

PROJECT PROFILE

GE Group Australia

Civil / Structural / Mechanical Design of RTIO Fuel Facility at 6 Mile Fuel Facility Dampier

CDMS were commissioned by GE Group Australia to provide civil, structural and mechanical engineering design and detailing services for a new heavy and light vehicle refuelling facility for Rio Tinto Iron Ore at 6 Mile Fuel Facility Dampier, Western Australia.

OUTCOME

- Installation of an existing 110kL Diesel Tank and design of new concrete footings
- Design of vehicle pavement slabs and bunded area
- Design of piping, buried services and pumping layout for the new facility

BACKGROUND

Rio Tinto is a global mining and metals company working in more than 40 countries. The existing fuel facility at 7 Mile which serviced trucks and small vehicles was becoming too congested with increased safety risks. A new facility at 6 Mile was proposed to be designed and constructed to resolve the issues at 7 Mile. GE Group Australia, a West Australian construction company, in partnership with CDMS Consulting Engineers, provided the engineering and design services for the project.

PROJECT OBJECTIVES

The construction of a new refuelling facility at 6 Mile, Dampier for Rio Tinto to relieve congestion and safety risks at existing fuel facility at 7 Mile. The new facility included an existing 110kL Diesel tank, vehicle slabs, bunded area, associated mechanical piping and pumping and access walkways.

CHALLENGES

To incorporate the use of an existing 110kL tank from another mine site into the new installations and designing the layout and arrangement of the proposed facility was a challenge.

OUR APPROACH

The team at CDMS began working on providing a preliminary design and general arrangement layout drawings for the facility which were then sent to the client for approval. CDMS provided recommendations to the client for possible changes to come to the most elegant solution to fit the clients needs. Once the preliminary design and key changes were approved, CDMS finalised the engineering design calculations and produced engineering design drawings for the contractor.

Meetings with the client, GE Group Australia and the end user Rio Tinto Iron Ore were conducted at regular intervals including organising the HAZOP meetings to ensure that all the key project information was communicated effectively between all the parties involved. Designs were required to comply with all the relevant regulatory and Australian standards, including Rio Tinto Iron Ore specifications.

