setec hydratec

Environment
Drinking water and associated networks

Rehabilitation / Extension of "Rivière du Poste" Drinking Water Treatment Plant

Mauritius - Design and supervision of works - 25,000 m³ / day

Apr. 2016 - Dec. 2019 + Sept. 2024 - June 2025

MAURITIUS

Client

Central Water Authority (CWA)

Partners
SETEC HYDRATEC,
SETEC (MAURITIUS) LTD

Lead Partner

SJPCE

Consultancy Services fees
247 061 €

Project cost
12 000 000 €

Setec subsidiary fees
185 296 €

Assignment
Design Engineering

Disciplines
Drinking water treatment plant

Senior managers
F. TRANQUILLE (Project Manager)

Client's Address
Head Office St-Paul - MAURITIUS

The Project

Some agglomerations located in the south of Mauritius are experiencing episodes of drinking water supply disruption. These breaks are essentially related to the sudden increase in raw water turbidity observed during heavy rainfalls, up to more than 500 NTU.

To improve the quality of the service provided to the inhabitants, the Central Water Authority (CWA), the National Public Water Authority, has programmed works to rehabilitate the water supply facilities and to strengthen the raw water treatment network for this region, in "Rivière du Poste".

The nominal capacity of the Drinking Water Production Plant is thus to be increased from 15,000 m³/d to 25,000 m³/d, with the construction of a new Raw Water Intake (DN 500mm in Ductile Iron over a total length of nearly 2 km) relocated to benefit from a higher river flow rate and a location less vulnerable to urban pollution.

In April 2016, the Central Water Authority awarded the Project Management Studies (Design) to the Franco-Mauritian consortium SJPCE / Setec Hydratec for the upgrading "Rivière du Poste" Drinking Water Plant and its Raw Water Intake.

The main characteristics of the new conventional treatment process:

- Coagulation / Flocculation / Lamellar clarification
- Rapid Gravity Sand Filtration
- Disinfection using gaseous Chlorine
- Storage of treated water (2000 m³) before distribution
- Sludge Treatment by thickening and drying beds

Our Services

- Technical Audit of the existing system
- Feasibility study
- Detailed Design Studies of the Raw Water Intake and its pipeline (DN 500 mm in Ductile iron over nearly 2 km long
- Detailed Design Studies for the Rehabilitation and Extention capacity of the existing Treatment Plant
- Preparation of Bid Documents

This assignment includes a Detailed Design Study for Treatment Plant and its Raw Water Intake, with the Rehabilitation of the existing plant and the implementation of a Sludge Treatment system, currently non-existent on site to comply with standards for the discharge of the treated sludge into the river.
The assignment required familiarisation with local customs and operating constraints, and the particular exchanges with the various local authorities to be consulted in the context of such a large-scale project for the country.

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Rehabilitation and Extension of "La Nicolière" Drinking Water Treatment Plant

Mauritius - Design and Supervision of works - 100 000 m³/d

Oct. 2016 - Dec. 2019

Environment
Drinking water and associated networks

MAURITIUS

Client

Central Water Authority (CWA)

Lead Partner
setec hydratec

Subconsultant
SJPCE (Local Partner)

Consultancy Services fees
297 445 €

Project cost
25 000 000 €

Setec group fees
297 445 €

Setec subsidiary fees
245 000 €

Assignment
Design Engineering

Disciplines
Drinking water Treatment Plants

Senior managers
F. TRANQUILLE (Project Manager)

Client's Address
Head Office St-Paul
MAURITIUS

The Project

In Mauritius, water cuts remain a major concern for residents in many parts of the country. In 2015, the Central Water Authority (CWA), the national public water authority, therefore initiated a vast programme of works to modernise the production plants and the distribution network. One of the major projects planned is the rehabilitation and extension of water treatment at "La Nicolière", whose initial treatment capacity (66,000 m³/day) is insufficient to meet the growing demand for water in the north of the country.

The nominal capacity of the Drinking Water Production Plant is thus increased from 66,000 m³/d to 100,000 m³/d, with the construction of a new independent Raw Water intake in " La Nicolière" dam Reservoir, which supplies the plant by gravity. This dam itself is gravity fed by the Midlands dam via a concrete canal about 27 km long.

In addition to increasing capacity, the works aim at improving the quality of water produced with respect to the particular risk incurred by potentially toxic algae, including Cyanobacteria, especially in summer.

In October 2016, the Central Water Authority awarded the project management studies (Design) to the Franco-Mauritian consortium SJPCE / Setec Hydratec for the upgrading of "La Nicolière" Drinking Water Plant and its Raw Water Intake.

The main characteristics of the process include:

- Coagulation / Flocculation / Flotation
- Specific Treatment of "blue" algae toxins
- Rapid Gravity sand filtration
- Disinfection using gseous Chlorine
- Storage of treated water (10,000 m³) before distribution
- Sludge treatment by thickening and drying beds

Our Services

- Technical Audit of the existing system
- Feasibility study / Preliminary design
- Design studies for the new Raw Water Intake and its pipeline (DN 1,100mm in Ductile Iron over 300 m long)
- Design studies for the Rehabilitation and Extention of Capacity of the existing Treatment Plant
- Preparation of the Bid Documents

Cyanobacteria

Cyanobacteria is the scientific name given to blue-green algae floating on the surface of ponds. Cyanobacteria form in shallow, warm, calm water.
They pose two types of problems: the release of toxins and the clogging of treatment and pumping facilities.
The best way to avoid problems associated with cyanobacterial blooms is to avoid their formation by reducing nutrient inputs such as agricultural fertilizers.
In addition to increasing capacity, the works aims at improving the quality of water produced with respect to the particular risk posed by potentially toxic blue-green algae, including Cyanobacteria, especially in Summer.

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