

# SCHEDULED INSPECTION

- Recommended maintenance schedules prepared and implemented for all makes of gearbox
- Carried out on-site by dedicated Field Service Engineering Team

2 levels of inspection offered:

## Full Inspection and Overhaul

On-site strip and visually inspect for:

- Bearing clearance
- Alignment
- Gear teeth condition
- Auxiliary drives inspection
- Clean oilways.

## Visual Inspection

- Using videoscopes assess condition of gear teeth
- Noise and vibration survey
- Assess condition of the gearbox and recommend timing of next full inspection.

unrivalled benefits



recent experience case study

# SCHEDULED INSPECTION

## Teesside Power Station

Teesside power station, situated in Teesside, UK is the world's largest combined heat & power plant with a total output of 1875 MW. Main power is provided by 8 x large Westinghouse gas turbines. The plant began operation in April 1993, and is operated by PX Power. This plant provides 4% of the total requirements of the UK.

On the site there is one 'black start' GE LM6000 gas turbine generator set. This unit operates at 38 MW. It utilised a Lufkin speed decreasing gearbox rated at 3600 rpm input to 3000 rpm output.

The black start gas turbine is used to provide additional power to the national grid as and when required.

### The challenge and outcome

This unit had been in operation for 7 years with no maintenance having taken place during this period.

The operator was concerned that the unit needed an overhaul, and had scheduled a 10 day period to carry out a full inspection.

As no information was forwarded from the OEM manufacturer, PX Power chose Allen Gears who provided good support and were responsive to their queries.

In order to satisfy the requirement for swift completion of the gearbox inspection, Allen Gears sent two field service engineers to site who worked 24 hours a day (each operating a 12 hour shift) in order to complete the job as quickly as possible.

A full inspection was carried out as follows:

- Removal of gear rotors and bearings
- Clean and inspection of all components in detail including teeth, shaft journals and white metal bearing surfaces
- Check that oil holes, oil ways and spray nozzles are clear
- Check and record bearing clearances.

The full inspection was completed in just 6 days. The customer was delighted as they could get the unit up and running again, resulting in direct additional revenue to the plant.

### Technical Data

<b>Requirement:</b>	Full inspection and overhaul of non-Allen unit in limited time scale
<b>Plant:</b>	Teesside Power Station
<b>Operator:</b>	PX Power
<b>Application</b>	'Black start' gas turbine
<b>Application Type:</b>	Gas turbine driven generator - LM6000
<b>Gearbox Type:</b>	Lufkin parallel shaft speed decreasing gear
<b>Power:</b>	38,000 kW
<b>Speeds:</b>	Input: 3,600 rpm, Output: 3,000 rpm



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