

Extension of water treatment plant

Design and build of a water treatment plant at Nubariya channel in Egypt



AARSLEFF

Per Aarsleff A/S has designed and constructed a turnkey water treatment plant for the main public client "National Organization for Potable Water and Sanitary Drainage" (NOPWASD). The new plant is located at the Nubariya Channel near Damanhour in the north of Egypt. The raw water is taken from the Nubariya channel, a part of the River Nile system.

The plant has a capacity of 86,000 m³/d of potable water. The project is made as an extension, and the layout is also prepared for a further extension. Our work included design, mechanical and electrical delivery, installation, commissioning and supervision of the plant for one year.

The project also included installation of a new treated water pumping system for the new distribution network. The pumping station can also pump to the existing distribution network.

Raw water intake

At the bank of the Nubariya channel, we have established a raw water intake. The building contains manual screens, bypass piping system with stop logs and penstocks and two sets of basket screens to protect the raw water pumps.

Raw water pumping station

The raw water pumping station is located two kilometres upstream the main site. The capacity is approx. 95,000 m³/d. The pumping station is designed and constructed for extra double capacity.

We delivered a two-kilometre-long DN900 raw water pipe along the channel to transport the raw water to the treatment plant.

Water treatment plant

The main water treatment system includes mechanical screens, step screens, disc filtration, mixing chamber for chemical dosing, special compact sand filtration and chlorination system. The plant appears as a very compact unit with updated technology and very easy to maintain.

The new unique SCADA system can run in full automatic mode with possible worldwide remote control via internet connection, all with full data locking etc.

Sludge treatment

The treatment plant includes lamellar system for separating sludge sedimentation and recycling of backwash water back to the treatment intake to minimise water loss. All sludge is sent to the new thickener before entering the new sludge drying beds.

General comments

During the complete project period, Aarsleff has managed to keep a positive, impeccable and exemplary cooperation between parties involved in the project, from the client NOPWASD, the engineer, the client's civil contractor as well as our local erection company, all for the benefit of the final treatment plant.



Data

- Final delivery of 1,000 l/s treated water.
- The extension increases the supply of treated water from about 250,000 residents to about 850,000 inhabitants.

Client

National Organization for Potable Water and Sanitary Drainage, (NOPWASD)

Type of Contract

FIDIC Design Build, financed by DANIDA mixed credit program

Construction period

2010 to 2014 + one year supervision period

Contract value

EUR 11 million

Contact

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