

# **WEBEL TECHNOLOGY LIMITED**

## **CORRIGENDUM – III**

### **TENDER NO. WTL/WBSDC/DR/22-23/012 DATED 05.07.2022**

1. In continuation to Tender no. WTL/WBSDC/DR/22-23/012 dated 05.07.2022, revised Tender document incorporating the relevant modifications hither to made. The revised Tender document version 2.0 is enclosed superseding the existing Tender document and its corrigendum.

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## **NOTICE INVITING e-TENDER**

e-Tender are invited for Selection of System Integrator for setting up Data Centre cum DR facility at Purulia, West Bengal.

Reputed System Integrators having sufficient experience and credentials for successful completion of “**Similar Nature**” of work in a Government Department/PSU/Autonomous Body or any reputed organization. Bidder must have adequate technical support skills for providing on-site warranty service within the stipulated time.

1	Tender No. & Date	WTL/WBSDC/DR/22-23/012 dated 05.07.2022
2	Tender Version No.	2.0
3	Brief description of Job	Selection of System Integrator for setting up Data Centre cum DR facility at Purulia, West Bengal
4	Tender Fee	Rs. 10000.00 (Rupees ten thousand only). The amount to be Transferred online through e-tender portal.
5	Earnest Money Deposit	Rs.10000000.00 (Rupees one crore only). The EMD / BID SECURITY should be denominated in Indian Rupees and should be in the form of Bank Guarantee valid for 6 months from the date of bid submission.
6	Date of Downloading	05.07.2022
7	Bid Submission Start date & time	26.08.2022 at 14.00 Hrs.
8	Last date & time of EMD / BID SECURITY & Tender Fee submission	Before uploading of tender
9	Last date & time of Bid Submission	31.08.2022 at 13.00 Hrs.
10	Date & time of Technical Bid Opening	02.09.2022 at 13.00 Hrs.
11	Contact person	033-23673403-06

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## **SECTION – A**

### **SCOPE OF WORK & RESPONSIBILITY**

#### **Introduction**

At present WBSDC is hosting huge numbers of Government applications, which includes mission critical applications also.

The current State Data Centre (SDC) design has facilitated consolidation of services, applications and infrastructure. SDC centralized cloud environment is being used to host multiple e-governance, citizen centric applications with simplified operations and increased application responsiveness. However, in absence of Business Continuity Plan (BCP), because, currently there is no dedicated Disaster Recovery (DR) centre available for any of the applications and Database hosted inside the SDC located at seismologic ally safe zone within the State or outside the State.

Hence a DR site setup is also planned to be erected in Purulia District, West Bengal.

Once DR Centre is made available, WB-SDC will be able to deliver services to the citizens with greater reliability, availability and serviceability backed by business continuity. Thus, initially, it is proposed to have 100% data mirroring capacity along with few selected critical application replica of the existing SDC cloud infrastructure at Webel IT Park situated in Purulia District Head Quarter, around 300Km away from the existing SDC in Kolkata. Purulia is located in seismological Green Zone. In the 1st phase/year, the DR site will set up with 100% data replication capacity and few BCP replication of critical applications and remaining augmentation has been proposed in the second phase/year to make upto 30% BCP for SDC i.e. covering all critical applications at DR site.

And also the Bidder is required to implementation of DR site built with Non-IT and IT workloads. Necessary requirements to build the solution are furnished in the subsequent sections / may be obtained from WTL.

The DR solution will be designed to equip the premises to host / co-locate systems (e.g., Web Servers, Application Servers and Database Servers etc.) via internal applications providing consistent experience across SDC infrastructure. The objective is to provide logically unified and shared infrastructure flexible enough to rapidly respond to Infrastructure requirements and accommodate future technology enhancements in case of unavailability of the SDC.

The strategy would ultimately encompass 3 broad aspects of the IT environment:

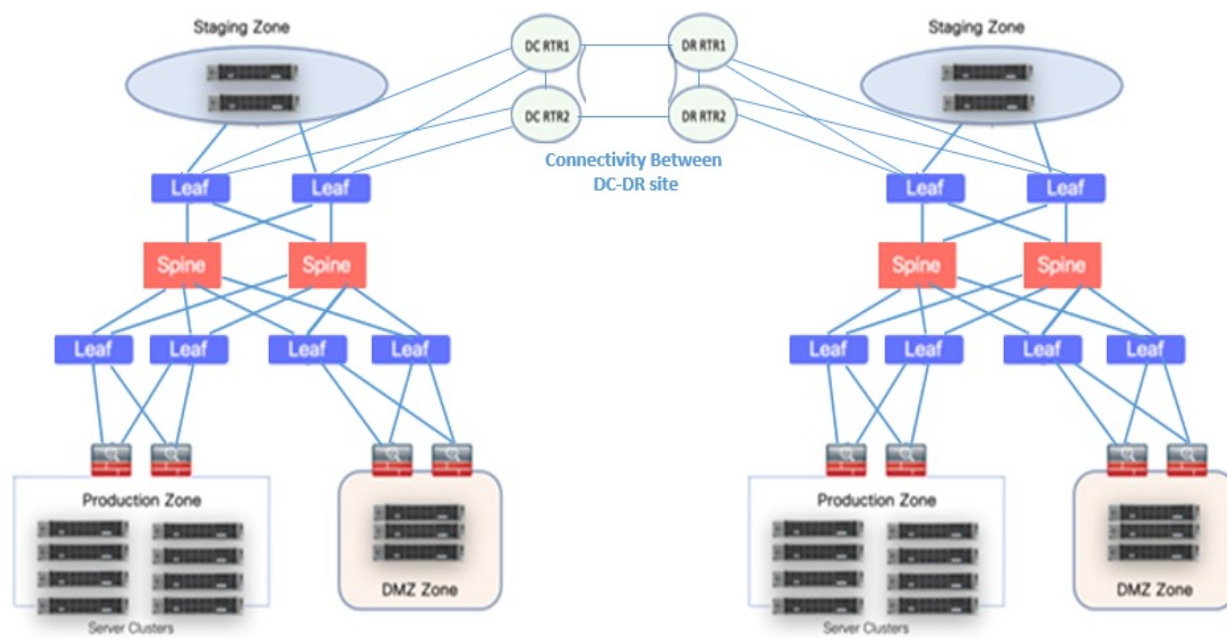
- ✓ The Data Centre (Physical & Virtual)
- ✓ Business Continuity
- ✓ Seamless movement and availability of applications between DC and DR with 100% data replication

At the foundation of the proposed DR Centre, the cloud platform will form the centre of the technology architecture consisting of the three basic blocks of:

- Services
- Orchestration
- Underlying infrastructure

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**Proposed DC-DR network architecture is provided below:**



## Brief Scope of Work

The brief scope of work including Delivery, Installation and integration is outlined below in the following broad categories.

This specification covers DC infrastructure, standalone system design, engineering, manufacture, assembly, testing at manufacturer's works, supply, delivery at site, unloading, handling, proper storage at site, erection, testing and commissioning at site of complete infrastructure for the proposed Data Centre to be installed at Purulia IT Park, 2<sup>nd</sup> Floor as detailed in the specification, complete with all accessories required for efficient and trouble-free operations.

Modular and scalable design, the critical components used to design the system should be redundant and in the Events of failure the components can be maintained easily. All the components of the infrastructure should be such that it can be easily dismantled and relocated to different location.

The DC infrastructure, standalone system shall be in adherence to standard Data Centre guidelines thus shall be composed of multiple active power and cooling distribution paths, but only one path active. Shall have redundant components.

### (1) Deliver, Installation & Integration of Civil Infrastructure:

Delivery, installation and integration of following civil infrastructure related work shall be adopted for design and implementation of civil cum interior work for the proposed Data Center cum DR facility at Purulia as detailed given in the **Section- I and J**. Requirement of additional components for achieve the solution/installation, if any, bidder have to be covered with during bid submission as per the bidder's own justification and completion of site survey. No Additional cost will be allocated for achieve the solution during implementation.

The scope of work shall include following:

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- Dismantling work
- Doors
- Partition/ walls
- Painting
- Insulation work
- Damp Proofing
- False flooring
- False ceiling
- Steps
- Portable Removable Ramp
- Fire Sealant
- Furniture
- Fire Proof Safe / Vault
- Other related necessary installation to achieve the solution as per requirement

### **(2) Deliver, Installation & Integration of Electrical Infrastructure**

Delivery, installation and integration of following Electrical infrastructure related work shall be adopted for design and implementation of Electrical work for the proposed Data Center cum DR facility at Purulia as detailed given in the **Section - I and J**. Requirement of additional components for achieve the solution/installation, if any, bidder have to be covered with during bid submission as per the bidder's own justification and completion of site survey. No Additional cost will be allocated for achieve the solution during implementation.

The scope of work shall include following:

- System Wiring
- Illumination System
- Power Cable Tray
- L.V. Switchgear panel
- L.V. Cables
- Lighting DB - Raw power
- Emergency Light DB
- Indoor Lighting Fixtures
- Point Wiring
- Earthing Works
- Earthing Strips & Cables
- Other related necessary installation to achieve the solution as per requirement

### **(3) Deliver, Installation & Integration of Diesel Generator Set with all related accessories**

Delivery, installation and integration of 2 Nos. Diesel Generator Sets related work shall be adopted for design and implementation of Diesel Generator Sets for the proposed Data Center cum DR facility at Purulia as detailed given in the **Section - I and J**. Requirement of additional components for achieve the solution/installation, if any, bidder have to be covered with during bid submission as per the bidder's own justification and completion of site survey. No Additional cost will be allocated for achieve the solution during implementation.

All requisite approvals from local and statutory bodies like Municipality, Fire Department, Pollution Control Board etc for installation & maintenance for the entire warranty period of the Generator set shall be arrange by the successful bidder and necessary help will be provided. Generator sets to be installed on a platform with a covered shed and chimney with other accessories.

- Delivery, Installation and integration of DG sets with Data Center Power infrastructure
- Testing, commissioning of Auto Start Green Diesel Generator set
- Installation of exhaust piping
- Earthing for DG sets

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### **(4) Deliver, Installation & Integration of Isolation Transformer with all related accessories**

Delivery, installation and integration of 2 nos. 100KVA 3 phase Isolation Transformer related work shall be adopted for design and implementation of Isolation Transformer for the proposed Data Center cum DR facility at Purulia as detailed given in the **Section - I and J**. Requirement of additional components for achieve the solution/installation, if any, bidder have to be covered with during bid submission as per the bidder's own justification and completion of site survey. No Additional cost will be allocated for achieve the solution during implementation.

### **(5) Deliver, Installation & Integration of Central UPS system with all related accessories**

Delivery, installation and integration of 2 Nos. Central UPS system for Server frame area shall be adopted for design and implementation of Central UPS System for the proposed Data Center cum DR facility at Purulia as detailed given in the **Section - I and J**. Requirement of additional components for achieve the solution/installation, if any, bidder have to be covered with during bid submission as per the bidder's own justification and completion of site survey. No Additional cost will be allocated for achieve the solution during implementation.

### **(6) Deliver, Installation & Integration of UPS system for BMS equipments with all related accessories**

Delivery, installation and integration of 2 Nos. UPS system for BMS related system/equipment shall be adopted for design and implementation of UPS System for the proposed Data Center cum DR facility at Purulia as detailed given in the **Section - I and J**. Requirement of additional components for achieve the solution/installation, if any, bidder have to be covered with during bid submission as per the bidder's own justification and completion of site survey. No Additional cost will be allocated for achieve the solution during implementation.

### **(7) Deliver, Installation & Integration of Precision Air-conditioner System with all related accessories**

Delivery & installation of Precision Air-Conditioner Machine including all related accessories shall be install for the proposed Data Center cum DR facility at Purulia as detailed given in the **Section - I and J**. Requirement of additional components for achieve the solution/installation, if any, bidder have to be covered with during bid submission as per the bidder's own justification and completion of site survey. No Additional cost will be allocated for achieve the solution during implementation.

Data center server and network racks should be equipped with In-row Variable capacity cooling units to provide closed loop precision cooling system which should be able to cool the equipment's uniformly right from 1<sup>st</sup> U to 42<sup>nd</sup> U of Rack.

Precision Air Cooling units should be in multiples of minimum 35 kW capacity, catering the IT load of 35 kVA, in N+1 topology.

### **(8) Deliver, Installation & Integration for Rack Containment Frame with Rack and Cold & Hot Aisle Containment system with all related accessories**

Delivery, installation & integration of for Rack Containment Frame with Rack and Cold & Hot Aisle Containment system with all related accessories shall be install for the proposed Data Center cum DR facility at Purulia as detailed given in the **Section - I and J**. Requirement of additional components for achieve the solution/installation, if any, bidder have to be covered with during bid submission as per the bidder's own justification and completion of site survey. No Additional cost will be allocated for achieve the solution during implementation.

DC Infrastructure with hot and cold aisle containment of 6 racks should cater IT load up to 35 KVA. Both Hot & Cold aisle containment should be part of the rack frame.

Data center server and network racks should be equipped with In-row Variable capacity cooling units to provide closed loop precision cooling system which should be able to cool the equipment's uniformly right from 1<sup>st</sup> U to 42<sup>nd</sup> U of Rack.

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### **(9) Deliver, Installation & Integration of IP PDU for Server and Network Rack with all related accessories**

Delivery, Installation & installation of IP PDU including all related accessories shall be install for the proposed Data Center cum DR facility at Purulia as detailed given in the **Section - I and J**. Requirement of additional components for achieve the solution/installation, if any, bidder have to be covered with during bid submission as per the bidder's own justification and completion of site survey. No Additional cost will be allocated for achieve the solution during implementation.

### **(10) Deliver, Installation & Integration of IP KVM switch with Display Unit including all related accessories**

Delivery, Installation & installation of KVM switch with Display Unit including all related accessories shall be install for the proposed Data Center cum DR facility at Purulia as detailed given in the Section - I and J. Requirement of additional components for achieve the solution/installation, if any, bidder have to be covered with during bid submission as per the bidder's own justification and completion of site survey. No Additional cost will be allocated for achieve the solution during implementation.

### **(11) Deliver, Installation & Integration of various equipments for Building Management system with all related accessories as per scope**

Delivery, installation and integration of various equipments of under Building Management system with all related accessories as per scope work shall be adopted for design and implementation of BMS for the proposed Data Center cum DR facility at Purulia as detailed given in the **Section- I and J**. Requirement of additional components for achieve the solution/installation, if any, bidder have to be covered with during bid submission as per the bidder's own justification and completion of site survey. No Additional cost will be allocated for achieve the solution during implementation.

The scope of work shall include following:

- Fire Detection Systems
- Fire Suppression Systems
- Access Control System
- Closed-Circuit Television (Surveillance) System
- High Sensitivity Smoke Detection System
- Water Leakages Detection System
- Rodent Repellent System
- Periodic Pest Control System
- Public Address system
- Other related necessary installation to achieve the solution as per requirement

### **(12) Deliver, Installation & Integration of Building Management System software with all related accessories**

Delivery, installation and integration of various equipments of Building Management system through IP Based BMS software for monitoring with all related accessories as per scope work shall be adopted for design and implementation BMS Software for the proposed Data Center cum DR facility at Purulia as detailed given in the **Section- I and J**. Requirement of additional components for achieve the solution/installation, if any, bidder have to be covered with during bid submission as per the bidder's own justification and completion of site survey. No Additional cost will be allocated for achieve the solution during implementation.

The building management system shall be implemented for effective management, monitoring and Integration of various components like HVAC systems, Access Control systems, fire detection, Alternative Power system etc. Bidder should provide manpower (24 x 7) to monitor the BMS & smooth functioning of entire setup.

The BMS shall perform the following general functions including but not limited to:

- Building Management & Control
- Data Collection & archival



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- Alarm Event & Management
- Trending
- Reports & MIS Generation
- Maintenance & Complaint Management

### **(13) Deliver, Installation & Integration of Structured Passive Cabling Components of LAN infrastructure with all related accessories**

Delivery, installation and integration of Structured Passive Cabling Components of LAN infrastructure with all related accessories as per scope work shall be adopted for design and implementation of Structured Passive Cabling for the proposed Data Center cum DR facility at Purulia as detailed given in the **Section- I and J**. Requirement of additional components for achieve the solution/installation, if any, bidder have to be covered with during bid submission as per the bidder's own justification and completion of site survey. No Additional cost will be allocated for achieve the solution during implementation.

The Structured Passive Cabling shall perform the following general functions including but not limited to:

- All required cables should be laid up to the rack level in the Data Centre.
- Dedicated raceways / cable-trays should be used for laying LAN.
- All the cable raceways shall be adequately grounded and fully Concealed with covers.
- The cables should be appropriately marked and labelled.
- There should be enough space between data and power cabling and there should not be any cross wiring of the two, in order to avoid any interference, or corruption of data.
- It is proposed to have power and data cables in separate trays in cold aisle and hot aisle respectively.

### **(14) Delivery, Installation & Integration of Monitoring Device of Various equipment for IT & Non-IT Infrastructure**

Delivery, installation and integration of Desktop, Printer and Display Devices with all related accessories as per scope work shall be adopted for implementation of monitoring and display of various equipment for IT & Non-IT Infrastructure for the proposed Data Center cum DR facility at Purulia as detailed given in the **Section- I and J**. Requirement of additional components for achieve the solution/installation, if any, bidder have to be covered with during bid submission as per the bidder's own justification and completion of site survey. No Additional cost will be allocated for achieve the solution during implementation.

### **(15) Deliver, Installation & Integration of Router**

Delivery, installation and integration of Routers with all related accessories as per scope work shall be adopted for the proposed Data Center cum DR facility at Purulia as detailed given in the **Section- I and J**. Requirement of additional components for achieve the solution/installation, if any, bidder have to be covered with during bid submission as per the bidder's own justification and completion of site survey. No Additional cost will be allocated for achieve the solution during implementation.

### **(16) Deliver, Installation & Integration Network Security Devices**

Delivery, installation and integration of Network Security Devices (Firewall and DDoS) with all related accessories as per scope work shall be adopted for the proposed Data Center cum DR facility at Purulia as detailed given in the **Section- I and J**. Requirement of additional components for achieve the solution/installation, if any, bidder have to be covered with during bid submission as per the bidder's own justification and completion of site survey. No Additional cost will be allocated for achieve the solution during implementation. Every security devices (like Firewall, IPS, Anti-malware) should not have any licensing restriction on number of users and should be supplied for unlimited users.

### **(17) Deliver, Installation & Integration of Link Load Balancer**

Delivery, installation and integration of Link Load Balancer for integration of multiple MPLS and ILL links (link will be provided by the Department) with all related accessories as per scope work shall be adopted for the proposed Data Center cum DR facility at Purulia as detailed given in the **Section- I and J**. Requirement of additional components for achieve the solution/installation, if any, bidder have to be covered with during

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bid submission as per the bidder's own justification and completion of site survey. No Additional cost will be allocated for achieve the solution during implementation.

### **(18) Deliver, Installation & Integration of Hardware Load Balancer**

Delivery, installation and integration of Hardware Load Balancer with all related accessories as per scope work shall be adopted for the proposed Data Center cum DR facility at Purulia as detailed given in the **Section- I and J**. Requirement of additional components for achieve the solution/installation, if any, bidder have to be covered with during bid submission as per the bidder's own justification and completion of site survey. No Additional cost will be allocated for achieve the solution during implementation.

### **(19) Deliver, Installation & Integration of Network Switching Devices**

Delivery, installation and integration of following Network Switching Devices with all related accessories as per scope work shall be adopted for the proposed Data Center cum DR facility at Purulia as detailed given in the **Section- I and J**. Requirement of additional components for achieve the solution/installation, if any, bidder have to be covered with during bid submission as per the bidder's own justification and completion of site survey. No Additional cost will be allocated for achieve the solution during implementation.

- Implementation of Spine Switch
- Implementation of Fiber Fiber Leaf Switch
- Implementation of Cooper Leaf Switch

### **(20) Deliver, Installation & Integration of Hyper-Converged Infrastructure**

Delivery, installation and integration of **Hyper-Converged Infrastructure** with all related accessories as per scope work shall be adopted for the proposed Data Center cum DR facility at Purulia as detailed given in the **Section- I and J**. Requirement of necessary / additional components for achieve the solution/installation, if any, bidder have to be covered with during bid submission as per the bidder's own justification and completion of site survey. No Additional cost will be allocated for achieve the solution during implementation. HCI Architecture should support following.

- Virtualization
- Replication
- Security
- Management
- Cloud Management Platform
- Firmware Code and Patch Management
- Proactive Maintenance and Support

### **(21) Delivery, Installation, Configuration & Integration of Backup Device and related software**

Delivery, installation, integration and customization of Disk based Backup Device and full capacity necessary Backup Software with all related accessories as per scope of work shall be adopted for the proposed Data Center cum DR facility at Purulia as detailed given in the **Section- I and J**. Requirement of necessary / additional components for achieve the solution/installation, if any, bidder have to be covered with during bid submission as per the requirement. No Additional cost will be allocated for achieve the solution during implementation. customization backup solution should support following.

- Backup Policy will be decided during project implementation phase.
- Perpetual with unlimited valid License of Backup Software will be delivered.

### **(22) Deliver, Installation & Integration of Centralized Monitoring Software**

Delivery, installation and integration of Centralized Monitoring Software including Network Management System with all related accessories as per scope of work shall be adopted for the proposed Data Center cum DR facility at Purulia as detailed given in the **Section- I and J**. Requirement of necessary / additional components for achieve the solution/installation, if any, bidder have to be covered with during bid submission as per the bidder's own justification and completion of site survey. No Additional cost will be allocated for achieve the solution during implementation. Centralized Monitoring Software should support following.

- Server, Database & Application Fault
- Performance Monitoring Management

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- Network Management System
- Network Configuration Automation
- Network Traffic Flow Analysis System
- Reporting

### **(23) Installation, Commissioning, Integration, documentation of entire project**

Selected bidder will submit project implementation plan including High level Design (HLD) and Low Level Design (LLD) documentation before installation.

Selected bidder will install, commission and successful integration after successful deliver of the entire equipments as per RFP and final project implementation plan submitted by selected bidder.

After successful installation, commissioning and integration bidder will submit final project implementation document with all relevant information.

### **(24) Operation & Maintenance Support Service**

Selected Bidder will provide five (5) years Operation & Maintenance Support from the date of final acceptance of deployed infrastructure. Technical resources at DR site with role and responsibility given in **Section – J**.

**(25) Supply:** Entrusted bidder must supply as per RFP and Work Order. All supplies must be certified, new and RoHS compliant. Supplied components must satisfy the minimum guiding specifications and guidelines, as applicable, proprietary technology must be mentioned against each component. Bidder is allowed to propose only one make / model per system or software required for the proposed solution. Bids with optional offers would be summarily rejected.

**(26) HCI Technology:** Bidder should proposed Hyper converged Infrastructure with Necessary HCI compatible Network, Load Balancing, Backup Software, Software, Network Security and other related. Proposed solution should be Containerization capable

**(27) Installation, Integration & Implementation:** Installation, integration & implementation will be governed by the stated guidelines and associated standards & in line with the scope of work defined in this document. Installation, integration & implementation of all Non-IT infra, IT hardware components, system software, required tuning of the computing infrastructure including hardware, network, system software, database, application servers and utilities for optimal performances, registration of components with OEM or developer for post installation warranty support are the sole responsibility of the Bidder.

**(28) Project Management:** Selected bidder will be required to perform the following project management tasks for the assigned areas:

- Provide a detailed strategy and work plan for their scope of work.
- Identify and address functional/technical issues that may arise during the project.
- Provide a strategy for data transferring/migration from existing infrastructure to augmented infrastructure.

**(29) Delivery at DR Site:** The successful Bidder will install the Hardware at the designated installation sites. The equipment shall be delivered at respective DR site location and all arrangements for loading/unloading, movement etc. shall be done by the successful bidder. The Bidder will make all necessary arrangement for hosting equipment's & transportation of materials (raw and/or fabricated) at site of work. WTL will not provide any equipment to the successful Bidder for any site work.

**(30) Packing, Unpacking, unloading & etc. :** The Vendor is responsible for installation and configuration of systems at sites including unpacking of cartons / boxes, assembling, wiring, cabling between hardware units and connecting to power supplies. The Contractor will test all hardware operations and accomplish all adjustments necessary for successful and continuous operation of the hardware at all installation sites.

**(31) Installation & Re-installation:** Installation/ re-installation, configuration / re-configuration, parameterization and all other activities related to Hardware / Software/ DB/ HA/ Third party tools are the responsibility of the Bidder during entire contract period.

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**(32) Cleaning:** Site Preparation & cleaning checking & fixing, aligning of structures, final cleaning of site after completion of the work shall be under the scope of the Successful Bidder. No separate payment will be made towards this and the cost, if any, will be deemed to be included in the total contract price.

**(33) Site Inspection:** The Bidder, before submitting his tender, is suggested to visit the site and ascertain the local conditions, labor rules, availability of construction materials, traffic restrictions, and all obstructions in the area and also ascertain all site conditions. After the award of work no additional claims will be entertained on these accounts under any circumstances.

**(34) Coordination with other agencies:** The successful Bidder shall coordinate with other agencies working at the site for the successful and timely implementation of the work.

**(35) Damage during implementation:** Ensuring that no other equipment/structure/setup gets damaged due to Bidder's activities. Any damages if caused to WTL's/Department property due to Bidder's negligence shall be passed on Successful Bidder's account and will be recovered from Bills of service provider.

**(36) Civil Work :** Minor civil works such as chipping/cutting of floors for making grooves or laying pipes / cables, making holes / opening through walls, ceiling or floors, drilling of holes through steel structures and frames, grouting of frames, hooks on walls/ceiling etc. required for execution of work. After erection, surface shall be made good by plastering / painting to their original shape and finish.

**(37) Back to Back OEM Service Agreement :** The Bidder is to furnish Authorization/ Undertaking including back to back service arrangement for comprehensive maintenance from the OEMs of IT & Non-IT and other systems and solutions that will be provided as part of solution during contract. The Authorization/Undertaking must be submitted on OEMs letter head and OEM back to warranty certificate with warranty tenure as per RFP terms including serial number all deployed product should be submitted.

**(38) Data Migration:** Bidder to implement of replication of data from DC-DR for database replication would be implemented. Post implementation bidder should demonstrate failover & fail-back to proof successful replication implementation. Weekly report on (a) Data sync certification between DC-DR must be submitted on every Monday.

**(39) Stabilization Period:** The System shall be under stabilization period of minimum two months post Go Live and shall be monitored closely for any issue. The issue shall be addressed immediately so that no stoppage of business shall happen. All the deployed solution like HA, failover, failback, backup, restore, performance, CPU utilization, RAM Utilization, storage etc. shall be tested, monitored and any issue arising shall be addressed.

**(40) Additional Component :** Any component, license that has been missed out in this specification but is required to complete the solution shall be provided by the bidder. Any component, license that has been mentioned but a higher quantity or volume is required to complete the solution shall be provided by the bidder.

**(41) Patch Management:** Bidder or Selected SI should conduct periodic patch management as per recommendation from respective OEM and consultation.

**(42) License:** All Licenses, OEM warranty certificate issued by respective OEM. Respective License should be in the name of **Government of West Bengal**.

**(43) End of Support by OEM :** The new hardware that will be provided should not be under EoS/EoSL from respective OEM for the next Seven years from date of installation.

**(44) Testing:** Entrusted bidder must test the installed and integrated systems(s) in-situ and produce system generated report showing that all asked-for minimum specifications and guidelines are met. Integration and

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testing of components may be jointly done by the WTL/Directorates and entrusted Bidder / System Integrator

**(45) OEM responsibility:** Bidder to include confirmation from the respective OEMs for the products / solution proposed by them for the following:

- a) All product specific compliance information has been certified by the OEM
- b) OEM has not withheld any information about the product / solution that undermines the objectives of the proposed solution
- c) After final acceptance of successful installation, commissioning and integration bidder will submit item-wise warranty coverage for five years (warranty start date from the date of final acceptance) for all hardware, system software and accessories from the respective OEMs.
- d) For any change in system part no. / Serial no. of any hardware / software from the time of submission of offer till completion of the contract (for reasons like model changes or replacement systems), bidder should notify the change to the purchaser in written with supporting justification letter from the respective OEM for the change. The Purchaser reserves the right to accept or reject such changes.

**(46) Ownership:** After acceptance, porting of business information on ICT infrastructure, IT Department/ WTL will be the sole owner of the information repository, and associated processes.

**(47) Warranty Period:** The entire system along with all the installed components shall be under comprehensive maintenance support for 5 years contract after successful final acceptance of the entire system. The scope of work shall cover manpower, spares and service. For all the installed Hardware and software, the bidder should have back to back agreement with respective OEMs for technical services, spares and support during the entire period of contract.

### Estimation with DR site compute requirement estimate

Environment	Node / Server	Core (Total)	RAM (Total) TB	Total Storage ( PB)
Total estimated Requirement at DR Site	34	1360	26	2

### Floor Plan of Proposed DR Site: Enclosed

Site survey may be allowed to ascertain detailed site specific requirements. Please contact [purchase@wtl.co.in](mailto:purchase@wtl.co.in) for site visit / survey purpose at Purulia. Only one visit will be allowed per bidder who will participate in pre-bid meeting.

After completion of above DC augmentation, the integrated and combined capacity will be allocated to serve all the pending requisitions from various departments / directorates. The bidder will provide warranty, software assurance, operation and maintenance for the augmented DC infrastructure and newly created DR infrastructure as per terms and conditions mentioned in this tender.

