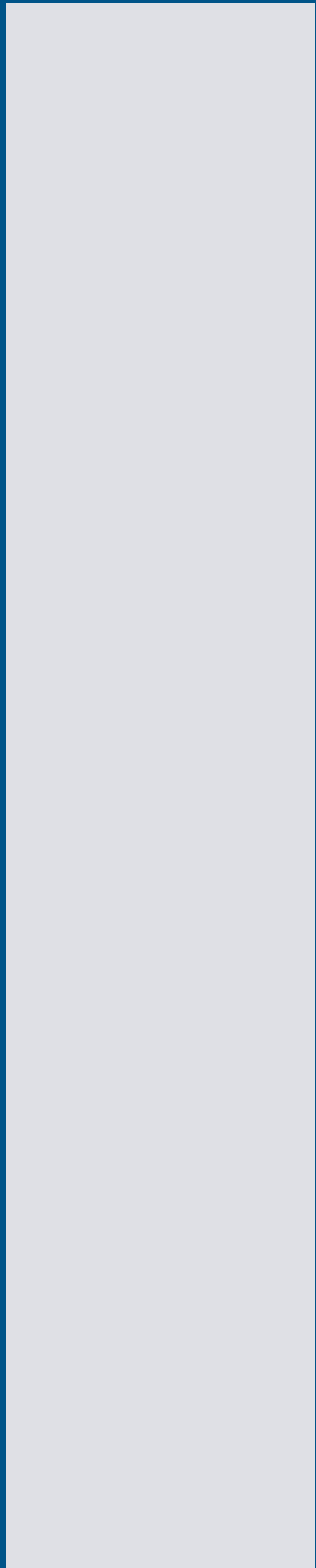




Power Systems Solutions Mining Industry





Southern States LLC

Power Systems Solutions

Established in 1916, Southern States has emerged as a global pioneer in power solutions.

Our commitment to innovation, coupled with the unmatched expertise of our engineering and manufacturing teams, has propelled us to the forefront of delivering comprehensive power systems solutions.

Southern States LLC's Power Systems Solutions Division is **your trusted partner in the mining industry's journey toward decarbonization goals.**



Rock-Solid Power Solutions

Specializing in bespoke power solutions tailored specifically for the mining industry, we offer a comprehensive approach that spans from requirement analysis to the provision of power solutions.

Our capabilities encompass a spectrum of technologies, ranging from proven to cutting-edge technologies, ensuring that we meet your diverse needs. Whether it's enhancing efficiency and productivity of mining operations or supporting your decarbonization objectives, we are equipped to deliver solutions that drive sustainable progress.

The team of experts collectively possesses over 100 years of experience.

Comprehensive Power Solutions

We provide comprehensive power system studies for peak performance, safety, and sustainability, tailored to meet our customers' needs. With expertise in mining operations, state-of-the-art measurement tools, and advanced simulation software, we quickly deliver cost-effective solutions for voltage stability, power quality, and regulation applications, supporting decarbonization initiatives.



- 1 Power Flow and Harmonic Simulation
- 2 Power Quality Analysis (Steady State and Transient)
- 3 Reactive Power Compensation Design
- 4 Motor and Drive System Analysis
- 5 Short circuit, protection coordination and arc flash studies

Innovation to Application

From innovation to application, we excel in navigating the complexities of power projects for the mining industry.

With a seamless transition from engineering concepts to on-site implementation, we bring cutting-edge solutions to life while minimizing disruptions to your production processes.

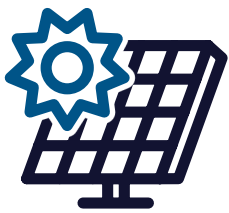
- Static Var Generators (STATCOMs)
- Static Var Compensators (SVCs)
- Medium Voltage Harmonic Filters
- Low Voltage Harmonic Filters
- SVC Upgrades and Repower
- Sub-cycle Transfer and Disconnect Switches
- Power Quality Monitoring
- Motor Starting Capacitor Banks



Applications Benefits

Few industries benefit more from optimizing power quality and managing reactive power than the mining sector.

Our technical expertise and broad portfolio of products guarantee our customers the best and most cost-effective solution for their needs.



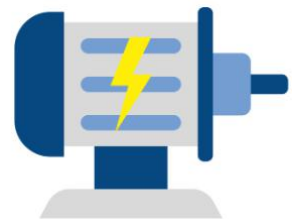
Ensure seamless renewable generation and load interconnection



Reduced energy costs



Enhanced productivity



Increase motor efficiency



STATCOM: Superior Performance at a Comparable Cost

It's often assumed that the latest technology comes with a hefty price tag, making it seem out of reach.

In a recent project, we defied this expectation by delivering a STATCOM solution at a cost comparable to a traditional multi-step bank.

The result? Our client enjoys **cutting-edge performance while maintaining a very similar cost.**

Initial requirement

This mining operation needed to compensate for reactive power consumption across three of its main transformers.

Due to highly variable loads, the study revealed the need for medium-voltage harmonic filters with four steps each, rated at 3, 4, and 5 MVAR, connected at 13.8 kV.

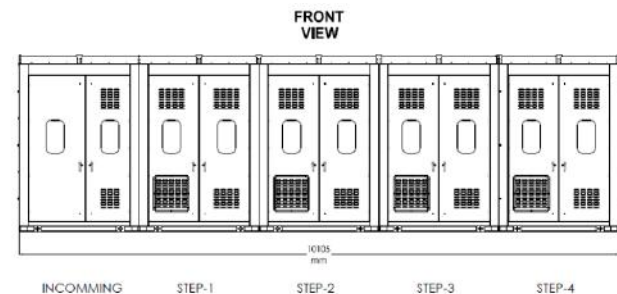
Challenging Conventional Paradigms

Multi-step capacitor banks and harmonic filters are common in mining but offer limited performance and flexibility due to their fixed-step design.

We provided an alternative proposal with our cutting-edge STATCOM technology at a very comparable price.

Our Solution

After conducting a power system analysis and proving the expected performance of our solution, we were awarded a contract for three 5 MVAR STATCOMs at 13.8 kV, providing full dynamic compensation and active harmonic cancellation.



Multi-step harmonic filter



STATCOM

