# *ANNEX II + III:* TECHNICAL SPECIFICATIONS + TECHNICAL OFFER

**Contract title: Supply of Purchase and Installation of Solar Power Plants p 1 /11**

**Publication reference:** **HR-RS00158/CREATEGREEN/City of Sombor/02**

**Columns 1-2 should be completed by the contracting authority**

**Columns 3-4 should be completed by the tenderer**

**Column 5 is reserved for the evaluation committee**

Annex III - the contractor's technical offer

The tenderers are requested to complete the template on the next pages:

* Column 2 is completed by the contracting authority shows the required specifications (not to be modified by the tenderer),
* Column 3 is to be filled in by the tenderer and must detail what is offered (for example the words ‘compliant’ or ‘yes’ are not sufficient)
* Column 4 allows the tenderer to make comments on its proposed supply and to make eventual references to the documentation

The eventual documentation supplied should clearly indicate (highlight, mark) the models offered and the options included, if any, so that the evaluators can see the exact configuration. Offers that do not permit to identify precisely the models and the specifications may be rejected by the evaluation committee.

The offer must be clear enough to allow the evaluators to make an easy comparison between the requested specifications and the offeredspecifications.

The requirements set out in the technical specifications represent the minimum technical characteristics which offered goods must satisfy, unless stated otherwise, and tenderers are not allowed to modify technical specification in any way.

For each item for which it is not explicitly stated that it is allowed to offer goods of the equal characteristics, i.e. for each item where it is not stated “or equivalent”, for the purposes of this tender documentation it is assumed that words “or equivalent” are stated, and tenderer is allowed to offer equivalent goods / goods of equivalent characteristics.

**1. GENERAL REQUIREMENTS**

**Below general requirement shall apply to all of the items specified.**

**1.1. Technical Requirements**

1.1.1 All the equipment shall be provided complete with the necessary accessories and/or parts such as to ensure that the unit is capable of operating to the required technical and quality specifications.

1.1.2 All specification details listed for each item are the minimum requirements. Any improvements on the specifications or additional features offered should be clearly identified in the tenderer’s offer.

1.1.3 It should be noted that whenever a specific name of a product is mentioned in the Technical Specifications, a sufficiently precise and fully intelligible description is not possible, and it has to be understood as that product or its equivalent.

**2. Description of Installations**

| **Location** | **Lot Number** | **System Capacity** | **Building Use** | **Building Owner** |
| --- | --- | --- | --- | --- |
| Venac Petra Bojovića 11  25000 Sombor | 7209 k.o. Sombor 1 | 0.04 MW | SC “Soko” | City of Sombor |
| Apatinski put bb  25000 Sombor | 8735/6 k.o. Sombor 1 | 0.25 MW | SC “Soko” | City of Sombor |

