

## Sheffield Forgemasters wins ultra-large castings contract



## Welcome

**How quickly the year seems to have passed by!** Fresh from a really stimulating and interesting Business meeting at Ginetta Cars in Leeds (who knew a racing car could be quite so affordable!) we are once again looking forward to our Annual Lunch on November 13th. The new venue chosen for this year's lunch, the Painters Hall, is one which we hope everyone will enjoy and it will also be the occasion for us to thank our departing Chairman, Michael Holloway, for his

superb support and involvement over the last four years.

We'll also be greeting our new Chairman, Bob Coombes, as well as welcoming a new member to the BMPCA in the shape of Coupe Castings Limited.

There's lots more good news in this issue too, including Sheffield Forgemasters important contract to supply ultra-large castings which will bring a significant volume of work to the city of Sheffield, together with valuable insights into our members products and processes.



Coupe Castings join the BMPCA



BMPCA meet at Ginetta Cars Leeds



Metallocking and Metal Stitching Repairs



IAC secures top UK safety accreditation

# Reducing Equipment Energy Costs & MAXIMISING RELIABILITY

**Electric motors are the most popular item of rotating equipment found in industry today, with hundreds of millions in service across all industrial sectors.**

However, with ever increasing energy costs, reducing the energy losses of such devices is becoming an important aspect of plant operating profitability and a main key performance driver for many companies.

Misalignment, imbalance and debris/contamination all create additional heat within the motor and have an adverse effect on the motors operating performance and running costs.

**“ A general rule is that, for every 10 degrees Celsius increase in operating temperature, the life of the equipment is reduced by half. ”**

Motor Circuit Analysis (MCA) can be used to evaluate the windings for contamination. Frequent cleaning of a motor's intake and cooling fins is especially important in dirty environments as tests confirm that even severe duty, generously rated and oversized motors can quickly fail in such conditions. However, motor windings coated with contaminants will also incur significant motor life reduction, as airflow is impaired and insulation life falls to typically 25% of normal life expectancy.

It therefore makes sense for plants to implement periodic electric motor/generator maintenance and cleaning regimes, as this will have a significant positive impact on a company's bottom line.

G&G are experts in rotating equipment installation and operation having spent the last three decades supporting plant engineers across the UK on capital projects, plant

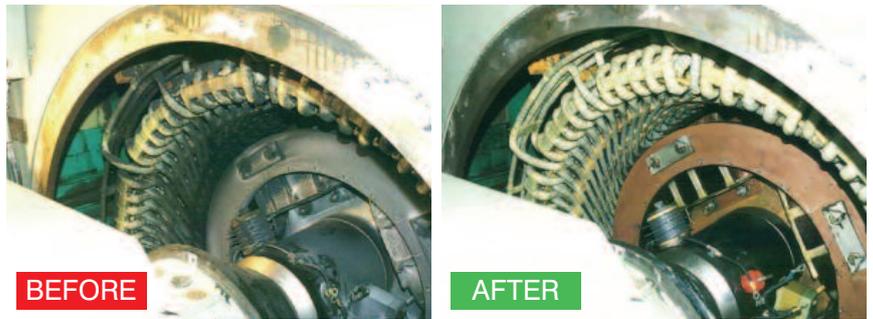
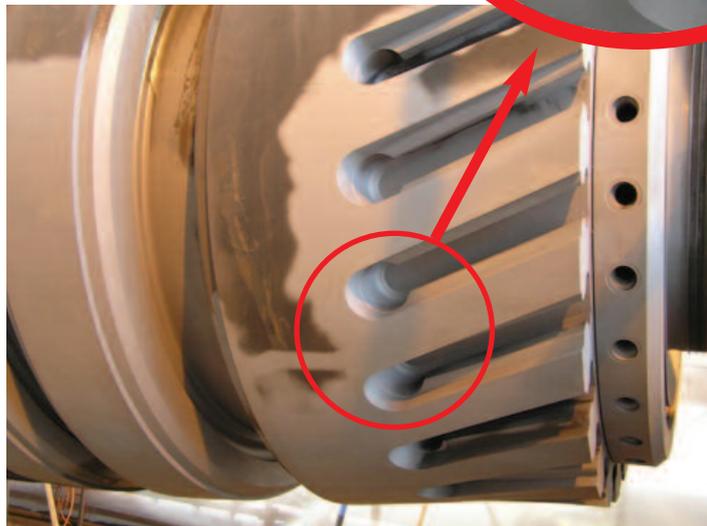


Fig 1: CHP Generator before and after G&G Dry Ice Cleaning



Fig 3: Turbine Generator Rotor; G&G Sponge Cleaning prior to Re-winding



developments and modifications.

In addition to providing on-site skilled labour and turnkey project solutions, G&G can also perform equipment laser shaft alignment and critical equipment cleaning services, specifically for large electric motors, generators, bearing assemblies and variable frequency drives.

G&G's Dry Ice blasting and Sponge blasting technologies are advanced, environmentally responsible surface preparation systems, which fire either CO<sub>2</sub> dry ice or sponge at very high speed to remove almost any unwanted substrate.

Dry ice is soft enough not to pit the equipment, but is strong enough to clean it. Furthermore, Dry Ice blasting does not require equipment to be uninstalled or

disassembled for cleaning, as shown in Fig 1, hence downtime can be measured in minutes with the dry ice blaster; not hours or days like with other cleaning methods.

As the dry ice pellets evaporate into gas on impact so there is no residue or grit that can cause future damage to the equipment. Sponge cleaning is also a non-abrasive form of cleaning, ideal for cleaning at component level, as shown in Fig's 2 and 3.

Therefore, whether a plant has a few dozen motors or many thousands, the simple payback from the investment into such cleaning and laser alignment regimes is usually termed in months, with savings from production reliability/availability, reduced equipment repair costs and improved energy costs.

**For further information, email us at [ggeng@btconnect.com](mailto:ggeng@btconnect.com) or call on +44 (0) 1226 747684 or visit our website: [www.g-g-engineering.com](http://www.g-g-engineering.com)**

Fig 2: Compressor Rotor Shaft part-way through G&G Sponge Cleaning