JNTUH COLLEGE OF ENGINEERING HYDERABAD

(AUTONOMOUS)

KUKATPALLY, HYDERABAD – 500 085, TELANGANA STATE, INDIA
CENTRE OF EXCELLENCE - DISASTER MANAGEMENT (TEQIP-II)

ADVERTISEMENT

The following equipment is proposed to be purchase under CoE (TEQIP-II)

1. SPECIFICATIONS OF DEEP EARTH PROBE FOR LANDSLIDE DETECTION

The details of sensors/devices included in the deep earth probe are:

SL.	Device Name	Qty.	Specifications
1	Deep earth probes	6	Depth 20 meters with sensors: 1) Geophone, 2) Pore pressure transducer, 3) Tilt meter with casing, 4) Moisture sensor, 5) Strain gauges attached to PVC casing, 6) Rain gauge, 7) temperature sensor, 8) Signal conditioning circuitry, 9) DAQ board, 10) Power supply circuitry, 11) Rechargeable Batteries, 12) Solar charge controller, 13) Solar panel, 14) Directional Antenna

1.

Geophone: (To measure the Seismic vibrations)

Sensor	Type	Cut off frequency	Sensitivity	Damping
ION Spike 3-C	3-C	10 Hz	20.5 V/m/s	0.69

2. Dielectric Moisture sensor: (To measure the moisture content of the soil)

Measurement Time: 10 ms (milliseconds)

Power requirements: 3VDC @ 12mA to 15 VDC @ 15 mA

Output: 300 – 1250 mV, independent of excitation voltage

Operating Temperature: 0 – 50 °C

3. Strain gauge: (To measure the soil movement)

Strain gauges of different resistance

such as 100_, 350_, and 1000_ have been used for deployment, to measure

Deflections in the DEP of 0.5 mm per meter

4. Strain gauge type piezometer: (To measure pore pressure of the soil)

Pressure range: 0 – 300 PSIG

Excitation: 9 – 30 V

Full scale output: 0 -5 V or 4 – 20 mA

(or)Vibrating wire piezometer

5. Tilt meter: (To measure soil movement)

Scale factor: 1 micro radian/V

Resolution: 0.1 micro radian

Time constant 0.5 second

Tilt output : +- 8 V dc(single ended) +_ 16 V dc (differential)

6. Rain gauge (to measure the intensity of rainfall)

Tipping bucket type rain gauge.

7. Temperature sensor (To measure the ambient temperature)

ambient temperature sensor

Interfacing Circuit Requirement

Sensor	Output Type	Signal Pre-Processing
Strain gauge piezometer	Dual wire analog	Level shifting, Amplification
Vibrating wire piezometer	RS-232 from the data logger	None
Dielectric moisture sensor	Single wire analog	None
Tiltmeter	Single wire analog	Voltage reduction, Amplification
Geophone	Dual wire analog	Level shifting, Amplification

Fig.1 Dielectric Moisture sensor

Fig.2a Strain Gauge piezometer Filter tip

Fig.2b Strain Gauge Piexometer

Strain gauge

Fig. 3 Strain gauges fixed on inclinometer casing

Fig.4 Geophone

Sensors are suspended in the casing by a cable that is attached here.

Casing is installed with one set of grooves aligned with the expected direction of movement.

Sensors wheels are inserted into these grooves to maintain the proper orientation of the sensors.

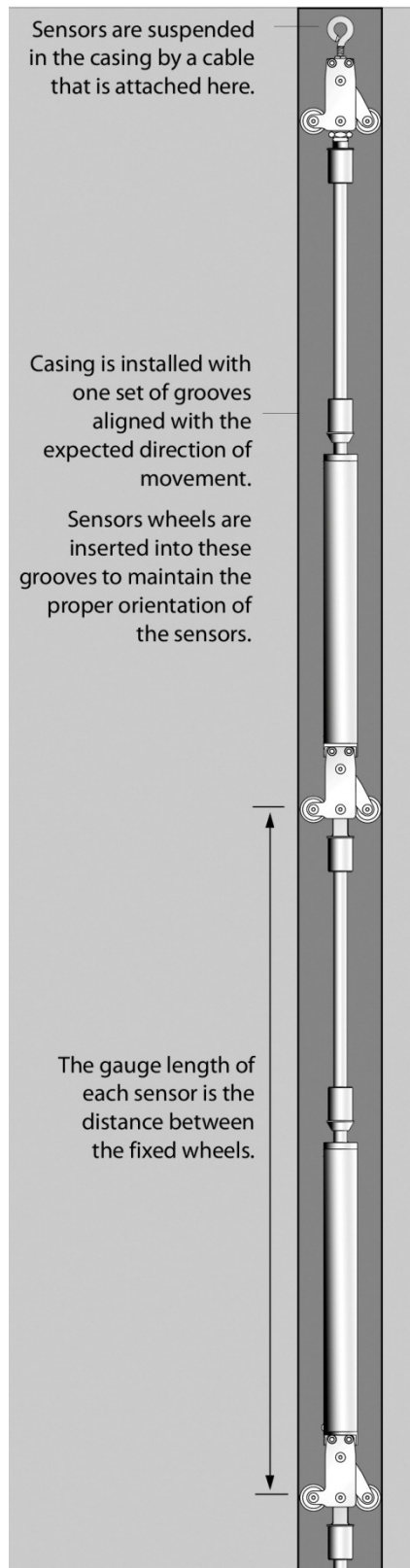The gauge length of each sensor is the distance between the fixed wheels.

