



**Republic of Serbia**  
**MINISTRY OF EDUCATION,**  
**SCIENCE AND TECHNOLOGICAL DEVELOPMENT**  
Number: 404-02-100/2014-05/9  
Date: November 24<sup>th</sup> 2014  
Belgrade

### **QUESTION AND ANSWER no. 8**

Regarding the request for clarification of tender documents for the procurement no. NZN/03/14 - Performing construction, reconstruction and renovation works on the school buildings within School Modernisation Programme, we submit the following answers:

#### **1. BIDDER'S QUESTION:**

Please provide us with the scheme of locks and joinery (doors and windows) ES "Vojvoda Stepa" in Belgrade.

#### **ORDERER'S ANSWER:**

Please find enclosed scheme of locks and joinery (doors and windows) ES "Vojvoda Stepa" in Belgrade.

#### **2. BIDDER'S QUESTION:**

In the part: installation of strong and weak current. LOT 1, for HS „Mladost“, Petrovac na Mlavi, positions related to the works IV Electrical installation of sockets and lighting, from S1 to S8, lamps with DALI control protocol were covered as well as necessary additional equipment that are very expensive, and technically we do not see the justification for procurement and installation of these systems.

It is customary to procure lamps with conventional control, switch near the door in the room. Please clarify, is it necessary to follow descriptions for listed positions?

DALI protocol beside lamps with DALI ballasts and motion sensors, requires controllers in the control cabinets and their accessories.

#### **ORDERER'S ANSWER:**

In the BoQ only two types of lights with DALI ballasts S1 and S2 are foreseen which together with controller IV.9 and motion sensor IV.10 form a whole. In other words, in one room (classroom) there are lamps with DALI ballasts (general lighting and lighting of the table) that are automatically turned on and off when there is somebody in the room (motion sensor reacts to movement and presence) and together with daylight provide scheduled and a sufficient level of brightness (lx). This principle achieves huge savings in electricity and investment return in less than one year. Given that the warranty on the entire system (DALI DIM ballasts, controller, motion sensor from manufacturer OSRAM) is 5 years, it is sufficient to talk about the feasibility of the investment. In other words, there are no excessive costs because they use

the same DALI DIM ballasts which are provided herein and with no need to add any additional controllers.

### **3. BIDDER'S QUESTION:**

In the Bill of Quantities for certain facilities there are positions that are unclear or disputed and the clarification is necessary for the following positions for mechanical installations:

A) Tender: Banja Koviljaca – Vera Blagojevic

Positions under A.7, C.2.16, C.2.17 are missing from the Bill of Quantities – do not exist, while positions C.2.3, C.3.7, D.1, D.2, D.3, D.4, D.5, D.6, D.7, D.8, D.16, D.17, D.19 and D.20 are numbered but do not have description. Weather these obscurities are accidental or just technicalities?

Position under A12, in its description has no characteristics of circulation pump – please provide characteristics of pump.

B) Tender: Petrovac na Mlavi – Mladost

Positions under 1,2,3 in the sheet Calculation 2“ do not contain dimensions and characteristics of required equipment in description, please provide them.

Position 6, part „Automatic“ the question is: what is all managed by the system (except the three-way valve and flow limiter), according to which algorithm?

Position 3, part “Automatic” please provide clarification on the calorimeter.

Position 4, part “Automatic” please provide clarification on type of protection for pressure transmitter (output 4-20mA).

Position 7, in the part “Automatic” in is necessary to clarify what is all shown and determined by HMI?

C) Tender: Rekovac – Belusic

Positions C1 and C2 do not have type and characteristics of required circulation pumps in the description – please provide them.

D) Tender: Vladicin Han

Position A1 does not contain name of manufacturer, type and characteristics of circulation pump in the description.

### **ORDERER'S ANSWER:**

A) Tender: Banja Koviljaca – Vera Blagojevic

Positions are omitted from the Bill of quantities because works from the mentioned positions are already finished.

Position under number A12 does not exist in the Bill of Quantities for elementary school "Vera Blagojevic".

B) Tender: Petrovac na Mlavi – Mladost

For equipment under number 1, 2 and 3 dimensions are given in the project - DN 65.

Balancing valve is a mechanical flow limiter whose  $Kvs = 93.4 \text{ m}^3/\text{h}$  value is given by the manufacturer in accordance with the flow that matches the object and the speed of the fluid through the existing diameter of the pipeline. The estimate is given in the project. The three-way mix valve with electromotor whose characteristics are foreseen by manufacturer is procured as an integral part of the mix valve.

The system consists of a universal programmable logic controller PLC with LAN network card (No. 6), analog temperature module (number 8), Pt100 temperature sensors, pressure transmitter with range 0-10 bar and 0-20 mA analog signal. The system manages the three-way mix valve based on the measured temperature before the valve, after the valve and on the outlet, starting and stopping of the pump, if necessary, measures the pressure at the inlet and outlet (differential pressure) and the regulation of the same to create the conditions for optimum operation of the pumps. Algorithm was not given in the project because it is a matter of programmers on how to do so.

Heat meter can be with pulse or analog signal. Given that installation of electronic equipment with analog input is planned, calorimeter with communication card is required - 0-20mA analog output. The dimension of the device is DN 65 as written in the Bill of Quantities.

Pressure transmitter is an electronic device that measures the pressure in the installation and which through an analog signal give value. Tag 0-10 bar is pressure range that is measured. 0 bar is 0mA, 10 bar is 20mA. It connects to the analog input and the pressure value is transmitted to the dispatch center.

HMI (Human Machine Interface) is used to read all the values that were measured in the heat delivery station (all temperatures, pressures, flow (through the calorimeter)), shall be input by which PLC generates a diagram and three-way valve leads the temperature to the optimum value at the time. PID parameters are entered on the HMI because all the parameters depend on the characteristics of heat transfer station. Percentage of decreasing or increasing temperature depending on your needs is also entered.

C) Tender: Rekovac – Belusic

Corrected Bill of Quantities for mechanical installations was submitted to you with Question and answer no. 7 in which characteristics of circulation pumps are given.

D) Tender: Vladicin Han

Please find enclosed revised project for HVAC installation with the Bill of Quantities.

#### **4. BIDDER'S QUESTION:**

In the Bill of Quantities for certain facilities there are positions that are not clear, i.e. that are disputable, and are related to the preparatory works:

Subject of works – there are no quantities for the handball court “Ranovac”, so it is necessary to provide quantity.

#### **ORDERER'S ANSWER:**

Please find enclosed corrected Bill of Quantities.

#### **5. BIDDER'S QUESTION:**

The planting works regarding ES „Vojvoda Stepa“ in Kumodraz

In the part A2 specification of planting material there is no quantity, it is necessary to provide quantity.

#### **ORDERER'S ANSWER:**

Corrected Bill of Quantities was submitted to you with Question and answer no. 6.

Chairman of the Public Procurement Commission  
Maja Pantic