After completion of installation and commissioning of DR Site, replication of DC workloads will be implemented by the bidder. Replication will be done over **2 x 1000 Mbps** dedicated MPLS link. After initial full replication during off peak hours, incremental data synchronization will be implemented at frequent intervals on 24x7 basis. MPLS link will be provided by the Department.

The DR site will be operated and maintained by the bidder on 24x7 basis for a total period of 5 years from the date of final acceptance and "GO LIVE".

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## **SECTION – B**

### **INSTRUCTION TO BIDDER**

#### **1. DEFINITIONS**

In this document, the following terms shall have following respective meanings:

**“Acceptance Test Document”** means a document, which defines procedures for testing the functioning of installed system. The document will be finalized with the contractor within 7 days of issuance of the Letter of Award.

**“Bidder”** means any firm offering the solution(s), service(s) and /or materials required in the RFP. The word Bidder when used in the pre award period shall be synonymous with Bidder, and when used after award of the Contract shall mean the successful Bidder.

**“Contract”** is used synonymously with Agreement.

**“Contract Price”** means the price to be paid to the Contractor for providing the Solution, in accordance with the payment terms.

**“Contractor”** means the Bidder whose bid to perform the Contract has been accepted by Tender Committee and is named as such in the Letter of Award.

**“Default Notice”** mean the written notice of Default of the Agreement issued by one Party to the other.

**“Fraudulent Practice”** means a misrepresentation of facts in order to influence a procurement process or the execution of a Contract and includes collusive practice among Bidders (prior to or after Bid submission) designed to establish Bid prices at artificial noncompetitive levels and to deprive the Directorate of Commercial Taxes and eventually GoWB of the benefits of free and open competition.

**“GoI”** shall stand for the Government of India.

**“GoWB”** means Government of West Bengal.

**“Personnel”** means persons hired by the Bidder as employees and assigned to the performance of the Infrastructure Solution or any part thereof.

**“Similar Nature of Work”** means shall include supply, installation, operations and maintenance of infrastructure viz. racks, servers, network equipments, end point devices etc. pertaining to Data Center and/or Data warehouse management.

**“Project”** Selection of System Integrator for setting up Data Centre cum DR facility at Purulia, West Bengal

**“AMC”** means Annual Maintenance Contract.

**“O&M”** means Operation & Maintenance

**“FMS”** means Facility Management Support

**“SIA”** means State Implementation Agency

**“SNA”** means State Nodal Agency

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**“Services”** means the work to be performed by the Bidder pursuant to this Contract, as described in the detailed Scope of Work.

**“Interest rate”** means “364 days Government of India (GoI) Treasury Bills” rate.

**“Law”** shall mean any Act, notification, bye law, rules and regulations, directive, ordinance, order or instruction having the force of law enacted or issued by the Central Government and/or the Government of West Bengal or any other Government or regulatory authority or political subdivision of government agency.

**“LOI”** means issuing of Letter of Intent shall constitute the intention of the WTL to place the Purchase Order with the successful bidder.

**“Requirements”** shall mean and include schedules, details, description, statement of technical data, performance characteristics, standards (Indian as well as International) as applicable and specified in the Contract.

**“Service”** means provision of Contracted service viz., operation, maintenance and associated services for DEPLOYED SYSTEMS as per Section titled “Scope of Work”.

**“Termination Notice”** means the written notice of termination of the Agreement issued by WTL.

**“Uptime”** means the time period when specified services are available with specified technical and service standards as mentioned in section titled WARRANTY SUPPORT” “%Uptime” means ratio of 'up time' (in minutes) as mentioned in section titled “Warranty support”.

**“Service Down Time”** (SDT) means the time period when specified services with specified technical and operational requirements as mentioned in section titled “WARRANTY SUPPORT” are not available to Gov. of W. Bengal and its user departments and organizations.

**“WTL”** means Webel Technology Limited a Govt. of West Bengal undertaking.

## **2. COST OF BIDDING**

The bidder shall bear all costs associated with the preparation and submission of the bid and WTL will in no case be responsible for those costs regardless of the conduct or outcome of the bidding process.

## **3. BID DOCUMENT**

Bidder is expected to examine all instructions, forms, terms and requirement in the bid document. The invitation to bid together with all its attachment thereto shall be considered to be read, understood and accepted by the bidder unless deviations are specifically stated in the serialim by the bidder. Failure to furnish all information required by the bid document or a bid not substantially responsive to the bid document in every respect may result of the bid.

## **4. AMENDMENT OF BID DOCUMENT**

At any time prior to the deadline for submission of proposals, WTL reserves the right to add/modify/delete any portion of this document by issuance of an Corrigendum, which would be published on the website and will also be made available to the all the Bidder who have been issued the tender document. The Corrigendum shall be binding on all bidders and will form part of the bid documents.

## **5. MODIFICATION AND WITHDRAWAL OF BIDS**

As per the bidding process available in the tender.

## **6. LANGUAGE OF BID & CORRESPONDENCE**

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The proposal will be prepared by the Bidder in English language only. All the documents relating to the proposal (including brochures) supplied by the firm should also be in English, and the correspondence between the Bidder & WTL will be in English language only. The correspondence by fax/E-mail must be subsequently confirmed by a duly signed formal copy.

### **7. BIDDER'S SOLUTION**

The bidders are requested to study the Bill of Material supplied with this document carefully. While working out the solution the bidder has to work with the broad minimum specification provided in the tender documents, conforming to the model, make and Part number (wherever provided). While submitting the bid the bidder has to detail out all components needed to complete the system BOM. The bidder is required quote for each item retaining all major components/sub system detailed and specified. As the contractor will be responsible for smooth functioning of the system, availability of spares during the tenure of the warranty period have to be take care by the contractor to maintain the guaranteed uptime.

### **8. EARNEST MONEY DEPOSIT (EMD / BID SECURITY) / TENDER FEE**

The bidder shall furnish Online Receipt against payment of Tender Fees and Earnest Money Deposit.

### **9. REFUND OF EMD / BID SECURITY**

EMD / BID SECURITY will be refunded to the unsuccessful bidders without interest by following guidelines of circular 3975-F(Y) dated 28/07/2016 on final selection of Successful Bidders.

### **10. FORFEITURE OF EMD / BID SECURITY**

EMD / BID SECURITY made by Bidder may be forfeited under the following conditions:

If Bidder withdraws the proposal before the expiry of validity period.

During the evaluation process, if a Bidder indulges in any such activity as would jeopardize the process, the decision of WTL regarding forfeiture of EMD / BID SECURITY shall be final and shall not be called upon question under any circumstances.

If Bidder violates any of the provisions of the terms and conditions of the proposal.

In the case of a successful Bidder, if Bidder fails to:

- i. Accept the work order along with the terms and conditions.
- ii. Furnish performance security.
- iii. Violates any of the work conditions of this proposal or indulges in any such activities as would jeopardize the work.
- iv. Submitting false/misleading information/declaration/documents/proof/etc.

The decision of WTL regarding forfeiture of EMD / BID SECURITY shall be final and shall not be called upon to question under any circumstances, besides, forfeiture of EMD / BID SECURITY even the Bidder will be deferred from participating in any job for a period of one year.

### **11. FORMS AND FORMATS**

The various inputs for the Techno Commercial as Financial Bids are to be submitted in the format specified. The bidder shall use the form, wherever specified, to provide relevant information. If form does not provide space for any required information, space at the end of the form or additional sheets shall be used to convey the said information. For all other cases, the bidder shall design a form to hold the required information.

### **12. LACK OF INFORMATION TO BIDDER**

The bidder shall be deemed to have carefully examined the Bid document to his entire satisfaction. Any lack of information shall not relieve the bidder of his responsibility to fulfill his obligation under the bid.



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If bidder has any queries relating to bid document, then he can send the queries before the Pre Bid Meeting.

## **13. CONTRACT EXECUTION**

On receipt of the Letter of Award/Purchase Order the contractor should submit a Performance Bank Guarantee (PBG) equivalent to 3% of the total contract value within three weeks from the date of receipt of Letter of Award/Purchase Order. The PBG should be valid for six months more than the AMC period. All delivery of the material will have to be completed within 14 weeks from the date of acceptance of contract or the contractor has to ensure all activities leading to the commissioning of the contract to be completed within 22 weeks from the date of award. Subsequent to the award of contract, the contractor will have to arrange for the requisite material as per BOM.

## **14. DELIVERY & PROJECT COMPLETION SCHEDULE**

Within 24 weeks after receiving of final work order. If delivery of materials delayed due to current shortage of semiconductors, competent authority may take necessary permission for additional timeline after receiving of justification.

## **16. LIQUIDATED DAMAGE / PENALTY**

The job includes the supply and installation of materials mentioned in the tender document. In the event of failure to meet the job completion in stipulated date/time liquidated damage may be imposed on the contractor for sum not less than 0.5% of the contract value for that item/job for each week or part thereof, subject to a ceiling of 10% of the total contract value (excluding all taxes & duties and other charges). In the event of LD exceeds 10% of the order value, WTL reserves the right to terminate the contract and WTL will get the job completed by any other competent party. The difference of cost incurred by WTL will be recovered from the contractor and PBG will be invoked.

## **17. LIABILITY**

In case of a default on bidder's part or other liability, WTL shall be entitled to recover damages from the Contractor. In each such instance, regardless of the basis on which WTL is entitled to claim damages from the Contractor (including fundamental breach, negligence, misrepresentation, or other contract or tort claim), Contractor shall be liable for no more than:

- Payment referred to in the Patents and Copyrights clause.
- Liability for bodily injury (including death) or damage to real property and tangible personal property limited to that cause by the Contractor's negligence.
- As to any other actual damage arising in any situation involving non-performance by Contractor pursuant to or in any way related to the subject of this Agreement, the charge paid by WTL for the individual product or Service that is the subject of the Claim. However, the contractor shall not be liable for
- For any indirect, consequential loss or damage, lost profits, third party loss or damage to property or loss of or damage to data.
- For any direct loss or damage that exceeds the total payment for Contract Price made or expected to be made to the Contractor hereunder.

## **18. PATENTS & COPYRIGHT**

If a third party claims that a product delivered by the Contractor to WTL infringes that party's patent or copyright, the Contractor shall defend WTL against that claim at Contractor's expense and pay all costs, damages, and attorney's fees that a court finally awards or that are included in a settlement approved by the Contractor, provided that WTL.

- Promptly notifies Contractor in writing of the claim
- Allows Contractor to control and co-operate with Contractor in the defense and any related settlement negotiations.

Remedies: If such a claim is made or appears likely to be made, WTL would permit Contractor to enable WTL to continue to use the product, or to modify it, or replace it with one that is at least functionally equivalent. If Contractor determines that none of these alternatives is reasonably available, WTL agrees to return the product to Contractor on Contractor's written request. Contractor will then give WTL a

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credit equal to for a machine. WTL's net book value (provided WTL has followed generally accepted accounting principles for a generally available software product produced by Contractor (Program) the amount paid by WTL or 12 months charges (which ever is lesser) and for materials the amount paid by WTL for the materials. These will be Contractor's entire obligation regarding any claim of infringement.

### 19. SUSPENSION OF WORK

WTL shall have the power at any time and from time to time by notice to the Contractor to delay or suspend the progress of the work or any part of the work due to any other adequate reasons and on receipt of such notice the contractor shall forthwith suspend further progress of the work until further notice from WTL. The Contractor shall recommence work immediately after receiving a notice to do so from WTL. The whole or any part of the time lost for such delay or suspension shall, if WTL in its absolute discretion thinks fit, but not otherwise, be added to the time allowed for completion.

### 20. TERMS OF PAYMENT

Payment terms will be on back-to-back basis, i.e., payment will be made only on receipt of payment from Department of IT&E, GoWB. A scheduled payment terms depicted below: phase wise payment will be release as per following mode.

Sl. No.	Job	Payment Schedule/ Milestones	Remarks
1.	On Delivery of any IT & Non-IT equipments (Delivery as per implementation plan,	70% of Basic value of delivered items + 100% of Tax amount of Basic value will release. (example : If SI delivered UPS, bidder will submit 70% of basic claim of UPS + 100% of Tax amount of basic value of UPS )	Payment release on successful check of all/part of the delivered equipment by WTL
2.	PAT / Installation & Commissioning of delivered IT & Non-IT components	20% of Basic value of delivered items will release	Payment release on successful PAT/Installation & Commissioning of all the installed IT & Non IT items
3.	On successful installation, commissioning, integration and Final acceptance test of all delivered IT, Non IT components & other related items as per tender	Reaming 10% of Basic value delivered items will release	Payment release on successful implementation of FAT and submission of Back to Back OEM warranty support document as per tender terms.
4.	Operation & Maintenance Support Charge	Payment will be made on quarterly deferred basis	O&M Support charges will be calculated as: (total value of O&M Support charges)/20 (20 quarter = Five years). Penalty as per SLA calculation will be deducted from quarterly O&M Support charges

### 21. GOVERNING LAWS

This contract should be governed by and interpreted by Arbitration clause in accordance with Laws in force in India. The courts at Kolkata shall have exclusive jurisdiction in all matters arising under the contract. The selected vendor shall keep himself fully informed of all current national, state and municipal law and ordinances. The selected vendor shall at their own expense, obtain all necessary permits and license and pay all fees and taxes required by law. These will be selected vendor's entire obligation regarding any claim of infringement. The selected vendor hereto agrees that it shall comply

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with all applicable union, state and local laws, ordinances, regulations and codes in performing its obligations hereunder, including the procurement of licenses, permits certificates and payment of taxes where required. The selected vendor shall establish and maintain all proper records (particularly, but without limitation, accounting records) required by any law, code/practice of corporate policy applicable to it from time to time including records and returns as applicable under labor legislation.

### **22. CORRUPT OR FRAUDULENT**

The Tender Committee requires that the bidders under this Tender observe the highest standards of ethics during the procurement and execution of such contracts. For this purpose the definition of corrupt and fraudulent practices will follow the provisions of the relevant laws in force. The Tender Committee will reject a proposal for award if it detects that the bidder has engaged in corrupt or fraudulent practices in competing for the contract in question. The Tender Committee will declare a firm ineligible, either indefinitely or for a stated period of time, if it at any time determines that the firm has engaged in corrupt and fraudulent practices in competing for, or in executing, a contract.

### **23. BIDDING CLAUSE**

All decisions taken by the Tender Committee regarding the processing of this tender and award of contract shall be final and binding on all parties concerned.

The Tender Committee reserves the right:

- To vary, modify, revise, amend or change any of the terms and conditions mentioned above and,
- To reject any or all the Tender/s without assigning any reason whatsoever thereof or to annul the bidding process and reject all bids at any time prior to award of contract, without thereby incurring any liability to the affected bidder(s) or any obligation to inform the affected bidder(s) of the grounds for such decision.

### **24. WORKMEN'S COMPENSATION**

In every case in which by virtue of the provision of the workmen's compensation Act 1923 or any other relevant acts and rules, compensation to a workman employed by the contractor, is payable, then this should be done by the Contractor. If WTL is obliged to make any compensation under the said rules and acts, then the amount shall be recovered without prejudice, from the bills and due of the Contractor. WTL shall not be bound to contest any claim made against the Contractor in respect of workmen's compensation.

### **25. CONTRACTOR'S EMPLOYEES**

The Contractor shall comply with the provision of all labour legislation including the requirement of the payment of Wage Act 1936 and the rules framed there under and modifications thereof in respect of men employed by him in carrying out the contract. The Contractor must ensure that he complies with PF, ESI regulation for all his deployed employees. The Contractor shall see that all authorized Sub Contractors under him similarly complied with the above requirement.

### **26. SAFETY MEASURES**

The Contractor shall in the course of execution of the work take all necessary precaution for the protection of all persons and property. The Contractor shall take adequate measures to protect the work and prevent accident during the work. In the event of any accident to any person or persons or damage or injury of any description to any person or property due to failure on the part of the contractor in taking proper precautionary measures the contractor shall be responsible for and must make good the loss the damage at his own cost to the satisfaction of the department and employees of the department shall be indemnified from all claims or liabilities arising there from or any expenses incurred on account thereof.

### **27. EQUIPMENT**

All tools & tackles necessary for the work shall have to be procured by the contractor unless otherwise specified elsewhere in these tender documents. The equipment used by the contractor for a particular work must be appropriate for the type of work. The contractor shall maintain the equipment used on the

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work properly so that they are in good working condition. In no case shall the contractor use defective or imperfect equipment in the work. The contractor shall arrange to replace or repair all defective equipment so that the progress of the work is not hampered. No defective equipment should be left at the site of work and the department shall not be responsible for any loss or damage to any of this equipment during the course of the execution of the work.

### **28. SUB-CONTRACT**

The purchaser (WTL) does not recognize the existence of Sub-Contractors. The Contractor's responsibility is not transferable.

### **29. TERMINATION FOR DEFAULT**

WTL may without prejudice to any other remedy or right of claim for breach of contract by giving not less than 30 days written notice of default sent to the contractor, terminate the order in whole or in part. If the contractor materially fails to render any or all the services within the time period specified in the contract or any extension thereof granted by WTL in writing and fails to remedy its failure within a period of thirty days after receipt of default notice from WTL. If the project (delivery, commissioning as well as warranty maintenance support is not carried out according to specification due to deficiency in service as per terms of the contract. In such case WTL will invoke the amount held back from the contractor as PBG.

### **30. BANKRUPTCY**

If the contractor becomes bankrupt or have a receiving order made against him or compound with his creditors or being a corporation commence to be wound up, not being a voluntary winding up for the purpose only or amalgamation or reconstruction, or carry on their business under a receiver for the benefit of their creditors or any of them, WTL shall be at liberty to terminate the engagement forthwith without any notice in writing to the contractor or to the liquidator or receiver or to any person in whom the contractor may become vested and without any compensation to give such liquidator or receiver or other person the option of carrying out the engagement subject to their providing a guarantee for the due and faithful performance of the engagement up to an amount to be determined by WTL.

### **31. FORCE MAJEURE**

It is hereby defined as any cause, which is beyond the control of the Contractor or WTL as the case may be, which such party could not foresee or with a reasonable amount of diligence could not have foreseen and which substantially affect the performance of the contract, such as

- War, Hostilities or warlike operations (whether a state of war be declared or not), invasion, act of foreign enemy and civil war.
- Rebellion, revolution, insurrection, mutiny, usurpation of civil or military, government, conspiracy, riot, civil commotion and terrorist area.
- Confiscation, nationalization, mobilization, commandeering or requisition by or under the order of any government or de facto authority or ruler, or any other act or failure to act of any local state or national government authority.
- Strike, sabotage, lockout, embargo, import restriction, port congestion, lack of usual means of public transportation and communication, industrial dispute, shipwreck, shortage of power supply epidemics, quarantine and plague.
- Earthquake, landslide, volcanic activity, fire flood or inundation, tidal wave, typhoon or cyclone, hurricane, nuclear and pressure waves or other natural or physical disaster.

If either party is prevented, hindered or delayed from or in performing any of its obligations under the Contract by an event of Force Majeure, then it shall notify the other in writing of the occurrence of such event and the circumstances of the event of Force Majeure within fourteen days after the occurrence of such event. The party who has given such notice shall be excused from the performance or punctual performance of its obligations under the Contract for so long as the relevant event of Force Majeure continues and to the extent that such party's performance is prevented, hindered or delayed.

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The party or parties affected by the event of Force Majeure shall use reasonable efforts to mitigate the effect of the event of Force Majeure upto its or their performance of the Contract and to fulfill its or their obligation under the Contract but without prejudice to either party's right to terminate the Contract.

No delay or nonperformance by either party to this Contract caused by the occurrence of any event of Force Majeure shall.

- Constitute a default or breach of the contract.
- Give rise to any claim from damages or additional cost or expense occurred by the delay or nonperformance. If, and to the extent, that such delay or nonperformance is caused by the occurrence of an event of Force Majeure.

### **32. SERVICE LEVEL AGREEMENT (SLA)**

#### ***Licenses/Subscriptions***

The system software licenses/subscriptions mentioned in the Bill of Materials shall be genuine, perpetual, full use and should provide upgrades, patches, fixes, security patches and updates directly from the OEM. All the licenses and support (updates, patches, bug fixes, etc.) should be in the name of Government of West Bengal.

All the licenses and support (updates, patches, bug fixes, etc.) should be in the name of Government of West Bengal. SI shall provide a comprehensive warranty that covers all components after the issuance of the final acceptance. The warranty should cover all materials (if applicable), licenses, services, and support for both hardware (if applicable) and software. SI shall administer warranties with serial number and warranty period. SI shall transfer all the warranties to WTL at no additional charge at the time of termination of the project. All back to back OEM warranty documentation (no expiry) will be delivered to WTL.

#### **Capacity Building / Training**

##### **Overview**

The SI would be required to provide training on various aspects to enable effective use of the new system to achieve the envisaged outcomes. The scope of work of the SI related to Capacity Building & Change Management is described in this section. Capacity building will include the following:

##### **Preparation of Training material**

- a) Training Materials: The following minimum training materials will be required to be prepared by the SI to facilitate the training of users:

##### **FAT & Go-Live**

SI will assist in successful completion of Final Acceptance Testing (FAT) and audit of the system on the completion of the roll-out of each phase and will submit a Go-Live Report for each phase. The Final Acceptance Testing (FAT) for rolled-out application shall be tested for both remotely & onsite basis.

The application tested for acceptance testing & Final Acceptance Testing is observed over one month for Stabilization, Reliability & Consistency of the solution. On being consistent, reliable and efficient over a period of time the solution is said to be declared Go-Live. The application & resources should be well equipped such that SI is able to comprehensively meet the SLA / performance requirements.

##### **Go-Live**

Go-Live is declared by WTL when the proposed solution becomes operational after successful conclusion of all acceptance tests to the satisfaction of the Department

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## **Sign-off Deliverables**

FAT Report signed off from the concerned department Go-Live report

**Scope of Services - Operation and Maintenance Phase** This phase starts from the successful completion of “Go-Live”.

The SI is responsible for the Comprehensive maintenance of all components of the project for the Contract period of 5 years from the date of Go-Live.

Success of the Project would rely on how professionally and methodically the entire Project is managed once the implementation is completed. From the Systems Integrator perspective, this is a critical phase since the quarterly payments are linked to the SLA's in the post implementation phases. System Integrator, thus, is required to depute a dedicated team of professionals to manage the Project and ensure adherence to the required SLAs.

## **Overview of Post Implementation Services**

An indicative list of activities and nature of support to be provided is mentioned below:

### **System Administration and Trouble Shooting**

- A. Overall monitoring and management of all IT infrastructure deployed by the SI
- B. Repair or replace infrastructure deployed for this Project.
- C. Replace component due to technical, functional, manufacturing or any other problem with a component of the same make and configuration. In case the component of same make and configuration is not available, the replacement shall conform to open standards and shall be of a higher configuration and shall be approved by the Department
- D. Perform system administration tasks such as managing the user access, creating and managing users, taking backups etc.
- E. Performance tuning of the system to ensure adherence to SLAs and performance requirements as indicated in the RFP.

### **Database Administration and Trouble Shooting**

- A. Undertake end-to-end management of database on an on-going basis to facilitate smooth functioning and optimum utilization including regular database backup and periodical testing of backup data, conducting configuration review to tune database, maintaining the necessary documentation and managing database schema, disk space, user roles, and storage.

### **Overall**

- A. Undertake preventive maintenance (any maintenance activity that is required before the occurrence of an incident with an attempt to prevent any incidents) and carry out the necessary repairs and replacement of parts wherever needed to keep the performance levels of the hardware and equipment in tune with the requirements of the SLA. Such preventive maintenance shall not be attended during working hours of the State Departments, unless inevitable and approved by WTL / respective Departments.

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- B. Undertake reactive maintenance (any corrective action, maintenance activity that is required post the occurrence of an incident) that is intended to troubleshoot the system with sufficient teams
- C. Escalate and co-ordinate with its OEMs for problem resolution wherever required
- D. The SI shall be required to comply with various policies relating to monitoring and management of infrastructure such as IS Policy, backup and archival policy, system software update policy etc. of the State.
- E. Provide a centralized Helpdesk and Incident Management Support till the end of contractual period
- F. Recurring refresher trainings for the users, training to new users and Change Management activities

### **Warranty Support – IT compute Infrastructure (for additional system software)**

#### **As part of the warranty services SI shall provide:**

SI shall provide a comprehensive warranty and on-site free service warranty for 5 years from the date of Go Live for all equipments & project components.

SI shall provide the performance warranty in respect of performance of the installed software developed by the SI to meet the performance requirements and service levels in the RFP.

SI is responsible for sizing and procuring the necessary IT compute Infrastructure and software licenses as per the performance requirements provided in the RFP. During the warranty period SI shall replace or augment or procure higher-level new equipment or additional licenses at no additional cost to the State in case the procured hardware or software is not adequate to meet the service levels.

During the warranty period SI shall maintain the systems and repair / replace at the installed site, at no charge

The SI shall ensure that the warranty complies with the agreed Technical Standards, Security Requirements, Operating Procedures, and Recovery Procedures.

Any component that is reported to be down on a given date should be either fully repaired or replaced by temporary substitute (of equivalent configuration) within the time frame indicated in the Service Level Agreement (SLA)

### **Monitoring and Management Services**

The system integrator shall provide the following monitoring and management services for the DC/DR and for the help desk.

- ✓ Server Monitoring, Administration & Management Services
- ✓ Database Administration & Management Services
- ✓ Storage Administration & Management Services
- ✓ Backup & Restore Services
- ✓ Security Administration Services.

### **Server Monitoring, Administration & Management Services**

The activities shall include but not limited to:

- ✓ Configuration of server parameters, operating systems administration and tuning.
- ✓ Operating system administration, including but not limited to management of users, processes, resource contention, preventive maintenance and management of updates & patches to ensure that the system is properly updated.
- ✓ Re-installation in the event of system crash/failures.

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- ✓ Maintenance of a log of the performance monitoring of servers including but not limited to monitoring CPU, disk space, memory utilization, I/O utilization, etc.
- ✓ Event log analysis generated in all the sub systems including but not limited to servers, operating systems, databases, applications, security devices, messaging, etc.
- ✓ Ensuring that the logs are backed up and truncated at regular intervals.
- ✓ Periodic health check of the systems, troubleshooting problems, analysing and implementing rectification measures.
- ✓ Identification, diagnosis and resolution of problem areas and maintenance of assured SLA levels.
- ✓ Implementation and maintenance of standard operating procedures for maintenance of the infrastructure.
- ✓ Management of the user names, roles and passwords of all the relevant subsystems, including, but not limited to servers, applications, devices, etc.
- ✓ System administration activities shall include tasks including but not limited to setting up the servers, executing hardware and software updates when necessary., OS and application software platform installation, performance monitoring, fine tuning as per application requirement, coordination with software development team, etc.
- ✓

### **Database Administration & Management Services**

The activities shall include but not limited to:

- ✓ End-to-end management of database on an ongoing basis to ensure smooth functioning of the same.
- ✓ Management of changes to database schema, disk space, storage and user roles.
- ✓ Conduct code and configuration reviews to provide tuning inputs to relevant stakeholders for improving the application performance or resolve bottlenecks, if any.
- ✓ Performance monitoring and tuning of the databases on a regular basis including, preventive maintenance of the database as required.
- ✓ Management of database upgrade or patch upgrade as and when required with minimal downtime.
- ✓ Regular backups for all databases in accordance with the backup and archive policies and conduct recovery whenever required with appropriate permissions
- ✓ DBA activities shall include tasks but not limited to database installation, configuration, replication, data protection services, performance monitoring, fine tuning, backup and restoration, etc

### **Backup and Restore Services**

The activities shall include but not limited to:

- ✓ Backup of operating system, database and application as per stipulated policies.
- ✓ Monitoring and enhancement of the performance of scheduled backups, schedule regular testing of backups and ensure adherence to related retention policies.
- ✓ Ensuring prompt execution of on-demand backups of volumes, files and database applications whenever required by department or in case of upgrades and configuration changes to the system.
- ✓ Real-time monitoring, log maintenance and reporting of backup status on a regular basis. Prompt problem resolution in case of failures in the backup processes.
- ✓ Media management including, but not limited to, tagging, cross-referencing, storing, logging, testing, and vaulting in fire proof cabinets.
- ✓ Ongoing support for file and volume restoration requests.



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- ✓ A backup of all transactions shall be done so that in case of any disaster / emergency at the Data Centre, the DR will have all the data.
- ✓ SI shall be responsible for supply, install, test & commission of the backup storage of the archival of data.

### **Security Administration Services**

The activities to be carried out under security administration shall include, but not limited to:

- ✓ Addressing the ongoing needs of security management including, but not limited to, monitoring of various devices / tools such as firewall, intrusion detection, content filtering and blocking, virus protection, and vulnerability protection through implementation of proper patches and rules.
- ✓ Root domain administration by creating the root and sub-domains and setting the root level security policies such as authentication mechanisms (single/multi factor),
- ✓ Password policies such as password length, password complexity, password expiry, account lockout policy, certificate policies, IPSEC policies, etc.
- ✓ Maintaining an updated knowledge base of all the published security vulnerabilities and virus threats for related software and microcode, etc.
- ✓ Ensuring that patches / workarounds for identified vulnerabilities are patched / blocked immediately.
- ✓ Respond to security breaches or other security incidents and coordinate with respective OEMs in case of a new threat is observed to ensure that workaround / patch is made available for the same.
- ✓ Provide a well-designed access management system, security of physical and digital assets, data and network security, backup and recovery etc.
- ✓ Maintenance and management of security devices, including, but not limited to maintaining firewall services to restrict network protocols and traffic, detecting intrusions or unauthorized access to networks, systems, services, applications or data, protecting email gateways, firewalls, servers, from viruses.
- ✓ Ensuring that the security policy is maintained and updates to the same are made regularly as per ISO 270001, ISO 20000 and BS 15000 guidelines.
- ✓ Investigate All Suspicious Activities. ...
- ✓ Maintain Secure Monitoring Tools. ...
- ✓ Liaise With And Delegate To The Rest Of The SOC Team. ...
- ✓ Review And Report On All Cybersecurity Processes. ...
- ✓ Keep All Security Programs And Resources Up To Date.
- ✓ Review, report, take corrective measures for all security incidents

### **Liaison with stakeholders**

The SI shall coordinate and liaise with the key stakeholders of the project, respective departments, Third party vendors engaged by the line departments for developing services covered under the Ease of doing business framework. Such coordination and liaison is highly critical to the success of the project.