Fig.6 Tiltmeter

The vendors are requested to submit the details of their firms to the principal on or before 07/03/2015, so as to send the invitations to their firm for the purchase of the above equipment.

2. Desktop Computers

a)Desktop System Specifications

Processors	4th Generation Intel® Core™ i7-4770 Processor (with minimum 3.4 GHz base frequency,8 MB cache, 4 cores)
Chipset	Intel Q series chipset supporting Intel 4th generation Core processors
Operating System	Microsoft Windows 8.1 Professional Downgrade to Win 7 Pro 64 BIT OS
Graphics2	Integrated Intel HD Graphics 4600
Memory	4 GB DDR III SDRAM 1600 MT/s Memory upgradeable up to 32 GB with four DIMM slots or Higher
Hard Disk	1 TB 6.0Gb/s HDD (7200 rpm) or Higher
Networking	Integrated Gigabit Ethernet Card (10/100/1000) and wireless Ethernet Card or Higher
I/O Ports	4 USB 3.0 Ports with minimum of 2 in front and 6 USB 2.0 Ports, (1) VGA video port; (2) DisplayPort with multi-stream video ports,(1) RJ-45 network connector, (1) serial port,3.5mm audio in/out jacks PS/2 keyboard and mouse ports
Expansion slots	4 PCI Slots With minimum of (1) PCI Express x16 Slot
Bays	Minimum of 2 External Drive Bays and 4 Internal Drive bays
Removable Media	(1)DVD RW; and the system support (1) Media card reader optional
Chassis	Tower Cabnet or Minitower
KeyBoard	USB Std. Keyboard
Mouse	USB Optical Mouse
Monitor	18.5" LED Backlit LCD Monitor
Security	
	Support for chassis padlocks and cable lock devices,Power-On password (via BIOS)
Systems Management 8	
Environmental & Regulatory Standards	Environmental Standards (eco-labels): ENERGY STAR, EPEAT Gold Certification,Windows certification and ECO Declaration/Green Certificate/ Environmental with documentary Evidence ISO 14001 certificates for OEM
Power Supply	300W Standard high efficiency Power Supply (or) better
Warranty and Service	3 years Comprehensive onsite warranty

b) MS Office 2013 Professional Edition

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3. Server Specifications

Item	Description of Requirement	Remarks
		Compliance with the offered product description
Server:Make and Model		
Chassis	2 U Rack Mountable	
CPU	Two Intel® Xeon® E5-2620v3 (2.4GHz/6-core/15MB/85W) Processor Kit	
CPU L3 CACHE Memory	15MB (1 x 15 MB) L3 cache	
Motherboard	Intel® C610 Series Chipset	
Memory	32 GB DIMMS scalable to at least upto 768GB, using DDR4 Load Reduced DIMM (LRDIMM) memory modules or equivalent	
Memory Protection	Advanced ECC with multi-bit error protection and memory online spare mode	
HDD Bays	Up to 8 SFF, HDD/SSD expandable upto 16 drives with optional drive cage, The drive carrier should have intutive icon based display along with "DO NOT REMOVE" caution indicator that gets activated automatically in order to avoid data loss/downtime due to wrong drive removal or equivalent	
Optical drive Bay	Optical drive DVD-RW	
Hard disk drive	3x 600GB 12 G SAS 10K rpm SFF (2.5-inch) SC Enterprise Hard Drive	
Controller	PCIe 3.0 based 12Gb/s SAS Raid Controller with RAID 0/1/1+0/5/50/6/60/ with 2GB battery backed write cache (onboard or in a PCI Express slot) or equivalent	
Networking features	Server should support networking cards with below features: 1. 1Gb 4-port network adaptor supporting advanced features such as Large Send offload capability, TCP checksum and segmentation, VLAN tagging, MSI-X, Jumbo frames, IEEE 1588, and virtualization features such as VMware NetQueue and Microsoft VMQ.	
Interfaces	Serial - 1 Micro SD slot - 1 USB 3.0 support With Up to 5 total: 1 front, 2 rear, 2 internal (secure)	
Bus Slots	Minimum of Two PCIe 3.0 Slots X16 and One PCIe 3.0 Slots X 8 slots	
Power Supply	Redundant platinum Power Supplies	
Fans	Redundant hot-plug system fans	
Graphics	Integrated video standard with 16MB of Video RAM 1280 x 1024 (32 bpp) 1920 x 1200 (16 bpp)	
Industry Standard Compliance	ACPI 2.0b Compliant PCIe 3.0 Compliant PXE Support WOL Support Microsoft® Logo certifications USB 3.0 Support USB 2.0 Support Energy Star ASHRAE A3/A4 UEFI (Unified Extensible Firmware Interface Forum)	

