Annexure-I

Technical Specifications for Dynamic Data Acquisition System

I. Available Transducers

- Small pore pressure transducer (Capacity 200 kPa, Connector type – NDIS Connector, Qty. – 8 Nos.)
- Water Proof Acceleration transducer (Capacity ±5G, Connector type - PRC03-12A10-7M connector type, Qty. – 5 Nos.)

II. Specifications

- Should have Excellent **filter characteristics**
- Minimum 32 channel configuration with suitable conditioning cards for strain/voltage/acceleration based transducers and for static and dynamic strain measurement (Section-I).
- All channels should have synchronous sampling
- Interfaces: Ethernet/WLAN/USB 2.0 or better
- Automatic detection, calibration and synchronization
- Input Range: ±100 mV to ±10V (software selectable when connected with strain based sensors)
- Voltage:±10 V
- Sampling rate: 2000 samples per sec per channel or more
- Power Supply: DC or AC power supply with necessary adapter
- Resolution: 16 bit minimum
- Excitation outputs: Minimum one per channel 1 to 10 V DC, independently programmable
- Should have facility to upgrade to 64 channels in future

Acquisition channels

- The dynamic acquisition system should have equivalent split up of 32 channels with suitable conditioning/conditioner for measuring strain based transducers, strain gauges, voltage, Piezo electric acceleration transducer and miniature earth pressure cells

Data Recording

- 128 MB to 16 GB or higher with possibility to expand storage

- Interfaces: USB (USB 2.0 High Speed) / WLAN / Ethernet
- Setting Conditions : Online: From the PC via LAN or USB port, Offline: By reading from the CF card which has measuring conditions
- Data measurement: Manual measurement/trigger measurement/Time interval measurement

Software Requirement

- The operating software compatible with windows 7, 8 and 10 for operation, control, data processing, output and graphical configuration
- The software should include: Hardware setup, simplified data logging, simplified data viewing, automatic sensor recognition. Online digital displays, graphs, calculations etc.
- Calculations: Arithmetic, exponent, root, root mean square, trigonometry, logarithmic, FFT, software filters and experimental stress analysis.
- Data storage format: Microsoft excel/Mat lab/Labview

Others

(1) 1 year comprehensive warranty.

(2) Operation manual

(3) Installation, Training and demonstration should be provided by the /registered supplier/manufacturer at CSIR-CBRI Roorkee.