

In the winter of 2006 we were pleased to win a bid for motor work in the New York Statehouse complex. The project was to find, evaluate and catalog every motor in the complex. Even for us, surveying and replacing over 1200 motors in a single facility is a substantial job. The reason for the project was to replace aging motors with new Premium Efficient Motors as part of an overall energy saving program that involves a host of other improvements such as lighting, etc.

The project site is the The Empire Plaza in Albany NY, the seat of the NY State government and all its departments. In addition to the government offices it houses office space and an entertainment complex covering approximately 950 acres. The Plaza consists of several large office buildings, one high rise tower, and retail space under the plaza area itself. The Plaza was conceived and built by Governor Nelson Rockefeller, starting in the late 60's and finally completed in 1978.



Have Dranitz, will travel! The Empire Plaza is another in Longo's growing number of "on the road"

assignments. Most of our trips involve trouble shooting and problem solving. Like hired guns, our technicians come in to examine the problem, come up with a solution, make the repair or replacement, and ride out of town.

In this case we were to spend 2 months locating, assessing and cataloging 1241 motors within the complex.

# STAYING AT THE PLAZA.



Relying on 30 year old blueprints and construction recollections, our team went from building to building to locate all the motors. For both our sake and the customer's sake, the search was divided into individual buildings and specific areas of those buildings.

There were the usual "forgotten" motors, ones that may or may not follow the plans, and, ventilation carriers that disappear into unknown parts, as well as installations 30 feet in the air. It was not an impossible job, it just took imagination, attention to detail and perseverance.

Where our other jobs have called on our electrical or mechanical expertise, experience and skill, this was one that would tax our administrative and supervision skills. The Longo team consisted of the Vice President of Field Service, a project engineer and two Wharton technicians who actually did the

initial survey over a period of two months. In total there were actually three surveys. The first, The-Pre-Order survey identified the motors, their name plate data, coupling/sheave/belt information, etc. This was all tabulated and then reviewed by the various building sector managers who released the approval for the replacement of specific motors. The replacement rate was over 95%.

## Testing, testing and testing once more...

Once the customer reviewed the survey and targeted specific motors for removal a second test was run. Using a Dranitz meter, a longer test was conducted, a Pre-Removal Report, to insure the preliminary readings are accurate and provide a better picture of the motor in its application. At this point the decision is made to do an exact replacement or

install a motor that is more suited to a particular application. It is not inconceivable that at some point in the construction one or more of the motors were installed because they were on hand or over powered as an insurance factor. The whole concept in changing over to Premium Efficiency

Motors is not only to have a better motor, but have a motor that matches the demand. That way it is not over-taxed or under-utilized and either one will compromise the overall efficiency.

With these details in hand, Wharton became the staging area for the replacement motors and parts. Each specific motor was assembled with its ancillary equipment and palletized. Motors and pallets were labeled indicating the building, location and item number. The organization of the shipments was coordinated so that they met the logistics of the onsite people and were able to be

installed as they arrived vs. sitting and becoming a space problem on site.

Removal and installation of the motors was done by our two Wharton technicians supported by local technicians recruited in Albany. Longo has been using local people and teams ever since we began working across the country on wind generators. It is not enough to pick people with the right skills, but people who also have ability and talent for doing quality work.

The old motors were disconnected from their power source and pulleys, sheaves, etc were removed and the motor was replaced. Where necessary new ancillary equipment was replaced with the new motor, and the installation was completed. A final report on the motor was conducted, similar to the Pre-

Removal Report to insure the new motor is performing as expected.



## After the air guitar, what's next? Compressed Air Car!

In Europe they have been developing cars that run on compressed air. The air-powered car consists of a two-cylinder, compressed-air engine. The basic concept behind the engine is unique in that it can run either on compressed air alone or act as an internal combustion engine. It is reported to have surprising torque and is designed for the cut and thrust of city driving.

