF/H, MCF/H, MCF/D, LNG gal/H and LNG gal/D. A time-to-fill widget uses full and empty setpoints that field staff can adjust in the device's custom settings.

Readings are taken every minute and accumulated on the device. The SCFM readings from each hour are averaged, and those hourly figures are totalised to give rolling volumes of gas dispensed over the last 1, 6, 12 and 24 hours in both MCF and LNG gallons.

Each QUAD also reports its GPS position, and geofences around customer sites and depots log arrivals and departures automatically alongside the gas data, so operators can see which trailer is where and how much it has dispensed since arriving.

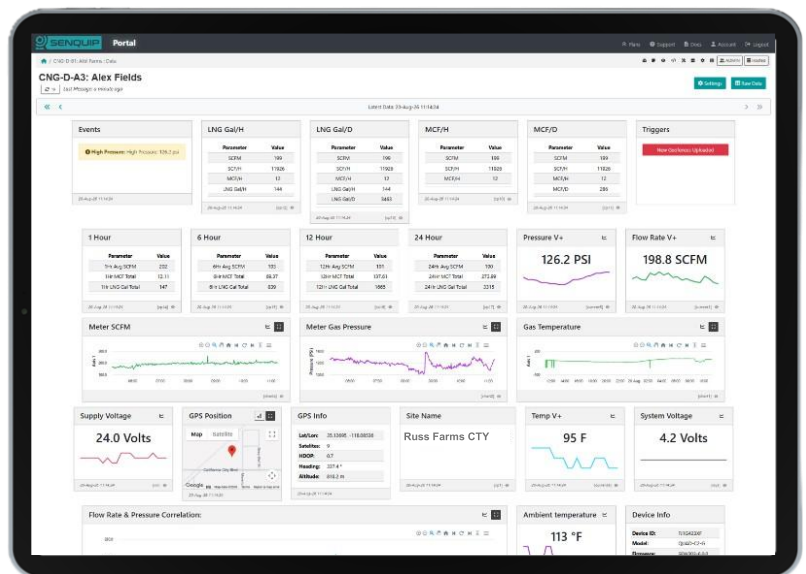
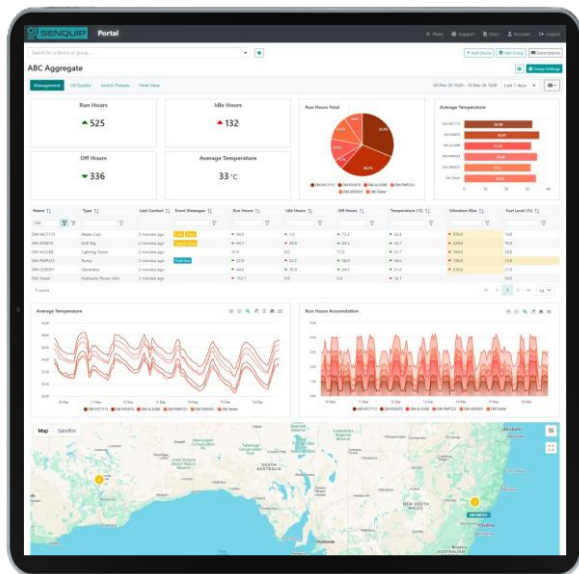


Figure 1 - Gas Dispensing Dashboard Showing Flow Rates and Historic Totalisers

3. The Outcome

The system has changed the way CNG Direct manages gas deliveries by providing:

- Live flow in the units operators use every day – SCFM, SCF/H, MCF/H, MCF/D and LNG gallons per hour and per day.
- Historic totalisers showing the volume of gas dispensed over the last 1, 6, 12 and 24 hours.
- Time-to-fill estimates with full and empty setpoints that field staff can adjust themselves.
- Geofencing and location tracking across gas trailers, regulator trailers and LNG sites.
- A single proven configuration that can be exported and replicated across the fleet.

As Russ Parker of CNG Direct explained:

“Pretty cool stuff. Hard to remember what our operations were like before Senquip. It's been such a great solution for us.”

By combining rugged hardware, custom on-device scripting and secure cellular connectivity, CNG Direct now has continuous visibility of both the gas it dispenses and the trailers that deliver it.

The same platform is being rolled out across the fleet and extended to measurements such as pressure, temperature and tank level.