

## Control Upgrades A Practical Guide

Dynapower's control upgrades are a cost- and time-efficient answer to improving performance and extending the life cycle of high power rectifiers. The control upgrades are an attractive alternative to rectifier replacement.

### Safety First

Not all situations are advised for a controls upgrade. Dynapower engineers will help determine if there are fundamental design problems, contaminated equipment, and or stressed and aged power equipment that place a rectifier outside safe and economically sound parameters. We recommend a control upgrade when the cost is less than 30% that of new.

### Inefficient Legacy Control Platforms

A high power rectifier's control platform is designed with specialized electronics that, due to rapid technology advances, can quickly become obsolete whereas rectifier transformers can last decades. To combat aging performance degradation and obsolete replacement parts, Dynapower's control upgrades can be implemented with minimum disruption to production up-time. The upgrades deliver the latest in controller technology to extend the life cycle of your assets, along with complete life cycle support services.

### KEY BENEFITS

- + Optimized asset performance
- + Improved maintenance capabilities
- + Long-term availability of spare parts
- + Minimum shutdown and commissioning time
- + Re-use of existing terminals
- + Long-term availability of engineering support

### Dynapower Controls Upgrade

Whereas others rely on standardized replacement control upgrades, Dynapower believes each rectifier and its application and age require customized engineering solutions. With each upgrade electronic boards, PLC's, circuit breakers and other components are mounted, wired and factory tested for a fast and modular installation wherever possible. Use of proven, current Dynapower control boards and new Dynapower engineer-designed PLC processor and HMI controls will collect all status parameters and make available for control and diagnostics. To reduce downtime, custom, modular, factory-tested control systems whenever possible.

### Lifetime extension

Upgrading to the latest generation of control systems significantly increases the life expectancy of the complete rectifier. Removing obsolete components contributes to higher plant reliability and safety which as a result saves money and reduces burdensome capital expenditures.

### Engineered-led Installation

The control upgrade include Dynapower engineer-directed evaluation, design,, installation, testing, commissioning and either hands-on or on-site training for shop floor personnel through management. Your staff will learn how to safely operate and maintain equipment, trouble-shoot problems faster and extend the lifetime of the installation to deepen efficiencies and cost savings. The upgrade includes a user-friendly intuitive operator panel accessed through a touch-screen. A complete custom set of documentation is developed and delivered by Dynapower. Our engineering and service support are available before, during and after installation.

### All Makes and Models Serviced

Besides Dynapower and Rapid Rectifiers, Dynapower provides a complete control upgrades for PEC, GE, InverPower, ABB, Siemens, Satcon, Robicon, Westinghouse and Neeltran rectifiers.

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