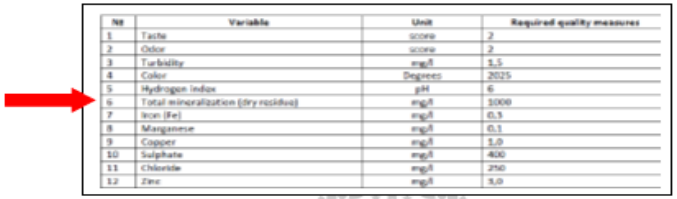
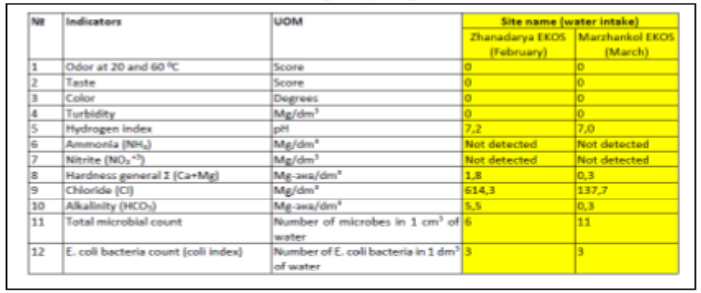
Q-ns from	Questions	Anwers
Vendor 1	1)For Lot 1(8 mc/h) and Lot 2(10mc/h) systems. **Operating input pressure** Please clarify if this is referred to the pressure of the raw water at the system intake. Note that the value: 0.7MPa (kgf/cm2) is misleading: 0.7MPa = 7bar 0.7 kgf/cm2 = 0.7bar Which is the correct value?	The inlet pressure must be 7 bar
	2)For Lot 1(8 mc/h) and Lot 2(10mc/h) systems . **Maximum desalinated water mineralization: 1000мг/л** Does it means that the max salinity at the outtake of the system shall be not higher than 1000mg/l. Please confirm	Yes, the total mineralization of treated water should be equal or less 1000 mg per liter.
	3)For Lot 3(0.5mc/h) systems. **Maximum desalinated water mineralization: 1.0 mg/l** This value totally differs from the one at question n.2) is this a typing mistake? Please confirm/explain	This is just typo (read 1.0 mg/l as 1 g/l)
	4)All systems. **Operating out pressure** Please clarify if this is referred to the pressure of the treated water at the system outtake. Note that the value: 1.0MPa (kgf/cm2) is misleading: 1.0MPa = 10bar 1.0 kgf/cm2 = 1bar Which is the correct value?	The correct value is 1.0MPa = 10bar
	5)All systems. **Rated power (including heating)** Please clarify the meaning of the word “heating”: Is there a need to heat something or is the word “heating” referring to the thermal losses?	The interest is mostly realted to system power consumption to provide water treatment process. However, the system will be used under risk of negative temperature and "heating" means addition power required for provision of unfreezing condition for the system.
	6)For Lot 3 delivery time. Please clarify if for lot 3 delivery time is 80 or 90 days	80 days
	7)Delivery time for all lots. Does the delivery time include the installation and training activities?	Yes, it does.
Vendor 2	1) Kindly clarify the Total Dissolved Solid “TDS” level for outlet water quality. Its stated in the tender (1000 mg/l for 8m3/hr and 10 m3/hr packages) while its (1.0 mg/l for 0.5 m3/hr package).	This is just typo (read 1.0 mg/l as 1 g/l)
	2) Kindly advise the inlet salinity “Total Dissolved Solid TDS” level. Its stated 4,296 mg/l. Is this applicable for the 3 sites ?	Yes, pls, use TDS=4296 mg/l for all 3 sites
	3) What is average temperature and pressure of feed flow of each package?	temperature: +5°…+ 35°C; prssure: Lot 1/2-7bar; Lot 3: 8bar;
Vendor 3	1)Do the capacities 8m3/h, 10 m3/h and 0.5 m3/h refer to the input water (raw water) or to the output water (permeate / product water)?	Figures identified the treated water product, i.e. treated water dischrage (8m3/h, 10 m3/h and 0.5 m3/h)
	We have one more clarification, which require your kind feedback. As per tender, we have to provide one (1) number of RO plant, for the 1st and the 2nd Lot. However, for the 3rd lot, the requirement is for Eight (8) RO plants. Please confirm.	We confirm that only 1(one) set of RO plant is required as per Lot 1/2, while 8(eight) sets of RO plants are required as per Lot 3

Vendor 4	**1) Water analysis Lot 1 & 2:** RFQ-060-20 indicates the characteristics required for the water produced under the laws of Uzbekistan, summarized in the table below:  The most significant data, for a reverse osmosis plant, is the "total mineralization" (dry residu indicated by the arrow. This data is missing in the analysis of the water to be treated for batches 1 and 2 (see below)  **1st QUESTION: What is the "total mineralization" (dry residue) of the raw water for lots 1 and 2?**	Since chemical analysises were made at different labs with different equipment , pls, use the following more confident data for all batches: Total Dissolved Solid=4296 mg/l; Fe (total)=0.01 mg/l;