### **Warranty and Support**

The SI shall warrant that the IT Computing Infrastructure supplied for this Project shall have no defects arising from design or workmanship or any act or omission of the SI. The warranty shall remain valid for the Contract period on all the items supplied as per the Contract.

The SI shall replace any parts/ components of the IT infrastructure supplied for the Project if the components are defective and during the entire warranty period the SI shall apply latest upgrades

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for all the hardware components after appropriate testing. WTL will not pay any additional costs separately for warranty and the overall IT infrastructure cost quoted by the SI shall include the same.

The SI shall be held solely responsible for performance and service levels of any infrastructure deployed by the SI as part of this Contract.

### **Knowledge Transfer**

At the end of the Contract period, the SI will be required to provide necessary handholding and transition support to designated staff or any other agency that is selected for maintaining the system post the Contract with the SI. The handholding support will include but not be limited to, conducting detailed walkthrough and demonstrations for the IT Applications, handing over all relevant documentation, addressing the queries/clarifications of the new agency with respect to the working / performance levels of the infrastructure, conducting training sessions etc.

Knowledge Transfer is an integral part of the scope of work of the SI. This will have to be done even in case the Contract with the Bidder ends or is terminated before the planned timelines.

Please note that the above requirements are only indicative but not exhaustive. If any other work involved in the assignment for the purpose of meeting the project objectives would be the responsibility of the SI.

### **33. PERFORMANCE BANK GUARANTEE (PBG)**

As a guarantee for timely delivery, installation and commissioning of equipment as well as performance of on-site warranty support, as mentioned in Bill of Material, from the date of final acceptance of systems and pertaining to proper running of the systems, the bidder will have to submit 3% of the contract value as security in the form of Performance Bank Guarantee from any nationalized bank as per format enclosed (Section – R).

### **34. SI/BIDDER/CONTRACTOR'S /OEM RESPONSIBILITIES**

Refer Section –A (Scope of Work & Responsibility)

### **35. NO WAIVER OF RIGHTS**

Neither the inspection by WTL or any of their agents nor any order by WTL for payment of money or any payment for or acceptance of the whole or any part of the works by WTL, nor any extension of time, nor any possession taken by WTL shall operate as a waiver of any provision of the contract or of any power reserved to WTL, or any right to damages here in provided, nor shall any waiver of any breach in the contract be held to be a waiver of any other subsequent breach.

### **36. GRAFTS, COMMISSIONS, GIFTS, ETC.**

It is the Purchaser's policy to require that bidders, suppliers, contractors and consultants under contracts, observe the highest standard of ethics during the procurement and execution of such contracts. Any graft, commission, gift or advantage given, promised or offered by or on behalf of the contractor or his partner, agent, officers, director, employee or servant or any one on his or their behalf in relation to the obtaining or to the execution of this or any other contract with WTL shall in addition to any criminal liability which it may incur, subject the contractor to the cancellation of this and all other contracts and also to payment of any loss or damage to WTL resulting from any cancellation. WTL shall then be entitled to deduct the amount so payable from any monies otherwise due to the contractor under contract.

### **37. ENFORCEMENT OF TERMS**

The failure of either party to enforce at any time any of the provision of this contract or any rights in respect thereto or to exercise any option here in provided shall in no way be construed to be a waiver to such provisions, rights or options or in any way to affect the validity of the contract. The exercise by

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either party of any of its rights herein shall not preclude or prejudice either party from exercising the same or any other right it may have hereunder.

### **38. PERIOD OF VALIDITY OF OFFER**

For the purpose of placing the order, the proposals shall remain valid till 180 days. During the period of validity of proposals, the rates quoted shall not change. In exceptional circumstances, WTL may ask for extension of the period of validity and such a request shall be binding on Bidders. WTL's request and the response to such a request by various Bidders shall be in writing. A Bidder agreeing to such an extension will not be permitted to increase its rates.

### **39. TAXES & DUTIES**

- The prices shall be inclusive of all taxes & levies including GST and other statutory duties as applicable. Rate of taxes should be indicated separately in the Price Bid.
- Contract Price specified in Price Bid should be based on the taxes & duties and charges prevailing at the date one day prior to the last date of Bid submission.
- Statutory deduction, wherever applicable, shall be made from invoice as per government rules. Necessary certificate will be issued for such deductions.
- Bidder submitting a bid shall produce valid statutory documents / certificates with respect to GST, Income Tax, ROC, Prof. Tax, Trade License, etc. All such documents / certificates shall remain valid on the last date of tender submission.
- In case of inter-state transaction, WTL will provide "Waybill". However, statutory charges, if any will be borne by the bidder.
- GST component of the invoice of the bidder may be kept on hold in case there is any mismatch / irregularity in GST return filing on the part of the bidder.

### **40. DISCREPANCIES IN BID**

- Discrepancy between description in words and figures, the rate which corresponds to the words quoted by the bidder shall be taken as correct.
- Discrepancy in the amount quoted by the bidder due to calculation mistake of the unit rate then the unit rate shall be regarded as firm.
- Discrepancy in totaling or carry forward in the amount quoted by the bidder shall be corrected.

### **41. BID DUE DATE**

The online tender has to be submitted not later than the due date and time specified in the Important Dates Sheet. WTL may at its discretion on giving reasonable notice by fax, or any other written communication to all prospective bidders who have been issued the bid documents, extend the bid due date, in which case all rights and obligations of the WTL and the bidders, previously subject to the bid due date, shall thereafter be subject to the new bid due date as extended.

### **42. LATE BID**

Any proposal received by WTL after the deadline for submission of proposals may not be accepted.

### **43. OPENING OF BID BY WTL**

Bids shall be opened and downloaded electronically through operation of the process in the e-Tender portal in presence of Tender Committee. Bidders interested to remain present during electronic bid opening may attend the bid opening session at WTL premises at scheduled date & time.

### **44. CONTACTING WTL**

Bidder shall not approach WTL officers beyond office hours and/or outside WTL office premises from the time of the Bid opening to the time of finalization of successful bidder. Any effort by bidder to influence WTL office in the decision on Bid evaluation, Bid comparison or finalization may result in rejection of the Bidder's offer. If the bidder wishes to bring additional information to the notice of WTL, it should be in writing following the procedure mentioned hereinabove.

### **45. WTL'S RIGHT TO REJECT ANY OR ALL BIDS**

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WTL reserves the right to reject any bid and to annul the bidding process and reject all bids at any time prior to award of Contract, without thereby incurring any liability to the affected bidder(s) or any obligation to inform the affected bidder(s) of the grounds for such decision.

### **46. BID CURRENCIES**

Prices shall be quoted in Indian Rupees, inclusive of all prevailing taxes, levies, duties, cess etc.

### **47. PRICE**

- Price should be quoted in the BOQ format only. No deviation is acceptable.
- Price quoted should be firm, inclusive of packing, forwarding, insurance and freight charges.
- Percentage/specified amount of taxes & duties should be clearly mentioned otherwise WTL reserves the right to reject such vague offer.

### **48. CANVASSING**

Canvassing or support in any form for the acceptance of any tender is strictly prohibited. Any bidder doing so will render him liable to penalties, which may include removal of this name from the register of approved Contractors.

### **49. NON-TRANSFERABILITY OF TENDER**

This tender document is not transferable.

### **50. FORMATS AND SIGNING OF BID**

The original and all copies of the proposals shall be neatly typed and shall be signed by an authorized signatory(ies) on behalf of the Bidder. The authorization shall be provided by written Power of Attorney accompanying the proposal. All pages of the proposal, except for un-amended printed literature, shall be initialed by the person or persons signing the proposal. The proposal shall contain no interlineations, erase or overwriting. In order to correct errors made by the Bidder, all corrections shall be done & initialed with date by the authorized signatory after striking out the original words/figures completely.

### **51. WITHDRAWAL OF BID**

Bid cannot be withdrawn during the interval between their submission and expiry of Bid's validity period. Fresh Bid may be called from eligible bidders for any additional item(s) of work not mentioned herein, if so required.

### **52. INTERPRETATION OF DOCUMENTS**

If any bidder should find discrepancies or omission in the specifications or other tender documents, or if he should be in doubt as to the true meaning of any part thereof, he shall make a written request to the tender inviting authority for correction/clarification or interpretation or can put in a separate sheet along with his technical bid document.

### **53. PREPARATION OF TENDER**

Tender shall be submitted in accordance with the following instructions:

- a) Tenders shall be submitted in the prescribed forms. Digital signatures shall be used. Where there is conflict between the words and the figures, the words shall govern.
- b) All notations must be in ink or type written. No erasing or overwriting will be permitted. Mistakes may be crossed out and corrections typed or written with ink adjacent thereto and must be initialed in ink by the person or persons signing the tender.
- c) Tenders shall not contain any recapitulation of the work to be done. Alternative proposals will not be considered unless called for. No written, oral, telegraphic or telephonic proposals for modifications will be acceptable.
- d) Tenders shall be uploaded as notified on or before the date and time set for the opening of tenders in the Notice Inviting Tenders.
- e) Tenders subject to any conditions or stipulations imposed by the bidder are liable to be rejected.
- f) Each and every page of the tender document must be signed with company seal by the bidder.

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- g) Any bidder may withdraw his tender by written request at any time prior to the scheduled closing time for receipt of tenders and not thereafter.

### **54. SPLITTING OF THE CONTRACT AND CURTAILMENT OF WORK**

WTL reserve the right to split up and distribute the work among the successful bidders and to curtail any item of work in the schedule partly or fully.

### **55. FINAL INSPECTION**

Final inspection will be carried by the authorized representative from WTL./ Department.

### **56. SITE INSPECTION**

Bidder can inspect (at their own cost) the sites if required, for which they have to take necessary permission from WTL in writing.

### **57. ERASURES OR ALTERNATIONS**

The offers with overwriting and erasures may make the tender liable for rejection if each of such overwriting/erasures/manuscript ions is not only signed by the authorized signatory of the bidder. There should be no hand-written material, corrections or alterations in the offer. Technical details must be completely filled up. Correct technical information of the product being offered must be filled in. Filling up of the information using terms such as "OK", "accepted", "noted", "as given in brochure/manual" is not acceptable. The Customer may treat offers not adhering to these guidelines as unacceptable. The Customer may, at its discretion, waive any minor non-conformity or any minor irregularity in the offer. This shall be binding on all bidders and the Tender Committee reserves the right for such waivers.

### **58. COMPLIANCE WITH LAW**

The contractor hereto agrees that it shall comply with all applicable union, state and local laws, ordinances, regulations and codes in performing its obligations hereunder, including the procurement of licenses, permits certificates and payment of taxes where required. The contractor shall establish and maintain all proper records (particularly, but without limitation, accounting records) required by any law, code/practice of corporate policy applicable to it from time to time including records and returns as applicable under labor legislation.

### **59. CLARIFICATION OF BIDS**

During evaluation of the bids, the Customer/Tender Committee, at its discretion may ask the bidder for clarification of its bid. The request for the clarification and the response shall be in writing (fax/email) and no change in the substance of the bid shall seek offered or permitted.

### **60. DEEMED ACCEPTANCE**

Deliverables will be deemed to be fully and finally accepted by the Department in the event Department has not submitted such Deliverable/Service Review Statement to Bidder/Implementation Partner before the expiration of the review period, or when Department uses the Deliverable in its business, whichever occurs earlier ("Deemed Acceptance").

### **61. QUALITY CONTROL**

- The contractor is obliged to work closely with WTL and/or Department, act within its authority and abide by directive issued by them on implementation activities.
- The contractor will abide by the safety measures and free WTL and the concerned Department from all demands or responsibilities arising from accident/loss of life, the cause of which is due to their negligence. The bidder will pay all indemnities arising from such incidents and will not hold WTL and Department responsible.
- The contractor will treat as confidential all data and information about the system, obtained in the execution of its responsibilities in strict confidence and will not reveal such information to any party without the prior written approval of WTL/Department.

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- WTL reserves the right to inspect all phases of contractor's operation to ensure conformity to the specifications. WTL shall have engineers, inspectors or other duly authorized representatives made known to the contractor, present during the progress of the work and such representatives shall have free access to the work at all times. The presence or absence of representatives of WTL does not relieve the contractor of the responsibility for quality control in all phases.
- The Court of Kolkata only will have the jurisdiction to deal with and decide any legal matters or dispute whatsoever arising out of the contract.

### **62. GENERAL TERMS**

- a) All the pages of the bid document including documents submitted therein must be duly signed and stamped failing which the offer shall be liable to be rejected.
- b) All the documents to be submitted by the bidder along with their offer should be duly authenticated by the person signing the offer and if at any point of time during procurement process or subsequently it is detected that documents submitted are forged/tampered/manipulated in any way, the total responsibility lies with the bidder and WTL reserves the full right to take action as may be deemed fit including rejection of the offer and such case is to be kept recorded for any future dealing with them.
- c) No Technical/Commercial clarification will be entertained after opening of the tender.
- d) Overwriting and erasures may make the tender liable for rejection if each of such overwriting/erasures/manuscript is not only signed by the authorized signatory of the bidder. All overwriting should be separately written and signed by the authorized signatory of the bidder.
- e) Quantity mentioned in the tender document is indicative only and orders shall be placed subject to actual requirement. WTL reserve the right to increase or decrease the quantity specified in the tender.
- f) WTL reserve the right to reject or accept or withdraw the tender in full or part as the case may be without assigning the reasons thereof. No dispute of any kind can be raised the right of buyer in any court of law or elsewhere.
- g) WTL reserve the right to ask for clarification in the bid documents submitted by the bidder. Documents may be taken if decided by the committee.
- h) Supporting technical brochures/catalogues indicating each feature in respect of offered model and make must be submitted along with the offer, in absence of which the offer is liable to be ignored.
- i) No dispute by the bidders in regard to Technical/Commercial points will be entertained by WTL and decision taken by the Tender Committee will be final.
- j) Discrepancy in the amount quoted by the bidder due to calculation mistake, the unit rate shall be regarded as firm and the totaling or carry in the amount quoted by the bidder shall be corrected accordingly.
- k) The price offers shall remain firm within the currency of contract and no escalation of price will be allowed.
- l) The acceptance of the tender will rest with the accepting authority who is not bound to accept the lowest or any tender and reserves the right to reject in part or in full any or all tender(s) received and to split up the work among participants without assigning any reason thereof.
- m) The customer/WTL at its discretion may extend the deadline for the submission of Bids.
- n) The Court of Kolkata only will have the jurisdiction to deal with and decide any legal matters or dispute whatsoever arising out of the contract.

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## **SECTION – C**

### **ELIGIBILITY CRITERIA**

1. The bidder must be a company registered under Companies Act, 1956/2013 or Partnership or LLP or OPC or Proprietary Firm. Documentary (Certificate of incorporation/Relevant document) evidence to be submitted.
2. The bidder should have their presence in Kolkata with own office. Valid proof should be submitted along with the bid or successful Bidder will open their own operational office at Kolkata within 45 days after receiving of work order. Declaration on bidder's letter head to be submitted.
3. The bidder should have valid GST Registration Certificate & PAN. Bidder shall have to submit photocopy of the documents.
4. The bidder/group company shall have undertaken "Similar Nature of work" of at least three (03) orders each of an amount not less than Rs.10 Crore, over the preceding seven financial years in Government Department /PSU/Autonomous Body /any reputed organization in the country. At least one of such projects shall have been completed during the preceding seven financial years. Reference order copies for the project to be submitted.

OR

The bidder/group company shall have undertaken "Similar Nature of work" of at least five (05) orders totalling of an amount not less than Rs.50 Crore, over the preceding Seven financial years in Government Department /PSU/Autonomous Body /any reputed organization in the country. At least one of such projects of not less than rupees 10 crore shall have been completed during the preceding seven financial years. Reference order copies for the project to be submitted.

5. Bidder should have call center number. Call Center details for Bidder with number & detailed to be submitted.
6. The bidder should have an average annual turnover of not less than Rs. 200 Crore in the last seven financial years (FY 2014-15, 2015-16, 2016-17, 2017-18, 2018-19, 2019-2020 & 2020-2021). Bidder shall have to submit Audited Accounts in support of their claim
7. The bidder / Group Company should submit Manufacturer's tender specific authorizations for HCI Infrastructure, Network Switch, Network Security Device, Link Load Balancer, Hardware Load Balancer, Backup Device & Software, PAC and Central UPS must be submitted as per format enclosed (Section - K). Authorization to be submitted on OEM's letter head and signed by authorized signatory.
8. The bidder must have certification for the following standards :ISO 9001:2015, ISO / IEC 27001:2013, ISO / IEC 20000-1:2018. Copy of valid Certificate to be submitted.
9. The bidder shall submit Bid Form (Section – F) duly signed by the authorized signatory of the company as per the format enclosed. Deviation in format may not be accepted.
10. The bidder shall not have been blacklisted by any State/Central Government or PSU Organization or bilateral/multilateral funding agencies for breach of ethical conduct or fraudulent practices as on date of submission of the proposal (as per DIT guidance note issued on 26-Dec-2011). Declaration on bidder's letter head to be submitted.

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## **SECTION – D**

### **SERVICE LEVEL MANAGEMENT**

#### **SERVICE LEVEL MANAGEMENT**

The purpose of this Service Level Agreement (hereinafter referred to as SLA) is to clearly define the levels of service which shall be provided by the SI to SIA for the duration of this contract.

The SI and SIA shall regularly review the performance of the services being provided by the SI and the effectiveness of this SLA

Note:

The purpose of this Service Level Agreement (hereinafter referred to as SLA) is to clearly define the levels of service which shall be provided by the SI to SIA for the duration of this contract.

The SI and SIA shall regularly review the performance of the services being provided by the SI and the effectiveness of this SLA

#### **2.1. Definitions**

For purposes of this Service Level Agreement, the definitions and terms as specified in the contract along with the following terms shall have the meanings set forth below:

- "Uptime" shall mean the time period for which the specified services / components with specified technical and service standards are available to the state and user departments. Uptime, in percentage, of any component (Non-IT & IT) can be calculated as:

$$\text{Uptime} = \{1 - [(\text{Downtime}) / (\text{Total Time} - \text{Scheduled Maintenance Time})]\} * 100$$

- "Downtime" shall mean the time period for which the specified services / components with specified technical and service standards are not available to the state and user departments and excludes the scheduled outages planned in advance for the West Bengal State Data Center and the link failures that are SWO's responsibility.
- "Incident" refers to any event / abnormalities in the functioning of the Data Center Equipment / specified services that may lead to disruption in normal operations of the West Bengal State Data Center services.
- "Helpdesk Support" shall mean the 24x7 Center which shall handle Fault reporting, Trouble Ticketing and related enquiries during this contract.
- "Resolution Time" shall mean the time taken in resolving (diagnosing, troubleshooting and fixing) an incident after it has been reported at the helpdesk. The resolution time shall vary based on the severity of the incident reported at the help desk. The severity would be as follows:
  - Critical - Production server or other mission critical system(s) are down and no workaround is immediately available. All or a substantial portion of your mission critical data is at a significant risk of loss or corruption. You have had a substantial loss of service. Your business operations have been severely disrupted.
  - Medium - Operations can continue in a restricted fashion, although long-term productivity might be adversely affected. A major milestone is at risk. Ongoing and incremental installations are affected. A temporary workaround is available.
  - Low - Partial, non-critical loss of functionality of the software. Impaired operations of some components, but allows the user to continue using the software. Initial installation milestones are at minimal risk.



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## 2.2. Category of SLAs

This SLA document provides for minimum level of services required as per contractual obligations based on performance indicators and measurements for the WBSDC Infrastructure (IT and Non-IT) The SI shall ensure provisioning of all required services while monitoring the performance of the same to effectively comply with the performance levels. The services provided by the SI shall be reviewed by the West Bengal Electronics Industry Development Corporation Limited that shall:

- Regularly check performance of the SI against this SLA.
- Discuss escalated problems, new issues and matters still outstanding for resolution.
- Review of statistics related to rectification of outstanding faults and agreed changes.
- Obtain suggestions for changes to improve the service levels.

**The SLA has been set on:**

### 2.2.1. Implementation Service levels

The following measurements and targets shall be used to track and report the implementation performance on a regular basis. The targets shown in the following table are applicable for the duration of the contract. All the targets for the completion of the implementation activity are calculated on a weekly basis. Please note that the Bidder should provide comprehensive, end-to-end service to implement the SDC Infrastructure, including replacement of the equipment in case of physical damage. No reason shall be entertained (unless those mentioned in Force Majeure) in case of unavailability of any service given in the scope of work in this CONTRACT and the appropriate penalty shall be levied.

#### ➤ Implementation Service Levels

**Table 1: Implementation Service Levels**

Measurement	Target	Severity	Penalty
Civil Work, Installation of all Non-IT Components including Electrical and BMS, Installation of all IT Components, Integrated Testing and Final Acceptance test (FAT) completed and handing over.	24 weeks from the date of Work Order	Critical	A Penalty as 1% per week for every week delay in PAT. Subject to a maximum of 10% Penalty will be computed on the remaining milestone activity

For purposes of this Service Level Agreement, the definitions and terms as specified in the contract along with the following terms shall have the meanings set forth below:

- "Uptime" shall mean the time period for which the specified services / components with specified technical and service standards are available to the state and user departments. Uptime, in percentage, of any component (Non IT & IT) can be calculated as:

$$\text{Uptime} = \{1 - [(\text{Downtime}) / (\text{Total Time} - \text{Scheduled Maintenance Time})]\} * 100$$

- "Downtime" shall mean the time period for which the specified services / components with specified technical and service standards are not available to the state and user departments and excludes the scheduled outages planned in advance for the West Bengal State Data Center and the link failures that are SWO's responsibility.

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- “Incident” refers to any event / abnormalities in the functioning of the Data Center Equipment / specified services that may lead to disruption in normal operations of the West Bengal State Data Center services.
- “Helpdesk Support” shall mean the 24x7 center which shall handle Fault reporting, Trouble Ticketing and related enquiries during this contract.
- “Resolution Time” shall mean the time taken in resolving (diagnosing, troubleshooting and fixing) an incident after it has been reported at the helpdesk. The resolution time shall vary based on the severity of the incident reported at the help desk. The severity would be as follows:
  - a) Critical: Incidents whose resolution shall require additional investment in components or time or shall involve coordination with OEMs. These incidents shall impact the overall functioning of the SDC. For example, purchase of printer, router, software bug fixing etc.
  - b) Medium: Incidents, whose resolution shall require replacement of hardware or software parts, requiring significant interruption in working of that individual component. For example, installation of operating system, replacement of switch etc.
  - c) Low: Incidents whose resolution shall require changes in configuration of hardware or software, which will not significantly interrupt working of that component. For example, installation of printer on a client etc.

### 2.2.2. Operation& Maintenance Service levels

#### 2.2.2.1. IT Infrastructure Service

##### Levels

Following outlines the service level indicators & and the target performance levels to be maintained by the Agency during the contract period. These SLAs shall be strictly imposed and athird party audit/certification agency shall be deployed for certifying the performance of the Agency against the target performance metrics as outlined in the table below:

**Table 2: IT Infrastructure Service Levels**

Sl. No.	Measurement	Target	Severity	Penalty
1	Individual Server and VM Availability (including the OS, database and web/app servers which are supplied / installed and maintained by SI for hosting the web portal)	>= 99.749%	<u>Critical</u>	No Penalty
		>=99 % <99.749%		1% of the QGR
		>=98 % < 99 %		2% of the QGR
		>=95 % < 98%		3% of the QGR
		< 95 %		Maximum of 5 of the QGR can be imposed
2	Connectivity between DC & DR	>= 99.749%	<u>Critical</u>	No Penalty
		>=99 % <99.749%		1% of the QGR
		>=98 % < 99 %		2% of the QGR
		>=95 % < 98%		5% of the QGR
		< 95 %		Maximum of 10 % of the QGR can be imposed
3	Backup Device Availability	>= 99.749%	<u>Critical</u>	No Penalty
		>=99 % <99.749%		1% of the QGR
		>=98 % < 99 %		2% of the QGR
		>=95 % < 98%		5% of the QGR
		< 95 %		Maximum of 10 % of

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Sl. No.	Measurement	Target	Severity	Penalty
				the QGR can be imposed
		< 95 %		Maximum of 10 % of the QGR can be imposed
4	Connectivity with Internet	>= 99.749%	<u>Critical</u>	No Penalty
		>=99 % <99.749%		1% of the QGR
		>=98 % < 99 %		3% of the QGR
		>=95 % < 98%		5% of the QGR
		< 95 %		Maximum of 10 % of the QGR can be imposed
5	LAN Availability (Active and passive Component including the expanded SDC equipments)	>= 99.749%	<u>Critical</u>	No Penalty
		>=99 % <99.749%		2% of the QGR
		>=98 % < 99 %		5% of the QGR
		>=95 % < 98%		8% of the QGR
		< 95 %		Maximum of 10 % of the QGR can be imposed
6	Restore the backed up databases/ applications etc. to be initiated within 2 hours of request	Full Restore	<u>Medium</u>	1% of the QGR for > 5 violations of service parameter on every QGR
7	Scheduled downtime for Preventive maintenance Per Week, if any • 1am to 3am on Sundays • Any further requirement for scheduled downtime	Notification of >= 7 days in advance	<u>Medium</u>	No Penalty
		Notification of less than 7 days		0.5% of the QGR

**Note: Equipment Availability Related penalties shall be governed by the following conditions:**

- The Penalty shall be calculated on a quarterly basis.
- If the SLAs drop below the lower limits specified for each component in the table above, it will be governed by the event of default / penalty clause as specified under “Section D: Instruction to the bidder” of the NIT.

### 2.2.2.2. Physical Infrastructure Service Levels

**Table 3 : Physical Infrastructure Service Levels**

Sl. No.	Measurement	Target	Severity	Penalty
1	Power Availability ( UPS output )	>= 99.749%	<u>Critical</u>	No Penalty
		<99.749% to >= 99 %		2% of the QGR
		>=98% to <99%		5% of the QGR

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Sl. No.	Measurement	Target	Severity	Penalty
		>=95% to <98%		8% of the QGR
		<95%		Maximum of 10 % of the QGR can be imposed
2	PAC system Availability PAC System availability would mean (all PAC's including the standby) temperature and the humidity at the sensor level. Temperature to be maintained 20°± 2° at all times Relative humidity to be maintained 50°± 5° at all times	>= 99.749%	<u>Critical</u>	No Penalty
		<99.749% to >= 99 %		2% of the QGR
		>=98% to <99%		5% of the QGR
		>=95% to <98%		8% of the QGR
		<95%		Maximum of 10 % of the QGR can be imposed
3	Surveillance: CCTV Availability would include NVR system availability, availability of CCTV recording – 180 days of backup data from the present date	>= 99.749%	<u>Critical</u>	No Penalty
		<99.749% to >= 99 %		0.5% of the QGR
		>=98% to <99%		2% of the QGR
		>=95% to <98%		5% of the QGR
		<95%		Maximum of 10 % of the QGR can be imposed
4	Complete BMS system. This parameter applies to all individual components of BMS system, i.e., VESDA, Fire detection, fire suppression, water leak detection, S&EMU, Rodent repellent etc., which can be monitored through DCIM/BMS software. For any component downtime, the penalty will be applicable	>= 99.749%	<u>Critical</u>	No Penalty
		<99.749% to >= 99 %		2% of the QGR
		>=98% to <99%		5% of the QGR
		>=95% to <98%		8% of the QGR
		<95%		Maximum of 10 % of the QGR can be imposed
5	Data Center Infrastructure Management (Measure all the components at the end terminal level)	>= 99.749%		No Penalty
		<99.749% to >= 99 %		2% of the QGR
		>=98% to <99%		5% of the QGR
		>=95% to <98%	<u>Critical</u>	8% of the QGR
		<95%		Maximum of 10 % of the QGR can be imposed

### 2.2.2.3. Civil Work & Minor Works Service Levels

**Table 4: Civil Work & Minor Works Service Levels**

Sl. No.	Measurement	Target	Severity	Penalty
1	Major Civil Work including the	T days	<u>Critical</u>	No Penalty

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Sl. No.	Measurement	Target	Severity	Penalty
	False Flooring, False Ceiling, Doors & Locking, Partitioning, Fire Proofing of all surfaces, Furniture & Fixtures and Painting to be replaced within 2 days of reporting the problem  The SI should maintain sufficient inventory to carry out civil and electrical repairs without any disruption to operations. For critical items, the Resolution time shall be mutually agreed by the State and the SI at the time of award of contract. T shall be the agreed Resolution ( All aspects of the Physical Data Center)	T1 = T + 2 days		0.05% of the QGR for every unresolved call
		T2 = T1 + 2 days		1% of the QGR for every unresolved call
		>T2		2% of the QGR for every unresolved call
2	Minor Civil Work including Cement Concrete Work, Masonry Work, Trench Work, Storage, Glazing and Scaffolding Work to be carried within 4 days of the reporting problem	T= 2 days	<u>Low</u>	No Penalty
		T1 = T + 2 days		0.05% of the QGR for every unresolved call
		T2 = T1 + 2 days		1% of the QGR for every unresolved call
		>T2		2% of the QGR for every unresolved call

\* The SI shall furnish the up-to-date standard OEM Onsite Call-to-Repair Service agreed turnaround / resolution time details to the SIA at regular intervals. The same should be either a global document or should be on the letterhead on the OEM.

