



OIL MAINTENANCE
INDUSTRY

Gearboxes for Boiler Feed Pumps, Power Station

CJC™ Application Study

Application Study
written by:

Jan Foged
C.C.JENSEN A/S
Ireland

2007

CUSTOMER

Irish Power Station.

THE SYSTEM

6 gearboxes for boiler feed pumps, made by VOITH.

Oil type: Mobil DTE Light oil

Oil volume: 1,600 L

THE PROBLEM

The oil samples showed a high contamination level of particles, water and oxidation by-products. Due to the water ingress, rust was spotted during the yearly inspection.

The ISO code was 21/19/16, which is critical for any lubrication system, and will shorten the life time of the components. The measured 1602 ppm of water causes rust and is a catalyst for oil oxidation.

THE SOLUTION

A CJC™ Filter Separator PTU3 27/54 P-E1PW with a pump flow of 350 L/h was installed, using a CJC™ Filter Inserts BLAT 27/27 (3 µm absolute filtration and water separation with coalescing element). The aim of installing a filter separator was to remove particles, water and oxidation by-products.

THE TEST

Water had to be removed to avoid any rust, and wear and tear on the components had to be reduced to extend the life time on the feed pump. Therefore CJC™ was tested to solve this situation.

THE RESULT

Since the installation the filter has removed 99.29% of all 2 µm particles, 98.3% of all 5 µm particles, and 99.57% of all 15 µm particles (see table). The water level has been reduced from 1602 ppm down to 26 ppm, and most oxidation by-products have been absorbed.

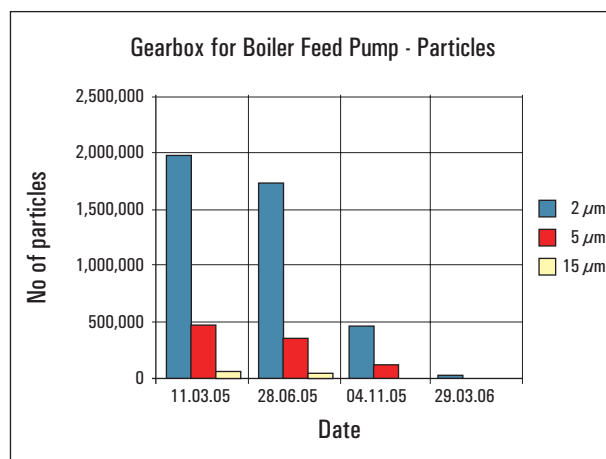
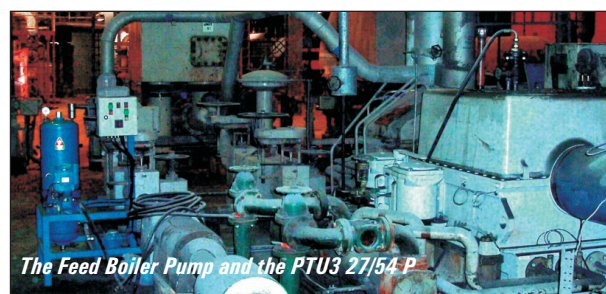
No more water, no more rust!

The cleanliness level measured 29.03.06 was ISO 14/13/9, and the low water content of 26 ppm means that the Life Extension Factor on system components has been increased by up to 6 times!

COMMENTS

Engineer Comments:

"Impressive results, and by suddenly discharging a large amount of water, the filter also identified cooler leakage."



THE RESULT

	11.03.05	28.06.05	04.11.05	29.03.06
Particles, 2 µm	1982201	1721924	461720	13949
Particles, 5 µm	469456	346961	115974	7977
Particles, 15 µm	62466	37925	1827	270
Water, ppm	1602	44	50	26
Oxidation	25%	35%	40%	5%