**LRPS-2023-9181626- Rehabilitation Works for Omni-Processor**
**Answers to Queries**

**Query 1:** The company will be responsible for the performance of the plant and the compliance of the outlet with the decision #8/1.

**Answer: Yes, the company needs to ensure the decision 8/1 will be reached under normal operation from the current operator and solar system capacity.**

**Query 2:** The plant has been in operation? The characteristics of the inlet for each stage (minimum and maximum) are provided based on operational trials?

**Answer: Yes – the characteristics are thresholds based on 9 months of operation.**

**Query 3:** Are we able to receive the followings:

- Process description
- Layout of the facility with the exciting equipment and indication of the upgrades intended location
- Civil drawings

**Answer: please find here attached the process description and civil drawings,**

**The bidder is intended to propose the best location for the intended upgrades.**

**Query 4:** Please we need to know if there is a site visit.

**Answer: Wednesday, 5th April, at 10 AM in Iaat Omniprocessor, near the WWTP.**

**Query 5: Could you please precise the normal operation state of the plant?**

**The plant runs six days a week, receiving septage from ISs in the Baalbeck area for 5 days a week.**

**Query 6: Is there any control on the wastewater of the septic tanks before discharging?**

**The partners are monitoring the pits and locations where desludging is taking place. The desludging is sending only wastewater from ISs.**

**Query 7: Could please provide us with the process description of the MBBR, design limits, efficiency and current state?**

**- The MBBR consists of a 20ft container divided into three compartments: one aeration chamber and two settling zones.**

**- The water level is around 1.85 m and the inner compartments width is 0.8 m, however the shape and actual volume of the inner compartments remains unknown.**

- Biofilm media present in the aeration zone has a surface area of 580m2/m3, however the volume of the media in the aeration zone remains unknown.

- Design load as shared by the solution provider: COD up to 500 mg/L ; BOD up to 250 mg/L ; TSS up to 400 mg/L ; pH 6.5 -8.5; Flow Rate up to 2000 LPH

- The MBBR efficiency can be assessed using the testing results shared in the ToR (Page 2) and also can be found attached to this email. The samples were taken at different points in time around 1 hour of truck receipt to the facility, considering the retention times in the different processes.

- Currently, the MBBR is under regular operation in terms of feeding flow rate and aeration, however, its efficiency is low.

- The 20ft container, including the aeration and settling zones are, followed by an underground settling tank of around 17m3.

**Query 8: Could you please specify the type of flocculent that is used and its selection criteria?**

The flocculant used is the ZETAG 8127 – it's the one the manufacturer provided us with and recommended.

**Query 9: Could you please provide us with the load list of the existing equipment on the plant and the solar PV capacity system?**

Please check the file it attached in the O&M manual of the PV system that have been added to Annex 3- Process Description & Civil Drawings.

**Query 10: Could you please specify the role of the operator and provide us with the Operation & Maintenance manual of the existing plant, including type of chemicals used, injection rate, difficulties & challenges?**

https://demokris.com/wp-content/uploads/2022/12/solenis-zetag-8127-chemical.pdf

The polymer dosing rates vary between 30 LPH up to 150 LPH depending on the feed with a 2g/L polymer solution. However, the flocs size is small.

Below are some challenges to be taken into consideration that usually causes an interruption of the operation:

- No operation for several days in a row, sometimes up to a week, due to the following:

- The lack of the input faecal sludge into the facility due to several factors such as the weather conditions and the inability of truck operators to deliver to the site, weekends and holidays when there is no desludging activities.

- Weather conditions and the lack of power supply from the solar system due to cloudy days and snow on some occasions.

- Clogging of submersible sludge pump in the main holding tank due to residue solid waste (Mainly hair, plastic, etc.) and the need to clean it.

- Having a highly concentrated feed where the flowrate is reduced to around 600LPH to align with the capacity of the drier.

- Reduced operation hours on some occasions to 4 or 5 hours per day given the delay in fecal sludge delivery in the morning when the holding tank is empty or to conduct preventative or unplanned maintenance tasks.

- Floating sludge in the MBBR encountered frequently.

**Query 11: Is it possible during the site visit to take samples?**

Yes, you could take any samples with you during the site visit on Wednesday, 5th April, at 10 AM in Iaat Omniprocessor, near the WWTP.

**Query 12: We would like to know if we can offer high-quality Chinese equipment with two years warranty.**

Yes, bidders can provide good quality Chinese equipment.