### 2.2.2.5. Compliance and Reporting Process Service Levels

**Table 5 : Reporting Process Service Levels**

Sl. No.	Measurement	Target	Severity	Penalty
1	Submission of MIS reports. The SI shall submit the MIS reports as requested by SIA	Report for previous month to be submitted by 7 <sup>th</sup> of next Month	Medium	1% of the QGR for every 1 day of delay in submission of incremental basis to a maximum of 5%
2	Implementing Change Requests: The SI would implement approved change	100% of all approved change requests	Medium	1% of QGR for >5 violations of Service

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	request within 2 days of its approval			Parameter
3	Customization of EMS reports	Customized reports shall be created and submitted within 7 days from date of request submitted by SIA.	Medium	1% of QGR for every 7 days delay in submission of customized reports to a maximum of 10% of QGR.

These SLAs would be calculated for each of the following types of incidences:

- **Virus Attack-** Any virus infection and passing of malicious code shall be monitored at the gateway level or user complains of virus infection shall be logged at the help desk system and collated every quarter.
- **Denial of Service Attack** Non availability of any services shall be analyzed and forensic evidence shall be examined to check whether it was due to external DoS attack. Intrusion Compromise of any kind of data hosted by SDC
- SPAM statistics on monthly basis shall be monitored through reports generated by Anti-SPAM software.
- Any other security related threat

**Table 6: Security and Incident Management Service Level**

Sl. No.	Incidents	Penalty
1	For every virus attack reported and not resolved within 24 hours from the time of patch or virus removal tool/process is available	Rs. 10,000
2	For every incidence of Denial of service attack	Rs. 200,000
3	For every incidence of Data Theft/Destroy/compromised on data Integrity (Compromise of any kind of data hosted by DR)	Rs. 5,00,000 (In addition to any other penalty, punishment applicable under the legal provisions of the Country and the State prevailing at that point in time.)
4	Host level Intrusion	Rs. 2,00,000
5	Ransomware Incident	Rs 5,00,000
6	Missing a security incident alert of critical nature	Rs 1,00,000/- per incident

### 2.2.2.6. Cloud Management Related SLA

**Table 7 :Virtual infrastructure related Service Levels**

Sl. No.	Measurement	Target	Severity	Penalty
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Sl. No.	Measurement	Target	Severity	Penalty
1.	Provisioning and De-provisioning of Virtual Machines	Within 30 Minutes after the approval of the request by the concerned Authority	Medium	0.5% of the QGR for every 1 hours or part delay beyond the target time. To the maximum capping of 5 hrs. Beyond 5 hours, 1% of the QGR for every 1 hour.
2.	Overall Cloud Solution Availability	99.749%	Critical	99.25% – 99.749% - 1% of QGR 98.75% - 99.25% - 2% of QGR Subsequently, every 0.5% drop in SLA criteria - 2% of QGR Overall Cloud Solution Availability will be measured by following formula: Availability %age = {(Agreed Service Time – Subsystem Down Time)/ (Agreed Service time)*(100%). ** Scheduled downtime will be excluded.
3.	Cloud Orchestration layer Availability	99.749%	Critical	99.25% – 99.749% - 1% of QGR 98.75% - 99.25% - 2% of QGR Subsequently, every 0.5% drop in SLA criteria - 2% of QGR The component availability will be measured by following formula: Component Availability %age = {(Agreed Service Time for the component– Down Time of the component)/ (Agreed Service time for the component))*(100%)
4.	Cloud Security layer Availability	99.749%	Critical	99.25% – 99.749% - 1% of QGR 98.75% - 99.25% - 2% of QGR Subsequently, every 0.5% drop in SLA criteria - 2% of QGR The component availability will be measured by following formula: Component Availability %age = {(Agreed Service Time for the component– Down Time of the component)/ (Agreed Service time for the component))*(100%)
5	Data/VM Backup success per day	100% 96-99% 90-95.9%	Critical	No penalty 1% of QGR  5% of QGR

### 2.2.2.7. Patch Management related SLA

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**Table 8 :Patch Management SLA**

Measurement	Target	Severity	Penalty
Patch Management	Critical Patches to be implemented within 10 days of patch release	Medium	0.05% of QGR
	Non Critical Patches to be implemented within 15 days of patch release	Low	0.01% of QGR
	Optional Patches to be implemented within 30 days of patch release	Low	0.01% of QGR

### 2.2.2.10. Technical Resources Service levels

Incases where 24x7 technical resources are not available the support personnel should be available over phone. On critical situations or when directed by SIA, the support personnel must be available onsite within 3 hours of request from SIA. Non availability of the support personnel as stated above will be treated equivalent to single occasion downtime for critical components. The core resources/manpower like Project Manager and level 3 resources deployed by the SI should be on rolls of the respective SI and not contracted or outsourced personnel.

**Table 9 : Resource shift Service Level**

Bidder needs to provide adequate number of resources to comply with the shift requirement. In case if any additional resource is required, he/she should meet the experience, educational and certification criteria.

Measurement	Target	Severity	Penalty
Resource availability for all services requested under Operations and Maintenance Resource availability would be calculated as: (No. of shift days for which resource present at the designated location / Total No. of shift days ) x 100	>= 95% averaged individual resources designated for System Integration (Data Center Operations) services and calculated on a quarterly basis	Critical	No Penalty
	< 99% to >= 97% averaged individual resources designated for System Integration (Data Center Operations) services and calculated on a quarterly basis		2% of QGR
	< 97% to >= 95% averaged individual resources designated for System Integration (Data Center Operations) services and calculated on a quarterly basis		5% of QGR
	< 95% to >= 90% averaged individual resources designated for System Integration (Data Center Operations) services and calculated on a quarterly basis		8% of QGR
	< 90% averaged individual resources designated for System Integration (Data Center Operations) services and calculated on a quarterly basis		Maximum penalty may be imposed i.e.



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Measurement	Target	Severity	Penalty
	Operations) services and calculated on a quarterly basis		10% of QGR or on actual whichever is higher

Example: to illustrate the Resource shift availability in case there are there are 3 shifts per day which will have 2 people in shift 1, 1 in shift 2 and 1 in shift 3.

Total shift per day will be = 4 (2 x 1 + 1 x 1 + 1 x 1) per quarter it would be = 360 shifts

In a quarter if two people were not present in shift 1 for 7 days then 2 x 7 = 14 shifts will be considered for the unavailability of manpower.

Uptime % = (shifts in which manpower was available / total number of shifts) x 100

Uptime c1/0 = (1 — 14/360) x 100

Uptime % = 96.11%

TPA will follow the process mentioned above while calculating man shift availability.

- Notwithstanding anything contained in this Agreement of the RFP, the maximum aggregate penalty that can be levied on the SI for a quarter shall not exceed 10% of the total QGR value of the respective quarter (i.e. the sum of all invoices raised for the respective quarter by the SI) and can be imposed for reasons that are solely applicable to the SI.

### 2.3. SLA Review Process

Either SIA or SI may raise an issue by documenting the business or technical problem, which presents a reasonably objective summary of both points of views and identifies specific points of disagreement with possible solutions.

- A meeting or conference call will be conducted to resolve the issue in a timely manner. The documented issues will be distributed to the participants at least 24 hours prior to the discussion if the issue is not an emergency requiring immediate attention.
- The SIA and the SI shall develop an interim solution, if required, and subsequently the permanent solution for the problem at hand. The SI will then communicate the resolution to all interested parties.
- Incase the issue is still unresolved; the arbitration procedures described in the Terms & Conditions section will be applicable.

#### 2.3.1. Penalties are subject to:

- Maximum cumulative of 10% penalty can be levied on the value of contract (exclusive of taxes) for reasons that are solely applicable to the SI / OEM.
- In the event of exceeding 20% penalty, it will be deemed to be an event of default and can lead to termination.
- In the case of maximum Penalty of 10% being calculated for the SLA breaches by the SI for four consecutive QGR due to breach of service level as per the agreement, then the performance of the SI will be reviewed and also may be subjected to Termination of the order for the FMS Period. In such case, the provisions of the Termination clause as per the agreement shall apply.

### SAMPLE SLA AUDIT REPORT

Computation of other Penalty except manpower				
Sl. No	SLA Description	Penalty (%)	Remarks	Priority
1	HCI Infra Availability			
2	Tape Library Availability			

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Computation of other Penalty except manpower				
Sl. No	SLA Description	Penalty (%)	Remarks	Priority
3	Connectivity with DC Site			
4	Internet Availability			
5	LAN Availability			
6	Restore Requests			
7	Scheduled downtime			
8	Power Availability			
9	PAC Availability			
10	Surveillance			
11	BMS Availability			
12	DCIM Availability			
13	Civil and Minor Works			
14	MIS Reporting			
15	Implementing Change Requests			
16	Customization of EMS Report			
17	Virus Attack			
18	DoS Attack			
19	Host level Intrusion			
20	Ransomware Incident			
21	Missing Security Incident alert of Critical Nature			
22	Provisioning and de-provisioning of VMs			
23	Overall Cloud Solution Availability			
24	Data/VM Backup success per day			
25	Patch Management			
<b>Total Penalty (%)</b>				

# **WEBEL TECHNOLOGY LIMITED**

## **SECTION – E**

### **DATE AND TIME SCHEDULE**

<b>Sl. No.</b>	<b>Particulars</b>	<b>Date &amp; Time</b>
1	Date of uploading of N.I.T. & other Documents (online) (Publishing Date)	-
2	Documents download/sale start date (Online)	-
3	Last Date and time of sending the queries (Offline / e-mail)	-
4	Pre Bid Meeting (On Line)	-
5	Corrigendum, if any will be published (On Line)	-
6	Bid Submission start date & time (On line)	26.08.2022 at 14.00 Hrs.
7	Last Date & time of submission of Earnest Money Deposit & submission of remittance details	Before uploading of tender
8	Last Date & time of submission of Tender Fee & submission of remittance details	Before uploading of tender
9	Bid Submission closing date & time (On line)	31.08.2022 at 13.00 Hrs.
10	Bid opening date & time for Technical Proposals (Online)	02.09.2022 at 13.00 Hrs.
11	Date of uploading the final list of Technically Qualified Bidder (online) after disposal of appeals, if any	-
12	Date for opening of Financial Bid (Online)	-

# **WEBEL TECHNOLOGY LIMITED**

## **SECTION – F**

### **BID FORM**

(Bidders are requested to furnish the Bid Form in the Format given in this section, filling the entire Blank and to be submitted on Letter Head in original)

**To**  
**Webel Technology Limited**  
**Plot – 5, Block – BP, Sector - V,**  
**Salt Lake City,**  
**Kolkata – 700091.**

**Sub: Selection of System Integrator for setting up Data Centre cum DR facility at Purulia, West Bengal.**

Dear Sir,

1. We the undersigned bidder/(s), having read and examined in details the specifications and other documents of the subject tender no. WTL/WBSDC/DR/22-23/012 dated 05.07.2022, do hereby propose to execute the job as per specification as set forth in your Bid documents.
2. The prices of all items stated in the bid are firm during the entire period of job irrespective of date of completion and not subject to any price adjusted as per in line with the bidding documents. All prices and other terms & conditions of this proposal are valid for a period of 180 (one hundred eighty) days from the date of opening of bid. We further declare that prices stated in our proposal are in accordance with your bidding.
3. We confirm that our bid prices include all other taxes and duties and levies applicable on bought out components, materials, equipments and other items and confirm that any such taxes, duties and levies additionally payable shall be to our account.
4. Earnest Money Deposit: We have enclosed EMD / BID SECURITY remittance details for a sum of Rs.10000000.00
5. We declare that items shall be executed strictly in accordance with the specifications and documents irrespective of whatever has been stated to the contrary anywhere else in our proposal. Further, we agree that additional conditions, deviations, if any, found in the proposal documents other than those stated in our deviation schedule, save that pertaining to any rebates offered shall not be given effect to.
6. If this proposal is accepted by you, we agree to provide services and complete the entire work, in accordance with schedule indicated in the proposal. We fully understand that the work completion schedule stipulated in the proposal is the essence of the job, if awarded.
7. We further agree that if our proposal is accepted, we shall provide a Performance Bank Guarantee of the value equivalent to three percent (3%) of the Order value as stipulated in Financial Bid (BOQ).
8. We agree that WTL reserves the right to accept in full/part or reject any or all the bids received without any explanation to bidders and his decision on the subject will be final and binding on Bidder.

Thanking you, we remain,

**WEBEL TECHNOLOGY LIMITED**

Yours faithfully

.....  
Signature

.....  
Name in full

.....  
Designation

**Signature & Authorized Verified by**

.....  
Signature

.....  
Name in full

.....  
Designation

.....  
Company Stamp

Dated, this .....day of .....2022

# **WEBEL TECHNOLOGY LIMITED**

## **SECTION – G**

### **TECHNO COMMERCIAL EVALUATION & AWARDING OF CONTRACT**

#### **1. EVALUATION PROCEDURE**

- The Eligibility Criteria (Section - C) will be evaluated by Tender Committee and those qualify will be considered for further evaluation.
- The Tender Committee shall verify the Technical Specification (Technical Specification with Compliance Statement, Section – J) Deviation in specification shall not be allowed. Bidder qualified in Technical Specification shall be considered for further evaluation.
- After qualifying in Technical Specification, qualified bidders will only be considered for Financial Bid evaluation.

#### **2. FINAL EVALUATION**

Financial Proposal of the bidders qualifying in the evaluation of Technical specification will be evaluated. The bidder who has qualified in the Technical Specification evaluation and returns with lowest quote (L1) in financial bid would normally be awarded the contract subject to Post Qualification.

#### **3. AWARDING OF CONTRACT**

An affirmative Post Qualification determination will be prerequisite for award of the contract to the lowest quoted bidder. A negative determination will result in rejection of bidder's bid, in which event the WTL will proceed to the next lowest evaluated bidder to make a similar determination of that bidder's capability to perform satisfactorily. The successful bidder (s) will have to give security deposit in the form of Performance Bank Guarantee.

#### **4. POST QUALIFICATION**

The determination will evaluate the Bidder's financial, technical, design, integration, customization, production, management and support capabilities and will be based on an examination of the documentary evidence of the Bidder's qualification, as well as other information WTL deems necessary and appropriate. This determination may include visits or interviews with the Bidder's client's reference in its bid, site inspection, and any other measures. At the time of post-qualification, Directorate of es may also carry out tests to determine that the performance or functionality of the Information System offered meets those stated in the detailed Technical Specification.

# **WEBEL TECHNOLOGY LIMITED**

## **SECTION – H**

### **GUIDANCE FOR E-TENDERING**

Instructions / Guidelines for electronic submission of the tenders have been annexed for assisting the Bidders to participate in e-Tendering.

- **Registration of Bidder:**  
Any Bidder willing to take part in the process of e-Tendering will have to be enrolled & registered with the Government e-Procurement System through logging on to <https://wbtenders.gov.in>. The Bidder is to click on the link for e-Tendering site as given on the web portal.
- **Digital Signature Certificate (DSC):**  
Each Bidder is required to obtain a Class-II or Class-III Digital Signature Certificate (DSC) for submission of tenders from the approved service provider of the National Informatics Centre (NIC) on payment of requisite amount. Details are available at the Web Site stated above. DSC is given as a USB e-Token.
- The Bidder can search & download N.I.T. & BOQ electronically from computer once he logs on to the website mentioned above using the Digital Signature Certificate. This is the only mode of collection of Tender Documents.
- **Participation in more than one work:**  
A prospective bidder shall be allowed to participate in the job either in the capacity of individual or as a partner of a firm. If, found to be applied severally in a single job all the applications will be rejected.
- **Submission of Tenders:**  
Tenders are to be submitted through online to the website stated above in two folders at a time, one in Techno Commercial Proposal & the other is Financial Proposal before the prescribed date & time using the Digital Signature Certificate (DSC). The documents are to be uploaded virus scanned copy duly Digitally Signed. The documents will get encrypted (transformed into non readable formats)

The proposal should contain scanned copies of the following in two covers (folders).

#### **Techno Commercial Cover:**

##### **Technical Document1 (scanned & join in pdf format then upload)**

1. Copy of Remittance details of Earnest Money Deposit (EMD / BID SECURITY)
2. Copy of Remittance details of Tender Fee

##### **Technical Document2 (scanned & join in pdf format then upload)**

1. N I T Declaration duly stamped & signed in letter head, Section - S
2. Bid Form as per format (Section – F)

##### **Technical Compliance (scanned & joins in pdf format then upload)**

1. Manufacturer Authorization Form

#### **Financial Cover:**

BOQ will be downloaded and same will be uploaded with quoted rates. While uploading BOQ file name shall remain unchanged. Absence of this document shall lead to summary rejection of the bid.

#### **NON-STATUTARY COVER (MY SPACE) CONTAIN FOLLOWING DOCUMENT:**

(In each folder, scanned coy will be uploaded with single file having multiple pages)

## WEBEL TECHNOLOGY LIMITED

Sl. No.	Category Name	Sub Category Name	Sub Category Description
A	CERTIFICATES	A1. CERTIFICATES	<ul style="list-style-type: none"> <li>• GST Registration Certificate</li> <li>• PAN</li> <li>• Trade License</li> <li>• Document as per Section – B</li> </ul>
B	COMPANY DETAILS	B1. COMPANY DETAILS 1	<ul style="list-style-type: none"> <li>• Document as per Section – B</li> <li>• Document as per Section – B</li> </ul>
		B2. COMPANY DETAILS 2	<ul style="list-style-type: none"> <li>• Company Profile (Not more than 3 pages)</li> <li>• Document as per Section – B</li> </ul>
C	CREDENTIAL	CREDENTIAL 1	Order copy & performance certificate as per Section – B
		CREDENTIAL 2	<ul style="list-style-type: none"> <li>• Other documents, if any</li> </ul>
D	DECLARATION	DECLARATION 1	<ul style="list-style-type: none"> <li>• List of Clients as per format (Section – P)</li> </ul>
		DECLARATION 2	Financial Capability of Bidder as per format (Section – M)
		DECLARATION 3	Bidder's Details as per format (Section – N)
		DECLARATION 4	Details of Order Executed as per format (Section – L)
		DECLARATION 5	Document as per Section – B Financial document as per Section – B
F	FINANCIAL INFO	P/L & BALANCE SHEET 2014-2015	P/L & BALANCE SHEET 2014-2015
		P/L & BALANCE SHEET 2015-2016	P/L & BALANCE SHEET 2015-2016
		P/L & BALANCE SHEET 2018-2019	P/L & BALANCE SHEET 2016-2017
		P/L & BALANCE SHEET 2017-2018	P/L & BALANCE SHEET 2017-2018
		P/L & BALANCE SHEET 2018-2019	P/L & BALANCE SHEET 2018-2019
		P/L & BALANCE SHEET 2019-2020	P/L & BALANCE SHEET 2019-2020
		P/L BALANCE SHEET 2020-2021	P/L BALANCE SHEET 2020-2021



# **WEBEL TECHNOLOGY LIMITED**

## **SECTION – I**

### **BILL OF MATERIAL**

Sl. No.	Item / Job Description	Qty.	Unit
1.	Deliver, Installation & Integration of Civil Infrastructure	1	Lot
2.	Deliver, Installation & Integration of Electrical Infrastructure	1	Lot
3.	Deliver, Installation & Integration of Diesel Generator Set with all related accessories	2	Nos.
4.	Deliver, Installation & Integration of Isolation Transformer with all related accessories	2	Nos.
5.	Deliver, Installation & Integration of Central UPS system with all related accessories	2	Nos.
6.	Deliver, Installation & Integration of UPS system for BMS equipments with all related accessories	2	Nos.
7.	Deliver, Installation & Integration of Precision Air-conditioner System with all related accessories	2	Nos.
8.	Deliver, Installation & Integration for Rack Containment Frame with Rack and Cold & Hot Aisle Containment system with all related accessories	2	Lot
9.	Deliver, Installation & Integration of IP PDU for Server and Network Rack with all related accessories	20	Nos.
10.	Deliver, Installation & Integration of IP KVM switch with Display Unit including all related accessories	4	Nos.
11.	Deliver, Installation & Integration of various equipments for Building Management system with all related accessories as per scope	1	Lot
12.	Deliver, Installation & Integration of Building Management System software with all related accessories	1	Lot
13.	Deliver, Installation & Integration of Structured Passive Cabling Components of LAN infrastructure, Open Common Rack with all related accessories	1	Lot
14.	Delivery, Installation & Integration of Monitoring Device of Various equipment for IT & Non-IT Infrastructure	1	Lot
15.	Deliver, Installation & Integration of Router	2	Nos.
16.	Deliver, Installation & Integration Network Security Devices	1	Lot
17.	Delivery, Installation & Integration of Link Load Balancer	2	Nos.
18.	Deliver, Installation & Integration of Hardware Load Balancer	2	Nos.
19.	Deliver, Installation & Integration of Network Switching Devices	1	Lot
20.	Deliver, Installation & Integration of Hyper-Converged Infrastructure	1	Lot
21.	Delivery, Installation, Configuration & Integration of Backup Device and related software	1	Lot
22.	Deliver, Installation & Integration of Centralized Monitoring Software	1	Lot
23.	Installation, Commissioning and Integration Charge	1	Lot
24.	Operation & Maintenance Support Service	1	Lot

**Unpriced, complete and correct Bill of Material to be submitted along with the bid in OEM letter head, without which Bid will be rejected. No clarification/correction will be sought post submission of bid.**

**Bill of quantity may change at the time of ordering of Purchase Order. Detailed Technical Specifications are given in Section - J**

# **WEBEL TECHNOLOGY LIMITED**

## **SECTION – I**

### **TECHNICAL SPECIFICATIONS & COMPLIANCE SHEET**

(Tender No. WTL/WBSDC/DR/22-23/012)

#### **(1) Scope of Work & Minimum Technical Specification for Deliver, Installation & Integration of Civil Infrastructure**

<b>S/N</b>	<b>Component / Performance / Utility</b>	<b>Minimum Specification</b>	<b>Specification (Quoted / Applicable – by the bidder)</b>	<b>Compliance (Yes/ No)</b>	<b>Remarks</b>
1.	<b>Demolition and dismantling</b>	Demolition and dismantling: This would encompass removal of any existing structures, false ceiling, flooring, walls etc., if required. This would also include carting the debris away from the premises to a pre-determined spot or their disposal off so as not to infringe upon any local bye-laws or as directed by the building/regulatory authorities. Protection and repairs, if required, of any existing infrastructure damaged during dismantling works has to be ensured.			

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2.	<b>Doors</b>	<p><b>Fire Rated Doors</b></p> <p>Door for Server room, Staging Room, Telecom Room, BMS &amp; NOC Room, Battery Room, Electrical &amp; UPS Room should be 2 hr fire rated metal door with size as per BOQ given and requirement.</p> <p><b>GENERAL SPECIFICATION:</b> Provision is to be made in the shutter/frame for access control cable/electric mortise lock. Door frames and leaves made of Galvanized steel 304 grade. Door leaves constructed from 1.25mm thick. Galvanized steel sheet press formed to provide a 46mm thick. Fully flush, double skin door shell with lock seam joints at stile edges. Internal reinforcements are provided at top, bottom &amp; stile edges for fire rating. The internal construction of the door is a specially designed Honey comb structure with reinforcements at top, bottom &amp; stile surrounds. The internal construction of the door varies with the degree of fire rating as tested. For doors having overall height in the excess of 2100 mm the shutters shall essentially have double latching. Door frames produced from 1.6mm thick galvanized steel sheet press formed to double rebate profile of size 143 x 57 mm (+/- 0.3mm) with a maximum bending radius of 1.4mm. The door frames may be built into the brick or block walls using corrugated "TEE" anchors not welded to the frame ( first fix).</p> <p>Frames may be fixed on plastered openings OR MS Section with the help not welded to the frame ( first fix). Frames may be fixed on plastered/ Metal Section openings with the help of metallic expansion shield with counter sunk screw ( second fix).Door frames are supplied to knock down form with butt joints for bolt assembly at site. Fire Rated vision glass with 6mm thk. Clear glass can be provided for a maximum of 2 hrs fire rating. The vision glass can be provided in 380 mm dia or square/rectangular in various dimensions such as 200mm x 300mm, 300mm x 300mm etc. The door frames and door shutters are primed with Zinc-phosphate stoving primer. Various finishes in synthetic stoving enamel, acrylic stoving paint or polyurethane can be provided on request.</p> <p>The Fire Doors are to be fully insulated and have been tested as per IS: 3809-1979, ISO: 834- 1975, IS: 3614 (PART-II)- 1992 and BS 476 (PART- 20 &amp; 22)- 1987 under live fire conditions from Central Building Research Institute (CBRI), Roorkee, National Test House Calcutta for Stability, Integrity and Insulation for 2 Hrs. The wired glass is to comply with both BS 476: PART 22 and BS 6206 relating to fire resistant and impact performance.</p> <p>Finalized vendor to submit the Test certificates for the above.</p> <p><b>Other Doors</b></p>			51
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		<p>Hinges provided are to be Stainless steel double ball bearing butt hinges of size 100mm x 76mm x 3mm thick conforming to BS 7352 standard for 'Strength and durability performance of metal hinges for side hanging applications and dimensional requirements for template drilled hinges' and are classified in class 8 ie, with 20000 annual operations.</p> <p>The screws for hinges are SS 304 grade Philips head CSK screws of size M6x 15mm. Latching shall be Mortise lock with independent escutcheon. D pull handles of SS shall be provided. Door closures heavy duty rated shall be provided as required. Vendor to provide the manufacturer's test certificate for the installation. Cost to include all necessary extra support item</p> <p>OTHER DOORS:</p> <p>Supply of Double LEAF FRAMED AL DOOR: Aluminum door should have particle board in lower portion and upper portion should be 8 mm thick toughened glass with floor sprint, door stopper, Handle and lock etc. The lock shall be Godrej Make and Toughened Glass make shall be Saint Gobain or equivalent. Aluminum section should be galvanized, powder coated with appropriate color shade as approve by the Operating authority (Reception Only)</p>			
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3.	<b>Partitions/ Walls</b>	<p><b>Fire Rated Gypsum Partition</b> Partitions/ wall for walls other than brick walls shall be of Fire line Gyp board. The internal partitions for Reception, battery room, Electrical &amp; UPS Room and Staging cum Store Room shall be full height 125 mm thick fire line Gyp Board using 12.5 mm thick double fire line gyp-board on both sides with GI sheet metal vertical stud frame of size 75 mm wide fixed in the floor and ceiling channels of 75 mm wide to provide a strong partition. Glass wool insulation inside shall be provided as required. Fixing shall be made by self tapping screw width vertical &amp; Horizontal studs being at 610 mm intervals. The same should be inclusive of making cut-out for switchboards, sockets, grills etc. It shall also include preparing the surface smoothly and finally finishing with one coat of approved brand of resistant coating. The partition to have laminate skirting of 100 mm ht at the bottom with 6mm Ply with laminate finishing. Including Required MS structure support for Fire Door fixing.</p> <p><b>Brick Partition</b> Providing and constructing brick walls with bricks of class designation 7.5 in proper line and level, at all levels in cement mortar 1:4 of thicknesses of <b>260 mm</b>, including plastering on visible sides, necessary lintels at intervals, all scaffolding, staging, curing etc.</p> <p><b>Toughened Glass partition for Telecom Room.</b> Providing and fixing of 10 mm thick clear glass along with it's AL anodized powder coated frame on the side wall of Telecom room to view from NOC Room. The work should be completed along with wall opening to the size of Glass Frame should be minimum 1200 mm x 1000 mm and fixing the frame in the wall with masonry work.</p>			
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4.	<b>WALL TREATMENT.</b>	<p><b>PAINTING:</b></p> <p>Providing and applying approved Zero VOC Plastic Emulsion paint in three or more coats of approved brand and shade to internal surfaces (walls / partitions/ ceiling or any other location as directed), to give an even shade, including thoroughly brushing the surface free from foreign matter, sand papering smooth, filling in all holes and cracks , applying lambi / palti and rubbing down the surface, lambi/palti sandwiched with two coats of approved primer. Rate to include all tools, labour, scaffolding, primer as required completed as directed.</p> <p>Note: Flat area in horizontal vertical plane will be measured for payment. No additional payment will be made for grooves, cornices, mouldings etc</p> <p><b>PUNNING:</b></p> <p>All wall to be punned using gypplaster of India Gypsum / equivalent make for an average thickness of 5 - 8 mm made of universal plaster/ Putty. The punning shall be finished uniform and wave free on both sides. The cost to include providing grooves at junctions wherever required as per the instructions of the Architect. Price shall be inclusive of any chipping &amp; replastering if required. (columns included)</p> <p><b><i>FIRE RATED PAINT.</i></b></p> <p>2hrs Fire rated paints for server &amp; Electrical &amp; UPS room only, Make of MRF/ Burger.</p>			
5.	<b>Thermal Insulation Work</b>	<p>The floor and ceiling slabs should be heat-insulated, or coated with a heat insulating material to avoid condensation on floors below and above and to reduce the heat transfer in the <b>server Room area</b>. Providing and fixing</p> <p>19 MM thick AL clad Nitrile rubber for Floor and Without AL cladding 19 mm Nitrile rubber for Ceiling CLASS O insulation above the false ceiling, true floor and joints should be finished properly as per manufacturer's specification. The rate shall be inclusive of jointing tap, cleaning the surface to make it free from dust Class O</p>			
6.	<b>Damp Proofing</b>	<p>Bidder to offer the necessary Materials / Component and accessories for the Damp Proofing only <b>for Server room</b>.</p>			

