

INDUSTRIAL CASE | E.ON COOLING TOWER

PRIMOZONE® REPLACES OZONE GENERATORS AT E.ON PLANT

E.ON Benelux NV has replaced its existing ozone generators with Primozone® Ozone Generators for treatment of recirculating water in cooling towers at one of its power stations in Rotterdam, Holland.

E.ON, one of the largest energy providers in Europe, have been using ozone for treating their cooling tower water for a decade. At its RoCa Power station in Rotterdam, Holland the existing ozone system was not working properly and E.ON gave Excellent Ozone System & Consultants BV the task to build a new 3000-gram ozone system.

Preferred supplier

Excellent Ozone Systems choose to install four Primozone® GM ozone generators as a part of their ozone system.

“We had heard about the excellent performance of the Primozone Ozone Generator and its high ozone concentration and we wanted to supply E.ON with the best quality possible”, says Jeroen Lijkendijk, Account Manager at Excellent Ozone Systems. “The performance of the Primozone Ozone Generator has proven to be even better than expected and we are very pleased”.

Cooling tower water and ozone

The use of ozone in cooling tower water systems has several functions. The water for the E.ON cooling tower comes from a small river and contains bacteria and other contaminations when entering the system. These bacteria need to be destroyed to prevent bacterial growth in the cooling tower.

Ozone is a very strong disinfectant, it is much more efficient than chlorine on for example E. Coli bacteria and Legionella Pneumo-Phila. In addition it leaves no residue and the water can safely be let back out into the river. Ozone is therefore the most effective and environmentally friendly method of controlling the microbiology of cooling tower water.

Ozone also prevents biological deposits inside the cooling water tower and the heat exchangers, which otherwise can create problems like blocking and corrosion.



Example of cooling towers

E.ON COOLING TOWERS

- 4 cooling towers
- Total capacity 204 MW
- Total recirculation 15 000 m3/h
- Supplementation of up to 2x190m2/h
- Surface water as supplement

SOLUTION

- Ozone system with four Primozone® GM
- Design capacity 2x1500 gO3/hour (+ / - 5%)
- Outlet pressure 3,2 bar
- Gas flow 15Nm³/h
- Concentration 200 g/Nm³ (13,4 wt%)
- Temperature: <30 ° C
- Power consumption: 34.8 kW (11.6 kW per kg of ozone)
- Power supply: 400 V/3ph/50Hz

RESULT

- Control over microbiological environment and growth
- Reliable ozone production
- High ozone concentration
- Lower energy consumption