

Success Story



Improving productivity and power quality at a gold mine with STATCOM solution

“With the power quality issues at stake, overall performance of the system has been improved considerably. Performance of the Merus Statcom has met our expectations.”

Mr. Elco Grobler – Project engineer
DRA

Application:
Mining Industry

Location:
Kibali, DRC

Customer Background:
Kibali is a Gold Mine in the DRC, running a mix of Diesel and Hydro Power, optimal power transfer by reduced reactive power & harmonics is paramount.



Customer Benefits:

- Improved Power Factor
- Reduced Harmonics
- Longer service life of equipment
- Optimized plant operation
- Reduced plant downtime
- Improved voltage regulation
- Generator fuel savings

Challenge

The mine is powered by a combination of Diesel and Hydro power, in addition to this there are a number of VSD's and a large DC winder which generate harmonics on the system. Transfer of power is a problem due to the losses in the long transmission lines from the Hydro station.

In addition there is a large DC rock winder controlled by a 12 pulse rectifier which draws large amounts of reactive power, resulting in severe voltage fluctuations due to the relatively weak power supply.

Solution

Merus Power along with its regional partner RWW engineering provided complete turnkey solution for Kibali gold mine. Merus Power Statcom was incorporated in total solution offered to the end customer which includes; a number of harmonic filter banks together with a Merus Power Statcom to improve the Power Factor, reduce harmonics and voltage fluctuations on the system.

The equipment comprised the following:

- 4 x 11kV 4MVar C-type 5th harmonic filters
- 2 x 11kV 4MVar 3rd harmonic filters
- 1 x 10.4MVar containerized Statcom system

Result

The harmonic filter banks offered necessary reactive power compensation in order to maintain the unity power factor (PF) throughout the load cycle of the mine. In addition, they also provided harmonic filtering, ensuring a reduction of harmonics on the network.

Thanks to the effective and fast response time of the Merus Statcom the winder reactive power absorption and voltage drop was reduced, ensuring stable system voltages. Production down time thus has been significantly reduced. Now, fewer generators are required to support the fluctuating load which has resulted in significant savings.

Contact RWW Engineering:

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Merus Power designs, manufactures and markets a wide range of reliable power quality solutions across the world. Our customers in industries, commercial buildings, renewable energy and infrastructure segments benefits from improved power quality in terms energy efficiency, operational excellence and compliance with technical regulations.

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