

# TOTAL CARE MAINTENANCE

An increasing number of end-users and operators throughout the world are seeking to outsource a significant proportion of their operation and maintenance activities, freeing themselves from undefined levels of risk and responsibility whilst enjoying improved equipment availability and profitability.

## Flexible Maintenance Packages

Our three levels of gearbox Care Maintenance Packages are inherently flexible and can be configured to meet the exact requirements of each application. Whether on-board an FPSO, driving vital pumps or providing critical power in a hospital, Allen Gears maintenance packages rationalise maintenance regimes and draw upon our complete portfolio of OEM skills.

## Three levels of Maintenance Contract are available

### Level 1

#### Basic visual inspection and recommendation

Using the latest videoscope equipment we will assess the condition of the gear teeth. A noise vibration study can also be carried out.

### Level 2

#### Level 1 + scheduled regular inspections

A full inspection typically involves on-site strip and visual inspection for:

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

### Level 3

#### Level 2 + long-term contract

Including complete predictive monitoring and extended plant longevity and full spares support back-up.

unrivalled benefits



recent experience case study

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## Tilbury Power Station

Opened in 1968, Tilbury 'B' power station is operated by RWE Innogy in Tilbury Essex. It is a 1400 MW coal-fired power station which feeds into the national grid, meeting the needs of approximately 1.4 million people. It is located on the River Thames in Essex and the generation process is cooled by re-circulating the River Thames water.

For each of four main 500 MW turbines, there is:

- 1 x motor driven boiler feed pump – this is to control the amount of water being fed to the main boiler
- 2 x start / stand-by pumps – to aid the start and run down of the main turbines
- 1 x circulating water pump – to provide critical cooling water.

Each unit has an Allen epicyclic gearbox as follows:

Boiler feed pumps	–	680 HP	4750/3082rpm
Start / stand-by pumps	–	6,400 HP	1490/4907rpm
Circulating water pump	–	2950 HP	165.5/993rpm

Therefore Allen Gears have a total of 16 gearboxes plus 2 spares, installed in the plant. 4 boiler feed pump gearboxes, 8 start/stand-by pump gearboxes and 4 circulating water pump gearboxes.

### The challenge

These units were installed in the 1960's and were overlooked for many years, suffering under-maintenance and neglect.

The customer was looking for a simple maintenance solution - where it was re-assured that the units would run without problems in the future, with guaranteed maintenance costs.

### The solution

Allen Gears have set-up a 6 year maintenance contract which includes a fixed price contract for two years.

Allen Gears will return all the boiler feed pump gearboxes and start stand-by units to Allen Gears at intervals agreed with the customer.

AG will – go to site and remove units and send to AG factory  
 - At AG site we will carry out a full internal inspection  
 - Including strip, inspection, report and recommendations

Each unit will be inspected every 12 months.

The contract also guarantees fixed prices for all major parts which may be recommended following the inspection.

### Technical Data

<b>Requirement:</b>	Full on-going predictive maintenance of critical gearboxes
<b>Plant:</b>	Tilbury Power Station
<b>Operator:</b>	RWE Innogy
<b>Application</b>	Boiler feed pumps and start stand-by pumps
<b>Gearbox Type:</b>	Allen Gears epicyclic gearboxes



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