Pyrolysis Reactor Upgrade Project

Reactor mid upgrade

Client: Entyr (ASX:ETR)
Region: Australia
Location: Gold Coast, Queensland
Project Type: Engineer & construct

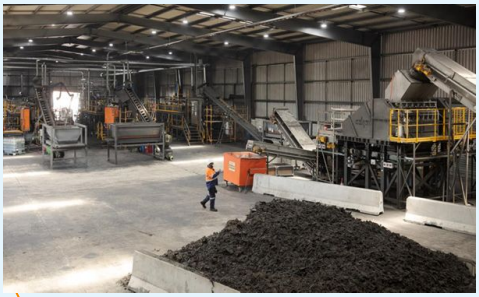
Problem: The existing R&D pyrolysis reactors were built as a proof of concept and were not suitable for commercial operation. The client, who was transitioning to a commercial business, faced significant challenges with inconsistent heating, a lack of standardized electrical systems, and non-compliance with current Australian safety and hazardous-area standards.

Solution: We oversaw a full review of the units and their operational processes, which resulted in a comprehensive redesign and upgrade program. This included:
- A complete redesign of the electrical systems and operational procedures, including moving reactors for improved operations.
- Relocation of reactor heating zones, heater bands, and thermocouples to standardize units.
- Descaling of the reactors and application of new thermal insulation.
- A full safety audit, followed by the design and installation of new handrails, platforms, and a new hydraulic system.

Result: The R&D plant was successfully converted into a commercial-scale tyre pyrolysis plant. The reactors were upgraded for improved reliability and consistency across all units, and the overall plant was brought into full compliance with current Australian safety and hazardous-area standards.

Role
- Project Management
- Mechanical & Electrical Design
- System Automation & Integration
- Procurement & Commissioning
- Safety & Standards Compliance

Upgraded hydraulic system



Plant prior to upgrades