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7.	<p><b>Raised floor</b></p>	<p>RAISED FLOORING: USF 1000 EDGE SUPPORT RIGID GRID SYSTEM- FINISHED FLOOR HEIGHT OF 600 MM: Providing and fixing Raised Access Flooring system 600 mm high finished with Anti-static laminate.</p> <p><b>SPECIFICATIONS FOR RAISED FLOOR:</b></p> <p>SF 1000 Access The Floor panel shall be steel welded construction with an enclosed bottom pan with uniform pattern of modular pockets of 64 hemispherical cones. The top and bottom plates are fused together by resistant welding at 104 spots. The depth of the Laminated panel will be 36 MM. The panel is epoxy coated for protection from corrosion and cavity formed by the top and bottom plate is filled with non-combustible cementitious compound to support no less than 85% of the top plate of the panel. The panel is to withstand a Concentrated Load of 650 kgs applied on area 25mm x 25mm in the center of the panel which is placed on four steel blocks without deflecting more than 2.5mm and without setting permanently more than 0.20mm. The UNITILE / UNIFLAIIR panel will withstand an Uniformly Distributed Load (UDL) minimum 1000 kg and shall deflect not more than 2mm on applying of loads and on removal it should not have a permanent deflection of more than 0.20mm.</p> <p><b>SPECIFICATION FOR FINISH OF PANEL:</b> The access floor panel if not required to be supplied BARE shall be laminated with finishes as required which shall be 1.5mm thick and same shall be factory laminated on an automatic lamination line. The finish shall be either High Pressure Laminate of required shade and color and the Laminate shall be protected on its edges with a PVC beading with mitered corners which shall factory fit.</p> <p><b>SPECIFICATION FOR PEDESTAL:</b> Pedestal installed to support the panel shall be suitable to achieve a minimum finished floor height of maximum of 600 mm from the existing floor level. Pedestal design shall confirm speedy assembly and removal for relocation and maintenance. Pedestal base to be permanently secured to position on the sub floor. Pedestal assembly shall provide for easy adjustment of leveling and accurately align panels to ensure lateral restrain. Pedestals shall support an axial load of 2000kgs. without permanent deflection and an ultimate load of 3500kgs. The understructure system shall be all steel type galvanized.</p> <p><b>SPECIFICATION FOR STRINGERS:</b> The stringer is hot dipped galvanized steel cold roll construction specially designed to stabilize lateral stability and to support the panels on all sides for alignment. The channels have a counter sunk holes at both ends to accommodate bolting of the same to the pedestal head assembly.</p>			55
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		<b>GENERAL SPECIFICATION FOR RAISED FLOOR:</b> The Raised flooring is to have passed CLASS O as per BS 476 PART 6 for Fire propagation index and CLASS I as per BS 476 PART 7 for surface spread of flame. Please note that to meet CLASS O fire category as per 1991 Building regulations total index of Performance (I) should be less than 12 and sub Index (II) should be less than 6. Finalized vendor to submit the test certificates for the above. Raised floor shall be consider for <b>Server Room and Telecom Room</b> .			
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8.	<b>False Ceiling</b>	<p>False Ceiling at appropriate height should be installed concealing any cabling tray and electrical lighting wiring in all areas.</p> <p><b>For BMS &amp; NOC Room, Reception. Staging cum Store Room and Common corridor: MINERAL FIBER CEILING</b>-Providing and Fixing mineral fiber ceiling consisting of tiles and grids as follows.:</p> <ol style="list-style-type: none"> <li>1. Armstrong Fine Fissured or equivalent, 600 x 600 mm nominal size range or equivalent with straight edge. Surface to have one coat of emulsion paint.</li> <li>2. Ceiling grid to be of hot dip galvanized steel system, powder coated white finish, including main runners, cross tees and wall angles. Profile to be used is micro look, 15 mm wide.</li> <li>3. Main runners to be spaced at 1200mm centers, fixed to soffit by approved hangers at 1200 mm distance. First and last hangers should not be at a distance of more than 450 mm from the adjacent wall. 600 x 600 mm module to be formed by fixing 600 mm cross tee between center of 1200 mm cross tees. Wall angels to be secured to wall at 450mm centers.</li> </ol> <p>Acoustical false ceiling of mineral fiber Board (600 x 600 x 12.5 mm) of Armstrong or equivalent laid on Grid system (Micro lock edge) with 12.5 mm thick T- section (White) having main runner 1200mm x 600mm, cross Tee at suitable height. Mineral Fiber Board modular False Ceiling in Armstrong triangular edge fissured ANF tiles of size 600mX600mmX12.5mm having noise reduction co-efficient of 0.5, light reflection over 70%, Relative Humidity 99%, fire performance class 0 /class1.</p> <p>Ceiling tiles with standard perforation of 2.5mm dia. (16% open space) fleece, NRC of 0.70 shall be fixed to the structural soffit by butterfly clip hangers, suspension wires &amp; anchor fasteners as per the specification. Suspension wires to be provided at adequate c/c. The ceiling tiles should be easily replaceable at every grid.</p> <p><b>METAL GRID CEILING</b> :The drop ceiling shall be provided with Armstrong Lay in (Hot dipped galvanized steel) metal ceiling system 600 x 600 x 5 mm with standard 2.5 mm dia (16% open space) and fleece with NRC of 70 &amp; CAC 36 to be laid on Armstrong grid system. The modular ceiling sheets with necessary fittings should be done up aesthetically to integrate with the lighting (details given under the head "lighting"). to be used in <b>Telecom room only</b>.</p>			
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9.	<b>Steps</b>	<p>Construction of STEPS 2 x 300 mm height using Brick and cement mortal of 1: 4 with proper plastering and finished with Vitrified tiles.</p> <p>Including ant skating tape after curing.</p> <p>(Server room Emergency Exit and Telecom Room Entry )</p>			
10.	<b>Ramp</b>	<p>Construction and fabrication of Entry Ramp using MS angle 50mm x50mm x 6 mm thick framework horizontal and vertical supports with appropriate slope with finish of top shall be 6 mm thick checker plate to move material into Data Center. The Ramp Size should be as per the layout Only <b>Server Room Entry</b>.</p>			
11.	<b>Fire Sealant</b>	<p>Providing and fixing of 2 Hr fire sealant using pad and putty (removable) for closing holes of Server Room, UPS &amp; Battery Room done for Cabling, Piping &amp; etc.</p>			
12.	<b>Furniture</b>	<p><b>Staging Room Workstation</b> Staging room workstation linear type with 25mm thick laminated worktop fixed to existing wall include cost of laminated. CPU Trolley/ Key Board Tray. With MOBILE FULL HT METAL PEDEST , 3DR BOX + BOX + FILE METAL 646 X 390 X435 Complete to accommodate 5 personnel Approx.</p> <p><b>Staging Room Workstation Chair</b> <b>Medium Back with mesh and Hydraulic lift. (05 Nos.)</b></p> <p><b>BMS &amp; NOC &amp; Others Room Workstation</b> NOC &amp; Others Room workstation (1200x600) with 25mm thik laminated worktop fixed to 900mm high 65 mm thick modular partition. Cost should include cost of partition and laminated, CPU Trolley/ Key Board Tray. Complete to accommodate 10 personnel Approx. with MOBILE FULL HT METAL PEDEST , 3DR BOX + BOX + FILE METAL 646 X 390 X435.</p> <p><b>NOC &amp; Others Room Chair</b> Medium Back with mesh and hydraulic lift (15 Nos.)</p> <p>1 no. Four- Seated Sofa with Center Table for Reception Area.</p> <p>Modular Reception table as per the drawing.</p> <p>Shoe Rack Full Height Storage Cabinet</p>			

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13.	<b>Fire Proof Safe / Vault</b>	The overall design of the safe should be suitable for safe storage of computer diskettes, tapes, smart cards and similar devices and other magnetic media, paper documents, etc. the safe should have adequate fire protection			
14	<b>VITRIFIED TILE FLOORING:</b>	Providing and laying of pre-polished first class vitrified tile flooring of 600mm X 600mm size, laid to pattern & design, with paper thin joint, set in 20 mm thick cement mortar 1:4, suitably roughened cement slurry and pointing of joints with laticrete to match the colour of tiles, curing, oxalic acid washing etc., complete. (works at all levels). The contractor shall provide and lay the tiles as per the designs approved by Employer/Consultant/Architect. Skirting of above upto 4 inch. ( BMS & NOC Room, Reception, Corridor, Battery Room, Electrical Room and Staging cum Store room)			
15.	<b>Warranty</b>	5 Years onsite comprehensive warranty including entire civil infrastructure from the date of successfully installation, commissioning, integration and final acceptance			

<b>Tentative Bill of Materials for Delivery, Installation &amp; Integration of Civil Infrastructure, Additional components, if any, have to be covered with the bidder's own justification and completion of site survey</b>				
<b>S/N</b>	<b>Item / Service/Job Description</b>	<b>Make</b>	<b>Qty.</b>	<b>Unit</b>
<b>1</b>	Demolition and dismantling as per the technical specs.	NA	1	Job
<b>2</b>	<b>Doors</b>			
<b>2.1</b>	1500 x 2100 mm Double leaf Un-equal Fire rated door With Vision Panel. <i>As per the technical specifications.</i>	SAKTI HARMANN/ Agni	5	Nos.
<b>2.2</b>	1200 x 2100 Single leaf Fire rated door with Vision Panel, <i>As per the technical specifications.</i>	SAKTI HARMANN / Agni	3	Nos.
<b>2.3</b>	1200 x 2100 Single leaf Fire rated door including Vision Panel & Panic Bar for Emr. Exit. <i>As per the technical specifications.</i>	SAKTI HARMANN / Agni	1	Nos.
<b>2.4</b>	<b>Other door.</b>			
	1500 x 2100 mm Double leaf Equal door as per technical specifications.	Jindal/ Hindalco	1	Nos
<b>3</b>	<b>Partition / Wall</b>			
<b>3.1</b>	2 hours Fire Rated Gypsum Partitions. As per the technical specifications.	India Gypsum/ Saint Gobain	1500	Sqft
<b>3.2</b>	Bricks Partitions as per the technical specification	Customised	3100	Sqft
<b>3.3</b>	Toughened Glass partition for Telecom Room. As per the technical specification	Saint Gobain-Hindalco or Equivalent	1	Nos
<b>4</b>	<b>WALL TREATMENTS</b>			
<b>4.1</b>	Painting as per the technical specifications.	Asian paints/ici/ burger/ nerolac	8000	sqft
<b>4.2</b>	2hrs Fire rated paints for server & Electrical room only	MRF/ Burger	3700	sqft
<b>4.3</b>	PUNNING as per the technical specifications	Asian paints/ici/ burger/ nerolac	1135 9	Sqft

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5	Thermal Insulation Work as per the technical specifications.	Armaflex/K-Flex	1800	Sqft
6.0	Damp Proofing as per the technical specification	Asian paints/ici/ burger/ nerolac	1290	Sqft
7.0	Raised Floor as per the technical specification	Unitile/ Uniflair	1700	Sqft
7.1	Double Cup Tiles Pullers	ISI	2	nos
8	<b>FALSE CEILING</b>			
8.1	Mineral fiber Ceiling as per the technical specification	AMF/ ARMSTRONG	1850	sqft
8.2	Metal Grid ceiling s per the technical specification	AMF/ ARMSTRONG	450	sqft
9	Steps as per the technical specification	Customosed	2	nos
10	Ramp as per the technical specification and layout	Customosed	1	nos
11	Fire Sealant as per the technical specification	Hilti/ 3 M	100	sqft
12	<b>Furniture as per the specifications</b>			
12.1	Work Station as per the technical specification	FEATHERLITE/ Godrej/ Methodesk	15	Nos
12.2	Chair as per the technical specification	FEATHERLITE/ Godrej/ Methodesk	20	Nos
12.3	Center table	FEATHERLITE/ Godrej/ Methodesk	1	Nos
12.4	4 seated sofa	FEATHERLITE/ Godrej/ Methodesk	1	Nos
12.5	Reception table	FEATHERLITE/ Godrej/ Methodesk	1	Nos
12.6	Shoe Rack	FEATHERLITE/ Godrej/ Methodesk	1	Nos
12.7	Full Height Storage cabinet	FEATHERLITE/ Godrej/ Methodesk	2	Nos
13	Fire Proof Safe / Vault as per technical specification	Godrej	1	nos
14	VITRIFIED TILE FLOORING as per the technical specification	JOHNSON/KAJARIA/ NITSON	3100	sqft
15	<b>Miscellaneous Items.</b>			
15.1	Signage's made of letters/graphics etched on brushed plate (200mmX100mm) fixed by double adhesive Tape.	CUSTOMISED	10	No.
15.2	GLOW SIGNAGE:- Providing & fixing glow signage on both sides of the door shutters marking PUSH / PULL along with other signage marking different work areas and emergency signs. (100 mm X 50mm) as approved	CUSTOMISED	20	nos
16	<b>HOUSEKEEPING</b>			
16.1	HOUSE KEEPING: The vendor is responsible for keeping the site clean /deep cleaning by removing all the debris etc. everyday, using adequate covering/tarpaulin sheets etc to cover the any areas required (client property etc.). All cleaning equipments like heavy duty vacuum cleaners, Cloths, Bloom etc to be according to the approval of the project manager.	NA	1	Job
17	Professional charges towards the preparation of drawings in necessary formats for approval, follow up and arranging approval of drawings including GFC and As Built drawings.	NA	1	Job
18	Loading, unloading lifting and shifting the materials upto 2nd floor construction area.	NA	1	Job

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### (2) Scope of Work & Minimum Technical Specification for Deliver, Installation & Integration of Electrical Infrastructure

S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
1	<b>System Wiring</b>	The system of wiring shall consist of single core PVC insulated copper conductor multi strand wires in PVC HMS (ISI marked) concealed or exposed as called for in the drawings			
		<b>MATERIAL: PVC HMS CONDUIT</b>			
		PVC conduit shall with smooth outside surface with ISI marked on all pipes at regular intervals. The minimum wall thickness shall be 1.6 mm for conduit up to 32mm diameter and 2.0 mm wall thickness for conduits above 32mm diameter and shall be ISI marked. No PVC conduit of less than 20mm shall be used. The outer surface of conduit including all bends, union, tees, junction boxes etc. and forming part of conduit system shall be protected conduit pipes, fittings etc.			
		<b>CONNECTIONS</b>			
		All joints shall be sealed after threading by applying sealing compound as per manufacturer's recommendation. Junction boxes and running joints shall be provided at suitable places to allow for subsequent extension, if any, without undue dismantling of conduit system. As far as possible, diagonal run of conduits shall be avoided. Wherever numbers of conduits are crossing each other, they shall be laid along with PVC junction boxes. along with sufficient to accommodate pipes to full threaded portions. Conduit system shall be erect and straight as far as possible. Separate conduits shall be run for 16 amps power outlet wiring. The joints in conduit shall be free of burrs to avoid damage to installation of conductors while pulling them through the conduit.			
		<b>BENDS IN CONDUIT</b>			

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		<p>Where necessary, bends or diversions may be achieved by means of bends and/or circular inspection boxes with adequate and suitable inlet and outlet connections. In case of recessed system each junction box shall be provided with a cover properly secured and flush with the finish wall surface, so that the conductors inside the conduit are easily accessible. No bend shall have radius less than 2.5 times the outside diameter of the conduit. Cut ends of conduit pipe shall not have any sharp edges or any burrs to avoid any damage to the insulation of conductor while pulling them inside pipes.</p>			
		<p><b>FIXING CONDUITS</b></p> <p>Conduits and junction boxes shall be kept in position while the walls, slabs and floor are under construction and proper hold fasts shall be provided. Conduits shall be so arranged as to facilitate easy drawing of wire through them. Adequate junction boxes of approved quality and size shall be provided. Where conduits cross expansion joints in the building, adequate expansion fittings or other approved devices shall be used to take care of any relative movement. All conduits shall be installed so as to avoid steam and hot water pipes. Conduit in floor slabs shall be kept as short as possible above finished floor level in order to avoid any damage to them. After the conduits, junction boxes, outlet boxes and switch boxes are installed in position, their outlet shall be properly plugged or covered so that water, mortar, insects or any other foreign matter does not enter into the conduit system. At certain places installation of concealed conduit, accessories and switch / socket / grid plate / mount boxes in woodwork and paneling will be required. The arrangement of fixing and installing these items in the gypsum work and paneling should in approved manner.</p>			
		<p>Where called for, surface conduits shall be fixed by means of spacer bar saddles at intervals not more than 500mm and 100 mm from both sides of fitting or accessories.</p>			

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		The saddles shall be PVC secured fixed to support by means of raw bolts and brass machine screws. Where unavoidable, conduit shall be fixed by means of staples not more than 600mm apart and the chases filled with cement mortar 1:4. Cutting of horizontal chases is prohibited. All socket connections shall be made fully sealed using suitable adhesives for PVC conduits.			
		<b>POWER RECEPTACLES.</b>			
		switched socket outlets, modular socket outlets and switches mounted separately for group control on wall and modular type partition with front plate & accessories including civil works like chipping etc.			
		All sockets shall be provided with suitable stickers to indicate the UPS/RP source, ckt. Nos. etc.			
		Wiring of Submains/circuit mains in concealed or surface conduit system with 2mm thick PVC conduits & 1100 V grade, multi strand copper conductor, PVC insulated wires as per IS694, for phase, neutral & earth, shall include end termination. The conduits shall be complete with bends, JB's etc.. There is no sub-circuit and circuit measurements. The laying cost shall also include supports/anchor rods for conduits & chipping works if necessary.			
		<b>POINT WIRING:</b>			
		Wiring of light points/socket outlets with 1100 V grade, stranded copper conductor, FRLS-PVC insulated wires, 3x1.5 Sq.mm for switch control & 3x2.5 Sq.mm wires for MCB control, in surface mounted / concealed 19mm dia 2mm thick FRLS-PVC conduits with modular type switches. The quoted rate shall include necessary bends, junction boxes & fixing accessories. The point wiring shall be terminated to suitable terminal blocks for connecting fixtures.			
		<b>CONDUCTORS</b>			
		All PVC insulated copper conductor wires shall conform to ISI standards			
		<b>BUNCHING OF WIRES</b>			

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		Wires carrying current shall be so bunched in the conduit, that the outgoing and return cables are drawn in the same conduit. Cables originating from two different sources shall not be run in the same conduit. All wires being terminated either in switch box or elsewhere shall be properly ferruled with circuit numbers			
		<b>DRAWING CONDUCTORS</b>			
		The drawing and jointing of copper conductor wires and cables shall be executed with due regard to the following precautions:			
		While drawing insulated wires into the conduits, care shall be taken to avoid scratches and kinks which cause breakage of conductors. There shall be no sharp bends. Strands of wires shall not be cut for connecting terminals. The terminals shall have sufficient cross-sectional area to take all strands and shall be tinned. The connecting brass screws shall have flat ends. All looped joints shall be connected through terminal blocks/ connectors. The pressure applied to tighten terminal screws shall be just adequate, neither too much nor too less.			
		Rubber bushes shall be provided to avoid insulation damage during drawing of wires.			
		Conductors having nominal cross-sectional area exceeding 4sq.mm shall always be provided with cable sockets. At all bolted terminals, brass flat washers of large area and approved steel spring washers shall be used. Brass nuts and bolts shall be used for all connections.			
		Only certified wiremen and cable jointers shall be employed to do jointing work. All wires and cables shall bear the manufacturer's label and shall be brought to site in new and original packaging. For all internal wiring, PVC insulated wires of 650/1100 volts grade shall be used. The sub circuit wiring for points shall be carried out in looping in system and no joint shall be made.			
		<b>i. WALL SOCKET OUTLET</b>			
		All 6 amp/ 5 pin socket outlets where called for shall be with switch. All 16 amp/ 6 pin wall socket outlets where			



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		called for shall be with switch. The sockets shall be erected approximately 150mm above floor level (to the bottom of the box).			
		The switch controlling the point outlets and socket outlets shall be on the phase wire of the circuit. The earth terminal of the socket shall be connected to the earth terminal provided inside the box by means of earth wire. No joints are allowed in the length of the conductors. If the use of joint connections is unavoidable due to any specific reasons, prior permission in writing shall be obtained from the project manager before the use of such connections. No wire shall be drawn into any conduit, until all work of any nature that may cause injury to the wire, is completed. Care shall be taken in pulling the wires so that no damage occurs to the installation of the wire. Before the wires are drawn into the conduit, the conduits shall be thoroughly cleaned of moisture, dust, dirt or any other, obstruction by forcing compressed air through the conduit. The minimum size of PVC insulated copper conductor wires for all sub circuit shall be as follow:			
		Wiring for lights, exhaust fans and ceiling fan points shall be 2.5 sq mm. The two 16-amp power outlets shall be grouped in one circuit where called for. Wiring for the first power outlet shall be carried out with 4 sq mm PVC insulated copper conductor wires. Wiring for the second power outlet shall be carried out with 4 sq mm PVC insulated copper conductor wires. All power outlets shall be provided with PVC insulated green color copper earth wires.			
		<b>ii. MAINS AND SUBMAINS</b>			
		Mains and sub-main cable where called for shall be of the rated capacity. Every main and sub-main shall be drawn into an independent adequate size conduit. Adequate size draw boxes shall be provided at convenient locations to facilitate easy drawing of main and sub-main wires. Item cost of sub-mains will include the cost of conduits, junction boxes, wires and earthing wires. Single phase sub-main shall be provided with one earth wire and three phase sub-			

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		mains shall be provided with two earth wires.			
		<b>iii. COLOUR CODE OF CONDUCTORS / WIRE</b>			
		Color code shall be maintained for the entire wiring installation Red, Yellow, Blue for the three phases, Black for neutral, Green for earth.			
		<b>iv. FERRULEING AND THIMBLES</b>			
		All wiring and cabling shall have a ferrule at both ends with proper circuit number marking on it.			
2	<b>Illumination System</b>	Data Centre area illumination level achieved using following consideration in line with NBC & TIA guidelines			
		LUX level Consideration:			
		For Server Room : 300LUX			
		Electrical / UPS Room : 200LUX			
		Battery Room : 150LUX			
		BMS & NOC Room : 300LUX			
		Passage : 100 LUX			
		Staging cum Store Room : 200 LUX			
		Telecom Room : 200LUX			
		Raw power lighting & Emergency Lighting shall be provided with LED fixtures to make the optimal choice between Lighting power density.			
		<b>Occupancy Sensors have been provided to control the Lighting within Server Room &amp; Telecom Room</b>			
3	<b>L.V. Switchgear panel</b>	<b>1.1</b> : Supply, Installation, Testing and Commissioning of compartmentalized Indoor Type LT Panel, powder coated cubical panel board, free standing type, suitable for 3 phase 4 wire, 415 volts 50Hz AC supply, fabricated with CRCA sheet steel of not less than 2 mm thick, dust and vermin proof, with ventilation louvers, cable alleys, detachable gland plate, ISMC 100 channel iron base frame with following capacity, insulated aluminum bus bar, incoming and outgoing switch gears, Multifunction meters, interconnection, earthing etc., with necessary bus bar chambers, MV danger notice board, 3 phase indicating LED lamps with toggle switches and HRC control fuse, GI Earth strips of size 50mm x 6mm for full width of board with 2 termination points, etc with necessary accessories complete as per the			

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		specifications.			
		1.2 : DC LT Panel : 3 nos of Incomer : 400 A FP motorized MCCB ,with Bus Coupler 1 no. 400 A 4 pole Motorized MCCB, Output : 04 No 100 A FP MCCB ,08 Nos 32 A TP+N MCB , 02 Nos 32 A SP+N MCB with related accessories for auto change over – 01 Nos.			
		1.3: 400 A 4 pole ISOLATOR with Enclosure = 2 nos for tapping the power from Building sub stations to 2nd floor Data Centre Main Panel.			
		1.4: UPS output DB, IP-42, 2 nos Incomer of 100 A 4 pole MCCB and Out Going, 3 nos of 100 A 4 pole MCCB.			
4	<b>L.V. Cables</b>	<p>1100V Grade, PVC insulated Single/multi Core, multi strand armored / Unarmored Conductor Cables. The cables shall be laid in cable tray &amp; all single core cables shall be laid in trefoil form with necessary clamps. Outer Sheath FRLS. The work shall include :-</p> <p>a) Effecting proper and adequate connections at terminations.</p> <p>b) Ensuring that provision is left in building components and trenches as the work proceeds for incorporation of cable supports at a later date.</p> <p>c) Providing all fixing accessories such as clamping devices, Tie's, nuts and bolts, screws where laid in trenches or trays.(Not to consider Trays and Trenches rates, it will be paid Separately)</p> <p>d) Providing proper supports for cable terminal boxes .</p> <p>e) Providing heavy duty copper lugs, insulation tape etc. at joints and terminations.</p> <p>f) All fixing accessories such as GI saddles, Double compression gland, screws, raw plugs, suitable size Anchor Fasteners etc.</p> <p>g) Wire/Cable Joint by crimping type lugs.</p> <p>h) Testing of the Cables in the Manufactures works and providing test certificates with the handover documents is the sole responsibility of the Contractor.</p> <p>2R X 4C X 185 sq. mm AYEY Cable</p> <p>4C X 50 sq. mm CU, CU Flex FRLS</p>			

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		<p>Cable</p> <p>4C X 95 sq. mm, CU Flex, PVC, FRLS</p> <p>4Cx10 Sq.mm CU flexible FRLS cable</p> <p>3C X 4 sq. mm, CU Flex, PVC, FRLS</p> <p>3 R x 6 sq.mm cable(YY) with -PVC insulated outer sheath &amp; multi strand copper conductors, unarmored, cable to be laid in raceways, modular partitions, conduits (cost of Raceways to exclude).</p>			
5	<b>Cable Trays</b>	<p><b>Perforated cable tray:</b> Supply and Installation of powder coated perforated cable trays . The tray shall be using anchor fastener bolt (10/8 mm)and MS angle supports or for mounted from ceiling mounted MS bracket with 5 mm thick plate . The cable tray with all accessories i.e cable tray coupler plates and zinc plated nuts bolts. The cable tray will be layed along with MS angle support. Cable tray of following sizes:300 x 50 x 2 mm</p> <p><b>Ladder type cable tray:</b> Pre-fabricated, factory assembled, bolted rung type Ladder trays made out of 2/1.6 mm thick pre-galvanized steel side runners and slotted rungs at every 250mm., The rate of Ladder type cable tray is inclusive of vertical supports using M12 Hitec rods for trays upto 300mm &amp; factory fabricated supports for higher sizes, Earthing with 25x3 G.I strip, bends, 'T' sections, Anchor fasteners &amp; accessories as required to complete the cable tray installation. 450 mm x 50 mm and 300 mm x 50 mm</p> <p>For Power 300 x 50 perforated cable tray &amp; 450 x 50 ladder type tray shall be considered.</p> <p>For Data : 450 x 100 mm Wire mesh cable tray with all accessories to be mounted on the floor for data lines</p>			
6	<b>Lighting DB &amp; Raw power</b>	<p>Double door Power Distribution Board ( RPDB / LPDB ) - (3 Phase 8 Way)Modular DBs</p> <p><b>Incomer</b> - 32 A TPN MCB 10 kA---- 1 No.</p>			

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		<b>Outgoing</b> - 32 A DP MCB 10 kA---- 3 No. and 20/16 A SP MCB 10 kA----- 12 Nos.			
7	<b>Emergency/ BMS DB</b>	Double door power distribution board for 6 KVA UPS Lighting & BMS distribution boards MCB type of approved make only. The DB shall be IP-43, The rate shall also include supply and Installation 12 Way SPN DB. Incomer - 1 No 32 Amps DP MCB (10 kA) C Curve Outgoing - 10 Nos 10/16 Amps SP MCB (10 kA).			
8	<b>CAC DB</b>	Double door power distribution board for CAC distribution boards MCB type of approved make only. The DB shall be IP-43, The rate shall also include supply and Installation 8 Way TPN DB. Incomer - 1 No 100 Amps TPN MCB (10 kA) C Curve Outgoing - 16 Nos 20 Amps SP MCB (10 kA).			
9	<b>Indoor Lighting Fixtures</b>	Supply, Erection, Testing & Commissioning of the following Recess mounted light fixtures complete with Energy Efficient Electronic Ballast, Control gear and all the other standard accessories. Recess mountable stand-alone PIR presence detector. The device should be able to Switch & Regulate a Lighting load of at least 8 DSI Ballasts based on Human Presence availability. Detection coverage of 6m dia when mounted at a Height of 3m. The device should be equipped with a Field adjustable delay timer (5 - 60 mins). 2'x2' 36 Watt Led Light fixtures. 1200 mm Panel LED Light & fixtures 18 W LED Down Light Occupancy Sensor= 06 nos ( Server Room and Telecom Room)			
10	<b>Point Wiring</b>	Wiring for the following light points with 2 x 1.5 sq. mm + 1 x 1.5sqmm (green ) PVC insulated copper conductor FRLS wires of 650/1100 Volts grade in concealed PVC conduit as called for including providing 6 amp flush type switches (as, approved),including providing and fixing of Polycarbonate modular cover plate for switch boxes			

