



LONGO
Electrical-Mechanical, Inc.

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THE LONGO LETTER

February 2000



by
Joseph J. Longo
President



... The Source!
... Your Resource!

We are grateful to you, our valued customers, for making 1999 a record year for the Longo team. It is refreshing to be a part of this magnificent group which has taken an electric motor repair business started in 1945 by John R. Longo in his basement in Morristown NJ, to an internationally recognized organization.

His philosophies still prevail. He felt that it was not necessary to paint the exteriors of repaired units, since the work that went inside would suffice to more than satisfy the customer. Well, we have changed a bit...we do paint the exteriors. Otherwise, the same commitment to quality prevails. Witness our being the first company of our type in the Western Hemisphere to receive the international standard for quality—ISO 9001. This includes design and engineering.

Albeit imperfect, we continuously strive to improve the quality. We recently added two additional Cuban engineers with excellent training and skill in electrical rotating machines and switchgear/transformers. The bottom-up investment in engineers and craftsmen continues, with



two interns and one more graduate. Two new product managers are also now aboard—one for variable-speed drives and another for rotating equipment (pumps and other mechanical devices).

The beauty of being independent allows us the luxury of re-investing continuously for our mutual future benefit. We consider it an obligation to be available for you in the future...*not just electric motors, but from the incoming electric lines through the system to the driven equipment.*

The photos on this page represent yet another step toward broadening our offerings. They show the first of new motors being manufactured for **LONGO** and having our name on them. Many applications required special configurations, which we are now able to supply for you, even though standard manufacturers are unable to supply them.

LONGO is:

... the source!

... your resource!

Major Circuit Breaker Overhauls and Upgrades for Power Generation Stations



Receiving

At trailer truckload arrives at the Wharton plant highbay with a large quantity of 5 KV, 1200 Ampere 480V, 1600 Ampere *circuit breakers* and a large *electric motor* for evaluation, testing, and upgrading.



Staging

The breakers are staged and roped off for safety preparatory to testing. Our laboratory houses a variety of instruments and devices required for defining the condition of the equipment.



Testing

Data sheets having been prepared, the testing is done by a highly trained technician who records the data for reference and analysis. The group manager is overseeing the process.



Upgrading

5KV, 480V circuit breakers are broken down to their elemental frames and reconstructed from the ground up to insure reliability. In many cases, upgraded solid-state trip units are applied to 480V breakers to effect superior sensing and a tighter system.

AbracoatSM

... an electrical apparatus winding coating for harsh environments

The process was developed quite some years ago by our engineers to provide a coating for harsh (hostile) locations, such as:

Mineral Mining & Processing

- Sand Pits
- Stone Quarry
- Coal Mining
- Cement Plants
- Graphite Plants

Food Processing

- Cannery
- Poultry Processing
- Dairy
- Brewery

Chemical Plant

- Wood Pulp
- Paper Mill
- Textile Mill

This brute of a synchronous electric motor stator drives a finishing mill in a cement plant. The environment is harsh to say the least. Our engineers recommended coating the windings with AbracoatSM, to protect them from the abrasive dust. (You can readily see the value of our high ceilings in handling this complex process.)



It provides a protective coat with the following outstanding characteristics:

- Elasticity absorbs impact and resists abrasion.
- Good thermal conductivity helps offset overheating.
- Superior resistance to water and moisture.
- High-low temperature flexibility prevents cracking.
- Excellent resistance to chemical attack including acids and alkali.

**Ask your Sales Rep
to show you a sample.**

**It is remarkable, flexible,
and covers most well!**



This close-up shows the application using siphon spraying to produce a penetrating and even coating to the furthest reaches of the coil exteriors. Special nozzles are used for this work.

Emergency Backup Modes of Operations

Many Power and Control Systems are designed for Emergency Backup Modes of Operation. This is especially predominant in water and wastewater pumping stations.

