

CASE STUDY

GORGON CARBON CAPTURE AND STORAGE

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OVERVIEW

Pressure Dynamics was engaged to deliver a critical water recirculation pump package as part of Chevron's Gorgon Carbon Capture and Storage (CCS) system. The newly installed pump system plays a key role in increasing the processing and reinjection of produced water as part of works to optimise the CCS system. The package integrates with surface infrastructure, including separation, filtration and injection systems, forming a vital component of the broader CCS process.

APPROACH

Pressure Dynamics delivered a fully engineered solution encompassing the design, supply, testing and certification of four API-compliant water recirculation pump units, provided as complete skid-mounted assemblies. Each package included pumps, motors, gearboxes, pulsation dampeners, piping manifolds and baseplate systems. Project management played a pivotal role in ensuring full compliance with API 675 and VDMA 24284 Class I standards through detailed design verification, proactive compliance management, and structured execution of all project phases. The team maintained strict adherence to Chevron's technical and documentation requirements throughout all phases. Manufacturing was coordinated across a global supply chain, including OEMs in Germany and other locations, with full ownership of supplier management, quality assurance and material traceability. A comprehensive testing program was implemented, including functional, hydrostatic and performance testing, as well as vibration, NPSH and dimensional verification. Factory Acceptance Testing (FAT) was conducted with defined inspection and witness points prior to final certification and release. A structured cleanliness and preservation program was also applied, ensuring compliance with Chevron standards and providing 12-month degradation protection with full documentation traceability.

OUTCOME

Pressure Dynamics successfully delivered a fully compliant, high-integrity pump package, meeting all project specifications and quality requirements. The engineered solution supported improved cost efficiency through effective procurement and delivery strategies, while maintaining strong schedule predictability and execution certainty. The system now provides a robust and reliable solution supporting long-term CCS operations, contributing to the performance and sustainability objectives of the asset. This project highlights Pressure Dynamics' capability to deliver complex, high-specification equipment packages, combining engineering expertise, global coordination and rigorous quality assurance to support critical energy infrastructure. Safety of operations technicians. The CCS System Sampling Stations have been specially engineered and manufactured to withstand harsh outdoor environments, such as extreme heat and cyclone-force winds.

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