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		<p>1. Wiring for the power points with 3 x 2.5 sq. mm PVC insulated copper conductor FRLS wires of 650/1100 Volts grade in concealed PVC Conduit as called for including providing 16 amp flush type switches (as, approved), including providing and fixing of Polycarbonate modular cover plate for switch boxes. – 10 Nos.</p>			
		<p>2. Wiring for the power points with 2 x 2.5 sq. mm + 1 x 1.5sqmmPVC insulated copper conductor FRLS wires of 650/1100 Volts grade in concealed PVC Conduit as called for including providing 6 amp flush type switches &amp; socket (as, approved), including providing and fixing of Polycarbonate modular cover plate for switch boxes. – 15 Nos.</p>			
11	<b>Earthing Works</b>	<p>Supply installation testing of Chemical earthing with 19 mm copper bonded pipe as electrode with 2 bags of chemical compound for each earth pits with heavy duty 450 mm x 450 mm CI cover, the depth of each earth pit shall be 3 meter. As per the IS 3046.</p> <p>1. All earth pits shall be as per IS 3043 with latest amendments.</p> <p>2. Earthing shall be done at indicted location in Layout &amp; Earth Schematic Drawing. The minimum distance between the two earth stations shall be 3 meters and that from the building is 1.5 meter.</p> <p>3. An earth ring with relevant earth test terminal boxes shall to be provided at regular intervals.</p> <p>4. Adequate number of earth strips with proper sized holes shall be provided for extending earthing/looping earth connections at various floors shall be provided and executed as per the requirement.</p> <p>5. The Contractor has to provide heavy duty Cover of size 450 x 450 x 8 mm thick to the Earthing Chamber.</p> <p>6. The cover is to be sand blasted and then Powder coated using Matt Jet Black Colour. The Cover is to be fabricated using 8 mm thick Chequered Plate.</p>			

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12	<b>Earthing Strips &amp; Cables</b>	<p>Supply, installation &amp; testing and commissioning of Chemical Maintenance Free Earth pits of FAST EARTH ELECTRODE-COPPER / 80 mm dia pipe, 3 meters, (Necessary Permission of statutory authorities to be obtained if required).all work as per IS:3043, typical drawing and Technical Specifications with Chamber and cover (Cost should consider for RCC breaking and finishing also). – 4 Nos.</p> <p>1. 50 x 6 mm GI. Strip for Body Earthing – 100 Mtr.</p> <p>2. Braided wire Earthing for Floor pedestals – 100 Mtr.</p> <p>3. 1 CX 50 Sq.mm. CU Flex., PVC , FRLS for Smart Rack</p> <p>4. Earth Stations supporting enclosure &amp; insulators - 600 X 100 X 1200 ( in mm ) – 4 Nos.</p>			
13	<b>Miscellaneous</b>	<p>1. Supply and fixing position the approved single line diagram framed in 1000 x 800 mm size glass frame and installed in main switch room.</p> <p>2. Supply and fixing of First Aid Box &amp; Chart</p> <p>3. <b>Name Plates:</b> nameplates with the Panels designation in bold letters shall be fixed at top of the central panel. A separate nameplate giving feeder details shall be provided for each feeder module door.</p> <p>4. <b>Danger Notice Plates :</b> The danger notice plate shall be affixed in a permanent manner on operating side of the Panels.</p> <p>5. The letters, the figures, the conventional skull and bones etc. shall be positioned on plate as per recommendation of IS: 2551-1982</p> <p>6. The said letters, the figures and the sign of skull and bones shall be painted in signal red colour as per IS: 5-1978</p> <p><b>Robber mat :</b> 12.5 mm thick 1.1 KV tested ISI mark antistatic rubber mat shall be provided in Battery room and Electrical and UPS room. Color shall be RED.</p>			

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14	<b>CAC for Server Room</b>	Supply of wall mounted high performance 2 tr split type cooling units having Sensible heat ratio greater than .9, suitable for Critical Technology/Equipment room. Each unit shall facilitate installation in Small Areas, shall feature robust design to run 24x7, Auto-Restart function, Unit-to-Unit Communication and Ease of service. CFM of the machine should be 550 CFM per Tr.			
		Machine should have two parts; Indoor section & outdoor section. The Indoor unit shall comprise of Metallic Body construction, Evaporator Coil with Hydrophilic Coating, EC Fan-High efficiency step-less speed modulation fan with EC motor, Expansion Valve, R407C Refrigerant, Corded Remote, Microprocessor based Controller, G4 Filter, Suction and Discharge piping, Internal power and Control wiring, HP/LP Cutouts, Power and Control contactors, RS485 card for monitoring, and Other Electrical & safety accessories. Outdoor cabinet consists of Scroll Compressor and Anti Corrosive Condenser coil. The dimensions of indoor unit must not be more than 1105 mm*375 mm*515 mm. Machine must be capable of functioning upto 30 meter Copper piping between Indoor & outdoor unit. Secured with an authenticated access with 3 levels of password security			
		Team Mode feature for unit control, synchronizing the Multiple No. of units to work as single system for all above units.			
		Fault Failure changeover			
		Cascading Effect			
		Sequencing of above Units			
15	<b>Warranty</b>	5 Years onsite comprehensive warranty including entire electrical infrastructure including Comfort Air conditioners with other accessories from the date of successfully installation, commissioning, integration and final acceptance			



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<b>Tentative Bill of Materials for Delivery, Installation &amp; Integration of Electrical Infrastructure.</b> <b>Additional components, if any, have to be covered with the bidder's own justification and completion of site survey</b>				
S/N	Item / Job/ Service Description	Qty.	Unit	Remarks, Make & Model
<b>1.0</b>	<b>L.T.SWITCHGEAR</b>			
1.1	Main Data Centre Panel as per technical specification	1	Nos.	CUSTOMISED. BUT SWITCHGEAR SHALL BE MAKE SCHNEIDER / ABB
1.1	400 A 4 pole Isolator with enclosure as per technical specification	2	Nos.	SCHNEIDER/ ABB
1.3	UPS out put DB as per technical specification	1	Nos.	SCHNEIDER/ ABB
2.0	<b>MCB DBs</b> : with IP42 protection, pre wired as per technical specification.			
2.1	Lighting DB and Raw Power DB as per technical specification	2	Nos.	SCHNEIDER/ ABB
2.2	Emergency/ BMS DB as per technical specification	1	Nos.	SCHNEIDER/ ABB
2.3	CAC DB as per technical specification	1	Nos.	SCHNEIDER/ ABB
<b>3.0</b>	<b>LIGHT FIXTURES</b>			
3.1	366 W, 600 x 600 mm LED Lights & Fixtures	22	Nos.	PHILIPS/BAJAJ
3.2	1200 mm Long LED Panel Light	27	Nos.	PHILIPS/BAJAJ
3.3	18 W LED Down Light	9	Nos.	PHILIPS/BAJAJ
3.4	Occupancy Sensor as per technical specification	6	Nos.	Philips/ Schneider
<b>4.0</b>	<b>CABLES &amp; END TERMINATIONS.</b>			
	<b>Aluminum Cables</b>			
4.1	185 sq.mm. AYEY Cable as per technical specification	##	Meter	POLYCAB/Finolex/RR
4.1 a	End Termination	30	Nos.	GROMET/DOWELS
<b>5.0</b>	<b>COPPER CABLES</b>			
5.1	4 Cx 50 Sq.mm Copper cable as per technical specification Main Panel to Rack Raw power	150	Rmt	POLYCAB/KEI/RR
5.1 a	End termination with lugs & sleeves only.	4	Nos.	GROMET/DOWELS
5.2	4C X 95 sq. mm, CU Flex, PVC, FRLS from IT to UPS and UPS to UPS O/P DB and UPS O/P DB to Rack as per technical specification.	350	Rmt	POLYCAB/KEI/RR
5.2 a	End termination with lugs & sleeves only.	12	Nos.	GROMET/DOWELS
5.2	4Cx10 Sq.mm CU flexible FRLS cable for CAC DB as per technical specifications	50	Rmt	POLYCAB/KEI/RR
5.2.a	End termination with lugs & sleeves only.	2	Nos.	GROMET/DOWELS
5.4	4Cx6 Sq.mm Copper flexible FRLS cable for Raw power DB and Lighting DB, Emergency/ BMS DB	100	Rmt	POLYCAB/KEI/RR
5.4.a	End termination	6	Nos.	GROMET/DOWELS
<b>6.0</b>	<b>FLEXIBLE CABLES</b>			

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	Wiring of flexible 1100 V grade, multi strand copper conductor cables in a raceway/ cable tray.			
6.1	3 R x 6 sq.mm cable(YY) with -PVC insulated outer sheath & multi strand copper conductors, unarmored, cable to be laid in raceways, modular partitions, conduits (cost of Raceways to exclude).	200	Rmt	POLYCAB/KEI/RR
<b>7.0</b>	<b>POINT WIRING as per technical specification</b>			
7.1	light controlled by a 6A switch			POLYCAB/KEI/RR
7.2	Lighting Circuit wiring by 3 x 1.5 sqmm wire with HMS PVC conduit as per technical specifications	##	mtr	POLYCAB/KEI/RR
7.3	Power Point wiring both UPS and Raw Power by 3 x 2.5 sqmm as per technical specifications	##	mtr	POLYCAB/KEI/RR
7.4	Power Point wiring for CAC by 3 x 4 sqmm wire as per technical specifications.	800	mtr	POLYCAB/KEI/RR
<b>8.0</b>	<b>POWER RECEPTACLES.</b>			
	<b>As per technical specification</b>			
8.1	3 x 6A multi socket controlled by 16A switch, excluding box. (UPS power).	20	Nos.	ANCHOR ROMA
8.2	1 x 16/6A socket controlled by 16A switch, including box. (For house keeping-raw power).	15	Nos.	ANCHOR ROMA
8.3	1 x 6A socket controlled by 6A switch, including box. For UPS power (For IBMS ).	25	Nos.	ANCHOR ROMA
8.6	AC Starter Unit	14	Nos.	SCHNEIDER
<b>9.0</b>	<b>EARTH ELECTRODES AND EARTH STRIPS</b>			
	<b>Earthing Pits</b>			
9.1	Chemical Earthing as per the technical specification	14	Nos.	REPUTED
<b>10.0</b>	<b>Earthing Strips</b>			
10.1	25 x 3 mm Copper strip in PVC Sleeve.	200	Rmt	STANDARD
10.2	50 x 6 mm GI Strip	100	Rmt	STANDARD
10.3	6 mm Copper braided tape	100	Rmt	CUSTOMISED
10.4	1 C x 50 sq.mm copper flexible cable FRLS for smart rack earthing	100	RMT	Polycab/ RR/ Finolex
10.5	1 cx 95 sq.mm. copper flexible cable for UPS & DG neutral earth.	200	Rmt	Polycab/ RR/ Finolex
10.6	Earth stations for earthing distribution as per the technical specification	4	nos	
<b>11.0</b>	<b>Ladder type cable tray ( As per technical specifications)</b>			
11.1	Size of Cable Tray :450 mm x 50 mm	250	Rmt	Reputed
<b>12.0</b>	<b>Perforated type cable tray ( As per technical specifications)</b>			
12.1	Size of Cable Tray :300 mm x 50 mm	300	Rmt	Reputed
<b>14.0</b>	<b>GI Raceways with cover</b>			

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14.1	450 x 100 mm Wire mesh cable tray with all accessories to be mounted non the floor for data lines.	70	Rmt	OBO or equivalent
	<b>Miscellaneous Items</b>			
15.0	Shock treatment chart laminated	2	Nos.	CUSTOMISED
16.0	First aid kit	2	Nos.	CUSTOMISED
17.0	Rubber mat as per technical specification	10	Nos.	ISI
18.0	MS steel fabrication with one quote zinc white and another with Silver paint/ black paint	100	KGs	JINDAL/ TATA/SAIL
19.0	<b>CAC</b>			
19.1	2 Ton Split AC for Server room as per technical specification	3	nos	Vertive/Schneider
19.2	2 TON High wall split AC for Electrical Room & UPS Room, BMS & NOC Room, Battery Room, Staging cum Store Room	10	Nos	Voltas/Carrier/ Blue Star
19.3	1 Ton Split AC for Reception	2	nos	Voltas/Carrier/ Blue Star
19.4	Fabrication and fixing of Out Door Unit Cat walk as per the site requirement, prior fabrication SI has to taken approval on drawing and load calculations from Project Manger of concern department	1	Nos	Tata/ SAIL

### (3) Scope of Work & Minimum Technical Specification for Deliver, Installation & Integration of each Diesel Generator Set with all related accessories

Qty : 2 Nos.  
Make :  
Model No. :  
Part No., if any :

S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
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1.		Design, Supply, installation in position, testing, commissioning of an Auto Start Green Diesel Generator set of capacity of 165 KVA with acoustic enclosure as per latest Govt. norms, with not less than 300 litre fuel tank as per latest detailed specification and CPCB norms, 3 phase, 415 volts, 50Hz complete with Diesel Engine having output not less than of 114 KW at rated load, Alternator having IP23 protection with class H insulation & temperature limited to class H insulation, +/- 1% VR, water cooled radiator, self-starting device, silencer with insulation, batteries with connecting copper wires, battery charger, engine panel, base frame, anti-vibration mounts, standard inbuilt recommended by OEM or a separate diesel tank with required MS structure, level indicator etc. and all connected accessories including cost of consumables like diesel, lubricant oil etc. for testing and commissioning of the new DG set (approx. 2 hours on full load at factory testing and 2 hours at site)			
2.		Design, supply, installation and testing of commissioning of cubicle type microprocessor based AMF power control panel suitable for control of 165 kVA D G Set above, complete with all necessary hardware, control cable between D.G. Set and AMF panel, including power and control cable termination with required materials at existing source end (i.e. utility power supply), AMF panel end & alternator end all complete,			
3.		Supply and installation of insulated MS exhaust piping of suitable dia. MS C class ISI mark pipe for DG set as recommended by the manufacturer of the engine with 50 mm thick thermal insulation and aluminum cladding, complete with required material such as supports structure and allied civil works etc. to be piping as per site requirement. – 25Mtr.			
4.		Providing earth station with copper plates having square shape of size: 600 mm x 600 mm and 3.14 mm thick embedded at least at a depth of 12 feet and filling of alternate layers of charcoal and salt and making a 300 mm x 300 mm chamber (brick masonry) with MS sheet cover, funnel, water pipe including supply & laying of 40 mm x 6 mm copper earth strip up to the test point as per detailed IS: 3043/1966 amended till date.- 4 Nos.			
5.		Supply and fixing of 25 mm x 3 mm copper earth strip, for connection of equipment's & neutral earthing, with required materials such as brass clamps, screws, spacers and with riveted joints and connections with chromium plated nut and bolts all complete. – 150 Mtr.			

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6.		All requisite approvals from local and statutory bodies like Municipality, Fire Department, Pollution Control Board etc for installation & maintenance for the entire warranty period of the Generator set shall be arrange by the successful bidder and necessary help will be provided. Generator sets to be installed on a platform with a covered shed and chimney with other accessories			
7.	<b>Warranty</b>	5 Years onsite comprehensive warranty of DG sets including all related accessories, Infrastructure related to smooth operation of DG sets from the date of successfully installation, commissioning, integration and final acceptance			

**Tentative Cable Schedule and sizing for installation of DG Set. Additional components, if any, have to be covered with the bidder's own justification and completion of site survey**

Sl. No.	From	To	No. of Racks/ Eqpts	No of Runs	Required length per Run	Total Cable Length	Cable termination	XLPE/ PVC FRLS Cable Size
1	Building Panel	AMF	1	1	100	100	2	1R X 4C X 120 SQ.MM AYFY CABLE
2	DG Set	AMF	1	1	100	100	2	1R X 4C X 120 SQ.MM AYFY CABLE
3	AMF	DC Panel	1	1	100	100	2	1R X 4C X 120 SQ.MM AYFY CABLE
4	DC Panel	Smart Row DB	1	1	75	75	2	4C X 50 Sq.mm. CU , CU Flex cable
5	DC LT Panel	Utility DB for Lighting	1	1	75	75	2	4C x 6 sqmm,CU Flex, PVC, FRLS
6	DC LT Panel	RDB	1	1	75	75	2	4C x 6 sqmm,CU Flex, PVC, FRLS
7	DC LT Panel	Battery Room Cooling	2	1	75	75	4	4C x 6 sqmm,CU Flex, PVC, FRLS
8	Utility UPS (From Existing) Output Panel	ELDB	1	1	75	75	2	3C x 4 sqmm,CU Flex, PVC, FRLS

**N.B:** Generator sets to be installed on a platform with a covered shed and chimney with other accessories. The scope of work involves supply, installation, commissioning, testing and maintenance for the five years including other accessories of Diesel Generator Set. Additional components, if any, have to be covered with the bidder's own justification. All requisite approvals from local and statutory bodies like Municipality, Fire Department, Pollution Control Board etc for installation & maintenance for the entire warranty period of the Generator set shall be arrange by the successful bidder and necessary help will be provided by WTL & Department of IT&E

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### (4) Scope of Work & Minimum Technical Specification for Deliver, Installation & Integration of each Isolation Transformer

Qty : 2 Nos.

Make :

Model :

S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
1.	General	External Input Isolation Delta to Star Transformer			
2.	Rating	100KVA for individual UPS			
3.	Phase	3 phase			
4.	Connection HV	Delta			
5.	Connection LV	Star ( Neutral brought out)			
6.	LV Neutral Earthing	The Neutral point of the secondary (LV) winding shall be brought out in a separate insulated terminal and shall be solidly earthed.			
7.	Type of Cooling	ONAN			
8.	Type of Core	CRGO material			
9.	Audible sound levels in decibel at rated voltage & frequency	Maximum 51db			
10.	Warranty	5 Years onsite comprehensive warranty of Isolation Transformer including other related accessories of Isolation Transformer from date of successfully installation, commissioning, integration and final acceptance			

### (5) Scope of Work & Minimum Technical Specification for Deliver, Installation & Integration of each Central UPS system

Qty : 2 Nos.

Make :

Model :

S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
1.	General	UPS system should be modular and the modules should be Hot Swappable			
2.	Capacity Module	75KVA / 75KW or higher frame size			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
	Rating				
3.	Capacity	50KVA / 50KW from day 1			
4.	Hot Swappable Power Module	25KVA/KW or Above			
5.	UPS topology	Double conversion, 3-level IGBT converters			
6.	No of controller	Modular control system i.e., each Module has its own control.			
7.	Switchgear (Internal)	<ul style="list-style-type: none"> <li>• Maintenance Bypass Switch</li> <li>• Rectifier Input Switch</li> <li>• Bypass Input Switch</li> <li>• Output Isolation Switch</li> </ul>			
	<b>Electrical Input/Output</b>				
8.	Rated input voltage	220/380 V; 230/400 V; 240/415 V			
9.	Input voltage range	320V to 475V at 100% Load			
10.	Operating Frequency	50 Hz , Tolerance 40-60Hz			
11.	Number of output phases	3 phase + neutral + PE			
12.	Rated output voltage	220/380 V; 230/400 V; 240/415 V, configurable			
13.	Output Voltage THD	< 1% (100% linear load), < 5% (non-linear load)			
14.	Overload capability On inverter	1 hour for 90% load ; 10 mins for 100%			
15.	Communication	SNMP/MODBUS			
16.	Battery technology	The UPS system shall be capable of utilizing the load testing function, including internally adjustable load testing at the customer site, without the need for a load bank. Testing could be carried out during the annual maintenance shutdown			
17.	Battery voltage range	12 V, SMF VRLA			
18.	Battery Backup time	Max 30 - 40 battery blocks			
19.	Battery Charging current limit	Min 10A each module			
20.	Battery Connection	15 minutes min VAH for each UPS should be 40500			
21.	Battery Monitoring System	Individual Battery Monitoring System from day 1			
22.	Monitoring	UPS and battery should communicate with BMS			
23.	Service Support Setup	OEM should have own service setup at Kolkata/WB			
24.	Warranty	5 Years onsite comprehensive warranty including batteries and other accessories related to smooth operation of UPS from			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		the date of successfully installation, commissioning, integration and final acceptance			

### (6) Scope of Work & Minimum Technical Specification for Deliver, Installation & Integration of each UPS system for BMS equipments with all related accessories

Qty : 2 Nos.

Make :

Model :

S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
<b>1</b>	<b>System parameter</b>				
a	Rating	6KVA/6kw 1In-1out			
b	Technology	IGBT based Double conversion PWM based online UPS			
c	Parallel mode	Yes			
d	Installation mode	Rack/Tower			
<b>2</b>	<b>Input requirement</b>				
a	Rated voltage	230vac 1-Phase ,3 wire			
b	Voltage Range	180VAC -275VAC at full load			
c	Rated Frequency	50Hz/60Hz			
d	Frequency Range	40Hz ~ 70Hz			
e	Power factor	0.99			
<b>3</b>	<b>Output Requirement</b>				
a	Rated power	6KVA/6kw			
b	Voltage	Single phase, 230VAC			
c	Frequency synchronization range	Rated frequency $\pm$ 3Hz. Configurable range: $\pm$ 0.5Hz ~ $\pm$ 5Hz			
d	Rated Power Factor	Unity			
e	Voltage Regulation	1%			
f	Dynamic response recovery time	60ms			
g	Programmable Outlet	Available			
<b>4</b>	<b>Bypass</b>	Static : Inbuilt			
<b>5</b>	<b>Efficiency</b>				
a	Online mode (AC-AC)	> 95%			



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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
b	Inverter Efficiency(DC-AC)	>90%			
6	<b>Battery</b>				
a	Battery Type	Sealed/ lead-acid/Tubular/LI-ION			
c	Transfer Time	Mains – Battery : 0ms			
7	<b>Panel display mode</b>				
8	<b>Warranty</b>	5 Years onsite comprehensive warranty including batteries and other accessories related to smooth operation of UPS from the date of successfully installation, commissioning, integration and final acceptance			

### (7) Scope of Work & Minimum Technical Specification for Deliver, Installation & Integration of each Precision Air-conditioner system with all related accessories

**Qty : 2 Nos.**

**Make :**

**Model :**

S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
1.	General	Precision Air Cooling units should be in multiples of minimum 35 kW capacity, catering the IT load of 35 kVA, in N+1 topology			
		Cooling System should be Direct Expansion cooling (DX) type in N+1 Topology			
		Inbuilt Heater and Humidifier per unit			
		Outdoor Unit with fan speed controller			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
2.	<b>Cooling Circuits</b>	<ul style="list-style-type: none"> <li>One refrigeration circuit, incorporating a high efficiency, fully hermetic variable capacity compressor with crankcase heater, safety valve, filter drier, moisture indicating sight glass, liquid line solenoid valve and an externally equalized expansion valve.</li> <li>Each compressor is equipped with pre-set high and low pressure switches for protection against high condensing and low evaporating temperatures. The low pressure switch features an automatic reset.</li> <li>The compressor should be supplied along with an external solenoid valve.</li> <li>The unit shall be provided with additional protection against high ambient temperature. When the temperature goes over the design conditions, the unit remains in operation with partial load (20% decrease against required).</li> <li>The inclined evaporator coil is manufactured from copper tubes, mechanically bonded to hydrophilic painted aluminum fins, with a stainless steel condensate drain pan.</li> <li>The moisture indicating sight glass, liquid line solenoid valve and expansion valve for each circuit are mounted in a service compartment, isolated from the air stream, to allow checking and adjustment while the unit is in operation.</li> </ul>			
3.	<b>Fan Section</b>	Units should be offered with two plug EC Direct Drive Fan, High efficiency, EC motor with integrated electronics, The fan shall be protected from over temperature of motor, electronics, locked rotor protection, short circuit of motor output. Fans are IP54, Protection class F			
4.	<b>Cabinet and Frame</b>	The unit shall be powder painted panels with ½” or 10mm insulation. A hinged control access panel opens to a second front panel which is a protection enclosure for high voltage components. The frame is painted with a powder coat finish to protect against corrosion. The unit is totally front and rear accessible including any component removal			
5.	<b>Air Filtration</b>	The filter cells are made of two deep pleated 4” filters rated MERV8 following ASHRAE 52.2 or G4 following EN779,			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		located within the cabinet, and accessible from the rear of the unit. Frame of the filter shall be made of GI/Aluminum. Clogged filter alarm should be available as standard. Sends a visual alarm to display.			
6.	<b>Copper piping &amp; Refrigerant</b>	All units equipped with direct expansion circuit are suitable for R410A refrigerant. The unit should support piping distance up to 50mtrs from indoor unit to condenser			
7.	<b>Microprocessor Controller</b>	Air conditioning models should be controlled by microprocessor-based controller. It can be programmed to control the function of every device within the unit via I/O.			
8.		The controller should allow setting and monitoring of the following space parameters: <ul style="list-style-type: none"> <li>• Air inlet Temperature</li> <li>• Air supply Temperature</li> <li>• Return Temperature set-point</li> <li>• Supply Temperature set-point</li> <li>• Return Temperature band</li> <li>• Supply Temperature band</li> <li>• Humidity (inlet)</li> <li>• Humidity set-point</li> <li>• Humidity band</li> <li>• Rack Min, Max and Average temperature</li> </ul>			
9.		Following features should be incorporated in the controller. <ul style="list-style-type: none"> <li>• Status Report of the latest 200 event-messages of the unit.</li> <li>• Input for remote on-off and volt-free contacts for simple remote monitoring of low and high priority alarms: high/low temperature, high/low refrigerant pressure, fan/control failure, compressor/control failure and others should be available</li> <li>• LAN management: functions provided as standard include stand-by (in case of failure of the unit in operation, the second one starts automatically), and automatic rotation.</li> <li>• Automatic restart is provided after a power failure.</li> </ul>			
10.	<b>Monitoring</b>	There should be SNMP and Web-management capability for enhanced communications and control. The cards make use of an Ethernet network to monitor and control a wide range of operating parameters, alarms and notifications via a			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		standard web browser.			
11.	<b>Condenser</b>	The condenser should be with fan speed controller designed & set for usages of R410A refrigerant. The condenser frame shall be made up of a sturdy GI/MS structure. The motorized fan shall be IP54, protection class F			
12.	<b>Humidifier</b>	The unit is fitted with a canister type steam humidifier suitable for use with water of varying degrees of hardness, provided that the water is not treated or demineralized. The humidifier is complete with a water inlet valve, water outlet valve and a maximum water level sensor, disposable cylinder, steam distributor and electronic controls. Humidifier control is of the ON-OFF type			
13.	Warranty	5 Years onsite comprehensive warranty including all other accessories related to smooth operation of each Precision Air-conditioning system from the date of successfully installation, commissioning, integration and final acceptance			

### (8) Scope of Work & Minimum Technical Specification for Deliver, Installation & Integration of Rack Containment Frame with Rack and Cold & Hot Aisle Containment system with all related accessories

