CLARIFICATIONS

To: All Potential Bidders
From: UNDPLIBYA

Subject: CLARIFICATIONS - ITB/LBY/SLCRR/2020/6601 - Supply of Four (04) Units of Portable Sewage Treatment Plan at Al – Garbuli Municipality, Tripoli, Libya

Reference is made to the UNDP published procurement notice for the: ITB/LBY/SLCRR/2020/6601 - Supply of Four (04) Units of Portable Sewage Treatment Plan at Al – Garbuli Municipality, Tripoli, Libya

All interested potential bidders are hereby notified about the following clarifications:

The project is about to supply, install and commission the 4x500 m$^3$ fully Automatic close skid mount only MBBR STP, as mentioned in the BOQ all equipment mentioned or not mentioned for an MBBR STP should be included.

1. The requested effluent quality regarding BOD, COD etc. could be easily fulfilled by operating a combination of mechanical pre-treatment and final biological treatment by use of a MBBR-technology. Why is an additional sand filter as well as an active carbon filtration requested?

   a) The sand filter is used to remove some bacteria-algae and some solids
   b) Activated carbon Filter is used to remove chlorine and odour

2. If the treated wastewater shall be used for irrigation purposes, it is unfavourable to disinfect the treated effluent by use of liquid chlorine. This chemical is attacking or even destroying plants with the result that the use of treated wastewater for irrigation is bothered and restricted by chlorine as an aggressive chemical.

   Consequently, it would be much better to use an UV-disinfection system instead of liquid chlorine. Please clarify.

   Chlorine is required, as indicated in the BOQ and all free chlorine and chemicals it will be removed by the ACF filter.

   Use of the UV only it will be very expensive since it needs more energy to destroy microorganisms due to unfiltered solids as suggested by your question number 1 of excluding the Dual filters.

   If the treated water were going to be used for flushing or car washing we could have included the UV but after the Dual Filters because UV can work effectively after filtration.
3. It was mentioned in the tender requirements that the existing tank for wastewater shall be used as an equalization tank for the incoming sewage (break of peak loads). However, with clarification no. 8 it is described that the existing equalization tank shall be used for sludge thickening and sludge drying.

Please be so kind and clarify this discrepancy.
Clarification number 8 refers to inclusion of the dewatering unit, which is different with the Equalisation Tank.
The dewatering unit is used to return some fluid to the equalisation tank and dry the sludge.

4. The load of the future STP is comparable with approx. 17,000 population equivalents (p.e.) – based on the daily flow of 2,000 m³/d and a maximum concentration of 500 mgBOD/l. As a result of the biological treatment process the daily excess sludge will be approx. 700-800 kgDS/d. The concentration of excess sludge resulting from the MBBR-treatment is approx. 1.0 % DS, which means that a daily sludge-quantity of 80 m³ shall be managed. Even the existing tank will be used for sludge storage, it is impossible to achieve a satisfying result with respect to thickening or even drying.
Thickening must be arranged by large-scaled sludge thickening reactors, by thickening machines or any suitable process. Moreover, sludge drying requires either large-scaled sludge drying beds or a dewatering machine like a belt filter, a centrifuge or screw press.
It is necessary to verify this matter in detail so that the bidders are able to offer a proper solution, which matches the problem with the biological excess sludge.
The dewatering unit is part of the STP Unit on this project.
The size of the dewatering unit must be designed by the bidder because is part of the STP unit.

5. The specified dimension of the available location (15.00 x 60.00 m) could be considered with respect to the arrangement of the container. However, it would be much better for maintenance and service to arrange the container following a more compact structure (i.e. 30.00 x 30.00 m). Is it principally possible to modify the arrangement of the STP?

15 x 60 m is the available space. Compact units of 30 x 30 m are more difficult to handle, transport and arrange Therefore, the dimensions mentioned on the BoQ must be respected.

6. The internal sealing of the container could be realized either by glass fibre reinforced plastic or by plastic plates (i.e. PE). This kind of internal lining is worldwide experienced and was realized in hundreds of comparable wastewater treatment plants. Please accept the lining by use of PE-plates, which are welded together to a watertight tank.
FRP is the one required by the end user as mentioned in the BOQ.

7. For realization of laboratory tests of the incoming and outgoing wastewater it is not useful to base the analysing works on spot checks or random tests. It is more meaningful and delivers a reliable result if by use of a sample-taker the incoming and outgoing wastewater is collected and the analysing tests will be performed by use of an average quality of the respective wastewater. Consequently, the scope of supply shall include sample-takers upstream and downstream to the STP. Please check this matter and inform the bidders if sample-takers shall be included.
The lab required within the BoQ is for testing the influent and effluent, to check if the STP is in line the required and acceptable environment parameters
These include, but are not limited to, the following
BOD device
COD meter
pH meter
chlorine meter
Turbidity
8. It is supposed that the wastewater treatment plant (STP) shall be realized for a long-term period of operation. Consequently, the idea of building a conventionally constructed sewage treatment plant is a proper alternative to a containerized structure. Why is the containerized solution favoured and why is it not possible to offer an alternative, being realized by a combination of concrete tanks with properly working technical equipment – resulting in a lower total price and an uncomplicated process-management.

As all the technical clarifications detailed before, the requirement of the project is detailed in the Compliance Sheet and the BOQs. MBBR fully automatic STP closed skid mount only (containerized) plant is the one required.