Provisions for these emergency modes often go beyond an emergency generator for maintaining power when the utility fails. They can range from manually operated portable pumps, to fully integrated systems. Starters can consist of redundant variable speed drives, or bypass contactors (manual or automatic), or generator driven pumps. Control schemes may include redundant primary supervisory controls, primary and backup supervisory controls, and even redundant primary controls with backup logic.

More complex schemes also exist where the primary supervisory controls operate with the primary or bypass motor controller, or where the backup supervisory controller can operate with primary or bypass motor controls. The combinations of operational modes grow very quickly.

Although the backup modes are seldom needed, it is imperative that they are functional when called to operate. These systems should be tested regularly. However, many operators are unaware that this testing is required or how to test. Without testing, a failed backup float may not be identified until a failure of the primary

control when the float is most needed!

It is recommended that emergency backup systems be identified and maintenance and testing procedures be established for them. It should be determined whether failure of the primary system automatically calls for the backup system, or if operator interface is required. Scenarios of possible failure modes should be simulated to insure proper operation of the backup controls.

It is equally important to evaluate systems which have no emergency backup provisions and determine if that is acceptable for the respective operations, Systems sometimes have backup starters, but no automatic controls, which requires continuous monitoring of equipment.

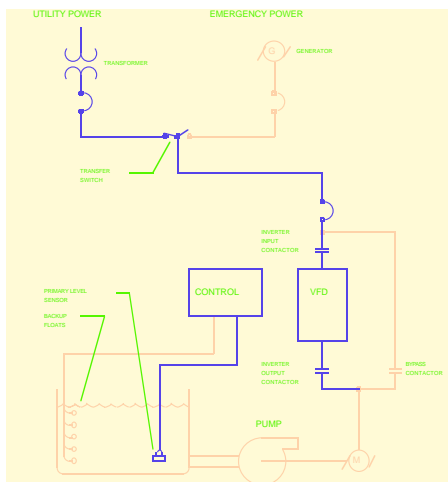
LONGO has technicians and engineers capable of helping you evaluate your system, from one time testing of a bypass system, to complete review and recommendations. With proper documentation, we can help identify design weaknesses, recommending spare parts or to help establish a testing routine. Where no backup scheme exists, we have the capability to engineer, manufacture, and install complete backup systems.

LONGO

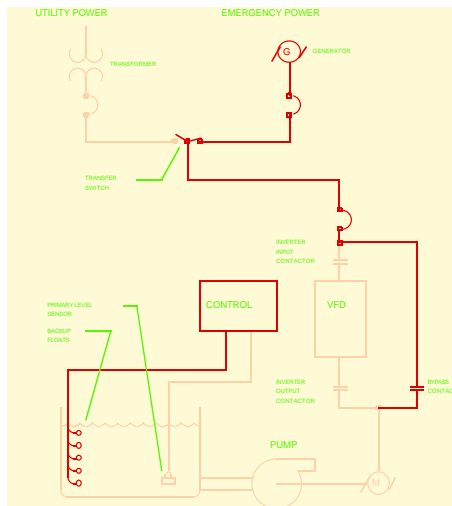
... the source!

... your resource!

Normal Mode



Emergency Mode



SPORTS QUIZ

1. The last time the Giants played the Jets in a regular-season game was on Sept. 22, 1996. Who were the starting quarterbacks?
2. What Hall of fame NBA player was drafted as a wide receiver by the Browns in the seventh round of the 1962 NFL Draft?
3. How many championships did Bart Starr win as quarterback of the Green bay Packers?
4. How many times did the Broncos start the season 6-0 and go on to play in the super bowl.

ANSWERS:

1. Dave Brown for the Giants & Neil O'Donnell started for the Jets
2. John Hawlicek
3. Starr led the Packers to five NFL titles and two Super Bowl victories
4. Three times, so far

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"WE ADDRESS THE CAUSE AS WELL AS THE EFFECT"