Compressed air is stored in carbon or glass fiber tanks at a pressure of 4,351 (psi). This air is fed through an air

injector to the engine and flows into a small chamber, which expands the air. The air pushing down on the pistons moves the crankshaft, which gives the vehicle power. The engine is a bit different from your typical internal combustion engine with unique style

pistons that remain at TDC for 70 degrees. The automatic transmission is also unique to this car. When stopped at intersections, etc., the engine shuts off. The vehicle will be equipped with an automatic transmission, rear wheel drive, rack and pinion steering and a 9.5 foot wheel base and weigh about 1,543 pounds

Air tanks fixed to the underside of these type vehicle can hold about 79 gallons (300 liters) of air. This compressed air can

fuel the air-powered cars for up to 124 miles (200 km) at a top speed of 60 miles per hour (96.5 kph). When your tank nears empty, you can just pull over and fill the car up at the nearest air pump. Using a household electrical source, it takes about four hours to refill the compressed air tanks. However, a rapid three-minute recharge is possible, using a high-pressure air pump.



## Getcha air heeya! All kinds...getcha air while its hot!

Along with most everything else these days "compressed air" is not what it used to be. Even its terminology has evolved into "engineered air".

Specialization, customization, individualization are no longer a luxury but a necessity in most all manufacturing processes. We have it with pumps that are designed for all sorts of fluids, and some not so fluid things. Motors and generators with drives and controls to suit the most specific needs.

The same is true for air. The compressor out back with a couple of lines into production is now just a scrap book item. High speed

compressors with miniscule tolerances and vibration specifications are becoming the norm. Filters for water content and particulates is a priority with coolers, inter coolers and air handlers of all types in the mix. Pressure controls from the compressor to the application balance and massage the air to engineered requirements.

Riding along with these changes is quality. Meeting the API 672 requirements with ease of maintenance and repairs when needed contradicts the notion that sophistication must be complicated and fussy. If you and your company are ready to explore more energy efficient, custom tailored engineered air, Longo can introduce you to the equipment and methods suited to your specific needs.

# ENGINEERED AIR.



Longo is now able to offer professional sales and service solutions for your engineered air needs. We represent FS Elliott, one of the nation's leading manufacturers of high tech air compressors.

These are energy efficient machines that not only save power, they save manpower as well by delivering clean, 100% oil-free, particulate filtered engineered air. And your air instruments, processes, and lines will remain that way.

## Custom Applications

FS Elliott is the preferred source for reliable engineered air which can be tailored to meet your specific needs, providing the right type of air for the right application. This is particularly important in "no-oil" applications such as;

- food/beverage processing
- automotive
- textiles
- pharmaceuticals
- electronic components
- mining operations

## Performance

Customers have come to appreciate the peace of mind that quality manufacturing and service can provide....

- Design and manufacturing processes based on nearly a century of experience
- Reliability and quality standards that deliver years of trouble-free operation under the most demanding conditions, **including API 672 applications.**
- Comprehensive, full life-cycle service and simple, economic maintenance.

## Failure is not an option

From the smallest (200 HP) to the largest (3,500 HP) compressor

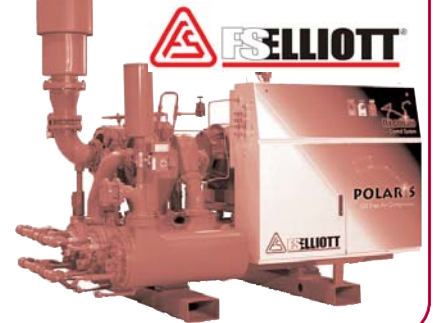
## OIL FREE

models, the FS-Elliott design philosophy is simple and consistent: They combine unyielding reliability with leading-edge technology to ensure that your vital operations will not be interrupted or compromised.

If your engineered air source fails for even a single day, it is going to be an expensive outage.

That is why FS-Elliott builds compressors for long-term reliability, with features you can count on.

- Easy accessibility for low-



cost maintenance. The gear case is split horizontally for simplified access to internal parts.

