

Fire-rated fuel storage for Spark New Zealand's flagship data centre



The Fuelchief SuperVault Cylindrical Fuel Tank

Spark's data centre in Taranaki, Aotearoa New Zealand, was developed as one of the country's flagship data facilities.

Designed to provide Tier 3 service and 99.98% uptime for customers, the high-tech facility includes security-controlled biometric access, a bulletproof and fire-rated security centre with its own oxygen supply, and a data hall mounted on rubberised bearings for seismic resilience.

In an environment built around security, resilience and availability, the backup power infrastructure also needed to perform without compromise. The fuel-storage solution had to meet demanding fire and seismic requirements, integrate with the wider generator system, and support the facility's uptime commitments.

Fuelchief worked alongside consulting engineer WSP Opus to develop a mission-critical fuel-storage solution suited to the project's operational, compliance and design requirements.

Project Team:

- » Design Engineer: WSP Opus
- » Manufacturer: Fuelchief
- » Installation Partner: Stellar Projects

Location:

Taranaki, Aotearoa, New Zealand

Delivered:

- » 2 × SuperVault SV4 cylindrical fuel tanks
- » 25,000L capacity per tank*
- » Four-hour fire-rated
- » SwRI 95-03 certified
- » IL4 seismic-rated

Solving the resilience challenge

The data centre required a reliable supply of fuel for its standby generators, providing multiple layers of protection if the grid supply was interrupted.

Because the generators supported critical data halls and cooling infrastructure, the storage system needed to provide more than capacity alone. It had to meet strict fire and seismic requirements, fit within the wider backup-power design, and give the project team confidence that it would perform as specified when required.

WSP Opus approached Fuelchief for specialist support in developing two four-hour fire-rated and IL4 seismic-rated fuel tanks for the project.

Supporting the design as the project evolved

The fuel-storage design was refined over an 8–12-month period as the wider project requirements developed. Fuelchief's in-house engineers supported this process, working alongside the consulting engineer to respond to design revisions and ensure the selected solution continued to meet the project's technical and compliance requirements.

This specialist input helped translate the consultant's design intent into a manufacturable fuel-storage system. It also gave the engineering team access to practical knowledge of fire-rated tank design, seismic performance, certification and fabrication throughout the specification process.

Rather than entering the project only when manufacturing began, Fuelchief remained involved as the solution evolved, helping reduce the risk of technical gaps or late design changes.



From specification to installation

Fuelchief manufactured two SuperVault SV4 cylindrical tanks in accordance with the agreed project requirements. Each tank was SwRI 95-03 certified, four-hour fire-rated and designed to meet the required IL4 seismic performance.

The tanks were installed by Stellar Projects. Fuelchief worked within the wider project team, supporting the transition from engineering design into manufacture and installation.

This collaborative approach allowed each partner to contribute its specialist expertise: WSP Opus leading the consulting engineering scope, Fuelchief supporting the fuel-storage design and manufacture, and Stellar Projects managing installation on site.

Supporting long-term backup-power resilience

The commissioned tanks continue to support the data centre's standby generation strategy and its commitment to 99.98% uptime.

For Spark, the result was a compliant and resilient fuel storage solution designed for a high-availability environment. For the consulting and installation teams, it provided a specialist fuel partner able to stay involved as the design evolved and help carry technical requirements through into the manufactured system.

This project reflects how Fuelchief supports complex data centre developments: working alongside consulting engineers, bringing decades of specialist fuel expertise, and collaborating constructively with installation partners to reduce risk from specification through to delivery.

About the SuperVault Cylindrical

The SuperVault Cylindrical is a four-hour fire-rated fuel tank designed for mission-critical and in-building applications. Its certified construction supports clear compliance pathways, seismic resilience and efficient use of available space, helping consulting engineers specify fuel storage with greater certainty.