

# Section VII. Technical Specifications

## Notes for Preparing the Technical Specifications

A set of precise and clear specifications is a prerequisite for Bidders to respond realistically and competitively to the requirements of the Procuring Entity without qualifying their Bids. In the context of Competitive Bidding, the specifications (*e.g.* production/delivery schedule, manpower requirements, and after-sales service/parts, descriptions of the lots or items) must be prepared to permit the widest possible competition and, at the same time, present a clear statement of the required standards of workmanship, materials, and performance of the goods and services to be procured. Only if this is done will the objectives of transparency, equity, efficiency, fairness, and economy in procurement be realized, responsiveness of bids be ensured, and the subsequent task of bid evaluation and post-qualification facilitated. The specifications should require that all items, materials and accessories to be included or incorporated in the goods be new, unused, and of the most recent or current models, and that they include or incorporate all recent improvements in design and materials unless otherwise provided in the Contract.

Samples of specifications from previous similar procurements are useful in this respect. The use of metric units is encouraged. Depending on the complexity of the goods and the repetitiveness of the type of procurement, it may be advantageous to standardize the General Technical Specifications and incorporate them in a separate subsection. The General Technical Specifications should cover all classes of workmanship, materials, and equipment commonly involved in manufacturing similar goods. Deletions or addenda should then adapt the General Technical Specifications to the particular procurement.

Care must be taken in drafting specifications to ensure that they are not restrictive. In the specification of standards for equipment, materials, and workmanship, recognized Philippine and international standards should be used as much as possible. Where other particular standards are used, whether national standards or other standards, the specifications should state that equipment, materials, and workmanship that meet other authoritative standards, and which ensure at least a substantially equal quality than the standards mentioned, will also be acceptable. The following clause may be inserted in the Special Conditions of Contract or the Technical Specifications.

### Sample Clause: Equivalency of Standards and Codes

Wherever reference is made in the Technical Specifications to specific standards and codes to be met by the goods and materials to be furnished or tested, the provisions of the latest edition or revision of the relevant standards and codes shall apply, unless otherwise expressly stated in the Contract. Where such standards and codes are national or relate to a particular country or region, other authoritative standards that ensure substantial equivalence to the standards and codes specified will be acceptable.

Reference to brand name and catalogue number should be avoided as far as possible; where unavoidable they should always be followed by the words "*or at least equivalent.*" References to brand names cannot be used when the funding source is the GOP.

Where appropriate, drawings, including site plans as required, may be furnished by the Procuring Entity with the Bidding Documents. Similarly, the Supplier may be requested to provide drawings or samples either with its Bid or for prior review by the Procuring Entity during contract execution.

Bidders are also required, as part of the technical specifications, to complete their statement of compliance demonstrating how the items comply with the specification.

# Technical Specifications

Item No.	Specification	Statement of Compliance
		<p><i>[Bidders must state here either “Comply” or “Not Comply” against each of the individual parameters of each Specification stating the corresponding performance parameter of the equipment offered. Statements of “Comply” or “Not Comply” must be supported by evidence in a Bidders Bid and cross-referenced to that evidence. Evidence shall be in the form of manufacturer’s un-amended sales literature, unconditional statements of specification and compliance issued by the manufacturer, samples, independent test data etc., as appropriate. A statement that is not supported by evidence or is subsequently found to be contradicted by the evidence presented will render the Bid under evaluation liable for rejection. A statement either in the Bidder’s statement of compliance or the supporting evidence that is found to be false either during Bid evaluation, post-qualification or the execution of the Contract may be regarded as fraudulent and render the Bidder or supplier liable for prosecution subject to the applicable laws and issuances.]</i></p>
2.1	<p><b>BRANDED DESKTOP PALLET 3D PRINTER</b></p> <ul style="list-style-type: none"> <li>- Print Technology: Pellet</li> <li>- Build Volume: At least 295 x 185 x 200 mm</li> <li>- Nozzle Diameter: 0.4 (standard)-0.6-0.8-2.0-4.0-5.0mm</li> <li>- Extruder maximum temperature: 350°C</li> <li>- Compatible Material: Pellet</li> <li>- Application: Research and Material Development</li> <li>- Layer resolution: At least 10µm</li> <li>- Connectivity: USB, Wifi, SD Card</li> <li>- Display: at least 5" color touch screen</li> <li>- Control devices: PC, tablet, Smartphone</li> <li>- Control mode: Web</li> </ul> <p>Material Compatibility:</p> <ul style="list-style-type: none"> <li>- Pellets: PLA, ABS, PETG, FLEX, A93, WOOD, ABS+CF, PC, HDPE, Ultem, Peek, Recycled plastic</li> <li>- Slicing Software included: Professional Software</li> </ul>	



