# Desorber Trial – RWE Littlebrook Power Station

Background

- Littlebrook part of RWEnpower group
- Oil fired power station (Peak loading)
- Located by River Thames, Dartford Crossing
- 3 x 685MW GE Turbines
- Only 2 turbines in operation, 1 turbine mothballed
- Supported by 6 Olympus GT's
- CJC prospect as units already installed elsewhere within group
- Turbine engineer contacted in October

System Details

- Hydraulic turbine control unit – No.2 turbine
- Unit filled with FRHF Castrol Anvol PE 46 (phosphate ester)
- System volume 1600 litres
- Integrated vacuum & filter unit for water removal, acid and particle control

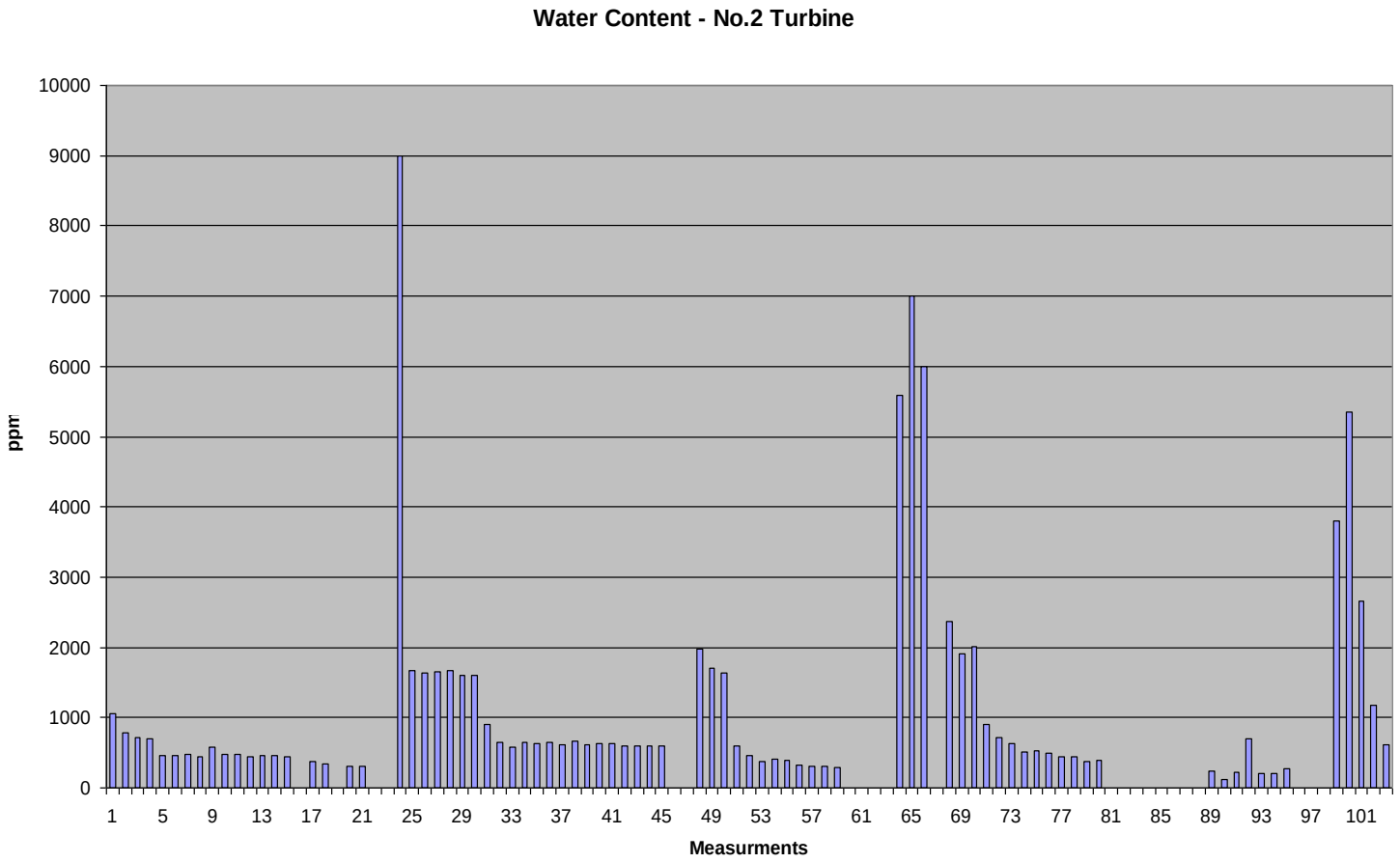
System Problems

- Water ingress, particularly under certain start-up conditions
- Particle carryover from filter bags (Fullers earth)
- In-line filter blocking
- High usage of FRHF - £2500/barrel

# Hydraulic Turbine Control Filtration Unit

Trial Details

- Following discussions – Desorber D30 recommended
  - Also details given on CJC ion exchange unit
- No previous experience with Desorber / FRHF
- Unit connected towards end Oct 2008
- Instant water removal – 1300 ppm to 400 ppm
- Some problems with tripping – due to station voltage fluctuations
- Desorber runs alongside vacuum unit, not instead of
- Unit does not run 24/7 – water levels vary, but Desorber controls to acceptable level
- Station also hiring HDU 27/54 unit to supplement filtration
  - Set up not ideal as cannot run at same time a Desorber


Water Content - No.2 Turbine
ppm
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
1
5
9
13
17
21
25
29
33
37
41
45
49
53
57
61
65
69
73
77
81
85
89
93
97
101
Measurments

## Conclusions

- Desorber D30 considered a success by station
  - Water content maintained to acceptable levels
  - Considerable savings in usage of expensive oil to be achieved

- RWE Littlebrook placed orders Dec 2008 for
  - Desorber D30 hire unit @ £13750
  - Desorber D30 with voltage control @ £16530
  - Ion Exchange HDU 2*27/54 with voltage control @ £8645

- Future
  - Advise Littlebrook to achieve optimum installation
  - Lever success into other power stations