Saidabad drinking water treatment plant

Providing safe drinking water to Dhaka city is a critical issue for Dhaka Water Supply and Sewerage Authority (Dhaka WASA), in charge of water management of Bangladesh's capital.

With a daily capacity of 450,000 m^3/d, the Saidabad drinking water treatment plant was constructed in 2 phases and is running at full capacity since December 2012.

Phase 1 – 225,000 m^3/d – has been completed by SUEZ in June 2002.

Awarded to MTH – SUEZ Consortium in 2010 and completed in 2012, phase 2 aimed at doubling the capacity of the plant, but also upgrading the overall quality of water produced during the dry seasons of the year, when Dhaka City is facing severe deterioration of water quality within Sithalakya river and DND canal. In this purpose, a world-first innovative pretreatment solution has been implemented both in DND canal and the plant, ensuring a constant water quality.

The plant is operated by SUEZ since December 2012.

an innovative double stage pretreatment

a prerequisite : restore constant raw water quality at plant inlet by developing biostabilisation inside DND canal

In this purpose, pretreatment is initialized directly inside DND canal, with 3 sets of 4 surface aerators installed in different locations in the canal in order to increase oxygen content in water so as to :

- Reduce sulphides concentration
- Start biological process of nitrification

Surface aerator in canal

secure water treatment efficiency through biological nitrification

Second stage pretreatment consists of biological nitrification aiming at :

- Ensuring ammonia removal
- Reducing organic compounds, including THM precursors

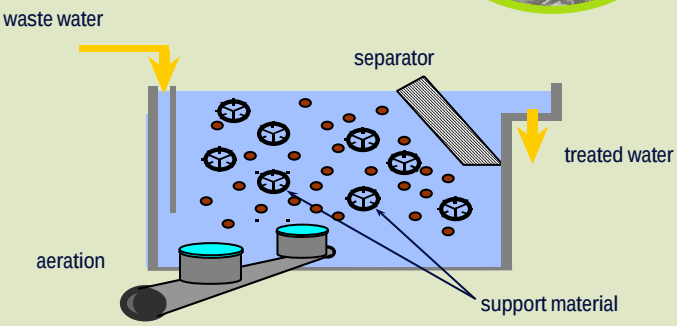
additional benefits :

- Removal of odour and taste from treated water
- Removal of algae development at settling and filtration stages

biological nitrification system :

Meteor

hybrid growth system



- compactness
- flexibility to flow / load variations
- stability of biomass concentration

Meteor 660 biofilm carriers

- Automatically responds to load fluctuations
- Resilient to toxic shocking
- High surface area biofilm carriers

Vibrair air diffuser

- A robust, maintenance free system
- Proven extended lifetime
- Installed on a large number of plants built by SUEZ

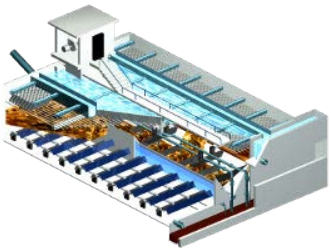
water purification

The water treatment line relies on proven and robust technologies, easy to maintain equipment :

clarification

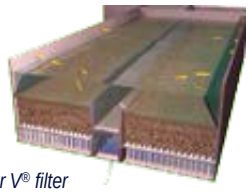
Pulsatube™ clarifiers

- All the advantages of the Pulsator plus lamellar settling
- More compact design : twice the rising velocity for only half the floor space



filtration

Aquazur V® filters

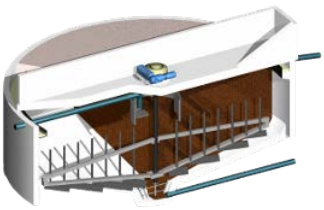


Aquazur V® filter
back washes main steps

- High speed filter installed on hundreds of water plants worldwide
- Efficient and cost-effective washing system
- Tailor-made operating control

