Notice Inviting e-Tender

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Procurement of (03)three different equipments for NRS Medical college and Hospital of the Govt. of West Bengal

(Submission of Bid through *online*)

Bid Reference No.: WBMSCL/NIT-1049/2025	**Dated:19.12.2025**

AMENDMENT-I

Schedule-II

Revised Technical Specification

of Radiofrequency advanced electrosurgical unit with vessel sealing system: (Electrosurgical unit with Vessel Sealing)

1. An integrated system should be micro-processor controlled with Maximum Output of 300W or better Radio frequency (RF) generator with Monopolar, Bipolar, Bipolar Resection and Tissue-fusion/Vessel-sealing features integrated in one generator.
2. **Number of RF Mode Outputs:** System should have two monopolar outputs, one bipolar and one tissue- fusion/vessel-sealing output.
3. **Minimum RF Output Modes:**

A. "Monopolar CUT" Modes:

i) PURE/or equivalent technology : provides a clean, precise cut in any tissue with little or no haemostasis.

ii) BLEND/or equivalent technology : conventional blended waveform that provides slower cutting with simultaneous haemostasis.

B. "Monopolar COAG" Modes:

i) SOFT: desiccates tissue at a relatively slower rate with deeper thermal penetration typically performed with a ball electrode.

ii) FULGURATION/or equivalent: coagulates tissue by sparking from the active electrode, through air to the patient tissue.

iii) SPRAY: delivers wider fulguration. Penetration is shallower & the affected tissue area is larger than with the FULGURATION mode.

iv) SHARED COAGULATION: System should have shared coagulation mode, so that two surgeons can operate at two different sites in same patients with COAG mode.

v) IMPROVED HEAMOSTASIS-: Should have facility and should be provided with 3 button pencil with power output slider for improved COAG mode which offer precise coagulation in high vascularised tissue with minimal or no thermal spread.

vi) System should have Cardio Ablation Capacity inbuilt in System or equivalent technology (this features must be present along with the machine and must be demonstrated during demonstration at the institute)

C. Bipolar Output Modes:

i) LOW: It delivers low-voltage output for precise control of the amount of desiccation typically used with small- surface area instruments.

ii) STANDARD: It is a conventional bipolar output typically used with medium-surface area electrodes.

iii) HIGH: Power remains constant over a wide range of tissue types and may be used for large electrodes.

D. Auto Bipolar Mode

- Automatically senses tissue impedance between the two bipolar electrodes with contact of any material, then uses the impedance information to automatically start or stop bipolar RF energy delivery.

E. Tissue-fusion/ Vessel-sealing Mode:

- With special hand accessories capacity to be used on arteries, veins, pulmonary vasculature, lymphatics & tissue bundles up to and including 7 mm in diameter for secure haemostasis and division. Fused vessel should be able to withstand more than 3 times of normal systolic blood pressure. Authentic certificate must be produced for the above claim.
- Should provide precise energy delivery and electrode pressure to vessels for a controlled time period to achieve a complete and permanent fusion of the vessel lumen.
- Should support open and laparoscopic hand instruments.
- The tissue-fusion/ vessel sealing hand instruments should have cutting independent of sealing.
- System should have5 mm shaft open and lap Curved Jaw instrument with 07mm of Vessels Sealing capacity also should have inbuilt mechanical cutting.
- Should have 10mm Open and 05mm Open Vessel Sealing Instrument with Inbuilt Mechanical Cutting

4. Foot Controls:

- System should have separate single/two padel monopolar, one single padel bipolar / padel vessel sealing foot Switch.

5. Patient Return Electrode Monitoring System:

- Contact Resistance Sense Range 5 Ω to 135 Ω.
- When the measured resistance exceeds the standard range of safe resistance or when the measured contact resistance increases by 40% over the baseline, the alarm is activated, and RF output is disabled.

6. Audio-Visual Indicators & Alarms:

- Should have system status indicators such as Self-test, ready for use, ready for tissue-fusion/ vessel sealing.
- Audio-Visual indicator for Seal Cycle Complete.
- Should have system error indicator.

7. **Upgradation facility:** System should be upgradable and should have RS232/ USB/ Ethernet port for on field software downloads, upgrades and serviceability.
8. **Connection to External Systems**:

A. Should have Interlink cable ports to provide to signal other devices for integration.

B. Should be compatible to be connected to external systems: Lap Smoke Evacuator Unit, Argon Plasma Coagulator, Integration with Robotic Instruments.

C. System should be provided with Lap Smoke Evacuator from the same OEM/reputed make (this features must be present along with the machine and must be demonstrated during demonstration at the institute)

9. Input Power Requirement:

- Input Power: 220-240 VAC, Power Cable minimum 5 meters long with 6A three pin plug.

10. Electrical Safety:

A. Leakage Currents and Patient Auxiliary currents (IEC 60601-1):

- Device must be tested for Touch Current, Earth Leakage Current, Patient Auxiliary Current & Total Patient Leakage Current under Normal Condition and Single Fault Condition (as defined in IEC 60601-1).
- It should meet all pertinent clauses of IEC 60601-1 latest edition and Testing certificate must be attached.
- Unit should be Defibrillator proof.

B. High Frequency Leakage (IEC 60601-2-2):

- It should meet all pertinent clauses of IEC 60601-2-2 latest edition.
- Testing certificate must be attached

C. Class I Equipment (IEC60601-1):

- Accessible conductive parts cannot become live in the event of a basic insulation failure because of the way in which they are connected to the protective earth conductor.

D. Type CF Equipment/Defibrillator Proof (IEC60601-1, IEC60601-2-2and equivalent standard):

- Should have high degree of protection against electric shock regarding allowable leakage currents. Can be used for procedures involving the heart.

- Should complies with the appropriate IEC60601-1-2 and 60601-2-2 specifications regarding electromagnetic compatibility.
- Power efficiency rating should be more than @98% and it must be demonstrated with a certificate calibrated machine." Therefore, Bidder must carry with them Digital power meter / Energy meter /watt meter / Power Analyzer at the time of Technical Demonstration to show Power Efficacy. And all the updated calibration certificates of the mentioned gadgets must be submitted.

11. Electrosurgical Unit Accessories:

- All the accessories to be supplied must be from the same Manufacturer.
- Monopolar Foot switch: Qty-01;
- Bipolar / Vessel sealing Foot switch: Qty-01;
- Tissue-fusion/ Vessel sealing Foot switch: Qty-01;
- Adult Patient Plate -10 pcs
- Pediatric Patient Plate -10 pcs
- Diathermy Hand Switching Reusable Rocker Switch Pencil- 01 pc
- Universal Adaptar: Qty-01
- Vessel Sealing curved Jaw Nano Coated/non sticking Coated /PTFE Coated Instrument 23cm shaft length with inbuilt mechanical cutting – 06
- Vessel Sealing curved Jaw Nano Coated/non sticking Coated /PTFE Coated 21cm Open Instrument, Vessel Sealer-Divider, Curved Jaw 28 degrees, Seal Length 16,5mm, cut Length: 14.7mm, Length of instrument 7.4 inches, with Inbuilt mechanical cutting - 06

12. All the accessories and Instrument should be from same OEM.
13. The bidder should submit valid CDSCO Certificate / Registration /License for both the manufacturer(s) and importer(s) as applicable.