

Optimising the Transmission System in Mozambique

HV Power Systems has provided Mozambique with an extensive range of Reactive Power Compensation (RPC) solutions to optimise their local power systems and improve their power quality.

Our **RPC** solutions have been developed by our experienced team; for application engineering of leading global technologies to Africanise & integrate these systems into customised solutions to:

- Strengthen Transmission Systems
- Increase Voltage Levels
- Voltage Regulation and Dips
- Alleviate Power Supply Constraints
- Power Factor Correction (PFC)
- Improve Network Stability
- Harmonic Filters
- Balance Phases

Reactive Power Compensation is the cornerstone of Power Quality

MOZAMBIQUE POWER SYSTEM

Electricidade de Mozambique (EdM), Hidroelectrica de Cahora Bassa (HCB) and Motraco are the electric utilities in Mozambique that are responsible for the production, transmission, distribution and commercialization of electricity for close to 1.3 million customers.

BUSINESS CHALLENGE

Economic growth is being challenged by:

- Load shedding which hampers daily operations
- Lack of power supply capacity which limits economic development opportunities
- Poor power quality and voltage stability which reduces industrial production

HV POWER SYSTEMS SOLUTION

HV Power Systems provided a wide range of RPC solutions to EdM, HCB, Motraco and other clients in Mozambique.

We work on a full turnkey basis; including the professional engineering, system study, system design, detailed engineering, manufacturing, factory testing, shipping and transport, civil works, site installation works, site acceptance testing, commissioning, training, local capacity building, warranty, maintenance and support.

Several Reactive Power Compensation projects have been completed across the entire network in Mozambique

Shunt High Voltage Capacitor Banks and Harmonic Filters

- Three 110kV, 5MVAR double tuned filters at the 3rd, 5th, 7th, 17th, 21st, 35th harmonics at Moma Substation
- One 110kV, 10MVAR double tuned filter at the 13th and the 37th harmonics at Nampula Substation
- Two 7.7kV, 5MVAR single tuned filters at the 3rd and the 4th harmonics at Alto Moloque Substation.
- One 400kV, 150MVAR, 3rd harmonic C-type filter at Maputo Substation
- One 275kV, 72MVAR 5th harmonic standard tuned filter at Infulene Substation
- One 33kV, 4MVAR 7th harmonic standard tuned filter at Chicumbane Substation
- One 110kV, 6MVAR 5th harmonic standard tuned filter at Lindela Substation
- One 110kV, 6MVAR 5th harmonic standard tuned filter at Chicumbane Substation

Series Capacitor Banks at Alto Moloque, Mocuba and Caia

- 220kV, 159MVAR with a current rating of 1252A at Chimura (Caia)
- 220kV, 45.5MVAR with a current rating of 627A at Mocuba
- 220kV, 55MVAR with a current rating of 627A at Alto Moloque

Dynamic Reactive Power Compensation

- 110kV / 33kV, 25MVAR Statcom to be installed at Lindela Substation
- 7.7kV Static VAR Compensator (SVC) at Alto Moloque Substation

AC filters for HVDC Application at Songo HVDC Scheme

- One 220kV five branch harmonic filter being installed at Songo Substation
 - 5th harmonic filter rated at 59MVAR
 - 7th harmonic filter rated at 28MVAR
 - 11th harmonic filter rated at 31MVAR
 - 13th harmonic filter rated at 22MVAR
 - 21.5 harmonic filter rated at 69MVAR





BENEFIT FOR CUSTOMERS

Our 20 years' experience, and the body of knowledge we have developed from that, ensures that our customers will receive the best solutions every time.

GLOBAL TECHNOLOGY, LOCAL SOLUTIONS

We work with leading international companies to access a range of proven cutting-edge technologies to make any project a success.

HIGHLY SKILLED TECHNICAL EXPERTISE

An "empower the person" philosophy ensures that we have access to the best local skills and experience.

Our expert teams are led by professional engineers and technologists with significant specialist experience and a broad combined knowledge base that is geared towards innovative thinking. This ensures a thorough and professional approach to solving complexities, from design phase through to successful project execution.

CUSTOMER RELATIONSHIPS

We develop strong relationships with our clients to deepen our understanding of their networks, policies, procedures and requirements, to be able to provide solutions to meet their individual needs.



EPC: EdM 3x 220kV Series Compensation

SUSTAINABLE LOCAL SOLUTIONS FROM A CAPABLE AFRICAN PARTNER

We offer project solutions that are technically optimised and economically attractive, while ensuring that all project works comply with the highest safety standards and customer expectations.

We strive to provide the technology, knowledge, skills and organisational ability critical to Africa's development and growth.

Projects have been successfully completed in South Africa, Mauritius, Botswana, Swaziland, Mozambique, Namibia, Zambia, Zimbabwe, Tanzania, Kenya, Mali, Uganda, Nigeria, Ghana and Benin.



EPC: EdM 110kV Harmonic Filter Bank