**ANNEX NO. 4 OF DOCUMENTATION OF THE TENDER PROCEDURE**

**-**

**SPECIFICATION OF THE PUBLIC CONTRACT SUBJECT**

The subject of the public contract shall meet the following requirements for technical parameters and equipment:

|  |  |  |
| --- | --- | --- |
| **Technical specification – X-ray acquisition system** | | |
| **Designation of the delivery (min. brand and type)** | |  |
| **Individual technical parameters of the performance** | | **Data about the offered performance** |
| 1 | Low-noise reset type preamplifier |  |
| 2 | High performance digital pulse processor |  |
| 3 | Acquisition software with possibility making settings and energetic calibration | ***and will enter the actual value*** |
| 4 | MCA |  |
| 5 | Minimally 1 embedded single channel analyzer (SCA) with digital output to external I/O connector (= If an event occurs within the range defined by predefined thresholds, then a LOGIC pulse is generated and is output to the Digital I/O connector. We need to connect it to our external hardware). | ***and will enter the actual value*** |
| 6 | USB Settings/Communication (minimally USB 2.0) |  |
| 7 | >50mm non-vacuum stainless-steel snout | ***and will enter the actual value*** |
| 8 | Detector and electronics covered in one closed box, possible using external power adaptor |  |
| 9 | External (BNC or coaxial output) output pulses, which height (in volts, between 0 – max 10 V) corresponds to the energy of the detected photon. | ***and will enter the actual value*** |

|  |  |  |
| --- | --- | --- |
| **Technical specification – Silicon Drift Detector (SDD)** | | |
| **Designation of the delivery (min. brand and type)** | |  |
| **Individual technical parameters of the performance** | | **Data about the offered performance** |
| 1 | Fast SDD chip |  |
| 2 | X-rays with maximal efficiency between 5 - 40 keV | ***and will enter the actual value*** |
| 3 | 1 mm or higher Si thickness | ***and will enter the actual value*** |
| 4 | Peltier cooled |  |
| 5 | Active area > 60 mm² | ***and will enter the actual value*** |
| 6 | Energy resolution ≤300 eV FWHM @5.9 keV. | ***and will enter the actual value*** |
| 7 | Count rate capability > 1 Mcps at specific peaking/shaping time | ***and will enter the actual value*** |
| 8 | Peak to background > 15,000 at Mn-Kα | ***and will enter the actual value*** |
| 9 | Window with optimal transmission for X-rays >4 keV (Be or different) | ***and will enter the actual value*** |
| 10 | AC/DC power adapter, primary power 230 V, or USB powered | ***and will enter the actual value*** |
| 11 | Internal power for SDD chip (HV), and cooling system |  |

Instructions for the participants:

*The participant fills in the data in the “Data about the offered performance” column, indicating for each item whether the performance offered by him meets the relevant request of the contracting authority (“****YES****”) or does not (“****NO****”).*