Embedded system management	Should support monitoring ongoing management, service alerting, reporting and remote management with embedded Gigabit out of band management port Server should support configuring and booting securely with industry standard Unified Extensible Firmware. System management should support provisioning servers by discovering and deploying 1 to few servers with Intelligent Provisioning System should support embedded remote support to transmit hardware events directly to OEM or an authorized partner for automated phone home support	
Security	Power-on password Serial interface control Administrator's password UEFI Should support upto 12 customizable user accounts on out of band management port and SSL encryption Should also supports directory services integration	
Operating Systems and Virtualization Software Support	Microsoft Windows Server Canonical Ubuntu Red Hat Enterprise Linux (RHEL) SUSE Linux Enterprise Server (SLES) Oracle Solaris VMware Citrix XenServer	
Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.	
Provisioning	Essential tools, drivers, agents to setup, deploy and maintain the server should be embedded inside the server. There should be a built -in Update manager that can update firmware of system by connecting online.	
Remote Management	1. System remote management should support browser based graphical remote console along with Virtual Power button, remote boot using USB/CD/DVD Drive. It should be capable of offering upgrade of software and patches from a remote client using Media/image/folder; It should support server power capping and historical reporting and should have support for multifactor authentication. 2. Server should have dedicated 1Gbps remote management port. 3. Server should support agentless management using the out-of-band remote management port. 4. The server should support monitoring and recording changes in the server hardware and system configuration. It assists in diagnosing problems and delivering rapid resolution when system failures occur. 5. Remote console sharing upto 6 users simultaneously during pre-OS and OS runtime operation, Console replay - Console Replay captures and stores for replay the console video during a server's last major fault or boot sequence. Microsoft Terminal Services Integration, 128 bit SSL encryption and Secure Shell Version 2 support.Should provide support for AES and 3DES on browser.Should provide remote firmware update functionality.Should provide support for Java free graphical remote console.	
Server Management	The Systems Management software should provide Role-based security	
	Should help provide proactive notification of actual or impending component failure alerts on critical components like CPU, Memory and HDD. Should support automatic event handling that allows configuring policies to notify failures via e-mail, pager, or SMS gateway or automatic execution of scripts.	

	Should provide an online portal that can be accesible from anywhere. The portal should provide one stop, online access to the product, support information and provide information to track warranties, support contrats and status. The Portal should also provide a Personalised daskboard to monitor device heath, hardware events, contract and warranty status. Should provide a visual status of individual devices and device groups. The Portal should be accessible on premise (at customer location - console based) or off premise (using internet).	
	Should support scheduled execution of OS commands, batch files, scripts, and command line apps on remote nodes	
	Should be able to perform comprehensive system data collection and enable users to quickly produce detailed inventory reports for managed devices. Should support the reports to be saved in HTML, CSV or XML format.	
	Should help to proactively identify out-of-date BIOS, drivers, and Server Management agents and enable the remote update of system software/firmware components.	
	The Server Management Software should be of the same brand as of the server supplier.	
	Infra Platform /Infra Software to support a variety of different hypervisors, such as VMware, Microsoft Hyper-V, Red Hat KVM.	
	Solution available to Deploy a fast and easy installation via software appliance delivery mode. With its own OS and Database to provide infra and lifecycle management	

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Sd/-

Coordinator   **PRINCIPAL**