



CLEAN OIL
BRIGHT IDEAS

CJC™ Application Study

Application Study
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CUSTOMER

Sydkraft Vattenkraft AB, Sweden.

THE SYSTEM

Transformer: ASEA
Age: 1948
Volume oil: 14.800 litres

THE PROBLEM

The chemical and physical properties of the transformer oil have a big impact on the insulation cellulose in the transformer. As the transformer oil is easier to maintain than the insulation cellulose - it is important to keep the oil in good condition to obtain a long lifetime of the transformer.

The presence of oxygen in the transformer speeds up the ageing process of the organic products. Oxygen reacts with oil hydrocarbons to form peroxides, which attach to other molecules. During the ageing process, organic oxides, such as acids, aldehydes and esters are formed.

THE SOLUTION

Sydkraft Vattenkraft AB installed a **CJC™ V30 Vacuum Filter** on the transformer. The unit is drawing the transformer oil from the bottom of the transformer into the vacuum chamber. After fine filtration and vacuum treatment the oil is returned to the conservator. The CJC™ V30 is designed to operate while the transformer is still in operation.

THE RESULT

The gas content was reduced during the first 24 weeks of degassing treatment. One example is the content of oxygen, this was reduced by more than 80 % - from 16,400 ppm to less than 3,000 ppm. This will extend the life expectancy of the transformer.



CJC™ V30 Vacuum Filter Unit

THE RESULT

Weeks	O ₂	N ₂	CH ₄	CO	CO ₂
0	16,400	62,200	4.30	530.0	8,400
1	4,700	15,000	1.30	85.0	5,300
2	1,000	9,500	1.00	60.0	1,325
4	580	8,700	< 1.00	39.0	710
8	3,300	7,700	0.20	7.2	335
16	2,620	7,900	0.34	11.0	165
24	2,650	6,715	0.25	11.5	150

Gas Content in ppm.