



Lodestone Namibia (Pty) Ltd

Lodestone Dordabis Mine to Port Transport Logistics Prefeasibility Study

Background

Project Value: ±ZAR530 000 000 | August – December 2013

Lodestone Namibia (Pty) Ltd was established in 2006 to develop Namibia's first significant iron ore mine. The mine is situated approximately 21km north of Dordabis and 75km south of Windhoek's Hosea Kutako International Airport. A Pre-Feasibility Study (PFS) for the new Dordabis greenfields iron ore mine has been conducted, including a preliminary investigation to establish the current capacity and capability of Namibia's transport infrastructure in the relevant corridor.

The latter was aimed at determining the potential support of Lodestone's requirements regarding Road, Rail and Port Transport Services. A comprehensive product logistics study for Mine to Port Transport (MTP) solutions has been included in the PFS and was undertaken by RCE. The PFS therefore dealt inclusively with certain road and other intermodal options from the mine, the complete rail system as well as the cargo handling at the export Port of Walvis Bay.

Key Features

The key features of the Logistics PFS have been to identify, assess and evaluate various inter and intra modal rail options initially identified in the original Scope of Work as well as alternatives generated as part of the study. The MPT Comparative Study has furthermore been planned and conducted under the banner and conditions of a Logistics Study Charter.

This was specifically compiled to facilitate logistics study decision making by all constituent Parties and effective furtherance of the Lodestone Namibia Dordabis Iron Ore Project. The purpose of the PFS stage is to identify, describe, evaluate, cost and compare various Options, with a view to reducing the number of alternatives to a single, or short list of preferred alternative option(s) to be taken forward to BFS or engineering design stage.

Services Provided

The following services have been provided:

- Investigation of various alternative rail options in terms of loading sites and routing to the port;
- Evaluation of alternative transportation solutions, i.e. bulk rail wagons or containers on rail flatbeds;
- Identification and evaluation of the creation of a new direct rail link from Lodestone Namibia Dordabis mine to the TransNamib railway network en route to Walvis Bay;
- Road/rail interfaces: Investigate and refine to PFS costing levels the relevant road links between the Dordabis mine and the rail/pipeline option tabled for assessment;

- Container options: A dedicated container service or transshipments from bulk to container at loading/railhead sites were among the scenarios considered;
- Port of Walvis Bay: Evaluation of the opportunities/constraints of the various rail/road options as applicable to the existing infrastructure and product handling capability;
- Simulation studies have been conducted on the traffic and product flows for the road/rail options in order to assist in formulating a quantified PFS solution;
- The modelling and simulations have been provided by RCE's simulation partners entirely under the direction and technical support of RCE.

Outcome

RCE Consultants provided the Client with various pit to port logistics solutions to facilitate informed decision making going forward. The PFS provided infrastructure, rolling stock, and where applicable,

equipment alternatives as well as process solutions, supported by simulation modelling. Expected Capital and Operational costs were also determined, forming the basis for early investment decisions.