| **1.**  **Item number** | **2.**  **Specifications required** | | **3.**  **Specifications offered** | **4.**  **Notes, remarks,  ref to documentation** | **5.**  **Evaluation committee’s notes** |
| --- | --- | --- | --- | --- | --- |
|  | **All requirements mentioned and requested in this document shall be considered as the minimum acceptable criteria.** | |  |  |  |
|  | Description: Solar Power Plants | Quantity: 2 sets |  |  |  |
| **1.** | **Solar Power Plant 40 Kw (1 set)**  **Location: SC 'Soko' – Venac Petra Bojovića 11, Lot number: 7209 k.o. Sombor 1**  **Solar Power Plant with the total power of 40 Kw, delivery with mounting with following characteristics:**  **Photovoltaic Modules (90 pcs):**  **- Type:** Monocrystalline or polycrystalline silicon  **- Power (Pmax):** 510 Wp  **- Efficiency:** ≥21.0%  **- Dimensions:** 2094 × 1134 × 35 mm  **- Weight:** ≤26 kg  **- Vmp:** 38.2 V, Imp: 13.36 A  **- Voc:** 43.6 V, Isc: 11.27 A  **- Max system voltage:** 1000/1500 V DC  **- Protection:** IP68  **- Standards:** IEC 61215 / IEC 61730  **Inverters:**  **- Type:** Grid-tied string  **- Power:** ~50 kW per unit, max apparent power ≥55 kVA  **- MPPT inputs:** min 4, voltage range 180–1000 V, max input 1100 V  **- Output:** 400 V AC, 50 Hz, max output current ≤80 A  **- Protection**: Surge, anti-islanding  **- Communication:** RS485, Ethernet, Wi-Fi optional  **- Standards:** IEC 62109, EN 50549-1  **Mounting Structure:**  **- Fixed tilt,** optimized for south orientation  **- Material:** Aluminium or galvanized steel  **- Wind load** ≥2400 Pa, Snow load ≥5400 Pa  **Monitoring:**  **-** Web-based system, real-time performance monitoring  **- Exportable data:** CSV/Excel formats  **Electrical & Protection:**  **-** Includes AC/DC combiner boxes, disconnect switches  **-** Surge protection devices, IP55 enclosures, UV-resistant cables  **Grid Connection:**  **-** Includes all works needed for connection to DSO (Elektrodistribucija Srbije)  - Includes transformer 20/0.4 kV if required  - Conforms to national distribution code  **Warranty & Maintenance:**  **-** PV Panels: ≥12 years product, 30 years performance (≥85%)  - Inverters: ≥5 years, Installation: ≥2 years  - Maintenance: 2× annually, fault response within 48 hours  **Documentation & Training:**  - Manuals (EN/SR), as-built drawings, staff training included  **Solar Power Plant 250 Kw (1 set)**  **Location: SC 'Soko' – Apatinski put bb**  **Lot number: 8735/6 k.o. Sombor 1**  **System Capacity**: 0.25 MW **delivery with mounting with following characteristics:**  **Photovoltaic Modules (540 pcs):**  **- Type:** Monocrystalline or polycrystalline silicon  **- Power (Pmax):** 510 Wp  **- Efficiency:** ≥21.0%  **- Dimensions:** 2094 × 1134 × 35 mm  **- Weight:** ≤26 kg  **- Vmp:** 38.2 V, Imp: 13.36 A  **- Voc:** 43.6 V, Isc: 11.27 A  **- Max system voltage:** 1000/1500 V DC  **- Protection:** IP68  **- Standards:** IEC 61215 / IEC 61730  **Inverters:**  **- Type:** Grid-tied string  **- Power:** ~50 kW per unit, max apparent power ≥55 kVA  **- MPPT inputs:** min 4, voltage range 180–1000 V, max input 1100 V  **- Output:** 400 V AC, 50 Hz, max output current ≤80 A  **- Protection:** Surge, anti-islanding  **- Communication:** RS485, Ethernet, Wi-Fi optional  **- Standards:** IEC 62109, EN 50549-1  **Mounting Structure:**  **-** Fixed tilt, optimized for south orientation  - Material: Aluminum or galvanized steel  **- Wind load ≥2400 Pa, Snow load ≥5400 Pa**  **Monitoring:**  **-** Web-based system, real-time performance monitoring  - Exportable data: CSV/Excel formats  **Electrical & Protection:**  **-** Includes AC/DC combiner boxes, disconnect switches  - Surge protection devices, IP55 enclosures, UV-resistant cables  **Grid Connection:**  **-** Includes all works needed for connection to DSO (Elektrodistribucija Srbije)  - Includes transformer 20/0.4 kV if required  **-** Conforms to national distribution code  **Warranty & Maintenance:**  **-** PV Panels: ≥12 years product, 30 years performance (≥85%)  **- Inverters:** ≥5 years, Installation: ≥2 years  **- Maintenance:** 2× annually, fault response within 48 hours  **Documentation & Training:**  **-** Manuals (EN/SR), as-built drawings, staff training included | |  |  |  |
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