**Qty : 2 Lot**

**Make :**

**Model :**

S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
1.	General	<p>2 Nos. Rack Containment Frame should be proposed.</p> <p>Each Rack Containment should support minimum of 6 Nos. 42 U, 19" mounting type with standard Rack for mounting of Server and Networking device plus Cold &amp; Hot Aisle Containment.</p> <p>One Rack containment frame should consider with 4 Nos. 42U Rack and other containment frame will be installed for</p>			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		future expansion purpose 42 U Rack, 600mm ( W) X 1000 mm ( D ) , with integrated hot & cold aisle containment of minimum 300 mm each , Vertical & Horizontal cable manager , blanking panels with rugged & light weight body structure with front glass door in front & rear non-perforated metal split door for effective air flow having a load bearing of 1000KG's			
2.		Both Cold aisle & hot aisle containment, of minimum 300 mm each, should be part of the Rack frame			
3.		Rack frame is scalable and modular with load carrying capacity of min1000 Kg			
4.		Color shade of Rack is RAL 7021			
5.		Base plinth with 100 mm height			
6.		Cable entry provision from top & bottom both side of rack			
7.		Cut outs with rubber/brush grommet on top and bottom cover of rack for cable entry			
8.		Vertical Cable manager on both LHS & RHS on rear side			
9.		Each rack shall have front glass door for complete 42U height visibility & rear steel split door integrated with common Biometric access control panel.			
10.		Thermally insulated cold aisle chamber			
11.		Blanking panels to prevent air mixing			
12.		Fixed Shelf to be provided			
13.		Plastic Cable duct on vertical LH & RH section of racks for cable routing			
14.		Front Rack doors to be provided with Biometric Access Control with 02 nos. of Electromagnetic lock per door			
15.		<b>Gas spring to be provided on front doors of racks</b>			
16.		Status based LED light to be provided on each rack			
17.		Each rack enclosure should be physically separated through caged partition at cold & hot aisle to avoid unauthorized access from			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		one rack to another			
18.	<b>Bio Metric based Access Control</b>	<p>The system deployed will be based on Biometric Technology. The front rack doors will be provided with magnetic locks, and will operate on fail-safe principle through one common Biometric access control system</p> <p>Rack system would be designed and implemented to provide following functionality</p> <ul style="list-style-type: none"> <li>• Configurable system for user defined access.</li> <li>• Built-in Real Time Clock (RTC), calendar; complete Database stored locally and shall be capable of operating offline on standalone mode</li> <li>• Record, report and archive each and every activity (permission granted and / or rejected) with log formats.</li> <li>• Fail safe operation in case of no-power condition and abnormal condition such as fire, theft, intrusion, loss of access control, etc.</li> <li>• At the biometric reader, user presents the finger to the biometric reader which is unique to each employee. The pattern is read and compared with stored data to grant / deny access.</li> </ul>			
19.	<b>Fire Alarm and Fire Suppression System</b>	<p>The entire volume of the integrated racks solution will be covered with fire alarm &amp; gas based fire suppression system. Environmentally friendly NOVEC 1230/ FK-5-1-12 agent should be used to ensure that no harm to human beings and environment is caused.</p> <ul style="list-style-type: none"> <li>• NOVEC 1230 Clean Agent for fire suppression system</li> <li>• Fire detection and alarm systems, with detectors and panel.</li> <li>• Protected area: The entire enclosed volume of the Intelligent Rack containment should be protected with fire detection and fire suppression system.</li> <li>• The NOVEC 1230/ FK-5-1-12 system is designed and installed as per NFPA 2001-2012 Edition. SMPV, Petroleum and Safety Explosives Organization (PESO) approved cylinder filled with NOVEC 1230/ FK-5-1-12</li> </ul>			
20.	<b>Monitoring</b>	Supply and installation 1U rack mountable monitoring system with Sensors &			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		notification system. The system shall continuously collect critical information from network connected devices such as UPS system, Cooling Units, temperature & humidity sensors, Door sensors, Water Leak sensor and other dry contact monitoring.			
21.		System should be able to send notifications based on pre-set parameters, automated email & SMS alerts			
22.		<p>The monitoring system should have the following features.</p> <ul style="list-style-type: none"> <li>• Intelligent Rack environment remote monitoring</li> <li>• Modbus 485 Communications</li> <li>• SNMP Communication</li> <li>• Single window for monitoring all sensors</li> </ul> <p>Data and logs of historical information of alarms and notification</p> <ul style="list-style-type: none"> <li>• Temperature &amp; Humidity Sensor, with LCD display</li> <li>• Door sensor</li> <li>• Water leak detection sensor</li> <li>• Smoke detection sensor</li> </ul>			
23.	<b>System performance parameters</b>	<ul style="list-style-type: none"> <li>• Enclosures: thermal path average temperature</li> <li>• Air conditioning: return air temperature, supply air temperature</li> </ul> <p>All the components i.e., part of rack solution, shall be graphically represented on HMI</p>			
24.	<b>Environmental Amount</b>	<ul style="list-style-type: none"> <li>• Door status icon static display, the door opened and closed the door to a different style static icon.</li> <li>• When the passage of hot / cold temperature and humidity sensor measured value exceeds the set range, the system will generate a corresponding alarm; conversely, when the hot / cold aisles temperature and humidity sensor measurement range is set to fall the alarm disappears</li> </ul>			
25.	<b>Alarm - historical alarm</b>	Alarm History provides screening history alarms. Provides historical records up to 100 within the system two weeks. For longer or more the number of alarm history, Web pages can be viewed in alarm management			
26.	<b>Preventive Maintenance</b>	Quarterly PM to be carried out during the warranty period			
27.	<b>Seamless</b>	Critical Component's for the DC solution			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
	<b>Integration</b>	i.e., Rack, rack PDU, Cooling and monitoring system along temperature & humidity sensors, should be from same & OEM for Seamless Integration & better Service Supports			
28.	<b>Warranty</b>	5 Years onsite comprehensive warranty including all other accessories related to smooth operation & working of entire Rack Containment Frame with Rack and Cold & Hot Aisle Containment system from the date of successfully installation, commissioning, integration and final acceptance			

### (9) Scope of Work & Minimum Technical Specification of Deliver, Installation & Integration of each IP PDU for Server & Network Rack with all related accessories

**Qty : 20 Nos.**

**Make :**

**Model :**

S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
1.		Each Intelligent PDU socket should have 36 (C13) & 6 (C19) IEC sockets			
2.		Vertically Mounted Metered PDU			
3.		Current Monitoring at bank level /strip level over IP			
4.		Ip based Rack mount PDU should provide Volts, Amps, total Power- kilowatt and Total Energy- kWh over IP. Locally it should be able to display the Volt, Amps and Power on the LCD display affixed on the Power strip itself.			
5.		Should be able to mount as OU with tool-less mounting option.			
6.		Should have the ability to define alarm thresholds to avoid overloaded circuits			
7.		Should have a USB port for easy firmware upgrades			
8.		Option for SNMP monitoring & management for multiple trap receivers when events occur over IP			
9.		It should Integrate with centralized monitoring software providing a unified view of complex physical infrastructure			



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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
10.		It should have locking IEC receptacle and locking power cord compatibility			
10.	Warranty	5 Years onsite comprehensive warranty including all other accessories related to smooth operation of each Comfort Air Conditioning machine from the date of successfully installation, commissioning, integration and final acceptance			

### (10) Scope of Work & Minimum Technical Specification of Deliver, Installation & Integration of each IP KVM switch with Display Unit including all related accessories

S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
1.		Min 1 (One) remote console and min 1 (one) local console control up to 24 computers			
2.		Min 1(One) local and one remote user can simultaneously control separate ports			
3.		User can access Servers via the LAN			
4.		LCD monitor can be slides independently of the Keyboard /touchpad			
5.		Console lock facility which enables the console drawer to remain securely locked away in position when not in use			
6.		Should have a feature to view all 24 ports at the same time.			
7.		Three level login security: ●Administrator ●User ●Select			
8.		Support advanced security features include password protection and advanced encryption technologies - 1024 bit RSA, 256 bit AES, 56 bit DES, and 128 bit SSL			
9.		It can be flash firmware upgradeable over network connection			
10.		Computer can be selected via front panel pushbuttons, hotkeys or On Screen Display (OSD).			
11.		Rack mountable in 19" (1U) system rack.			
12.		It should have a facility to Auto Scan function to monitor computer operation.			
13.	Warranty	5 Years onsite comprehensive warranty including all other accessories related to			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		smooth working of each IP KVM with Display unit from the date of successfully installation, commissioning, integration and final acceptance			

### (11) Scope of Work & Minimum Technical Specification of Deliver, Installation & Integration of various equipments for Building Management system with all related accessories

S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
1	Fire Detection Systems				
1.1	<b>System Description</b>	Addressable UL 864 10th Edition Listed, ULC-S527/EN 54 Listed single loop (250 detector/device in any combination) Fire Alarm Panel with modbus over RS 485 / Bacnet IP to integrate with BMS located throughout the DC (ceiling, false floor and other appropriate areas where fire can take place) with pull type, manual call points units on escape routes and exits.			
1.2	Control and Indicating Component	The control panel shall be a microprocessor based single loop addressable unit, designed and manufactured to the requirements of UL/EN54 Part 2 or higher for the control and indicating component and UL/EN54 Part 4 for the internal power supply.			
1.3	Multicriteria detectors	Addressable Multicriteria detectors shall be of the optical or ionization type. Devices shall be compatible with the CIE conforming to the requirements of UL/EN54 Part 7 and be LPCB approved. The detectors shall have twin LEDs to indicate the device has operated and shall fit on a common addressable base.			
1.4	Heat Detectors	Addressable Heat detectors shall be of the fixed temperature or rate of temperature rise type with a fixed temperature operating point.  <b>Devices shall be compatible with the CIE conforming to the requirements of UL/EN54 Part 5 and be LPCB approved.</b>  The detectors shall have a single LED to			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		indicate the device has operated and shall fit a common addressable base.			
1.5	Addressable Detector Bases	All bases shall be compatible with the type of detector heads fitted and the control system component used. pre-programmed EPROM or setting of DIL switches. Detector bases shall fit onto an industry standard Junction box.			
1.6	Audible Alarm	Electronic sounders shall be colored red with adjustable sound outputs. The sounders should be suitable for operation with a 24V DC supply providing a sound output of at least 100dBA at 1 meter and 75 dBA min, for a bed head or sounder base type device. The sounder frequency shall be in the range of 500Hz to 1000Hz.			
1.7	Manual Call Points (MCP)	MCP's shall be addressable pull type manufactured to the requirements of BS 5839: Part 2. Or UL listed. The device shall be automatically addressed by the CIE on power up of the loop without the need of the insertion of a pre-programmed EPROM or setting of DIL switches. The device shall incorporate a short circuit isolation device and a red LED indicator. The MCP shall be suitable for surface or flush mounting. When flush mounted the device shall be capable of fixing to an industry standard single gang box.			
1.8	Commissioning	The fire detection and alarm system will be programmable and configurable via an alpha numeric keypad on the control panel or PC programming. The labeling of Device and Zone labels should be part of the system. Necessary Software to the control panel.			
2.	<b>Fire Suppression Systems</b>	<ul style="list-style-type: none"> <li>The Clean Agent Fire Suppression system cylinder ( 3 nos. 80LTR with valve, 1 no. pressure guage, CCOE, Nagpur approved seamless cylinders, discharge hose, fire detectors and panels and all other accessories required to provide a complete operational system meeting applicable requirements of NFPA 2001 Clean Agent Fire Extinguishing Systems, NFPA 70 National Electric Code, NFPA 72 National Fire Alarm Code or ISO standards must be considered to ensure proper performance as a system with UL/FM/VDS approvals and</li> </ul>			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		<p>installed in compliance with all applicable requirements of the local codes and standards.</p> <ul style="list-style-type: none"> <li>• The Clean Agent system considered for Total flooding application shall be in compliance with the provisions of Kyoto Protocol.</li> <li>• Care should be taken that none of the Greenhouse Gases identified in the Kyoto Protocol is used for fire suppression application.</li> <li>• The minimum criterion for the selection of the Clean Agent will be on the following parameters. <ul style="list-style-type: none"> <li>• Zero Ozone Depleting Potential.</li> <li>• Global Warming Potential not exceeding one.</li> <li>• Atmospheric Lifetime not exceeding one week.</li> </ul> </li> <li>• The clean agent fire suppression system with FK-5-1-12/ NOVEC 1230 and Inert Gas based systems are accepted as a replacement of HCFC and HFC as per Kyoto Protocol.</li> <li>• The Clean Agent considered for the suppression system must be suitable for managing occupied areas with NOAEL Level (No observable adverse effect level) of 10% as compared to the design concentration to ensure high safety margin for the human who might be present in the hazard area.</li> <li>• The minimum design standards shall be as per NFPA 2001, 2004 edition or latest revisions.</li> <li>• Care shall be given to ensure proper early warning detection system with minimum sensitivity of 0.03% - 0.05% per foot obscuration as per NFPA 318 &amp; NFPA 72 to ensure that one gets a very early warning to investigate the incipient fire much before the other detectors activate the fire suppression system automatically also required PESO certificate by the OEM for the Cylinders.</li> </ul>			
3.	<b>Access Control System</b>	<ul style="list-style-type: none"> <li>• Controlled Entries to defined access points</li> <li>• Controlled exits from defined access points</li> <li>• Controlled entries and exits for visitors</li> <li>• 2 door controllers may use. Total No. of</li> </ul>			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		<p>controller shall be 5 nos.</p> <ul style="list-style-type: none"> <li>Configurable system for user defined access policy for each access point</li> </ul> <p>Record, report and archive each and every activity (permission granted and / or rejected) for each access point.</p> <p>User defined reporting and log formats</p> <p>Fail safe operation in case of no-power condition and abnormal condition such as fire, theft, intrusion, loss of access control, etc.</p> <p>Day, Date, Time and duration based access rights should be user configurable for each access point and for each user.</p> <p>One user can have different policy / access rights for different access points.</p>			
4.	<b>Closed-Circuit Television (Surveillance) System</b>	<ul style="list-style-type: none"> <li>The CCTV system should be IP based</li> <li>Bullet / Dome camera should support PoE</li> <li>Video Resolution : each Bullet / Dome Camera should min 4 megapixels</li> <li>Metal Bullet/Dome IP Camera</li> <li>The system shall provide visual images from the cameras located through out the facility. The cameras located shall be fed into the NVR located in the control room.</li> <li>The NVR shall consist of min 16 channels Digital Multiplexer with built-in recording system into surveillance grade Hard Disks.</li> <li>The Main Security Control Room which shall house the Monitors and the NVR</li> <li>The CCTV should be equipped with Digital recording facility for later scrutiny, with at least 45 days of recording facility.</li> </ul>			
5.	<b>Very Early smoke detection and Aspiration system</b>	<p>The VESDA system shall provide an early warning of fire in its incipient stage, analyze the risk and provide alarm and actions appropriate to the risk. The system shall include, but not be limited to, a Display Control Panel, Air Sampling points Assembly and the properly designed sampling pipe network. Regulatory Requirements:</p> <ul style="list-style-type: none"> <li>National Electrical Code (NEC)</li> <li>Factory Mutual/ OEM Design</li> <li>Local Authority having Jurisdiction</li> </ul>			
6.	<b>Water Leakages Detection System</b>	<p>The water leak detector shall be installed to detect any seepage of water into the critical area and alert the Security Control Room for such leakage. It shall consist of water leak detection cable and an alarm module. The cable shall be installed in the floor</p>			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		areas around the periphery. • Water Leak Detection system should be for the Server room & Telecom Room. • Areas to detect and water flooding below the floor of the DC. • Water Leak Detection System should be wire based solution with alarm; the wire needs to lay in DC surrounding the PAC units, which is the probable source of water leakage			
7.	<b>Rodent Repellent System</b>	The entry of Rodents shall be controlled using non-chemical, non-toxic devices. Ultrasonic pest repellents shall be provided in the false flooring and ceiling to repel the pests without killing them. However periodic pest control using Chemical spray can be done once in 3 months as a contingency measure to effectively fight the pest menace.			
8.	<b>Periodic Pest Control System</b>	The treatment shall be carried out generally in accordance with the stipulation laid down procedure as per IS: 6313 (Part II)-1971 Part II Pre-constructional chemical treatment measures I (code of practice for Anti-termite measures in building part II pre constructional chemical. Periodic (Monthly) Pest Control of entire Data Center Area.			
9.	<b>Public Address system</b>	Public Address system (PA) shall be supply, installation and integration with necessary speaker, Microphone, Amplifier and other necessary accessories. IP based PA controller which will be integrated with Fire Alarm panel			
10.	<b>Warranty</b>	5 Years onsite comprehensive warranty including all BMS related system components furnished and installed shall be warranted against defects in design, materials and workmanship from the date of successfully installation, commissioning, integration and final acceptance			

**Tentative Bill of Materials for implementation of BMS related items. Additional components, if any, have to be covered with the bidder's own justification and completion of site survey**

### (1) Fire Detection Systems

S/N	Item Description	Qty.
1.	Addressable single loop Fire Alarm Panel with modbus over RS 485 / Bacnet IP to integrate with BMS	1 No.
2.	Battery backup 12V, 7 AH Battery	2 Nos.
3.	Supply installation Testing & commissioning of Addressable multi criteria Detector and ( 2 nos heat detector) with Detector base.	71 Nos.

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
4.	Addressable/Conventional MCP				09 Nos.
5.	Monitor Modules				06 Nos.
6	Isolation Module				07 Nos
7	Control Modules				17 Nos.
8	Conventional Horn cum Strobe Hooter				2 Nos.
8.	Response Indicator				45 Nos.
9.	2 core Armored Cables				1500 Mtr.
(2) Fire Suppression Systems					
S/N	Item Description				Qty.
1.	SITC of Seamless Novec 1230 Cylinder and Valve Assembly, 68/100/120/140Ltrs. capacity, for Server Room & Telecom Room, Battery & Electrical Room/UPS Room.				6 Nos.
2.	Novec 1230 for Server Room				473 KG
3.	Electric Actuator				4 Nos.
4.	Manual Actuator				4 Nos.
5.	Pneumatic Actuator				6 Nos.
6.	Flexible discharge Hose				6 Nos.
7.	Manifold Check Valve				6 Nos.
8.	Flexible Actuation Hose				7 Nos.
9.	Discharge Nozzles				13 Nos.
10.	Piping ASTM Grade A 106 Sch. 40 with fittings & supports				4 Lot.
11.	Conventional Horn cum Strobe				4 Nos.
12.	Manual Abort Station				4 Nos.
13.	Manual Release Station				4 Nos.
14.	Gas Release Panel with 1 Release Module, Timer Circuits with RS 485 port				4 Nos.
15.	Manifold Discharge Pressure Switch				4 Nos.
16.	SITC of 2C x 1.5sqmm Armored cable				500 Mtr.
17.	ABC type fire extinguisher 5 Kg				05 Nos.
(3) Access Control System					
S/N	Item Description				Qty.
1.	2 Door Access Reader Controllers. with modbus over RS 485 / Bacnet IP to integrate with BMS				05 Nos.
2.	Proximity Card Reader with Pin Pad				07 Nos.
3.	Bio Metric finger print reader				02 Nos.
4.	Exit Push Botton				06 Nos.
4.	Electromagnetic lock - single leaf				03 Nos.
5.	Electromagnetic lock - Double leaf				06 No.
6.	Door Contact				8 Nos.
7.	2C x 0.75 sq.mm unarmored cable				300 Mtrs.
8.	8C x 0.75 sq.mm unarmored Cable				300 Mtrs.
9.	conduits				300 Mtrs.

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
10.	Proximity Cards				100 Nos.
11	Break Glass Unit				6 Nos.
12	Buzzer				2 No.
(4) Closed-Circuit Television (Surveillance) System					
S/N	Item Description				Qty.
1.	IP Dome Camera with min 4 MP, 30Mtr. IR, PoE Support				12 Nos.
2	IP Bullet Camera with min 4 MP, 30Mtr. IR, PoE Support				02 Nos.
2.	16 Channel NVR				1 No.
3.	8TB Surveillance Grade Hard Disk				02 Nos.
4.	24 Port PoE Ethernet Switch				1 No.
5.	Industrial grade 42 inch Display Unit for run 24x7 Hrs.				1 No.
6.	Cat 6a UTP Cable, Cat 6a 24 Port Patch Panel, 35 Nos. 1 Mtr. Cat 6a UTP Patch Cord, 2 Nos. 2 Mtr. Cat 6a UTP Patch Cord, HDMI Cable, Network Rack and other necessary accessories				1 Lot
(5) VESDA					
S/N	Item Description				Qty.
1.	LED Display Control Panel with RS 485 Port				1 No.
2.	Detector Assembly with other related accessories				1 Lot
3.	pipe network with other related accessories				1 Lot
(6) Water Leakages Detection System					
S/N	Item Description				Qty.
1	2 Zone Water Leak detection panel with battery back up with RS 485 port				1 No.
2	Water Leak detection module				2 Nos.
3	Water leak detection cable sensor (min 25Mtrs.)				2 Nos.
4	12 – 24 V DC Electronic Hooter				1 No.
5	Supply and surface laying of 2C x 1.5 Sq.mm copper conductor PVC insulated cable in 20 mm dia PVC Conduit				70 Mtrs.
(7) Rodent Repellent					
S/N	Item Description				Qty.
1.	Main Console Panel with Rs 485 port				03 No.
2.	Transducer				61 Nos.
3.	Cable				700 Mtrs.
4.	Conduit				350 Mtrs.
(8) Pest Control System					
S/N	Item Description				Qty.
1.	Periodic (Monthly) Pest Control of entire Data Center Area (Server Room, NOC, BMS, UPS, Electrical Room and other area of Data Center for the duration of entire 5 years warranty period				Lot.
(9) Public Address system					
S/N	Item Description				Qty.
1.	IP based PA controller which will be integrated with Fire Alarm panel				1 No.



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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
2.	Ceiling mount 6wt speaker				10 Nos.
3.	120wt booster Amplifier				1 No.
4.	Microphone call station				1 No.
5.	DVD player or any other player				1 No.
6.	3Cx1.5sqmm Shielded cable				15 Mtr.
7.	2Cx1sqmm speaker cable				250 Mtr.

### (12) Scope of Work & Minimum Technical Specification of Deliver, Installation & Integration of Building Management System software with all related accessories

**Qty : 1 Lot**

**Make :**

**Model :**

S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		<p>The building management system shall be implemented for effective management, monitoring and Integration of various components like HVAC systems, Access Control systems, fire detection, Alternative Power system etc. Bidder should provide manpower (24 x 7) to monitor the BMS &amp; smooth functioning of entire setup.</p> <p>The BMS shall perform the following general functions including but not limited to:</p> <ul style="list-style-type: none"> <li>• Building Management &amp; Control</li> <li>• Data Collection &amp; archival</li> <li>• Alarm Event &amp; Management</li> <li>• Trending</li> <li>• Reports &amp; MIS Generation</li> <li>• Maintenance &amp; Complaint Management</li> </ul> <p>The scope of work shall include designing supplying and installing of Building management (Automation) System. The work shall consist of furnishing all materials, equipment's and appliances necessary to install the said system, complete with Sensors, Direct Digital Controllers, Communication Controllers and Supervisory Software complete with necessary software/hardware support for interfacing with other systems. It shall include laying of cabling duct, conduits and power supply etc., necessary for installation of the system with supply of appropriate type products. The controller shall be 32/64 bit based Microprocessor Controller and shall sit directly on the TCP / IP network. The Controller shall be Web Based, Web Enabled with Real Time Clock.</p> <p>Agency shall design &amp; provide a full Building automation system on the basis of truly distributed intelligence and shall comprise of the following general functional sub systems.</p> <p><b>Air Conditioning Management &amp; Control</b></p> <ul style="list-style-type: none"> <li>• Precision AC Units</li> <li>• Temperature monitoring and controls at all specified positions/locations</li> <li>• Rack Containment Frame with Cold &amp; Hot Aisle Containment system</li> </ul>			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		<b>Energy Management</b> <ul style="list-style-type: none"> <li>• LT Panel Energy Monitoring</li> <li>• UPS Monitoring</li> <li>• DG monitoring</li> </ul> <b>Safety &amp; Security Systems Integration</b> <ul style="list-style-type: none"> <li>• Fire Alarm System Integration</li> <li>• HSSD (High Sensitivity Smoke Detection ) System Integration</li> <li>• Access Control &amp; Surveillance System Integration</li> <li>• Gas System Integration</li> <li>• Door Sensor</li> <li>• Alarm beacon</li> </ul> <b>Integration</b> DG Set on MODBUS Protocol with compatible Communication Port. Energy Meter on MODBUS Protocol with compatible Communication Port.			
1.	<b>General Integration</b>	Integrated Building Management System Software integration with UPS systems, Energy Meter, DG Panel, PAC, Rack Containment Frame with Cold & Hot Aisle Containment system, Fire Alarm System, VESDA, WLD, Fire Suppression System and other related system. The license shall be priced for min 500 points, and 1 no client station for view the IBMS from DC area with Modbus, BACnet interface license.			
2.	<b>Network Devices for BMS Software</b>	Supply of network devices/ IP Switches for inter-connecting the			
3.		TCP/IP or LON based ,Programmable and Application specific DDC controllers, field mounted configured as per Data Point Summary for respective building services The controller shall be housed in vandal proof lockable MS cabinets for LT Panel Breaker Status			
4.		T & RH Sensor			
5.		Signal Cabling (2c x 1.0 sq.mm copper conductor cable).			
6.		Communication Cabling			
7.		25 mm PVC conduit			
9.	Warranty	5 Years onsite warranty support including all other accessories related to smooth operation of BMS Software from the date of			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		successfully installation, commissioning, integration and final acceptance.			

### (13) Scope of Work & Minimum Technical Specification of Deliver, Installation & Integration of Structured Passive Cabling Components of LAN infrastructure, Open Common Rack with all related accessories

S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
	General Guidelines	<p><b>Multi-fiber push on</b> connectors, or MPO OM4 system should be low loss to support the below listed applications under given configuration –</p> <p>MPO system shall support 4 connections in a single channel and meet the following application loss and length limits:</p> <ul style="list-style-type: none"> <li>• 10GBASE-S upto 450m</li> <li>• 25GBASE-S upto 100m</li> <li>• 40G BASE-SR/BiDi upto 150m</li> <li>• 100G BASE-SR upto 100m</li> </ul> <p><i>MPO system shall support 4 connections in a single channel and meet the following SAN applications:</i></p> <ul style="list-style-type: none"> <li>• <b>4G FC at 850nm upto 400m</b></li> <li>• <b>8G FC at 850nm upto 250m</b></li> <li>• <b>16F FC at 850nm upto 160m</b></li> <li>• <b>32G FC at 850nm upto 120m</b></li> </ul> <p><b>Max attenuation for 6 connector MPO channel shall not exceed 1.98dB @ 850nm over 50mtr. .</b></p>			
<b>A</b>	MPO OM4 Fiber Components				
1.		MPO – LC 24F Cassette (2x12MPO): The 24-fiber module shall have 12 pre-installed duplex LC adapters at the front routed to 2x12-fiber / 1x24-fiber Low loss OM4 MPO adapters at the back.			
2.		<p>All MPO modules must support 'Method B Enhanced' wiring pattern for ease of scalability.</p> <p>Same cassette should be used in both end of the link, without need of flipped or straight wiring management.</p>			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
3.		Dust caps on each port must be translucent to support VFL tests, without removing caps. Test light should be visible at the remote end, even with dust caps ON.			
4.		The cassettes shall be UL 1863 listed.			
5.		MPO Modules must be Intelligent without the need of removing any patched connection or changing any installed hardware.			
<b>B</b>	<b>Modular Fiber Panel</b>				
1.		Modular type 1U sliding fiber panel, shall accept (4) nos of MPO modules, for upto 48 duplex LC ports, intelligent upgradable.			
2.		The 1U Panel shall be equipped with a rear cable tray with management rings for securing and arranging trunk cable entry.			
3.		Fiber panel shall have integrated front patch cord management trough.			
4.		Shall be made of powder coated steel and UL listed component.			
<b>C</b>	<b>MPO Trunk Cable OM4</b>				
1.		Low Loss MPO-12/UPC to MPO-12/UPC, Pre-terminated, LSZH, Bend Insensitive OM4 Trunk Cable compliant to ANSI/ICEA S-83-596, TIA 492AAAD (OM4).			
2.		Cable MPO connector shall have Max Insertion Loss of 0.20dB Min Return loss of MPO shall be $\geq 27$ dB.			
3.		Cable shall have OD of 5.2 – 5.8mm. Tensile strength shall be upto 650N.			
4.		All OM4 trunk cables must have Aqua colored jacket as per TIA and ISO standards recommendation.			
5.		Flame rating shall be NEC OFNR-LS (ETL) suitable for data center installations. The cable must have the flame test compliance to IEC 60332-3, IEC 60754-2, IEC 61034-2, IEEE 383, UL 1666 and UL 1685			
6.		Cable must be EN50575 CPR rated as Dca or better.			
<b>D.</b>	<b>LC – LC Multimode Duplex Uniboot Fiber Patch Cord</b>				
1.		LC/UPC to LC/UPC, Multimode OM4 duplex Uniboot Patch Cord, bend insensitive Fiber 2.0mm patch cords, Aqua.			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
2.		Low Smoke Zero Halogen (LSZH) compliant to IEC 60332-3, UL 1666, UL 1685			
3.		Connector Optical Performance Insertion Loss, maximum: 0.15 dB Return Loss, minimum: 35.0 dB			
<b>D.</b>	<b>CAT 6A U/UTP LSZH Cable</b>				
1.		CAT6A U/UTP 23 AWG Cable should meet and exceed ANSI/TIA 568.2-D Category 6A and ISO/IEC 11801 Class EA Specifications			
2.		Cable shall be constructed with pair separator as well as individual conductor separator.			
3.		<b>Electrical properties:</b> Max DC Resistance: $\leq 7.61$ Ohms/100m Max. Operating voltage: 80 V Frequency: up to 550 Mhz			
4.		The cable shall have Low-Smoke, Zero Halogen (LSZH) jacketing and must comply with the following Fire Safety standards: 1) ISO/IEC 60332-3-22: Vertical Flame Spread 2) ISO/IEC 60754-2: Acidity 3) ISO/IEC 61034-2: Smoke Density			
5.		Cable shall be ETL verified as per ANSI/TIA 568-C.2 and ISO/IEC 11801 for CAT6A requirements.			
<b>E</b>	<b>6A U/UTP Modular Information Outlets</b>				
1.		The CAT6A UTP 8-pin modular (RJ-45) jacks shall have Electrical performance guaranteed to meet or exceed the channel specifications of ISO/IEC 11801 Class EA and ANSI/TIA-568-C.2 Category 6A.			
2.		The information outlet shall support IEEE 802.3bt (Type 4) and have a Current Rating of 1.5 A at 20°C			
3.		Insulation Resistance, minimum: 500 MOhm			
<b>F</b>	<b>6A U/UTP Patch Cord</b>				
1.		CAT6A U/UTP Patch Cord, shall be of 4 pair 24 AWG solid construction, with pair separator, compliant to ANSI/TIA 568-C.2 and IEEE 802.3bt 4PPoE.			
2.		Offered CAT6A Patch cord shall support intelligent cable detection mechanism and function when used with AIM system.			
<b>G</b>	<b>6A U/UTP Patch Panel</b>				
1.		CAT6A UTP Patch Panel 24 port loaded, 1U			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		shall be compliant to ANSI /TIA 568-C.2 CAT6A and ISO 11801 Class EA, with rear cable manager			
2.		Panel must be certified by Intertek labs for 4 connector channel performance for 100m and 15m channel lengths			
3.		The panel must be capable of supporting upgrade to intelligent system without any interruption to service due to patch cord removal or terminal block re-termination.			
<b>H</b>	<b>Open Racks</b>				
1	Features	Should be available in 2-Post Configurations			
2		Option of 84" height			
3		Should be available with an option of Rail Widths: 3", 6", 12" (2-Post)			
4		EIA-310-E Compliance			
5		Load Capacity: 1000 lb			
6		Easily assembled, hardware included			
7	Cable Management	Should have dual hinge latching door & can be opened right or left.			
8		Cable fingers spaced at 1RMU increments for exact alignment with EIA standard			
9		Cable fingers support up to 48 cables per RMU			
10		Horizontal cable management troughs should be available in 1 & 2 RMU			
11		Provision for Tool-less installation of Cable Spool			
12	Warranty	5 Years onsite comprehensive warranty including all other accessories related to smooth operation of Passive LAN infrastructure with necessary intelligent software from the date of successfully installation, commissioning, integration and final acceptance			

**Tentative Bill of Materials for implementation of Structured Passive Cabling Components of LAN infrastructure with all related accessories. Additional components, if any, have to be covered with the bidder's own justification and completion of site survey**

S/N	Item Description	Qty.
<b>A</b>	<b>OM4 Fiber MPO Cabling Components</b>	
1.	Low Loss Multimode OM4 MPO-12 Module, 2x12F MPO rear to 24F LC Aqua, Method B Enhanced, UL listed, intelligent upgradable	48 Nos.
2.	1U sliding fiber panel, accepts (4) MPO modules providing up to 48 duplex LC ports, with rear cable management, UL listed	10 Nos.
3.	Low Loss OM4 MPO12/UPC to MPO12/UPC, Fiber Trunk Cable Assembly, 12-Fiber, LSZH CPR Dca rated, Bend Insensitive, 10m	16 Nos.
4.	Low Loss OM4 MPO12/UPC to MPO12/UPC, Fiber Trunk Cable Assembly, 12-Fiber, LSZH CPR Dca	16 Nos.

