CORRIGENDUM No. 2 to the
TENDER DOSSIER

Wastewater Treatment Plant Vrbas-Kula – Sludge Line

Publication ref.: EuropeAid/131897/L/WKS/RS

Tender no: 08SER01/13/61

The following alterations and/ or corrections are made to the Tender Dossier:

Volume 3 – Section 1 point 3.1.2.6
Provisional Time Schedule

1 The former text:

3.1.2.6 first paragraph	The following provisional time schedule shall be considered for the completion of the Works:	

Shall read as new text:

3.1.2.6 first paragraph	The Contractor shall have planned to complete all design works on the Final Design Documentation as required for obtaining of Construction Permit (Vol. 3 sec. 1 part 3.1.5.3.2.) latest by June 2012. The following provisional time schedule shall be considered for the completion of the Works:	

2. The former text:

3.2.2 table of page 5 , title and sixth row	**Primary sludge production from gravity thickener for Phase 1 and 2** Supernatant flow (from gravity thickener) m^3/d	340

Shall read as new text:

3.2.2 table of page 5 , sixth row	Supernatant flow (from gravity thickener) m^3/d A supernatant pumping station, in a 1 duty – 1 standby configuration shall be part of the scope of works	34

3. The former text:

3.2.3 page 6, second paragraph	The sludge treatment consisting of at minimum: - Separate and combined thickening for primary and excess sludge - Digesters and gas utilisation - Dewatering units and transport to sludge containers or temporary storage.	

Shall read as new text:

3.2.3 second paragraph	The sludge treatment consisting of at minimum: - Gravity thickening of primary sludge (existing); - Buffer tank for waste activated sludge (WAS), received from the excess sludge pumping station (existing); - Mechanical thickening of WAS with the help of polyelectrolyte; - Blending (homogenization) tank for thickened WAS and thickened primary sludge;	

	- The digester feed pumps should operate on a 1 duty + 1 standby configuration - Anaerobic digestion of blended thickened sludge; - Biogas handling and utilisation in CHP units; - Mechanical sludge dewatering with the help of polyelectrolyte; - Temporary storage and transport of dewatered sludge; - Collection, storage tank and pumping station for supernatant. The treatment plant must have a thickening system enabling a detention time in the digester of minimum 20 days.	

4. The former text:

3.2.3 table on page 6	Old table contents:		

Drg. No.	Sludge Treatment	Capacity	Unit	Number of Units	
				2020	2030
1	Anaerobic Digesters	2400	m^3	1	2
2	Sludge Buffer Tank	290	m^3	1	1
3	Gas Dual Fuelled Boiler			2	2
4	Gas compressors			2	2
5	Gas Flare Stack	190	Nm^3/h	1	1
6	Gas Holder	900	Nm^3	1	1
7	Belt (WAS) Thickner			2	2
8	Polymer Preparation Plant			1	1
9	Homogenised Sludge Tank			1	1
10	Gas Fuelled Cogeneration Plant			2	2
11	Mechanical Sludge Dewatering	~15	m^3	2	2
12	Sludge Stacking Area	~280	m^2	1	1
13	Liquid Gas Tank	~1000	l	1	1

Shall read as new text:

3.2.3 table on page 6	New table contents:		

Drg. No.	Sludge Treatment	OBLIGATORY MINIMUM CAPACITY	Unit	Number of Units	
				2020	2030
1	Anaerobic Digesters	2400	m^3	1	2
2	Sludge Buffer Tank	290	m^3	1	1
3	Gas Dual Fuelled Boiler			1 (+1)	1 (+1)
4	Gas compressors			1 (+1)	2 (+1)
5	Gas Flare Stack	190	Nm^3/h	1	1
6	Gas Holder	900	Nm^3	1	1
7	Belt (WAS) Thickener			1 (+1)	1 (+1)
8	Polymer Preparation Plant for mechanical thickening and dewatering			1 (+1)	1(+1)
9	Thickened Sludge Blending Tank			1	1
10	Gas Fuelled Cogeneration Plant			1 (+1)	1 (+1)
11	Mechanical Sludge Dewatering	15	m^3/h	1 (+1)	1 (+1)
12	Sludge Stacking Area	150	m^2	1	1
13	Liquid Gas Tank	1000	l	1	1

5. The former text:

3.2.3 on page 7	**Belt Filter Press** Belt filter press (BFP) system for dewatering of stabilized sludge under consumption of organic flocculent (polyelectrolyte). **Design features 1 through 14** Statement of: "BFP", "filtrate", "dewatering", "sludge cake" **Table content:** Initial dry solids input: Dry solids output:	 0.6-3.5% 18% - 25%

Shall read as new text:

3.2.3 on page 7	**Gravity Belt Thickener** Belt thickener (GBT) system for mechanical thickening of waste activated sludge (excess sludge), under consumption of organic flocculent (polyelectrolyte). The belt thickeners are to be dimensioned on a 1 duty + 1 standby configuration, each one with a capacity to treat the excess sludge of phase I and phase II, while operating on a schedule of 16h/d, 5d/week. **Design features 1 through 14** Must be stated: "GBT", "supernatant", "mechanical thickening", "thickened sludge" **Table content:** Initial dry solids input: Dry solids output:	 0.8% 5%

6. The former text:

3.2.3 page 9 Decanter centrifuges	Decanter system comprising centrifuges, in counter-flow execution supplied as self-contained unit, with all accessories and auxiliary equipment for the dewatering of stabilized sludge under consumption of organic flocculent (polyelectrolyte).	

