هيئـــة الأشغـــال العـامـــة
Public Works Authority

قطـر تستحـق الأفضـل
Qatar Deserves The Best

PREQUALIFICATION CIRCULAR NO. 05

To : **All Applicants**
Total Pages : **5**
Date : **1 October 2015**

PROJECT : **PREQUALIFICATION DOCUMENTS (PQD) FOR THE PROCUREMENT OF DESIGN, BUILD, OPERATE & MAINTAIN (DBO&M) CONTRACTING SERVICES FOR INTEGRATED INDUSTRIAL WASTEWATER TREATMENT WORKS (IIWWTW) – CP 798**
PROJECT ID : **IA 14-15 C 133 G**
SUBJECT : **ANSWER TO PQ QUERIES**

Applicants are hereby informed of the following amendments, clarification and elaboration to the PQ documentation for the above project:

Answer to PQ Queries

No.	Ref.No.	Query	Answer
1	Part 2/ 2.3/ Page 68	Are alternative designs possible?	As per Section 2.3 of the Prequalification Document "IIWWTW reference design to be provided for DBOM tendering will not be a proscriptive design but rather an exemplary design to achieve the minimum outcomes required from DBOM tenderers for the proposed IIWWTW, in order to meet; I. final effluent (*i.e.* treated sewage effluent) quality II. intermediate discharges quality (to be consistent with final effluent) III. value engineering aspirations IV. plant resilience and operability requirements and, V. plant modularization to allow seamless expansions in future.

			Consequently, any alternative designs to be tendered by DBOM bidders, which meets the full range of specified outcomes, may differ significantly from the reference design provided that the alternative design resides within the limitations and constraints to be prescribed at the time of tendering. DBOM bidders shall also be required to fully demonstrate the satisfactory achievement of the minimum outcomes through their alternative designs. " Alternative designs are acceptable if the tenderer can demonstrate (*i.e.* provide evidence) that an alternative design will provide at minimum the same outcomes, or improve on the outcomes provided by the reference design.
2	Part 2/ 2.5/ Page 69	What is "Table 60"? Is "Table 60" the one in page 74 (table 2)?	Table 60, attached below, is the Ashghal Table of Standards for Effluents discharged to Foul Sewers served by PWA Sewage Treatment Plants. Wastes exceeding Table 60 parameters cannot be discharged to foul sewer to a standard municipal wastewater treatment works and require more specialised treatment. The Doha IIWWTW which the DBOM Contract is for, is such a form of specialised wastewater treatment (an Integrated Industrial Wastewater Treatment Works).
3	General / no reference	Have we understood correctly that the awarded contractor "just" needs to build the IIWWTW and that "Table 2/page 74" only applies for him? Or does "Table 1/page 73" also applies	The DBOM Contract is to design, build, operate and maintain an Integrated Industrial Wastewater Treatment Works (IIWWTW) which will provide Treated Industrial Effluent (TIE) which will then be discharged to IASTW Phase "A and "B Secondary Balance before final blending with IASTW flows

		for him because he is also in charge to build the "Emergency Storage Lagoon"? In the case, that "Table 1/page 73" would also apply for the awarded contractor, our experience says, that Fecal coliform values of "none" and that values of Intestinal Nematode Eggs of "0 per litre" are not possible to be achieved.	to produce Treated Sewage Effluent, at a Final TSE wet well with an associate Emergency Storage Lagoon, which is also to be provided by the DBOM Contractor, as shown in Figure 3. This means that Table 2 effluent quality applies to the TIE discharge from the IIWWTW at the IIWWTW Final Effluent Pump Station, at a level of 90%ile compliance. Table 1 effluent quality standards are for combined Treated Sewage Effluent (TSE) apply to the final combined blended) discharge for the IA(S)TW, its two extensions and the IIWWTW. Table 1 TSE Quality is Ashghal/ PWA's standard Quality for Treated Sewage Effluent, at a level of 90% compliance unless otherwise stated within Table 1.
4	General / no reference	Our experience in pre-treatment of wastewater from dairies etc. a "Dissolved Air Flotation (DAF)" unit is a good alternative instead of a "Primary Sedinmentation Tank (PST)". The flotation has the advantages that the sludge volume will be reduced. Is it possible to change to flotation unit?	Alternative designs are acceptable if the tenderer can demonstrate (i.e. provide evidence) that an alternative design will provide at minimum the same outcomes, or improve on the outcomes provided by the reference design. There is a DAF unit in the reference design with an upstream primary tank, on stream 2. The DAF is part of the proposed oil removal system for the second treatment stream of the reference design.
5	General / no reference	We have learnt from our experience that a discontinuos system (i.e. Sequence Batch Reactor - SBR-) has 2 main disadvantages: a discontinuous flowrate which can lead to process/performance problems because of	Alternative designs are acceptable if the tenderer can demonstrate (i.e. provide evidence) that an alternative design will provide at minimum the same outcomes, or improve on the outcomes provided by the reference design.

