Cooling Water Treatment in a Thermal Power Station

Case Study
Ozonia – keeping abreast with time
Ozonia Switzerland and a water treatment company have successfully installed and commissioned a turnkey, fully assembled, containerised ozone system in a large Thermal Power Station.

The ozone produced by the plant will be used to treat the raw make-up water being fed to the cooling towers and to compliment the proprietary biocide dosing program being used in the cooling system at the moment.

The ozone, in conjunction with the biocide will represent one of the most powerful controllable disinfection systems ever used on a cooling system and will provide protection against legionella and similar undesirable micro-organisms found in cooling towers.

In addition to being one of the strongest oxidant known, ozone provides an environmentally favourable disinfectant system producing no undesirable by-products.

The stand-alone type plant consists of one of Ozonia's larger standard OZAT® ozone generator type CFL complete with an integrated power supply system; a feedgas preparation unit with compressor and dryer; an ozone contacting system made-up from motive pumps, high efficiency injectors and special in-line diffusers installed in the make-up lines; an independent cooling system and control system. The plant, which is designed for automatic service, has been fitted with a modern link system for remote monitoring and analytic work.

In addition to the container plant, Ozonia have also supplied vent ozone destruct systems and ozone analysers to be installed at strategic places in the power station.
Power Station Data

- Number of towers: 2
- Total water volume: 5000 m³
- Make-up volume: 1000 m³/h
- Make-up source: Reservoir
- Make-up treatment: Filter/O₃

Ozone Plant Statistics

- Ozone rating: 4.2 kg/h
- Ozone concentration: 3–5 wt %
- Feedgas: Dry air
- Regulation range: 5–100 %
- Motive flow: 125 m³/h
- System pressure: 3 bar (g)

- Control: PLC system with manual override
- Electrical rating: 250 kVA
- Mains feed: 3 x 400 V
- Mains frequency: 50 Hz

- Container: GRP

Dimensions:
- Length: 6650 mm
- Width: 3650 mm
- Height: 3500 mm
- Weight: 15000 kg

Ozone has also been applied successfully to industrial type cooling water systems with resultant improvement in operational efficiency due to increased heat transfer, reduced system corrosion, improved environmental impact and reduced ongoing chemical expenditure.
Ozonia around the world

Ozonia Ltd
Stettbachstrasse 1
CH-8600 Dübendorf
Switzerland
Tel. +41 1 801 85 11
Fax +41 1 801 85 01
E-mail info@ozonia.ch

Ozonia North America
491 Edward H. Ross Drive
Elmwood Park, New Jersey 07407
USA
Tel. +1 201 794 31 00
Fax +1 201 794 33 58
E-mail info@ozonia.com

Ozonia Triogen Ltd
Triogen House
117 Barfillan Drive, Craigton
Glasgow G52 1BD, Scotland
Tel. +44 141 810 48 61
Fax +44 141 810 55 61
E-mail info@triogen.com

Ozonia OOO
Dobrolubova st., 7
Nizhny Novgorod, 603109
Russia
Tel. +7 8312 33 44 84
Fax +7 8312 34 25 89
E-mail ozonia@kis.ru

Ozonia Korea Co., Ltd.
Dong Shin Bldg., 3F
# 141-28, Samsung-Dong
Kangnam-Gu, Seoul, Korea
Tel. +82 2 3453 91 82
Fax +82 2 3453 91 87
E-mail info@ozoniakorea.com

Ozonia products are available in all countries over the world.
Please contact us to find out details of your representative.