

C.2 PRICED BILL OF QUANTITIES

GENERAL REMARKS

- a. The offered prices shall include: transport, delivery, assembly and wiring of all equipment and electrical materials, as well as all miscellaneous installation material, such as: screws, anchors, plaster, screw terminals, cable inlets and similar.
- b. The offered price shall also include the development of necessary workshop documents.
- c. The mentioned types and manufacturers of certain parts of equipment or installation material are given as reference. The Contractor may install other equipment or material as well, under the condition that its electro-technical and constructive characteristics are the same as for the equipment stated in the BoQ. Without written consent of the Designer / written in the Construction Log / the replacement of equipment or manufacturer is not allowed, which is defined in this BoQ.
- d. Technical description is an integral part of this BoQ.
- e. All delivered and installed material must be compliant with SRPS standards, i.e. IEC standards.
- f. The Contractor is obligated to submit product certificates for all built-in equipment and electrical material.
- g. All works on the building must be performed using skilled workforce of suitable qualification structure.
- h. The Contractor shall get familiar with the building status and project documentation before the start of works. Any comments need to be submitted to the Investor or Supervisor in written form. If not, all subsequent issues as a result of not following this procedure shall become the burden of the Contractor.
- i. The Contractor shall apply all measures of workplace health and protection in accordance with the law.
- m. The Contractor shall coordinate all the works on the building with other Contractors.

1 EQUIPMENT DELIVERED AND INSTALLED BY EDB

No.	DESCRIPTION	UoM / 1 /	NoU / 1 /	PRICE / RSD /	TOTAL / RSD /
1.	Measurement cabinet - separate measurement position (IMM), in which the following equipment shall be built: - Limiter 32 A - Three-phase double tariff meter Calculated completely installed and wired	pcs pcs pcs	3 1 1		
2	Connection cable from EDM to IMM, according to technical conditions for connection No. EO-171/15 dated 26/06/2015	m	as needed		
Total 1.					

2. ELECTRICAL POWER INSTALLATION

- All electrical circuits in cabinets must be visibly marked with numbers (on screw terminals) and labels (on built-in equipment)
- Equipment built in the cabinets: ZUDS, protection switches, contactors, switches, screw terminals and other must be made by a renowned producer: SCHRACK, MOELLER, SCHNEIDER, SIMENS or LEGRAND
- The Contractor shall submit quality certificate and warranties (if available) for all installed equipment and cables

No.	DESCRIPTION OF WORKS	UoM / 1 /	NoU / 1 /	PRICE / RSD /	TOTAL / RSD /
1	Electrical cabinet PO, with standard industrial casing made of hot-pressed, fibreglass-reinforced polyester, similar to MAXIPOL Schrack. To be mounted in the wall. The following equipment shall be built in the cabinet and wired: - Assembly board - Protective four-pole residual current device ZUDS 25/0.3 A - Safety switch 20 A, 6kA, type C - Surge arrester - class II varistor, with replaceable module, similar to type Schrack VVP 255, 20kA, 255V - Spark gap, similar to type Schrack DV 255 - Installation material All complete installed and wired	pcs pcs pcs pcs pcs as required pcs	1 1 6 3 1 1 1		