- Fewer parts for high reliability. The only moving parts include two rotors and a gear.
- Rotors can be removed and reinstalled without rebalancing the components.
- Unitized construction simplifies installation.
- Standardized designs for easy uprating.
- Noise levels meet or exceed OSHA compliance levels.

## Another Longo Advantage

The addition of engineered air to Longo's list of services is a very natural step in our goal to provide you with the necessary expertise... **from Line to Load.**

We are not only well versed in the specifics of a range of electrical-mechanical equipment, but in an equally diverse range of industries and their specific needs.

## Free Seminars ?

Like the famous clothier, we believe "an educated customer is our best customer," and that is why we offer free seminars. The presentations are designed to provide information that you can use today, whether you are new to a position or maybe need a refresher on a particular topic.

The more you know about a subject, the better you can do your job and the more you understand just what is involved when Longo takes on an assignment. The presenters are mostly Longo employees who are experts in their field and have been giving these seminars for a while. Occasionally we will bring in a "hired gun" or outside expert to deliver the seminar if our man is unavailable or if there is a particular part of the seminar that needs a very specific approach.

Our seminars enable you to ask questions, so that you are not merely being fed rote material. You can address a specific problem or situation so that you will walk away with information that will make you better at what you do.

(Oh, there's the free lunch too!)



# PdM:

## Predictive/Preventive Maintenance (or Pinchin' da' Money?)



guys. Shoot the messenger every damn time!  
The next type is the "we live for the next quarter" business plan. The philosophy of not spending anything to improve maintenance this quarter is fine with them. Maybe next quarter? Unfortunately there will be that quarter where their driven equipment into oblivion, but that will be ok since half the switchgear panels will blow out as well, leaving no power, even if the motors could still manage a turn or two.

Month after month, all the various electrical-mechanical publications have articles touting the benefits of a structured Predictive Preventive Maintenance (PdM) program. There are all kinds of recommendations from simple monitoring for smaller companies to large scale testing with a central data base that provides analysis on everything from repair schedules to cost implications. There are obviously expenses to be considered when setting up such programs, but there is also a different "cost" when it comes to changing the "culture" of the maintenance procedures.

Since Longo provides many of the services discussed in the articles, we are intrigued to see that there are still companies that resist using these proven techniques.

To begin with, there is the "run it 'til it dies" approach. While there is a case to be made here, even with this severe approach, life is much too short! There is a modified version of this where we get called in because there is a definite problem. Our job then is to determine just how bad it is. Along with finding out how bad it is comes, "How long with it last?" or "Is it getting worse or stabilizing?" Since we haven't been monitoring the equipment, any suggestion is just an educated guess. And if we guess wrong, we are the bad

When structured PdM programs are in place there are changes in the day to day maintenance activities and responsibilities. The grease gun, wrench and rag are replaced with portable readers and testers. This information is entered immediately, not at a desk at the end of the day. It is a different, more effective way of doing maintenance surveys and takes some adjustment. Whether using in-house or outside contractors, there will also be changes in responsibilities and budget centers. etc. This is why it is important to have the top level of management involved and onboard from the very beginning.

If you are a company principal or a manager who can see that there are more effective ways of doing things, Longo can clearly point out the real world advantages of a structured testing/service/repair program.

**On the other hand, may we remind you of our repair capabilities and our 24/7 emergency field service teams!**

## Longo's enhanced website is up!



With all the changes and additions happening at Longo we decided it was time to upgrade our website, [www.longo.com](http://www.longo.com). The upgraded site was overhauled making it quicker and easier to find and read information. As indicated in the new header, Longo is your source "from line to load". Wherever the situation arises, switchgear, pumps, and motors, repairs or replacements, scheduled outage or 24/7 crisis... Longo has the range of capabilities to resolve your electrical-mechanical concerns quickly and professionally.