	<p>Package Inclusions:</p> <ul style="list-style-type: none"> <li>- 1 Unit Print Bed</li> <li>- 1 set Starter Material (1kg Pellet)</li> <li>- English Manual</li> </ul> <p>Other Inclusions:</p> <ul style="list-style-type: none"> <li>- Parts Availability certificate issued by the manufacturer</li> <li>- On-Site Training and Installation</li> </ul>	
2.2	<p><b>BRANDED PLASTIC SHREDDER WITH INTEGRATED GRANULATOR (2IN1)</b></p> <ul style="list-style-type: none"> <li>- Dimensions: at least 945 x 745 x 1445 mm</li> <li>- Dimensions of top hopper opening: at least 120 x 112 mm</li> <li>- Power: 120 or 240 V/50/60Hz</li> <li>- Default filter screen: at least 3.5 mm</li> <li>- Total shredding blades: at least 14 blades or more (Combination of 2, 3 and 7 teeth blades are possible)</li> <li>- Features: Smart control, Smart Troubleshooting, Smart Feeding, Material specific settings</li> <li>- Granulator Capacity: Pre-shredded PET-bottle (at least 180 g), Pre-shredded PP (at least 180 g)</li> <li>- Shredder Capacity: Small PET-bottle (at least 215 g), Medium PET-bottle (at least 275 g), PP bottle caps (at least 1 kg)</li> <li>- Certification: CE Certified</li> <li>- Machine Inclusion: Smart Hopper, Shredder Module, Granulator Module, Mobile cart, Granulate collector bin and Power cables</li> </ul> <p>Other Inclusion:</p> <ul style="list-style-type: none"> <li>- Parts Availability certificate issued by the manufacturer</li> <li>- On-Site Training and Installation</li> </ul>	
2.3	<p><b>BRANDED HANDLED 3D SCANNER WITH BUILT-IN TOUCHSCREEN INTERFACE</b></p> <ul style="list-style-type: none"> <li>- Hand-held 3D scanner meant to capture (from 30cm to 10m in length). With Built-in touchscreen for ease-of-use during scanning.</li> <li>- 3D Point Accuracy: 0.1 mm or better</li> <li>- 3D Resolution: 0.6 mm or better</li> <li>- Depth of view: at least 55-95 cm</li> <li>- Field of view: at least 280 x 360 mm (min.) to 490 x 650 mm (max.)</li> <li>- 3D Light source: Must be White LED</li> <li>- Texture Resolution: 2.3 mp</li> <li>- Frame Rate: 35 fps or better</li> </ul>	

<ul style="list-style-type: none"> <li>- Operating temperature: +5/+40C</li> <li>- Data acquisition speed: at least 3 million points/sec (min.)</li> <li>- Multi core processing: Yes</li> <li>- 3D Formats: OBJ, PLY, STL, etc.</li> <li>- Interface: Built in touchscreen - 4 inches or bigger</li> <li>- Tracking Modes: 3 modes</li> <li>- Geometry, Markers, Texture</li> <li>- Capable of scanning: Black surfaces, Glossy objects, Sharp edges, Human hair</li> <li>- Dimensions: At least 165 x 85 x 270 mm or equivalent</li> <li>- Software: Include license operating software that can fill holes, simplify the mesh, apply texture</li> </ul> <p>Bundle Inclusions:</p> <ul style="list-style-type: none"> <li>- Calibration Board</li> <li>- Magnetic Marker</li> <li>- USB Cable</li> <li>- Perpetual Licensed 3D Scanning Software</li> <li>- Carry Case</li> </ul> <p>Other Inclusion:</p> <ul style="list-style-type: none"> <li>- Parts Availability certificate issued by the manufacturer</li> <li>- On-Site Training and Installation</li> </ul>	
<b>***** Nothing Follows*****</b>	

**Additional Requirements:**

The technical specifications that shall be submitted by the Bidder, shall include among others:

- a. *product specifications as supported by brochures or catalogues;*
- b. *certification from manufacturer/distributor that bidder is authorized reseller;*
- c. *certification of certified technician for the product offered;*
- d. *bidder's certification that it has after-sales; and*
- e. *bidder's certification for one (1) year warranty for parts and services.*