2	Electrical cabinet PO, with standard industrial casing made of hot-pressed, fibreglass-reinforced polyester, similar to MAXIPOL Schrack. To be mounted in the wall. The following equipment shall be built in the cabinet and wired:		
	· Three-pole compact switch, similar to type NSX100, 25kA, TM25D, shunt release MX 24VDC, with extended rotary handle	pcs	1
	· Protective four-pole residual current device ZUDS 25/0.3 A	pcs	2
	· Signal light LED /green/	pcs	3
	· Safety switch 2A, 6kA, type B	pcs	4
	· Safety switch 6A, 6kA, type B	pcs	1
	· Safety switch 10A, 6kA, type B	pcs	8
	· Safety switch 16A, 6kA, type B	pcs	12
	· Installation material		as needed
	Calculation based on all together installed, wired, tested and put in operation	pcs	1
3	Fluorescent lights 4x18W, with steel sheet casing painted white, double parabolic high-gloss aluminium grill BAP 60, and electronic pre-wiring equipment, similar to type Elmat P3B22 4x18W. The light shall be delivered complete with fluorescent tube T8, Philips or Osram.		
	Calculation based on installed and wired light	pcs	29
4	Fluorescent light 2x36W, with fibreglass-reinforced polyester casing, with injection-moulded PMMA diffuser, protection level IP65, similar to type Elmat 771 2x36W IBV.		
	The light shall be delivered complete with fluorescent tubes T8, Philips or Osram		
	Calculation based on installed and wired light	pcs	2
5	Ceiling light with shade /IP44/, socket E27, similar to type ARO Massive. The light shall be delivered with 60W bulb, Philips or Osram.		
	Calculation based on installed and wired light	pcs	10
6	LED safety light, with 90 minutes autonomy, similar to type Elmat GR310/12L/180. Each light must have a product certificate.		
	Calculation based on installed and wired light	pcs	9
7	LED 30W spotlight, with aluminium casing, protection level IP65, with integrated motion detector (day-night option, adjustable operation time up to 10 minutes, not sensitive to small animals), type Elmark.		
	Calculation based on installed and wired spotlight	pcs	7
8	Wall-mounted light similar to "ship" type /IP44/, E27 socket, similar to ARO Massive type. The light shall be delivered together with 60W bulb, Philips or Osram.		
	Calculation based on installed and wired light	pcs	1
9	Form modular block 1M, similar to type Aling or Metalka Majur		
	· Single-pole installation switch 16A, 250V, 1M	pcs	1
	with 1M module carrier, 1M decorative frame and installation box		
	Calculation based on all complete installed and wired	pcs	3
10	Form modular block 2M, similar to type Aling or Metalka Majur		
	· Single-pole installation switch 16A, 250V, 1M	pcs	2
	with 2M module carrier, 2M decorative frame and installation box		
	Calculation based on all complete installed and wired	pcs	4
11	Form modular block 2M, similar to type Aling or Metalka Majur		
	· Multi-way installation switch, 16A, 250V, 1M	pcs	1
	· Single-pole installation switch 16A, 250V, 1M	pcs	1
	with 2M module carrier, 2M decorative frame and installation box		
	Calculation based on all complete installed and wired	pcs	2
12	Form modular block 3M, similar to type Aling or Metalka Majur		
	· Single-pole installation switch 16A, 250V, 1M	pcs	3
	with 3M module carrier, 3M decorative frame and installation box		
	Calculation based on all complete installed and wired	pcs	2
13	Form modular block 2M, similar to type Aling or Metalka Majur		
	· Single-pole installation switch 16A, 250V, 1M	pcs	1
	· Single-pole installation switch 16A, 250V, with ON/OFF indicator, 1M	pcs	1

	with 4M module carrier, 4M decorative frame and installation box Calculation based on all complete installed and wired	pcs	1	<hr/>
14	Form modular block 2M, similar to type Aling or Metalka Majur · Single-phase socket 16A, 250V, 2M with 2M module carrier, 2M decorative frame and installation box Calculation based on all complete installed and wired	pcs	1	
		pcs	8	<hr/>
15	Form modular block 2M, similar to type Aling or Metalka Majur · Single-phase socket 16A, 250V, 2M with protective cover with 2M module carrier, 2M decorative frame and installation box Calculation based on all complete installed and wired	pcs	1	
		pcs	11	<hr/>
16	Form modular block 4M, similar to type Aling or Metalka Majur · Single-phase socket 16A, 250V, 2M with protective cover with 4M module carrier, 4M decorative frame and 4M installation box Calculation based on all complete installed and wired	pcs	2	
		pcs	1	<hr/>
17	Form modular block 7M, similar to type Aling or Metalka Majur · Single-phase socket 16A, 250V, 2M · Empty module 1M · Computer connector RJ45, Cat.5E for FTP connection cable · Phone socket RJ12 with 7M module carrier, 7M decorative frame and 7M installation box Calculation based on all complete installed and wired	pcs	2	
		pcs	1	
		pcs	1	
		pcs	1	
		pcs	19	<hr/>
18	Connect water heater to electrical installation distribution	pcs	1	<hr/>
19	Flexible installation tube			
19.1	· 16-mm diameter tube	m	20	<hr/>
19.2	· 23-mm diameter tube	m	30	<hr/>
19.3	· 36-mm diameter tube	m	6	<hr/>
	The offered price shall include inserting the cables into the tube			
20	Cables for connecting the designed installation. They shall be laid in larger part under the mortar, and in smaller part inserted in installation tubes.			
20.1	Cable PP 2x1,5 mm ² /for single-pole switches/	m	30	<hr/>
20.2	Cable PP 3x1,5 mm ² /for serial and alternative switches/	m	30	<hr/>
20.3	Cable PP-Y 3x1,5 mm ² /lighting and PPC/, average length of 6 m per light	pcs	57	<hr/>
20.4	Cable PP-Y 4x1,5 mm ² /for lighting/	m	40	<hr/>
20.5	Cable PP-Y 3x2,5 mm ² /connectors, water heater/, average length 8.5 m	pcs	24	<hr/>
20.6	Cable PP00-Y 5x4 mm ² , from PO to KO-Hp	m	20	<hr/>
20.7	Cable PP00-Y 5x6 mm ² from PO to RO	m	20	<hr/>
20.8	Cable PP00 4x10 mm ² from IMM to PO laid in the ground	m	25	<hr/>
20.9	Cable P-Y 1x6 mm ² /for potential equalizing/	m	20	<hr/>
21	Equipotential bus bar in the boiler room, made of copper bus bar and protective metal box	pcs	1	<hr/>
22	Excavation of earth trench, dimensions 30x70 cm, using machines in III The offered price shall include: · Form cable bedding using fine grained soil · Backfill the trench, compacting soil in layers · Transport excess soil to a landfill, at a distance of up to 3 km Calculation per meter of length of the trench	m	17	<hr/>
23	Warning yellow PVC tape, to be put up at 40 cm above the cable in the trench. Calculation per meter of installed tape.	m	20	<hr/>
24	Plastic protection cover, to be put up above the cable in the trench	m	20	<hr/>
25	Excavate foundations for pole carrying the IMM cabinet. Excavation dimensions shall be 60x50x50 cm. The offered price shall include sub-soil compacting (pit bottom), using accessories, up to a minimum degree of compaction Ms = 20 Mpa. Calculation per excavated pit, including removal of excess soil.	pcs	1	<hr/>