## HOW TO CONTACT US.

**After Hours-24/7  
Longo Emergency Response System  
(973) 537-0400**

- **Wharton Corporate Center**  
1 Harry Shupe Blvd.  
Wharton, NJ 07885  
(973) 537-0400  
(973) 537-0404 Fax
- **New York Facility**  
829 East 144th St.  
Bronx, NY 10454  
(718) 585-5330  
(718) 585-5337 Fax
- **Philadelphia Facility**  
1400 F Adams Rd.  
Bensalem, PA 19020  
(215) 638-1333  
(215) 638-1366 Fax

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Please visit our website... [www.longo.com](http://www.longo.com) for the latest information on products and services available from Longo... plus the latest case histories and product literature.

## PROFESSIONAL seminar SERIES

### 2006 Professional Seminar Series Schedule

#### October 11: Vibration/Infrared Wharton, NJ facility

Real world applications and problem solving you can use, as well as an equipment overview. Learn how to make these techniques and integral part of your predictive/preventive maintenance program.

#### Motors/Switchgear Manhattan, NY

Our first seminar in the Big Apple will cover both motors and switchgear. A great opportunity for all our NY area customers and friends to attend one of our best seminar sessions. Time and place will be announced.

#### Motors Bensalem, PA facility

Longo will present a thorough overview, including maintenance and troubleshooting suggestions. Theory combined with real world solutions makes this a must session for engineers and maintenance professionals, alike. Time and place will be announced.

## SPORTS QUIZ

1. ABC's "Monday Night Football" first aired in 1970. Which of the following was not part of the original trio? a. Keith Jackson b. Frank Gifford c. Howard Cosell d. Don Meredith
2. Who was the first person to be inducted into both the NFL and Major League Baseball Hall of Fame? a. Cal Hubbard b. Red Grange c. Jim Thorpe d. Bo Jackson
3. No Giants quarterback passed for over 4,000 in a season during the 20th century. True or False
4. The Giants appeared in more pre-Super Bowl era NFL Championship Games than any other team. True or False
5. Who was the only Jet in the 20th century to score four touchdowns in a single game? a. Freeman McNeil b. Wesley Walker c. Curtis Martin d. Adrian Murrell

1. b, 2. a, 3. False, 4. True, 5. b  
Phil Simms for 4044 in 1984

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TO \_\_\_\_\_

# THE LONGO LETTER

FALL 2006



**CURRENT EVENTS**  
Joseph M. Longo  
President

Expanding the line, increasing the load...

## Something's in the air.

From time to time you may have seen the tag line, "From Line to Load" appearing in some of our promotional materials and more recently on our updated website. While providing a wide range of services for electrical and mechanical equipment is one of our greatest strengths, we are putting much more emphasis on the "From Line to Load" concept as we expand our overall capabilities.

From a modest beginning rebuilding electric motors, Longo has moved upstream into motor controls, VFDs, switchgear and transformers. We have also moved downstream to service pumps, fans, gearboxes and, more recently air compressors.

In this issue is an exciting announcement naming Longo as the Authorized Sales and Service arm for FS-Elliott Air Compressors.

Capitalizing on our existing mechanical capabilities, the servicing of these precision high speed centrifugal air compressors is a natural progression for our company. For those of you who require engineered air, especially "no-oil" air, Longo is now available to discuss your sales and service needs.

**Over the last 10 years, thanks to an extremely successful alliance with Emerson Motors, we have replaced almost 5,000 inefficient motors.)**



Expanded geography, as well as expanded capabilities continue to fuel our success. In Albany, NY we are replacing 1200 standard efficiency motors with new NEMA Premium Efficiency motors. This

project for the State of NY, when completed in November, will be win/win situation for the State and the environment. Not only will the State reduce its ecological footprint by using the EE motors, they will be saving the tax payers real money as well.

With all energy pricing going through the roof there is no better time than now to optimize your energy consumption and reap the rewards. We can discuss both immediate rebate programs and long term savings when you implement EE motors and VFDs.

In the upcoming months we will be conducting training seminars in NYC and Philadelphia, PA. We encourage you to take advantage of these excellent training opportunities for those of you not able to attend our Wharton seminars.