

# Drinking water treatment with ozone & H<sub>2</sub>O<sub>2</sub>

In order to comply with the European Standards for THM's and pesticides, one of the most important water suppliers in Andalucía, GIAHSA, decided to install pre-ozonation and intermediate ozonation coupled with hydrogen peroxide before GAC filters as the best solution in the Aljaraque's DWTP, Tinto's DWTP and Lepe's DWTP.

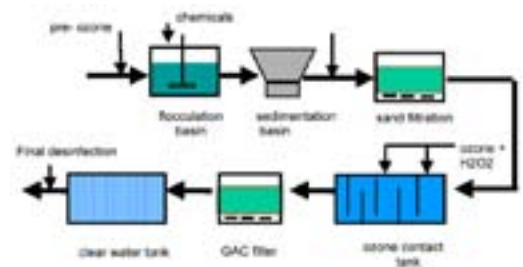
## Project Details

The project to improve the water quality was financed by The Public Administration of Andalucía, EGMASA, and the bid awarded to the Temporal Union of Companies, Infilco (Acciona Agua) - Construcciones Otero. The units were installed and commissioned during 2007.

To supply the ozone gas to the pre-ozonation step and the intermediate ozonation step, an fully equipped and automated ozone generation station has been designed. The system consists of 2 units with a maximum capacity of 9300 g/h ozone at a concentration of 10wt%, from LOX and a cooling water temperature of 20° C. The whole ozone plant has been designed and completely installed by Xylem.

## The scope of supply included:

- » Two WEDECO SMO 700 ozone generators
- » Two ozone sensors with Flashlight+Horn+ Separate LCD-Display
- » Automatic dose control incl. O<sub>3</sub>-analyser DC
- » A complete set of gas flow-meters 4-20 mA and automatic control valves
- » Two complete diffusion system for pre and intermediate ozonation
- » Two catalytic ozone destructors, skid mounted, with fan and demister
- » Two residual into water ozone analyzers
- » CCM-PLC electrical cabinet with a BUS of communication with the customer's SCADA



## MAIN DESIGN PARAMETERS OF THE PLANT:

### Water treatment line:

- » Pre-ozonation: 1 line
- » Intermediate ozonation: 1 line

### Water flow:

- » Minimum water flow: 600 l/s (2160 m<sup>3</sup>/h)
- » Maximum water flow: 1200 l/s (4320 m<sup>3</sup>/h)
- » Installed ozone dosage: 4ppm

### Ozone Units:

- » 2 x 9300 g/h at 10wt% from LOX and 20°C cooling water temperature

### Ozone dosage design:

- » Pre-ozonation: 1,0 - 4ppm
- » Intermediate Ozonation: 1,0 - 4ppm

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