26	Make foundations 50x560x50 cm using MB 20 concrete. Use machines to compact the concrete. Foundation top surface shall be 3 cm above surrounding ground. Introduce 100-mm pipe in the foundation during concreting. Calculation per formed foundation.	pcs	1	
27	Install hot-dip galvanized pipe 100 mm in diameter, min. 2.5-mm thick sides, in the foundation to carry the IMM cabinet Calculation per meter of length of installed pipe	m	2.5	
Total 2.				

3. TELECOMMUNICATION INSTALLATION TELEKOMUNIKACIONA

1	Form modular block 5M, similar to type Aling or Metalka Majur · Computer connector RJ45, Cat.5E for FTP connection cable · Phone socket RJ12 with 5M module carrier, 5M decorative frame and 5M installation box Calculation based on all complete installed and wired	pcs	3	
		pcs	2	
		pcs	1	
2	Flexible installation tube			
2.1	• 13.5-mm diameter tube	m	60	
2.2	• 16-mm diameter tube	m	15	
	The offered price shall include inserting the cables into the tube			
3	Cable JY(St)Y 2x2x0.8 mm /from TPM to RJ12 in the teachers' office/	m	18	
4	Cable RG 6U /inserted in the installation tube/	m	20	
5	Cable FTP. Cat.6E /inserted in the installation tube/	m	32	
6	Three-way TV splitter, similar to Televes Indoor splitter Mounted in the installation box 200x200. Calculation based on everything	pcs	1	
Total 3.				

4. LIGHTNING PROTECTION AND EARTHING

1.	Strip Fe/Zn 4x25 mm to be used as foundation earthing and grounding electrode conductor /to test joint/. Calculation per kg of installed strip	kg	75	
2.	Strip Fe/Zn 3x20 mm to be used as lightning earthdown conductor and lightning rod holder. Calculation per kg of installed strip	kg	46	
3.	Spacer clip for vertical gutter SRPS N.B4.914	pcs	4	
4.	Form test joint with crossrun clamp SRPS N.B4. 936/III, in test joint box SRPS N.B4.912	pcs	6	
5	Fe/ZN strip roof support SRPS N.B4.922	pcs	53	
6	Crossrun clamp SRPS N.B4.936/III	pcs	17	
7	Horizontal gutter clamp SRPS N.B4.908	pcs	5	
Total 4.				

5. FINISHING WORKS

1	Examine and test the electrical installation entirely in accordance with valid regulations and standards. Form test protocol based on the results in three copies and submit to the Investor. If some of the test results do not meet the standards, the Contractor shall remedy all of the identified faults at their own expense.	Lumps um	1	
2	Develop as-built design in two copies, if there have been major deviations from the main design	Lumps um	1	
Total 5.				

TOTAL