CHANGE TO TENDER DOSSIER (CHANGE NOTICE) NO. 1

Contract Title: **Construction Works for Wastewater Collection and Treatment System in the City of Čačak**
Tender Reference Number (procedure identifier): **EC-ENEST/BEG/2025/EA-OP/0094**

Tender Dossier is corrected or modified as follows:

d4u_techspec_en Vol.3.2 - VOLUME 3, EMPLOYER`S REQUIREMENTS, Section 2 - Particular Design & Process Requirements, Sub-Section No: 3.2.2.29

Instead of:

Excess Sludge Thickening/ Storage

Excess Sludge (ES) will be intermittently discharged by the excess sludge pumping station into a sludge buffer tank prior to mechanical thickening which shall be used for buffering/ synchronisation of the excess sludge discharge cycles of the activated sludge system and the operation time of the mechanical thickening facilities.

The mechanical thickening facility to be provided under this Contract shall be designed for Phase II loads to the WWTP and operation for 5 days per week in two shifts per working day.

Table 3.2.2-21: Design Criteria for Excess Sludge Thickening/ Storage

Parameter	Unit	Phase I	Phase II
Number of working days of a mechanical thickener	d/7d	5	5
Shifts for mechanical thickening – 8 hours/shift	no	2	2
Output solids concentration	DS	5% - 6%	5% - 6%
Type of thickener: Gravity belt, drum screen, centrifuge, other	Contractor to propose		
Number of thickeners in operation	Number proposed	N	N
Number of thickeners - reserved	Number	1	1
Conditioning of sludge by polyelectrolyte			
No of working dosing units	Number proposed	N	
No of reserve dosing units	Number	1	
Type of thickener feeding pumps		Positive displacement	Positive displacement
No of thickener feeding pumps	Number proposed	N	N
No of stand-by units	Number	1	1

The ES storage tanks shall be provided with agitators for intermittent operation as well as height adjustable supernatant discharge device.

Surplus sludge shall be fed into the tanks by pressure pipes from the ES-pumping station. The sludge volume shall be mixed and homogenized at regular intervals in order to prevent compaction of sludge on the tank bottom. The ES sludge shall be transferred to the mechanical thickener by positive displacement pumps. Prior feeding, the ES shall be conditioned with polymer.

The mechanical sludge thickening facility shall comprise sludge thickening machine with sludge feeding pumps, equipment for automatic preparation and dosing of polyelectrolyte with dosing pumps and in-line mixers, and local switchboards. Each thickening machine shall have its own dedicated positive displacement feed pump and polymer dosing pump. The thickener(s) feeding pumps and polymer dosing pumps shall be equipped with frequency converters (FC) in order to adjust the flow rates to the operational requirements.

Number and capacity of the polymer preparation units shall be proposed by the Tenderer based on polymer demand. The capacity of polymer preparation unit and polymer dosing pumps shall correspond to ultimate capacity of the WWTP (Phase II).

Excess sludge shall be fed to the mechanical thickening machines by individual suction and pressure pipework. Each suction pipe shall be equipped with an inductive flow measurement device (EFM) for continuous sludge flow measurement with registration, remote transmission, and operation control of the sludge thickening process.

Eccentric (positive displacement) dosing pumps with frequency inverter shall be provided for dosing of polymer for sludge conditioning. Polyelectrolyte dosing control shall be flow proportional against a preset standard ratio, which depends on the particular sludge characteristics to be determined during commissioning.

Filtrate shall be piped by gravity to the supernatant pumping station of the WWTP.

The sludge thickening facilities shall be located in an operation building that shall be comprised of two sections for the installation of the machinery with ancillary equipment and local control panels with SCADA system integration. The operation room shall be designed in such a way that all requirements for noise/odour control and working security are fulfilled. Access to the machines, pumps and components (such as valves and local control panels) shall be secure and unhindered. The operation room shall be provided with a crane hoist for installation and all building services for a suitable working environment.

Thickened sludge shall be collected and transferred into blending tank with storage capacity for minimum of 2 days peak production, providing homogenized inflow of primary and excess sludge for anaerobic digesters. Blending tank shall be equipped with an emergency overflow, connected by gravity line to the internal sewerage pumping station.

Read:

Excess Sludge Thickening

Excess Sludge (ES) shall be intermittently discharged from the RAS and ES pumping station by ES pumps to the mechanical thickening facilities during the operational time. Each pressure pipe shall be provided with and inductive flow meter with registration, transmission and operation control of the sludge thickening process.

The mechanical thickening facility to be provided under this Contract shall be designed for Phase II loads to the WWTP and operation for 5 days per week in two shifts per working day.

Table 3.2.2-21: Design Criteria for Excess Sludge Thickening

Parameter	Unit	Phase I	Phase II
Number of working days of a mechanical thickener	d/7d	5	5
Shifts for mechanical thickening – 8 hours/shift	no	2	2
Output solids concentration	DS	5% - 6%	5% - 6%
Type of thickener: Gravity belt, drum screen, centrifuge, other	Contractor to propose		
Number of thickeners in operation	Number proposed	N	N
Number of thickeners - reserved	Number	1	1
Conditioning of sludge by polyelectrolyte			
No of working dosing units	Number proposed	N	
No of reserve dosing units	Number	1	
Type of thickener feeding pumps		Positive displacement	Positive displacement
No of thickener feeding pumps	Number proposed	N	N
No of stand-by units	Number	1	1

The ES sludge shall be transferred to the mechanical thickener by positive displacement pumps. Prior feeding, the ES shall be conditioned with polymer.

The mechanical sludge thickening facility shall comprise sludge thickening machine with sludge feeding pumps, equipment for automatic preparation and dosing of polyelectrolyte with dosing pumps and in-line mixers, and local switchboards. Each thickening machine shall have its own dedicated positive displacement feed pump and polymer dosing pump. The thickener(s) feeding pumps and polymer dosing pumps shall be equipped with frequency converters (FC) in order to adjust the flow rates to the operational requirements.

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Thickened sludge shall be collected and transferred into blending tank with storage capacity for minimum of 2 days peak production, providing homogenized inflow of primary and excess sludge for anaerobic digesters. Blending tank shall be equipped with an emergency overflow, connected by gravity line to the internal sewerage pumping station.

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.