



## Notice Inviting e-Tender

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**Procurement of Medical Equipment for establishing a Level one modern Sleep Laboratory at SNPH Campus of IPGME&R-SSKM Hospital**  
(Submission of Bid through *online*)

**Bid Reference No.: WBMSCL/NIT-470/2023**

**Dated-14.08.2023**

**Amendment-I**

### **REVISED TECHNICAL SPECIFICATION**

| Sl No | Technical Specification  |
|-------|--|
| A.    | General Specifications:  |
| ➤     | Polysomnography system should have 50 or more channels   |
| ➤     | System must have continuous impedance monitored and reported for EEG, EMG and ECG during sleep study |
| ➤     | The system should be US FDA & CE (4 digit notified body) /BIS  |
| ➤     | Should follow latest AASM guidelines 2018  |
| B.    | Technical Specifications:  |
| 1.    | Hardware: Polysomnography system's single head box should have at least 50 input                     |
| ➤     | 32 or more input should be EEG   |
| ➤     | Dedicated EMG channels - 5   |
| ➤     | Chin EMG - 3 channels  |
| ➤     | Automatic Chin EMG referencing   |

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|-------|--|
| ➤     | EOG - 2 channels   |
| ➤     | ECG-1 channels or more ( 1 physical or more )  |
| ➤     | Pressure transducer-Dedicated differential w/snore   |
| ➤     | Flow (Thermal)-  |
| ➤     | Snore reading by microphone-   |
| ➤     | Body Position-1 channel  |
| ➤     | Effort (chest & Abdominal)-ZRIP DuraBelt Integrated RIP driver                                   |
| ➤     | Aux inputs/DC inputs-8   |
| ➤     | Min Sampling rate 2000Hz/s   |
| ➤     | Min storage rate: 500 Hz/s   |
| ➤     | PSG lab should have Pulse transit time-(PTT)   |
| ➤     | Electrode interface - Intuitive image  |
| ➤     | Pulse oximetry should be connected to head box-  |
| ➤     | Internal memory of base station should be equal to 60GB (optional)                               |
| ➤     | Lab must be supplied with fully synchronized Audio & video recording                             |
| ➤     | Must be supplied with I R Source-1 no  |
| ➤     | Capnography must be present  |
| 2.    | Software Specifications:   |
| ➤     | Should have a software for both automated and manual analysis and scoring of recorded data.      |
| ➤     | Real-time access to data while the study is in progress & bed side monitoring should be possible |
| ➤     | Should permit storage of uncompressed raw data for future review and re-analysis                 |

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| ➤     | Should permit writing of data on storage media such as CD/DVD/USB for review on any computer   |
| ➤     | On screen impedance check of values.   |
| ➤     | Adjustable gain and notch filter.  |
| ➤     | User definable montages  |
| ➤     | Automated user configurable reports  |
| ➤     | Signal resolution/bit: should be at least 16   |
| ➤     | Should have capability to define a dynamic and time synchronized workspace   |
| ➤     | Should have capability to check inter scorer reliability   |
| ➤     | Should be upgradable to advance scoring.   |
| ➤     | Must have License free software and free up-gradation of software during warranty period.  |
| 3.    | Networking and Hardware:   |
| ➤     | Should have networked Video Camera with IR source.   |
| ➤     | Compatible with high end processing with LAN   |
| ➤     | Computer: System should include 1 latest Pentium processor-based computer 16 GB RAM, 1024 GB hard disk memory with a 24 inch flat screen monitor and a colour laser printer. Should also include pre-loaded genuine Microsoft Windows 10 software with UPS with mouse. Should have Screen resolution from 800 x 600 to 1200 x 1600. Should be from a reputed company ( Dell or HP or equivalent) |
| ➤     | Oximeter probe - Should be supplied - QTY 1  |
| ➤     | Sensor ZRIP belt kit - Should be supplied - QTY 1  |
| ➤     | Thermistor airflow sensor - Should be supplied - QTY 1   |
| ➤     | Computer system must be covered under warranty.  |

Titration Device:

| Sl No | Technical Specification   |
|-------|---|
| 1     | Intended use for Non Invasive for adult and pediatric with OSA, Respiratory insufficiency, respiratory failures and overlap syndromes.                          |
| 2     | Should be used for patient weighing 10Kg or above   |
| 3     | Technical Specification   |
| a.    | Ventilation Mode:- CPAP,S (Spontaneous), S/T (Spontaneous/time), PC ( Pressure Control), T (Time), Assured volume with Auto EPAP                                |
| b.    | IPAP : 4-40 cmH2O   |
| c.    | EPAP : 4-25 cm H2O  |
| d.    | Breath Rate :- 0 - 40bpm  |
| e.    | Ti : 0.5 sec to 3 sec   |
| f.    | Target Tidal volume :- 200 - 1500ml   |
| g.    | Rise time should be minimum 100 ms to 600 ms or more  |
| h.    | Leak Rate: 60 liters/minute   |
| i.    | Monitoring:-Pressure, Tidal Volume, Minute Ventilation, Respiratory Rate, Leak, I/E ratio. Should also have a pressure bar graph and patient trigger indication |
| 4     | Device should have the following;   |
| a.    | Should Provide flow-based pressure relief at transition from exhalation to inhalation, transition from inhalation to exhalation and during exhalation.          |
| b.    | Triggering and Cycling:- Automatic trigger, sensitive and manual flow trigger.  |
| c.    | Device must have Flow-Trigger. Automatic triggering and cycling to ensure best patient to machine synchronization would be desirable                            |
| d.    | Volume assure pressure support technology for assured tidal volume  |
| e.    | Should have automatic EPAP and automatic respiratory rate to overcome airway resistance   |
| 5     | Alarms: Apnea, Low minute ventilation, Low Tidal Volume, High respiratory rate, Patient disconnection,  |
| 6     | Must have USFDA   |

#### Additional Accessories:

- EEG Electrodes: 30 pieces additional (72 Inches)
- ECG Electrodes: 10 Pieces
- Oronasal Thermistor: 4 pieces
- ZRIP Durabelt (effort sensor): 2 (1 for thorax and 1 for abdomen)
- Nasal cannula (Multi): 50 pieces
- Sampling Line: 10 pieces
- Nasal Cannula adult: 60 pieces
- Reusable Mask-8 (nasal-3 medium ,1 large)  
(Oronasal- 3 medium ,1 large)