



CLEAN OIL
BRIGHT IDEAS

CJC™ Application Study

Application Study written by:

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2006

CUSTOMER

Vattenfall A/S, Helsingør Kraftvarmeværk.
(Combined Heat and Power Station).

THE SYSTEM

ABB Steam turbine with 8,000 litres of Mobil DTE AW 46, ISO VG 46.

THE PROBLEM

Oil samples from all oil systems at the combined heat and power station were submitted for tests at the Filtrix analysis company in the Netherlands.

The oil samples from the steam turbine revealed a very high water content as well as high particle contamination, rust and oxidation by-products.

THE SOLUTION

Installation of 1 **CJC™ Filter Separator PTU3 27/108 MZ-E2PW** with a pump capacity of 960 litres/hour and 4 **CJC™ Filter Inserts BLAT 27/27**.

CJC™ HDU Fine Filters were installed on the gas turbine and the hydraulic power unit at the same time.

THE RESULTS

Prior to installation of the filter, the oil sample showed a water content of 31,400 ppm and a particle content corresponding to ISO code 20/19/14.

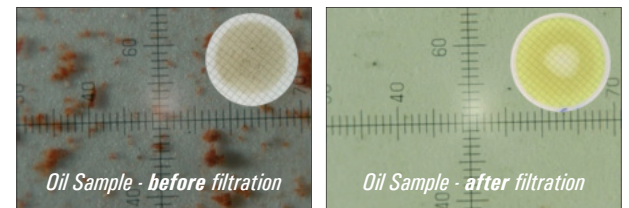
After 1 month with the filter, water content was reduced to 60 ppm and the ISO code was reduced to 16/14/10. After an additional 2 months of filtration, water content was reduced to 24 ppm and the ISO code to 13/11/6.

COMMENTS

Bjarne Karlsen, Operations Manager :
"After installation of the CJC™ Fine Filters and the CJC™ Filter Separators on our lubrication oil systems, we quickly solved the problem of unacceptably high water content in the steam turbine's lubrication oil.
An HDU Fine Filter installation on our gas turbine's lubrication oil tank was also a great success."



OIL SAMPLES



THE RESULT

	Before	After 1 month	After 2 months
Particles, > 2 µm	561938	45191	4481
Particles, > 5 µm	280715	15036	1937
Particles, > 15 µm	15950	822	52
ISO Code, 4407	20/19/14	16/14/10	13/11/6
Water, ppm	31400	60	24

PARTICLE AND WATER DEVELOPMENT