Nº	Variable	Unit	Required quality measures
1	Taste	score	2
2	Odor	score	2
3	Turbidity	mg/l	1,5
4	Color	Degrees	2025
5	Hydrogen index	pH	6
6	Total mineralization (dry residue)	mg/l	1000
7	Iron (Fe)	mg/l	0,3
8	Manganese	mg/l	0,1
9	Copper	mg/l	1,0
10	Sulphate	mg/l	400
11	Chloride	mg/l	250
12	Zinc	mg/l	3,0

Nº	Indicators	UOM	Site name (water intake)	
			Zhanadarya EKOS (February)	Marzhankol EKOS (March)
1	Odor at 20 and 60 °C	Score	0	0
2	Taste	Score	0	0
3	Color	Degrees	0	0
4	Turbidity	Mg/dm³	0	0
5	Hydrogen index	pH	7,2	7,0
6	Ammonia (NH_4)	Mg/dm³	Not detected	Not detected
7	Nitrite (NO_2^{-3})	Mg/dm³	Not detected	Not detected
8	Hardness general Σ (Ca+Mg)	Mg-ava/dm³	1,8	0,3
9	Chloride (Cl)	Mg/dm³	614,3	137,7
10	Alkalinity (HCO_3)	Mg-ava/dm³	5,5	0,3
11	Total microbial count	Number of microbes in 1 cm³ of water	6	11
12	E. coli bacteria count (coli index)	Number of E. coli bacteria in 1 dm³ of water	3	3

Vendor 4	**2) Water analysis Lot 3:** the "total mineralization" (dry residue) data is instead indicated in the analyzes of lot 3, see table below, green arrow. The table below also reports an anomalous data: Iron (Fe general) mg / l 560 or 320 red arrow Table 2 – Existing raw water analysis: Extended chemical characteristics. № | Variable | Unit | Sample 1 | Sample 2 1 | Turbidity | mg/dm3 | 0,5 | 2 2 | Color | Degrees | 1 | 1 3 | Hardness | meq/L | 3.0 | 2.5 4 | Hydrogen index | pH | 6.88 | 6.77 5 | Iron (Fe general) | mg/l | 560 | 320 6 | Iron 2+(водораствор.) | mg/l | <0.1 | <0.1 7 | Marganese, Mn | mg/l | 0.06 | 0.06 8 | Sodium | mg/l | 1510.6 | 1411.8 9 | Calcium | mg/l | 40.08 | 32.06 10 | Potassium | mg/l | 20 | 18 11 | Magnesium | mg/l | 12,3 | 11,1 12 | Sulphates | mg/l | 1161 | 1094 13 | Chlorides | mg/l | 935.8 | 888.5 14 | HCO3 | mg/l | 610 | 682 15 | Alkalinity | meq/L | 9 | 7.4 16 | Total mineralization (dry residue) | mg/l | 4296 | 3964 **2nd QUESTION: confirm that the Fe total values indicated in the table are expressed in mg/l?** The values indicated are decidedly anomalous, indeed, we NEVER encountered so far, there may have been a printing error and the values are expressed in micro grams / liter (µg /l) ?	Since chemical analysises were made at different labs with different equipment , pls, use the following more confident data for all batches: Total Dissolved Solid=4296 mg/l; Fe (total)=0.01 mg/l
Vendor 5	1) Please clarify water source is Underground, river or?	Underground (well water);
	2) Raw Water Tank is prepared and supplied by the end user?	Raw water tank is provided by the end user
	3) I can see three raw water quality reports. And the information is not very complete	
	4) Could you offer me the conductivity, turbidity and total hardness of the three equipments' raw water? And the conductivity of the output water	Conductivity -rather can be recalculated from total mineralization number of raw water that is 10 g/l. Turbidity- due to number of labs limited by COVID regulation, this character was not measured and thus it's not available. Total hardness – 3.0 mg-eq/l. Total dissolved solid - 4296 mg/l and the conductivity of the output water- should be equal or less 1 g/l (1000 mg/l). Data above are valid for all three equipment

Vendor 6	1)Source water temperature	+5°…+ 35°C
	2) Where does the source water come from and how does it flow (if there is a pumping unit, you need to know the capacity and pressure; or will it take water from the tank?	Water will be taken from the tank
	3) In the requirements for water quality it is necessary to give water with Margants in 0.1 mg/l, it is necessary to know how much of it is at the input, the parameter of total hardness is not enough to calculate.	Hardness in the analysis is from 1.8 to 3.0 mg Eq/l, and for drinking water up to 7 mg Eq/l and here purification by this parameter is not required.
	4)There is also a question about the requirements of pumping units: If the pressure at the EP inlet is 0.7 MPa, it will be more than enough for the water to pass the filtration cycles through the backfill filters and reach the reverse osmosis unit, where a high pressure pump with the required pressure has already partially demineralized.	Water to the reverse osmosis system comes from the tank, so the pressure is below 1 atmosphere. If it is necessary to create pressure inside the osmosis system, please take care of the pump that creates the required pressure.