Shall read as new text:

3.2.3 page 9 Decanter centrifuges	Decanter system comprising centrifuges, in 1 duty and 1 standby configuration with capacity for Phase I and Phase II, in counter-flow execution supplied as self-contained unit, with all accessories and auxiliary equipment for the dewatering of stabilized sludge under consumption of organic flocculent (polyelectrolyte). The decanter system shall have capacity of <u>at least 15 m3/h</u> shall be dimensioned to treat the digested sludge for phase I and phase II, while operating on a schedule of 16h/d, 5d/week.	

7 The former text:

3.2.3 page 11 Polymer preparation and dosing plant	The polymer preparation system shall be in accordance to the requirements ……	

Shall read as new text:

3.2.3 page 11 Polymer preparation and dosing plant	The polymer preparation system shall consist of 1 duty and 1 standby configuration with capacity for Phase I and II, with capacity of simultaneous supply of polymer to the mechanical sludge thickening and sludge dewatering, while operating on a schedule of 16h/d, 5d/week. There shall be 2 sets of polymer dosing pumps: 1 duty + 1 standby for the mechanical sludge thickening and 1 duty + 1 standby for the sludge dewatering. It shall be accordance to the requirements ……	

8. The former text:

page 27, article 3.2.10	Dual Fuelled Boiler plant with gas burner for heat supply of the digestion plant, administration building and operation buildings, as standby unit for the digester gas utilization (gas engines).	

Shall read as new text:

page 27, article 3.2.10	Dual Fuelled Boiler plant with gas burner for heat supply of the digestion plant, administration building and operation buildings, as standby unit for the digester gas utilization (gas engines). The total area of the reception, administration and operation building that the boilers are to provide heat supply for will be 537.5 m2 with a height of 2.8 m and need to be heathen at +19°C.	

9. The former text:

3.2.10 Gas Supply	Liquid Natural gas	

Shall read as new text:

3.2.10 Gas Supply	LPG (Propane Butane)	

10. The former text:

Page 5 – table on primary sludge sludge production from secondary thickener	Missing column on second phase values	

Shall read as new text:

Column with second phase values	**Outlet sludge**	**Outlet sludge**
	DS capture percentage	95
	Thickened sludge flow	94
	Thickened sludge mass flow	5510
	Concentration of thickened sludge (expected)	60
	Outlet supernatant	**Outlet supernatant**
	Supernatant flow	49
	Supernatant concentration	0.5
	Supernatant mass flow	290

11. The former text:

3.2.10 page 30 Hot water pump	Centrifugal-type pumping units to be used for pumping hot water from the hot water distributor to the heat exchanger and back to the return water collector.	

Shall read as new text:

3.2.10 page 30 Hot water pump	Centrifugal-type pumping units to be used for pumping hot water from the hot water distributor to the heat exchanger and back to the return water collector, and shall be of 1 duty and 1 standby configuration for Phase I and Phase II	

12. The former text:

3.2.10 page 30 Compressor	Each compressor shall be capable of processing 100 % of the digester gas produced by each digester digester, and each shall be supplied as a complete unit, including drive motor and all related and auxiliary equipment (including pressure relief valves, vacuum protection, pipework in stainless steel etc.)	

Shall read as new text:

3.2.10 page 30 Compressor	Each compressor shall be capable of processing 100 % of the digester gas produced by each digester, shall be of 1 duty and 1 standby configuration for Phase I (2 +1 for Phase II), and each shall be supplied as a complete unit, including drive motor and all related and auxiliary equipment (including pressure relief valves, vacuum protection, pipework in stainless steel etc.)	

13. The former text:

3.2.13 Sludge storage area	A sludge storage area built from reinforced concrete shall be provided with a minimum total surface area 350m^2 storage of dewatered sludge. The area shall be provided with suitable drains returning to the supernatant pumping station. Retaining walls shall be a minimum height of 2m. The floor of the stacking area shall be sloped at 1.5% towards the drainage system.	350

Shall read as new text:

3.2.13 Sludge storage area	Sludge stacking area: a minimum of : A sludge storage area built from reinforced concrete shall be provided with a minimum total surface area 150m^2 storage of dewatered sludge. The area shall be provided with suitable drains returning to the supernatant pumping station.	150 m^2

	Retaining walls shall be a minimum height of 2m. The floor of the stacking area shall be sloped at 1.5% towards the drainage system. Storage and manipulation of 8 containers shall be ensured. Each container shall a volume of 5 m3. The supply of the containers is included in the scope of works A slewing or movable screw conveyor shall be acceptable, to included in the scope of works.	