		flow/load fluctuations and that it requiries lots of energy. That is why, we would recommend to go for a continuous system. Would that be possible?	
6	General / no reference	Are there legal limits for the sludge quality?	Waste raw sludge and biological waste sludges will need to conform to the requirements for sludge for incineration at Doha South WWTW. Waste mineral sludges will need to conform to waste acceptance standards at the Qatar Petroleum (QP) Hazardous Waste Treatment Centre (HWTC) in Mesaimeer.
7	General / no reference	Which company did the IATWs (existing plants) designed and built?	This query is not relevant to the IIWW TW contractor prequalification.

Table 60 (Answer to PQ No. 2)

TABLE 60

STANDARDS FOR EFFLUENTS DISCHARGED INTO FOUL SEWERS
LEADING INTO PUBLIC WORKS AUTHORITY SEWAGE TREATMENT PLANTS

Flow rate (m^3/d) Determinand	≤10	>10 and ≤100	>100 and ≤200	>200 and ≤400	>400 and ≤600	>600 and ≤800	>800 and ≤1000	>1000 and ≤1500	>1500 and ≤2000	>2000 and ≤3000	>3000 and ≤4000	>4000 and ≤5000	>5000 and ≤6000
pH (standard units)	6-10	6-10	6-10	6-10	6-10	6-10	6-10	6-10	6-10	6-10	6-10	6-10	6-10
Temperature (°C)	43	43	43	43	43	43	43	43	43	43	43	43	43
Suspended Solids	1200	1000	900	800	800	800	800	800	800	800	800	800	800
Settleable Solids	100	100	100	100	100	100	100	100	100	100	100	100	100
BOD	1200	1000	900	800	800	800	800	800	800	800	800	800	800
COD	3000	2500	2200	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Oil & Grease	100	100	50	50	50	40	30	20	20	20	20	20	20
Iron	30	25	25	25	15	12.5	10	7.5	5	3.5	2.5	2	1.5
Boron	8	7	6	5	4	3	2.4	1.6	1.2	0.8	0.6	0.5	0.4
Barium	8	7	6	5	4	3	2.4	1.6	1.2	0.8	0.6	0.5	0.4
Mercury	0.2	0.15	0.1	0.1	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Cadmium	0.2	0.15	0.1	0.1	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Copper	4	4	4	3	1.5	1.5	1	1	1	1	1	1	1
Nickel	4	3	3	3	1.5	1	1	0.8	0.7	0.7	0.6	0.6	0.6
Chromium	2	2	2	2	1	0.7	0.6	0.4	0.3	0.2	0.1	0.1	0.1
Zinc	5	5	4	3	1.5	1.5	1	0.8	0.7	0.7	0.6	0.6	0.6
Silver	4	3	3	2	1.5	1.5	1	0.8	0.7	0.7	0.6	0.6	0.6
Other toxic metals individually	2.5	2.2	2	1.5	1	0.7	0.6	0.4	0.3	0.2	0.15	0.12	0.1
Total Toxic Metals	10	10	8	7	3	2	2	1.6	1.4	1.2	1.2	1.2	1
Cyanide	2	2	2	1	0.7	0.5	0.4	0.27	0.2	0.13	0.1	0.08	0.06
Phenols	1	1	1	1	0.7	0.5	0.4	0.27	0.2	0.13	0.1	0.08	0.06
Sulphide	10	10	10	10	5	5	4	2	2	2	1	1	1
Sulphate	1000	1000	1000	1000	1000	1000	1000	900	800	600	600	600	600
Total Nitrogen	200	200	200	200	200	200	200	100	100	100	100	100	100
Total Phosphorus	50	50	50	50	50	50	50	25	25	25	25	25	25
Surfactants (total)	200	150	50	40	30	25	25	25	25	25	25	25	25

All units in mg/l unless stated. All figures are upper limits unless otherwise indicated.

All other conditions remain unchanged

This circular shall be included in the submitted PQ document and will be deemed to form part of and allowed for in your submission.

Please acknowledge receipt of this Circular via returned email to **contracts@ashghal.gov.qa**

Regards,

Ghanem Rashid Al-Mansoori
Manager of Contract Department