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SUNREF III Programme: Wastewater characterization for various Private Industries - Pilot Project

Technical audit and feasibility study

July 2022 - Feb. 2023



MAURITIUS

Client

**AFD AGENCE
FRANCAISE DE
DEVELOPPEMENT**

Lead Firm

setec hydratec

**Consultancy Services
fees**

143 142 €

Type of Project

Consulting expertise audit

Joint contractors

SETEC (Mauritius) Ltd

Disciplines

Industrial water / Treatment
of industrial effluents

Senior managers

F. TRANQUILLE (Project
Manager)

Client's Address

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The Project

To improve the quality of the environment, the Mauritian government has initiated a process with the industrial sector. A panel of 12 sites was selected for a **technical audit and a search for environmental improvement solutions** (targeting the "water" component). These industrial sites are mainly from the agri-food sector: chicken farms and slaughterhouses, milk processing plants, sugar cane industry, lemonade factory, brewery, still water and juice production plants. 2 sites are in the **chemical sector**: detergent production plant, printing plant. Different treatment technologies are already deployed (physical-chemical, aerobic and anaerobic activated sludge), but almost always with failures.

After a first phase of introduction of the industrial activity and the stakes associated with the management of liquid discharge, a **measurement of the polluting flows** was carried out on each site, to supplement the input data since the industrialists do not systematically carry out complete monitoring of their effluents. We therefore took **samples representative of the activity**. For each industrialist, a list of parameters to be analyzed was established, considering the regulatory requirements and the effluent treatment (in place or planned).

This personalized approach led to a **contextualized proposal of arrangements (operation, maintenance, works)** to optimize the management of liquid discharge associated with the activity. An initial evaluation of the financial stakes is provided, to allow the industrialist to project himself in the realization of these arrangements. Thanks to our local presence, the industrialists were directly involved in the study and were able to share their complementary thoughts along the way.

Our Services

Technical site visits

- Collection and analysis of input data / Analysis of the industrial activity and its effluent problems, in connection with regulatory aspects

Effluent characterization analysis campaigns

- Drafting of personalized protocols (sampling methods and parameters to be analyzed) / Supervision of the sampling process / Interpretation of results.

Technical audit and assessment

- Recommendations on current practices / Proposal of technical solutions for improvement (short and medium term)

Establishment of optimization proposals

- Pre-dimensioning of treatment systems / Study of the possibilities of recycling roof water and reusing industrial effluents / Estimation of the financial implications of the proposed development works

Industrial Effluents Characterization: Key Stage

To have at our disposal essential data, insufficient until now, to evaluate the quality of effluents and discharge from each site, visits to each industrial company and the study of the discharged flows, enabled us to identify the most relevant sampling points for this key stage of the mission.

Refrigerated automatic samplers were specifically mobilized and conveyed to the site to reconstitute average 24-hour samples: as this practice is not common locally, a certain pedagogy was necessary with the local participants.

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