

Controllix Corporation

Preventive Maintenance and Field Service



**Planned Inspection
and Conditioning
Services Protect Against
System Failure and
Business Interruption**

Controllix Corporation has over 40 years of experience as a leading provider of power quality equipment. Our core business is to ensure that capacitor banks and harmonic filters provided to utility, industrial, commercial and institutional customers are meeting our customers' expectations.

A greater level of confidence is evident among our customers who take advantage of our comprehensive field service capabilities. These customers enjoy improved protection from system failures, electrical fires, high voltage flashover and property damage, which result in business interruption. Electrical failures are inevitable without preventive maintenance. Power factor penalties on a system that is out of calibration may cost a customer thousands of dollars per month. Since insurance companies record significant losses as a result of electrical failures, insurance providers are encouraging their customers to participate in electrical preventive maintenance. A properly maintained distribution system will also last decades longer than a neglected system. Our clients confirm that a Controllix maintenance program pays for itself in a very short period of time.



Preventive Maintenance
and Field Service

Leading in Power Quality for Over 40 Years

Preventive Maintenance and Field Service

Controllix professional support services are provided by factory-trained engineers and technicians and include the following:

Service Agreements

- assure that equipment will be kept in top operating condition
- choice of quarterly, biannual, annual or customized site visits to meet customer requirements
- comprehensive record-keeping required by many customers includes an electrical historical record that is provided to the customer and updated after every service visit.
- required parts and/or supplies often covered by warranty
- turnkey service contracts available, including travel, expenses and materials



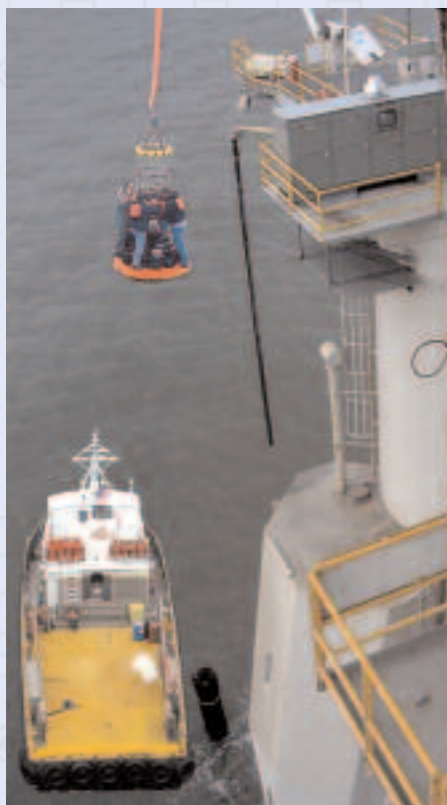
Preventative Maintenance & Calibration Plans

- custom-designed programs include affordable on-site inspection and adjustment of basic systems and components
- includes checking to see that all connections have been properly torqued, one of the most common sources of serious problems in older equipment
- technicians ensure that equipment meets stated KVAR output levels
- all system components inspected, including capacitors, fuses, switches, inductors, ground systems, control equipment, alarms, cables, filters and ventilation equipment
- includes the general cleaning and painting of enclosures (if necessary) and maintenance described in the equipment instruction manual
- check to ensure safeguarding of proper clearances
- routine calibrations performed to make sure that system performance is within specified tolerances
- testing services that can be provided include: hi-potential testing, measurement of effective KVAR, power circuit breaker testing, ground system testing, proper torquing of provided equipment, voltage and current diagnostics, power factor testing, power quality analysis, harmonic analysis and surge protection analysis.



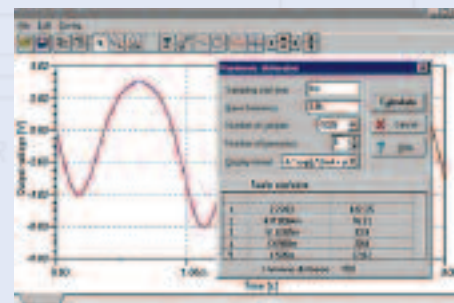
Emergency or Scheduled Repair Services

- prompt response when a situation arises
- field service engineers are trained professionals with the experience and know-how to get equipment up and running efficiently
- state-of-the-art testing and support equipment
- services available 24-hours-a-day, 7-days-a-week to provide reliable and efficient service
- costs of non-critical services can be pre-scheduled to minimize travel costs
- 24 hour emergency response available on a limited basis



Start-Up, Installation and Project Management Services

- startup of new installations and/or equipment can be provided at our regular rates or quoted as a fixed fee
- Controllix engineers, skilled technicians and professional project managers travel the world to ensure the successful installation of power quality equipment
- equipment is tested to ensure that it meets all specified requirements for function and design
- test results may be used as a baseline for future maintenance
- project managers apply their extensive experience to successfully oversee the installation of low and medium voltage electrical equipment.
- equipment installation coordinated with other site components for maximum performance and optimum results.



User Training

- informative discussions benefiting operators, maintenance staff, engineers, supervisors and management
- full-range training covers protection, control and electrical safety
- consultation on how to energize, operate and de-energize capacitor equipment
- detailed review of maintenance procedures
- discussion of protective relays and controllers
- verification of equipment functionality
- training combines theory with practical application

Equipment Upgrades

- with advancements in technology and design, it can be more cost effective to upgrade a current installation than to purchase all new equipment
- equipment such as modern solid-state and computer controls can typically out-perform older electro-mechanical systems in providing finer precision, improved reliability, and greater versatility - often at less cost than simply maintaining older designs
- retrofit additions can enhance the power and flexibility of a substation for a very modest investment



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