ANNEXURE-A

1. **Supply, Installation and Commissioning of CNC cutting machine of gantry type with 1 no. each oxy-fuel torch and dry plasma torch.**
   Details of Technical specification.

Sl No.	Machine Description	Qty.
1.	**CNC cutting machine of gantry type with 1 no. each oxy-fuel torch and dry plasma torch.** **Technical Specification:** • Track width: 4000 mm • Working width: 3000 mm • Total width: 5070 mm • Track length: 15000 mm • Cutting length: 13000 mm • Positioning Speed upto: 12 m/min • Connection Voltage: 415 V, 50/60 Hz **The machine should be equipped with the following components:-**	01
2.	**PLC based Controller with fully touch screen facility** • multi-tasking & network compatible PC-based control unit. • multi-lingual user interface (can be switched online) • operating system Embedded Windows 10® Professional • processor Intel® Celeron® 2000E 2.2 GHz or higher • 2.5" 320 GB SATA hard disc part program memory • TFT colour touch screen 15" & virtual keyboard (touch screen) for input • USB port & LAN support • upto 20 reference points • 24V DC power supply • Emergency ON/OFF button • automatic fault display • service/maintenance diagnostics • graphic display & editing of the part program • with display of the current torch position and automatic zoom & dynamic function • plate alignment compensation • DIN/EIA input format • unlimited reversing • programmable kerf compensation • jump in program with/without movement (hole piercing point, line number) • consumables and technology data base • Coloured display of consumables incl. part number, hole piercing cycles & cutting time. • **Job List** enables to connect Nesting to a reference point and • create a complete combined program For example • (cutting tables on which has the several plates is placed and it • can be divided into cutting areas. Each cutting area is assigned a reference point: X, Y, angle)Therefore the whole job can be loaded to the CNC and it can be started	01
3.	**AC Servo Drive System of <u>Yaskawa Germany make or equivalent</u>** • for higher positioning speeds up to 12m/min max. • AC servo motors with 750 watt • Acceleration of the machine 0.02G • Planetary gearbox of **<u>Neugart make or equivalent</u>**	03
4.	**Rack & Pinion: Gudel make or equivalent**	
5	**Track for double-sided longitudinal drive system** • for precise guidance and carrying of the machine carriage,	15mts.

	• for assembly on HEB beams or concrete substructure • sturdy track segments from precisely machined railway rails • precision racks for slip-free power transmission and precise path measurement of the longitudinal movement	
6.	**Energy supply via facilities drag chain of <u>IGUS make or equivalent</u>** • single sided energy drag chain as long as necessary for the travel range of the machine • with supply hose for oxy-fuel and the machine power cable suitable for use in energy drag chain.	15mts.
7.	**Plasma Lifter** • With integrated motor amplifier • Collision signal from Sensor device forwarded to PLC • Motor stop, when lifter reaches lower limit or collision • Maximum speed: 3 m/min • Maximum load: 20 kg • Maximum Z-axis Stroke Length: 170 mm	02
8.	**Plasma power source of 125 ampere of Hypertherm make or equivalent** • Rated output current: 30 A - 125 A AC power source • Rated output voltage: 175 VDC • Compressed air - shop air, portable air compressor. • Max. Piercing of plate thickness: 25mm (MS), 20mm (SS)	01
9.	**Laser Diode** • mounted and aligned at the set offset on the transverse drive carriage • plate position detection / auto plate alignment and remnant entry by means of the CNC	01
10.	**Nesting Software or equivalent software** • Integrated CAD system for the drawing and nesting of parts without intermediate steps in one operator interface • Definition and nesting of remnant plate geometries • Optimum plate usage • Interfaces DXF, DWG, DWF, DSTV, IGES, ESSI, DIN and XML import and export. • Manual nesting • Control by simulation • Saving and loading of the nesting plans created • NC code generation • Technology database • Preview of all parts in an optical parts list • Display and nesting of several nesting plans in one layer • Profiles to support a variety of individual configurations • Bridges, stitches, links - Common cuts • Configurable process database • Gap between parts, lead length and position configurable according to process • Automatically placed lead-ins and run-outs • Lead length and type can be changed manually • Output format for the NC machine code configurable • Coordinate origin freely selectable • Auto nest Program for automatic nesting • Selection of several strategies • Parts Library • Creation of customer specific parts libraries	01
11.	**Oxy fuel torch with manual bevel cutting** • Inductive height sensing. • Internal ignition. • Cutting capacity up to 300 mm • Piercing capacity up to 120 mm • Auto gas control unit. • Manual bevel cutting upto 45 Deg.	01

12.	**Machine Accuracy should be as per DIN EN 28206 – ISO 8206 or equivalent** • Reproducibility accuracy to be +/- 0.6 mm or better. • Repeatable accuracy to be +/- 0.2 mm or better.	01
13.	**5KVA Online UPS with isolation transformer.** • As per suitable make of UPS shall be provided.	01
14.	**Air Compressor with oil separator.** • As per suitable specification of Air Compressor shall be provided.	01
15.	**Air Dryer.** • As per suitable specification of Air Dryer shall be provided.	01
16.	**Gas Supply Distribution System** • As per suitable length of Gas Supply Distribution System shall be provided.	01

***** NOTE:** a) Supplier shall provide design drawing of installation platform/foundation and cutting bed structure with material list.

b) Prior to supply of CNC cutting machine at site design of installation platform /foundation and cutting bed structure to be furnished well in advance.

c) Plasma Cutting 6mm to 22mm thick plates (MS/HTS).

d) Gas Cutting 22mm to 50mm thick plates (MS/HTS).