Volume IV Section 1 Breakdown of the Overall Lumpsum Price

14. The former text:

Item	Description	Unit (Lump Sum)	Amount EUR
2.1	Connecting to Waste activated sludge storage and transfer pumping station	LS	
2.2	Connection from Primary sludge thickener to Supernatant storage & pumping station configuration)	LS	
2.3	Connection from Primary sludge thickener to Sludge house – sludge dewatering	LS	
2.4	Sludge house – sludge dewatering	LS	
2.5	Interconnecting pipework	LS	
2.6	Storage of thickened sludge	LS	
2.7	Blending of sludge	LS	
2.8	Anaerobic digestion	LS	
2.9	Boiler house	LS	
2.10	Storage of digested sludge	LS	
2.11	Internal roads, parking areas and footpaths	LS	
2.12	Green landscaping	PS	10.000
Total Schedule 2 to Main Summary			

Shall read as new text:

Item	Description	Unit (Lump Sum)	Amount EUR
2.1	Connection between the existing waste activated sludge pumping station and the activated sludge buffer tank	LS	
2.2	Connection between the existing primary sludge thickener and the supernatant storage tank, connections with other return flows within the sludge treatment system, including transfer pumping station	LS	
2.3	Connection between the existing primary sludge thickener to sludge blending tank, including transfer pumping station	LS	
2.4	Sludge house with sufficient space for mechanical sludge thickening, mechanical sludge dewatering, polymer units, MMC's, personnel quarters, storage for chemicals, spare parts and tools, also including a dewatered sludge temporary storage area	LS	
2.5	Interconnecting pipework	LS	
2.6	Buffer tank for waste activated sludge	LS	
2.7	Blending tank for thickened waste activated sludge and thickened primary sludge	LS	
2.8	Anaerobic digestion	LS	
2.9	Boiler house	LS	
2.10	Storage tank for digested sludge	LS	
2.11	Internal roads, parking areas and footpaths, fence and gate (as required)	LS	
2.12	Green landscaping	PS	10.000
3.13	Other items (to be completed by bidder)	LS	

Item	Description	Unit (Lump Sum)	Amount EUR
Total Schedule 2 to Main Summary			

4.1.2.3 Schedule 3 – Mehcanical, Electrical , Scada and Control Works

15. The former text:

Item	Description	Unit (Lump Sum)	Amount EUR
3.1	Waste activated sludge mechanical thickener	LS	
3.2	Waste activated sludge storage and transfer pumping station	LS	
3.3	Supernatant storage & pumping station	LS	
3.4	Sludge house – sludge dewatering	LS	
3.5	Electrical distribution system	LS	
3.6	Emergency + Power generator	LS	
3.7	Instrumentation and SCADA sludge system	LS	
3.8	Storage of thickened sludge	LS	
3.9	Blending of sludge	LS	
3.10	Anaerobic digestion	LS	
3.11	Gas system – gasholder, gas treatment, flare	LS	
3.12	Boiler house	LS	
Total Schedule 3 to Main Summary			

Shall read as new text:

Item	Description	Unit (Lump Sum)	Amount EUR
3.1	Thickened primary sludge pumping station	LS	
3.2	Waste activated sludge buffer tank and transfer pumping station of 1duty-1 standby configuration	LS	
3.3	Supernatant storage tank & pumping station of 1duty-1 standby configuration	LS	
3.4	Sludge treatment equipment to be located in sludge house, composed of mechanical sludge thickening, mechanical sludge dewatering, polymer preparation and dosing units for both mechanical thickening and dewatering, all required pumps of 1duty-1 standby configuration, dewatered sludge transfer equipment and all auxiliary equipment, as well as containers for sludge transport	LS	
3.5	Complete electrical system composed of transformers, motor control centres, electrical distribution system, earthing, etc, X-proof as required	LS	
3.6	Emergency power generator and gas fuelled combined heat power (CHP) units, including all auxiliary equipment	LS	
3.7	Instrumentation, control system and SCADA elements, for interconnection with the main SCADA system of the WWTP	LS	
3.8	Buffer tank for digested sludge and transfer pumping station	LS	
3.9	Blending tank for thickened primary sludge and thickened waste activated sludge	LS	
3.10	Anaerobic digestion, including all auxiliary equipment such as pumps, compressors, mixers, heat exchangers, etc.	LS	

Item	Description	Unit (Lump Sum)	Amount EUR
3.11	Gas system, including gasholder, gas treatment, gas compressors, flare stack and all auxiliary equipment	LS	
3.12	Dual fuel boiler system, including liquid gas tank and all auxiliary equipment	LS	
3.13	Other items (to be completed by bidder)	LS	
Total Schedule 3 to Main Summary			

16. The former text:

Vol 4 section 4.3.2 footnote to the table	(*) To be included in the tender under Form 4.6.11	

Shall read as new text:

Vol 4 section 4.3.2 footnote to the table	- The tonnes of produced wet sludge including chemicals (tWS/y) shall be considered for the operation costs calculation. (*) To be included in the tender under Form 4.6.11	

All other terms and conditions of the Tender Dossier remain unchanged.
The above alterations and /or corrections to the Tender Dossier are integral part of the Tender Dossier.