sludge treatment

sludge thickeners
(installed on phase 2)



drying beds
Rehabilitation of drying beds built during phase 1

chlorination : a safe and reliable solution for algae removal and disinfection

preoxydation

- During the dry season : residual amonia removal and disinfection by monochloramine
- During the rainy season : by a low dosage of chlorine

disinfection

by chlorine with a residual for network protection

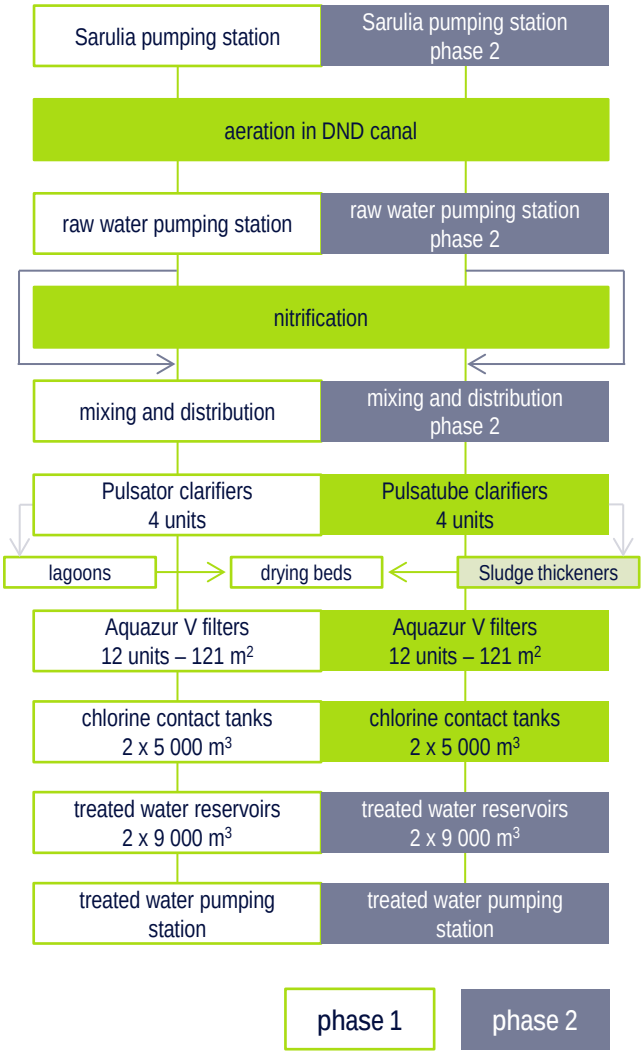
energy production

- A gas generators power plant with 4 x 1415 kW capacity that continuously supplies the treatment plant
- Full time energy supply secured by dual-source with synchronization to power national grid

project highlights

- 450,000 m³/day drinking water plant, built in two phases
- Innovative pretreatment with :
  - aeration in the treatment plant inlet canal
  - METEOR technology, a world-first in drinking water
- Compact clarification on Pulsatube®
- Integrated energy production plant

water treatment line



treated water quality

Turbidity	< 1 NTU
Ammonia	< 0.5 mg/l
Sulphides	< 0.05 mg/l
Algae	< 1 µg/l

key dates

phase 1

- coming into force
  1997
- plant taking over
  June 26th 2002

phase 2

- signature
  February 11th 2010
- coming into force
  June 21st 2010
- plant taking over
  January 27th 2013

operation & maintenance

phase 1

technical assistance provided by SUEZ teams to DWASA from July 2002 until June 2006

phase 2

operation and maintenance by SUEZ for 36 months : December 14th 2012

www.degremont.com

Since March 2015, all the Group brands (Degrémont, Ozonia, Aquasource, Ondeo IS, Ameriwater, Infilco, Poseidon…) became SUEZ.

Meanwhile, from now own, the technologies and know-how of our Treatment Solutions offer will be distinguished with the label degrémont®.

suez