

Cougar Energy Underground Coal Gasification –
Gas and Waste Water Treatment



Type of project: Feasibility Study including process route selection and evaluation of options.

Sector: Underground coal gasification

Client: Cougar Energy Limited

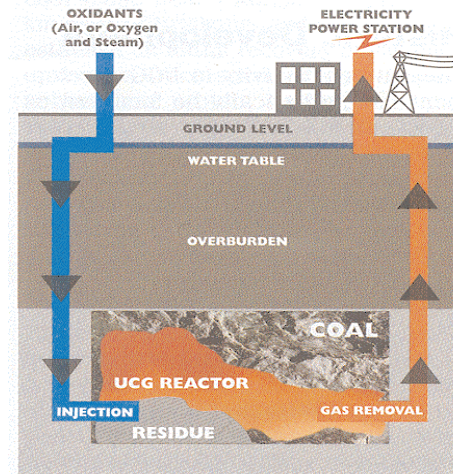
Location: Queensland, Australia

Technology: Gas Treatment, Effluent Treatment

Capacity: 370,000 kg/h of raw syngas,
200 MWe power generation

Date: 2010

Overview: Cougar Energy intend to develop a 200MWe power station, expandable to 400 MWe, powered by syngas generated from underground coal gasification. OSL were tasked with reviewing available technologies and developing a customised gas treatment plant to clean up the syngas taken directly from the underground gasification station, such that it was suitable for use in either a gas fired boiler with steam turbine, gas engine or gas turbine. The gas cleaning consisted of ammonia, naphthalene and particulates removal ahead of final conditioning prior to the specific power generation option. A treatment plant for the aqueous effluent produced in the gas cooling and treatment process was also required. A future option of desulphurisation and carbon dioxide capture was also considered.



Deliverables: Documents consistent with a feasibility study including process flow schemes, PFD, mass and energy balance, process description, equipment list, preliminary P&IDs, motor list, consumables list, utility requirements, plant layout, equipment cost estimate, plant operating cost estimate.

Status: Completed to programme