



CASE STUDY >

EPC OF POWERLINES ON THE TROPICANA PROJECT

PROJECT OVERVIEW

Pacific Energy has entered into a works agreement and power purchase agreement under which they will develop thermal and renewable power facilities (inclusive of a HV powerline) and deliver power for the Tropicana Gold Mine. The mine itself is located about 380km's North East of Kalgoorlie.

SCOPE OF WORK

Allied Power, an RSGx company, with support from RSGx, are delivering a scope broken into two components, overhead powerlines and underground cable installations. We are responsible for the design, testing and commissioning and construction of powerlines from both wind and solar energy sources to a renewable substation.

For the underground component, much of the effort will go into the trenching, directional drilling and underground cable installations. The team will then test and commissioning the network from the 33kV step up/down substation to power pole, from power pole to renewable substation and then from the renewable substation to both the solar farm and the wind turbines.

The overhead powerline component of the scope will require the following to be delivered:

Design Works

- ◆ Surveys, profiling and setting out
- ◆ Earthing Studies
 - ◆ System earthing system study
 - ◆ Load flow and fault level studies; including power loss assessments and cable sizing's
 - ◆ Lightning protection study
- ◆ As Constructed drawings and design, documentation closeout

Testing and Commissioning

- ◆ Earth resistance testing, megger, fibre optic OTDR test from the 33kV transformers to renewables substation and from the renewables substation to the wind turbines.

Procurement and Construction

- ◆ 8 Km of Overhead powerlines
- ◆ 1 Km of Underground trenching and cables
- ◆ Pole and stay excavations (Augured Foundations).
- ◆ Concrete 32MPA 80/20.
- ◆ Powerline Poles c/w crossarms, mounting brackets, insulators, signage, bolts and associated hardware.
- ◆ Pole Earthing.
- ◆ Supply and installation of stay assemblies.
- ◆ Supply and installation of vertical pole mount, 33KV air break switch c/w 100amp fuse isolators.
- ◆ Phase conductor supply and installation.
- ◆ Supply and installation of 48c OPGW.

SOLUTION

Allied and RSGx have delivered an EPC solution for our client in a remote location.

As part of the energy transition process, the mine is utilising renewable energy resources to power its mine infrastructure. The Installation is complex due to the the terrain and multiple interfaces.

The installation and commissioning of these powerlines and associated works, including the provision of all required plant and equipment, was carried out over a 3 month period to align to the client's program allowing them to meet their decarbonisation targets, with peak manning level of 8 linesmen, 6 electrical workers and 2 supervisors (day).

ACHIEVEMENTS TO DATE

Allied and RSGx's performance on the scope has led to the businesses being awarded additional Subcontract works with our client. The construction, and commissioning activities on the project were completed on time, on budget and without injury of incident.

CLIENT

PACIFIC ENERGY

SERVICES PROVIDED

ENGINEER PROCURE CONSTRUCTION
OF TRANSMISSION INFRASTRUCTURE

SCOPE

CONSTRUCTION
PRE-COMMISSIONING
COMMISSIONING

INDUSTRY

MINING

LOCATION

WESTERN AUSTRALIA

