



PROJECT DESCRIPTION

This project is owned by the Reserve Bank of Zimbabwe and is located in the southern-most extent of the Matabeleland South Province, Zimbabwe some 33 km from the Beitbridge Zimbabwe-South Africa international border post. The project entails the construction of an open pit coal mine feeding a 600 MW coal-fired power plant. It is considered to have strategic importance for power generation.

The coal deposit occurs as thin, flat and continuous seams with a 1% westerly dip, an outcrop in the east and an average overburden of 40 m. The raw coal is a high ash, high sulphur coal with an average calorific value of 12.3 MJ/kg.

MINXCON INVOLVEMENT

Minxcon conducted a Pre-Feasibility Study and a Definitive Feasibility Study for the design of the required coal mine on behalf of Kambatsi Consulting (Pvt) Ltd.

The purpose of the Pre-Feasibility Study was to determine a feasible solution to extract value from the 105 Mt Coal Resource.

Minxcon analysed several options which included: producing and marketing export quality coal, producing coal for the domestic market, producing coal for the existing Zimbabwean power plants, and producing coal for an integrated mine-to-mouth power project. These options all considered feeding raw run of mine coal or treatment through a coal crushing and washing plant, or CHPP, which Minxcon designed to achieve the required product qualities. The preferred option was for raw run of mine coal to be sent to a CHPP and the coal product will then be trucked to a 600 MW power plant. It was also recommended that a power plant feasibility study be completed as part of the ongoing technical work.

The Definitive Feasibility Study focused on detailed technical studies on the preferred option identified during the Pre-Feasibility Study. This included a power plant feasibility study. Minxcon managed the power plant feasibility study as part of the overall Feasibility Study. We provided project critical information to the study while ensuring integration throughout the duration of the project.

Raw coal will be mined by means of free-dig open pit mining to a depth range of 20 m to 90 m and delivered to CHPP facilities. The selected mining method is strip mining with backfilling. Drilling and blasting are required to liberate the overburden and interburden. The necessity of blasting of the coal seams is reduced due to limited seam thicknesses - this improves safety and reduces operating costs as well as infrastructure requirements.

The raw coal mined has an ash content in excess of 50% and is not suitable to be fed directly into a power plant requiring the development of a suitable processing facility. The CHPP will consist of crushing, screening, dense medium cyclone washing and product handling, treating raw run of mine coal at a nominal rate of 4.1 Mtpa to produce a sub-30% ash coal for power plant feed. The 2.5 Mtpa coal product will be trucked to a 600 MW power plant while the wash plant discards will be backfilled into the pit.