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
	rated, Bend Insensitive, 15m				
5.	Low Loss OM4 MPO12/UPC to MPO12/UPC, Fiber Trunk Cable Assembly, 12-Fiber, LSZH CPR Dca rated, Bend Insensitive, 25m				16 Nos.
6.	LC/UPC to LC/UPC Duplex Uniboot patch cord, Bend Insensitive, 2 mm LSZH, aqua jacket, 3 m				144 Nos.
7.	LC/UPC to LC/UPC Duplex Uniboot patch cord, Bend Insensitive, 2 mm LSZH, aqua jacket, 5 m				48 Nos.
<b>B</b>	<b>CAT6A Copper UTP Cabling Components</b>				
1.	Category 6A U/UTP 23 AWG Cable, LSZH jacket with CPR D2ca rating, 4 pair with cross filler, 305 m Box				28 Boxes
2.	Category 6A U/UTP Patch Panel, 24 port, 1U, unloaded, with rear cable management				6 Nos.
3.	CAT6A UTP Information Outlet				144 Nos.
4.	Category 6A U/UTP Patch Panel, 24 port, Loaded, 1U, rear cable management, intelligent upgradable				16 Nos.
5.	CAT6A U/UTP Solid Cordage Modular Patch Cord, LSZH Jacket, 3 Mtr				96 Nos.
6.	CAT6A U/UTP Solid Cordage Modular Patch Cord, LSZH Jacket, 10 Mtr				24 Nos.
7.	CAT6A U/UTP Solid Cordage Modular Patch Cord, LSZH Jacket, 15 Mtr				24 Nos.
8.	CAT6A U/UTP Solid Cordage Modular Patch Cord, LSZH Jacket, 25 Mtr				24 Nos.
<b>C</b>	<b>Open Common Racks with all accessories</b>				02 Nos.

### (14) Scope of Work & Minimum Technical Specification of Deliver, Installation & Integration of Various equipment for IT & Non-IT Infrastructure Monitoring system

S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
<b>A</b>	Desktop Computer				
1.	Processor with speed	Latest Generation x86 Processor with 3.0 GHz base frequency			
2.	Chipset	Q470			
3.	Memory	8 GB DDR4 SDRAM RAM (2660Mhz) Memory expandable up to 64GB			
4.	Drive	512GB SSD plus 1TB SATA HDD with 7200 RPM			
5.	Display Unit	22 Wide Screen LED Monitor with TCO 8.0 certified			
6.	Power Supply	240 watt 90% or higher efficient power supply with Energy Star 8.0 compliant, Active PFC			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
7.	Optical Drive	Internal SATA 8 X or higher DVD +/- R/W Drive			
8.	Network	Integrated Gigabit Ethernet (10/100/1000) with PXE and Boot ROM. RJ45 Ethernet port			
9.	Keyboard	104 Keys USB keyboard			
10.	Mouse	2 Button USB Optical Scroll Mouse			
11.	Operating System	Genuine Windows 10 Pro 64 Bit with latest Service Packs Preloaded			
12.	Security	TPM (Trusted Platform Module) Enabled			
13.	Warranty	5 Years onsite comprehensive warranty including all other accessories related to smooth operation of Desktop from the date of successfully installation, commissioning, integration and final acceptance			
<b>B.</b>	<b>Multifunction Laser Printer</b>				
1.	Print Type	A4 Mono Laser with composite Toner			
2.	Print Per Minute (PPM) of A4	35PPM			
3.	Memory	256MB			
4.	Multifunction Feature	Print, Scan (ADF & Flatbed Duplex scan) & Copy			
5.	ADF Tray capacity	50 Sheets			
6.	Duplex Printing	Automatic			
7.	Warranty	5 Years onsite comprehensive warranty including all other accessories related to smooth operation of Multi Function Printer from the date of successfully installation, commissioning, integration and final acceptance			
<b>C</b>	<b>Display Unit</b>				
1.	Size	50 inch or higher Panel Technology-IPS			
2.	Resolution	3,840x2160 (Ultra HD)			
3.	Interface	Min 2 HDMI Port 1 USB			
4.	Durability	Industrial Grade run on 24x7 of 365 days			
5.	Cable	Necessary HDMI & USB Cable (Copper coated)			
6.	Warranty	5 Years onsite comprehensive warranty including all other accessories related to smooth operation of Display Unit from the date of successfully installation, commissioning, integration and final acceptance			
<b>Tentative Bill of Materials for implementation of Monitoring system of various IT &amp; Non-IT Infra with all related accessories. Additional components, if any, have to be covered with the bidder's own justification</b>					



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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
S/N	Item Description				Qty.
1.	Desktop Computer with necessary accessories				10 Nos.
2.	Multi Function Laser Printer				02 Nos.
3.	50 inch or higher Panel Technology-IPS				06 Nos.

### (15) Scope of Work & Minimum Technical Specification of Deliver, Installation & Integration of each Router

**Qty : 2 Nos.**

**Make :**

**Model :**

S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
1.	<b>Interface</b>	Should provide 4 x 10/100/1000 RJ 45 interface from day 1 and capable to upgrade min 2 nos. 10G for future upgradation. out of which it should have 2x1G SFP-based ports for LAN and WAN connectivity			
2.	Throughput	The router should support minimum of 500 Mbps of throughput with multiple services turned on			
3.	<b>Processor</b>	The router should support multi-core processor to host multiple services			
4.	<b>Memory</b>	Min 2GB DRAM and 256MB flash/SSD memory			
5.	<b>Routing Protocol</b>	Routing protocols like static, BGP, and OSPF ver2			
6.		Multicast routing protocols support: IGMPv1, v2, PIM-SM			
7.		Support IPv6 features: DHCPv6, IPv6 QoS, IPv6 Multicast support, RIP and OSPFv3 for IPv6.			
8.		Support IP Accounting features from day 1			
9.		Support QoS, Class-based Weighted Fair Queuing, Weighted Random Early Detection, PBR, FEC, CoS Marking			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
10.		Shall support the following AAA support using Radius and/or TACACS, GRE, IPSec			
11.		Router support Zone base firewall/Stateful firewall			
12.		Should provide a provision to analyze IP service levels for IP applications and services by using active traffic monitoring (the generation of traffic in a continuous, reliable, and predictable manner)			
13.		The router shall conform to UL 60950 or IEC 60950 or CSA 60950 or EN 60950 Standards for Safety requirements of Information Technology Equipment			
14.		The router shall conform to EN 55022/32 Class A/B or CISPR22/32 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements			
15.	Warranty	5 Years onsite comprehensive warranty including all other accessories related to smooth operation of Router from the date of successfully installation, commissioning, integration and final acceptance			

### (16) Scope of Work & Minimum Technical Specification of Deliver, Installation & Integration of Network Security Devices

#### (A) Next Generation Firewall – Qty : 4 Nos.

Make :

Model :

S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
1.	Generic	The proposed firewall vendor must be in Leader's quadrant of Gartner Enterprise/Network Firewall report of 2021, 2020 & 2019.			
2.		Firewall appliance must have 10x 1GE SFP interfaces & 10 x 1GE RJ45 interfaces from day one. All these interfaces should be available simultaneously. Firewall should have Dual Power Supply from day one			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
3.		The Firewall should be Hardware based, Reliable, purpose-built security appliance with hardened operating system supporting State full policy inspection technology			
4.		Firewall appliance must have 10x 1GE SFP interfaces & 10 x 1GE RJ45 interfaces from day one. All these interfaces should be available simultaneously.			
5.		Firewall Throughput should be at least 25 Gbps			
6.		Threat Prevention (including FW, IPS, Application Control & Antivirus) throughput must be at least 5 Gbps with real-world / enterprise MIX traffic			
7.		NGFW (including FW, IPS, Application Control) throughput must be at least 6 Gbps with real-world / enterprise MIX traffic			
8.		NGFW should have IPsec VPN throughput of at least 10 Gbps			
9.		NGFW should support 100 site-to-site VPN Tunnels.			
10.		NGFW should support more than 400,000 new sessions per second			
11.		NGFW should support at least 4 Million concurrent sessions			
12.		The NGFW solution should support NAT64, NAT46, DNSv6 & DHCPv6			
13.		The proposed system should be able to operate in Transparent (Access) mode and NAT/Route mode simultaneously			
14.		The physical interface should be capable of link aggregation as per IEEE 802.3ad standard, allowing the grouping of interfaces into a larger bandwidth 'trunk'. It should also allow for high availability (HA) by automatically redirecting traffic from a failed link in a trunk to the remaining links in that trunk.			
15.		The NGFW should support WAN links load balancing and fail-over for at least 4 links			
16.		The NGFW should support fail-over based parameters such as Latency, Jitter, Packet-Loss"			
17.		The NGFW should have both SSL and SSH Inspection capabilities			
18.		The system should support 2 forms of site-to-site VPN configurations: Route based			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		IPsec tunnel and Policy based IPsec tunnel			
19.		The system should support IPSEC site-to-site VPN and remote user IPsec VPN in transparent mode.			
20.		The system should provide IPv6 IPsec feature to support for secure IPv6 traffic in an IPsec VPN.			
21.		Solution must support at least 100 concurrent SSL VPN.			
22.		The proposed firewall must support at least 4 Gbps of SSL Inspection throughput along with IPS feature enabled.			
23.	<b>Intrusion Prevention System</b>	IPS throughput should be min 6 Gbps or better for Enterprise MIX traffic			
24.		The IPS should be able to inspect SSL sessions by decrypting the traffic			
25.		The IPS system should have at least 10,000 signatures			
26.		In event if IPS should cease to function, it should fail open by default and be configurable so that crucial network traffic should not be blocked and NGFW should continue to operate while the IPS problem is being resolved			
27.		Signatures should have severity level defined to it so that the administrator can understand and decide which signatures to enable for what traffic (e.g. for severity level: high medium low)			
28.		NGFW should have capabilities to limit number of parameters in URL, number of cookies in request, number of headers lines in request, total URL and Body parameters in length to block advanced HTTP layer attacks.			
29.	<b>Application Control Features</b>	The appliance should have at least 5000 application signatures database			
30.		Should have the intelligence to identify & control of popular IM & P2P applications like KaZaa, Bit Torrent, Skype, You Tube, Facebook, LinkedIn etc., so that it can be used in future if required.			
31.	<b>Anti-Malware &amp; Advanced Persistent Threat</b>	NGFW should offer both anti-virus scanning options - Proxy mode and Flow (streaming) mode.			
32.		NGFW must include Anti-bot capability using IP reputation DB, terminates botnet communication to C&C servers also. Vendor needs to add additional license if it is required.			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
33.		Antivirus module should be ICSA certified			
34.		NGFW should have functionality of Content Disarm and Reconstruction (CDR) to remove all active content from attachment in real-time before passing it to user.			
35.		NGFW should have cloud sandbox functionality to protect organization from Advance Persistence Threats. Additional license for sandboxing should include from day 1			
36.		The proposed solution should utilize a state-full attack analysis to detect the entire infection lifecycle, and trace the stage-by-stage analysis of an advanced attack, from system exploitation to outbound malware communication protocols leading to data exfiltration.			
37.		NGFW should be able to monitor encrypted traffic to detect APTs hidden in SSL traffic.			
38.		OEM's cloud portal / on-prem reporting server from where can view file-analysis status details including file submission time, source IP, destination IP, File name, URL, File size, File type, Suspicious Act etc.			
39.	<b>High Availability</b>	The proposed NGFW shall have high availability (HA) features without extra cost/license or hardware component from day 1			
40.		The NGFW shall support stateful session maintenance in the event of a fail-over to a standby unit.			
41.		High Availability feature must be supported for either NAT/Route, Transparent or Hybrid mode			
42.		The NGFW must support both Active-Passive and Active-Active High Availability options.			
43.		The NGFW shall support interface link monitoring failover			
44.		The NGFW shall support external device ping probe failover			
45.		The NGFW must have provision of fail-over in case of high memory utilisation on primary appliance.			
46.	<b>Administration, Management and Logging Functionality</b>	The proposed Firewall should have minimum 450GB of Internal storage capacity for storing the logs & generating reports			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
	<b>Feature Requirements</b>				
47.		Solution should provide Syslog output to integrate with major SIEM tools			
48.		Solution must allow administrator to choose to login in read only or read-write mode			
49.	<b>Warranty</b>	5 Years onsite comprehensive warranty including all other accessories related to smooth operation of Network Security Devices (Next Generation Firewall) from the date of successfully installation, commissioning, integration and final acceptance			

### (B) DDoS Appliance – Qty : 2 Nos.

**Make :**

**Model :**

S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
1.		The proposed OEM should be Parent Technology OEM (Should NOT be Whitelabeled or Co-branding or 3rd Party Technology or Open Source or Reseller Agreement).			
2.		The Proposed OEM should be present in Leader quadrant in latest publish report for Forrester for DDoS.			
3.		The Proposed solution should be a Dedicated appliance (NOT a part of Router, UTM, Application Delivery Controller, Proxy based architecture or any Stateful Appliance) with 20 Gbps of Mitigation Throughput. Dual Power Supply from day one			

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4.		DDoS Flood Attack Prevention Rate: 25MPPS (In addition to Legitimate throughput) Legitimate throughput handling: 8Gbps from day-1 and scalable upto 12Gbps Attack Concurrent Sessions : Unlimited Inspection Ports supported : 6 x 1G Copper and 6 x 10G SFP+ from day-1. Additionally appliance should have 12x1G/10G SFP+ for future use (Without any break-out) Latency should be less than 60 microseconds. The appliance should have dedicated 2 x 1G RJ45 Out-of-band Management Port.			
5.		System should support horizontal and vertical port scanning behavioral protection.			
6.		BEHAVIORAL ANALYSIS using behavioral algorithms and automation to defend against IoT botnet threats, including Mirai DNS Water Torture, Burst and Randomized attacks. The solution should utilize behavioral algorithms and stateless solution to detect and defend against threats at L3-7.			
7.		Behavioral DoS (Behavioral Denial of Service) Protection should defend against zero-day network-flood attacks, detect traffic anomalies and prevent zero-day, unknown, flood attacks by identifying the footprint of the anomalous traffic. <b><u>Network-flood protection should include:</u></b> <ul style="list-style-type: none"> <li>• TCP floods—which include SYN Flood, TCP Fin + ACK Flood, TCP Reset Flood, TCP SYN + ACK Flood, and TCP Fragmentation Flood</li> <li>• UDP flood</li> <li>• ICMP flood</li> <li>• IGMP flood</li> </ul>			
8.		System should have DNS Flood protection for each type of query including, A, MX, PTR, AAAA, Text, SOA, NAPTR, SRV etc.			
9.		Positive Security Model should have advanced behavior-analysis technologies to separate malicious threats from legitimate traffic			
10.		System should support HTTP Challenge Response authentication without Scripts			
11.		System should have SIP Flood Protection, UDP and UDP Fragmented Flood.			

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12.		System should support In-Line, SPAN Port, Out-of-Path deployment modes from day 1. The proposed device should have String Match Engine to support 5000+ inbuilt Signatures apart from custom Signatures from Day 1.			
13.		Solution should be transparent to control protocol like MPLS and 802.1 Q tagged VLAN environment. Also, it should transparent to L2TP, GRE, IP in IP traffic.			
14.		The Proposed Solution should protect against Zero Day DDoS Attacks. ZERO DAY ATTACK PROTECTION should be provided using behavior based technology. Automatic Real Time Signature within 20 seconds, without any manual intervention for protection against Zero Day DDoS Attacks.			
15.		The appliance should have below Security Protection Profiles: 1. BDoS Protection. 2. DNS Protections.. 3. SYN-Flood Protection. 4. Traffic Filters. 5. Anti-Scanning Profile			
16.		The proposed Device should use the following Block Actions : 1) Drop packet, 2) Reset (source, destination, both), 3) Suspend (source IP address, source port, destination IP address, destination port or any combination), 4) Challenge-Response for TCP, HTTP and DNS suspicious traffic			
17.		The solution should support Integration with OEM Cloud based Scrubbing Centers in case of Bandwidth Saturation attacks, using the same technology for future use. All the baseline information including attack footprint should be in sync between physical appliance and scrubbing centre. OEM Should have its own Cloud DDoS Scrubbing Centre			
18.		Bidder should propose Centralized Management & Reporting Solution from			
19	Warranty	5 Years onsite comprehensive warranty including all other accessories related to smooth operation of Network Security Devices (DDoS Appliances) from the date of successfully installation, commissioning, integration and final acceptance			
<b>Bill of Materials of Network Security Device</b>					
S/N	Item description				Qty.



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1.	Next Generation Firewall	04 Nos.
2.	DDoS Appliance	02 Nos.

### (17) Scope of Work & Minimum Technical Specification of Deliver, Installation & Integration of each Link Load Balancer

**Qty : 2 Nos.**

**Make :**

**Model :**

S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
1.		The proposed dedicated Hardware device should support minimum 8 WAN links for inbound/outbound traffic load balancing & redundancy. WAN Links must support IPv4 or IPv6 addressing or both simultaneously. Proposed device should support upto 16 virtual instances. It should have internal redundant Power supply with 4 TB usable hard disk, 64 GB RAM and capability to provide remote access using SSL VPN on the same appliance			
2.		Proposed Load Balancer should support minimum 8 x 10G SFP+ ports all populated from day one			
3.		Proposed Load Balancer should support Static NAT, port-based NAT and advanced NAT for transparent use of multiple WAN/ Internet links. Should support inbound load balancing and persistency features including RTS (return to sender) and IPFlow persistency.			
4.		Proposed Load Balancer should support minimum 10 Million concurrent connections and minimum 5 million L7 Requests per Sec.			
5.		Traffic load balancing should support algorithms including round robin, least connections, shortest response, persistence IP, hash IP, hash IP and port, consistent hash IP, SNMP, target proximity and dynamic detect			
6.		Proposed Load Balancer should support user-defined IP and Service Group functions for bandwidth management and routing policies.			
7.		Proposed Load Balancer should support XML-RPC for integration with 3rd party management and monitoring. Should also support SAA, SAML, Hardware binding and			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		AAA support along with SSO.			
8.		Proposed Load Balancer should support Multi-homing function for inbound IPv4 and IPv6 traffic Load Balancing and fault tolerance across up to multiples WAN links by enabling DNS relay or DNS authoritative server function.			
9.		Proposed Load Balancer should have IPV6 support with IPv6 to IP4 and IPv4 to IPv6 translation and full IPv6 support. also, should have IPV6 support with DNS 6 to DNS 4 & DNS 4 to DNS 6 translation-based health check for intelligent traffic routing and failover			
10.		Proposed Load Balancer should support DHCP and support active-active and N+1 redundancy supporting open standard VRRP (No proprietary protocol).			
11.		Proposed Load Balancer should provide comprehensive and reliable support for high availability with Active- active & active standby unit redundancy mode. Should support both device level and VA level High availability			
12.		Proposed Load Balancer should support standard VRRP (No proprietary protocol) for HA interconnection over network.			
13.		Proposed Load Balancer should protect TCP based attacks: TCP SYN Flood, TCP SYN-ACK Flood, TCP ACK Flood, TCP FIN/RST Flood , TCP Connection Flood ,TCP Slow Connection , TCP Abnormal Connection, TCP Fragments Flood, Defense WinNuke, TCP Error Flag			
14.		Proposed Load Balancer should protect UDP based attacks: UDP Flood, UDP Fragment Flood, UDP Fingerprint, Fraggle, UDP Large Packet			
15.		Proposed Load Balancer should protect HTTP & HTTPS based attacks: HTTP GET Flood, HTTP POST Flood, HTTP Slowloris, HTTP Slow POST, HTTP URL monitor, SSL Handshake, SSL Renegotiation			
16.		Proposed Load Balancer should protect DNS based attacks: DNS Cache Poisoning Defense, DNS Length Check Defense , DNS NXDomain Defense, DNS Query Flood Defense , DNS Reply Flood Defense, DNS TTL Check , DNS Source Authentication			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
17.		In case of link failure, proposed Load Balancer should detect it in less than 30 seconds and divert the traffic to other available links. Dynamic detect (DD) based health check for intelligent traffic routing and failover			
18.		Proposed Load Balancer shall provide individual link health check based on physical port, ICMP Protocols, user defined 14 ports and destination path health checks.			
19.		Proposed Load Balancer should support for multiple internet links in Active-Active load balancing and active-standby failover mode. Proposed Load Balancer should support single system image i.e. same Virtual-IP should be active in both devices at same time to support higher performance scalability.			
20.	<b>Warranty</b>	5 Years onsite comprehensive warranty including all other accessories related to smooth operation of Link Load Balancer from the date of successfully installation, commissioning, integration and final acceptance			

### (18) Scope of Work & Minimum Technical Specification of Deliver, Installation & Integration of each Hardware Load Balancer

**Qty : 2 Nos.**

**Make :**

**Model :**

S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
1.		The Appliance Should be dedicated appliance-based solution with purpose-built hardware for high performance and the solution should not be a part of Router or UTM			
2.		The appliance should have minimum 20 Gbps throughput, 4x10GbE fiber ports, with minimum 4TB HDD and Dual Power Supply from day one			
3.		Support for multiple internet links in Active-Active load balancing and active-standby failover mode. The solution should support single system image i.e. same			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		Virtual-IP should be active in both devices at same time to support higher performance scalability.			
4.		Should support Inbound and Outbound load balancing algorithms like round robin, Weighted round robin, shortest response, target proximity and dynamic detect.			
5.		Should support Static NAT, Port based NAT and advanced NAT for transparent use of multiple WAN / Internet links.			
6.		Appliance should provide full ipv6 support and			
7.		In case of link failure, device should detect it in less than 30 seconds and divert the traffic to the available links. Dynamic detect (DD) based health check for intelligent traffic routing and failover			
8.		Shall provide individual link health check based on physical port, ICMP Protocols, user defined 14 ports and destination path health checks.			
9.		Should provide mechanism to bind multiple health checks, support for Application specific VIP health check and next gateway health checks. Should support persistency features including RTS (return to sender) and ip flow persistence.			
10.		It should support advance functions Authoritative name sever, DNS proxy/DNS NAT, full DNS server with DNSEC, DNS DDOS, application load balancing from day one. It should be capable of handling complete Full DNS bind records including A,MX, AAAA, CNAME, PTR, SOA etc.			
11.		The solution should support global server 12.load balancing algorithms including - Weighted round robin, Weighted Least Connections, Administrative Priority, Geography, Proximity, Global Connection Overflow (GCO),Global Least Connection (GLC), IP Overflow (IPO)			
12.		The appliance should provide comprehensive and reliable support for high availability using standard VRRP (Non Proprietary). The device should have N+1 clustering based on Per VIP based Active-Active & Active Standby unit with standard VRRP (Non Proprietary) based redundancy. It should support USB based FFO link to synchronize configuration at boot time of HA for better inter-operability			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
13.		It should support L2-L7 Load balancing, Server Persistence, Content Routing & Switching, SSL offload, ePolicy L7 Application Scripting, eRoute L4 Routing. Minimum 6 million L7 Requests per Sec. Minimum 10K TPS on RSA 2K Key and 7K TPS on ECC.			
14.		Application, Server & Link Health Checks - ARP, ICMP, TCP, HTTP/HTTPS, DNS, Radius, MySQL, MsSQL, RTSP, SIP single port/ protocol, Multi-port, physical port, ICMP and user defined L4 – Next gateway health checks			
15.		Appliance must support multiple configuration files with 2 bootable partitions for better availability and easy upgrade / fallback			
16.		OEM should be listed among top 4 in IDC for ADC vendor as per last two years reports in India			
17.	<b>Warranty</b>	5 Years onsite comprehensive warranty including all other accessories related to smooth operation of Hardware Load Balancer from the date of successfully installation, commissioning, integration and final acceptance			

### (19) Scope of Work & Minimum Technical Specification of Deliver, Installation & Integration of Network Switching Devices

#### (A) Spine Switch – Qty : 4 Nos.

Make :

Model :

S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		The core/spine layer switches should have hardware level redundancy (1+1) in terms of control plane. Issues with any of the plane should not impact the functioning of the switch. All the switches should be from same OEM			
		The switch should not have any single point of failure like supervisor, switching fabric,			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		power supplies and fans			
		Switch should support in line hot insertion and removal of different parts like modules/power supplies/fan tray etc. This should not require rebooting of the switch or create disruption in the working/functionality of the switch			
		Switch should support the complete STACK of IP V4 and IP V6 services.			
		The proposed switches should be part of Gartner Leader Quadrant for DC Networking for last 3 years / The proposed OEM should be part of Gartner Quadrant for DC Networking for 3 years			
		All relevant licenses for all the features and scale should be quoted along with switch			
		Switch should have the following interfaces: Min of 36 non-blocking interfaces populated with multimode 40 or 100G Transceivers (as per design needs)			
		Chassis should be capable of supporting 400G from day1 without change in the base chassis components (sup, fabric, power supplies etc)			
		Switch should support Graceful Restart for OSPF, BGP etc. Should support uninterrupted forwarding operation to ensure high availability during primary controller failure			
		Switch should support minimum 1000 VRF instances with route leaking functionality			
		The switch should support minimum 300K IPv4 LPM routes			
		Switch should support a minimum of 28 Tbps BW			
		Spanning Tree Protocol (IEEE 802.1D, 802.1W, 802.1S)			
		Switch should support VLAN Trunking (802.1q)			
		Switch should support layer 2 extension over VXLAN across all Data Center to enable VM mobility & availability			
		Switch should support for Role Based access control (RBAC) for restricting host level network access as per policy defined			
		Shall have Data Centre Bridging (DCB)			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		protocols such as IEEE 802.1Qaz Data Centre Bridging Exchange (DCBX),LLDP etc. Switch should support layer 2 extension over VXLAN (RFC7348) across all Data Center to enable VM mobility & availability.			
	<b>Warranty</b>	5 Years onsite comprehensive warranty including all other accessories related to smooth operation of Spine Switch from the date of successfully installation, commissioning, integration and final acceptance			

### (B) Fiber Leaf Switch – Qty : 4 Nos.

**Make :**

**Model :**

S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
1.		The proposed switches should be part of Gartner Leader Quadrant for DC Networking for last 3 years / The proposed switches should be part of Gartner Quadrant for DC Networking for last 3 years			
2.		The Switch used have the capability to function in line rate for all ports with no oversubscription			
3.		Minimum 48 ports support 1/10/25 Gbps SFP ports for host connectivity and 6*100G ports for Fabric/Spine connectivity. The proposed switch should support native 25G and should be populated with 48*10G Multimode fiber Transceivers for downlink connectivity & 6*100G ports with multimode 100G Transceivers, for uplink connectivity .All the required transceivers should be from the same OEM as the switch			
4.		Switch should support minimum 1000 VRF instances with route leaking functionality			
5.		The switch should support 300k IPv4 LPM routes			
6.		Switch should support Network Virtualization using Virtual Over Lay Network using VXLAN			

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7.		Shall have Data Centre Bridging (DCB) protocols such as IEEE 802.1Qaz Data Centre Bridging Exchange (DCBX),LLDP etc. Switch should support layer 2 extension over VXLAN (RFC7348) across all Data Center to enable VM mobility & availability.			
8.	<b>Warranty</b>	5 Years onsite comprehensive warranty including all other accessories related to smooth operation of Fiber Leaf Switches from the date of successfully installation, commissioning, integration and final acceptance			

### ( C ) Cooper Leaf Switch – Qty : 4 Nos.

**Make :**

**Model :**

S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
1.		The proposed switches should be part of Gartner Leader Quadrant for DC Networking for last 3 years / The proposed switches should be part of Gartner Quadrant for DC Networking for last 3 years			
2.		The Switch used have the capability to function in line rate for all ports			
3.		Minimum 48 ports 1/10GBASE-T ports (for day 1) for host connectivity. Dual Power Supply from day 1.			
4.		Switch should re-converge all dynamic routing protocol at the time of routing update changes i.e. Graceful restart for fast re-convergence of routing protocols ( OSPF, IS-IS, BGP)			
5.		The switch should support 300k IPv4 LPM routes			
6.		Shall have Data Centre Bridging (DCB) protocols such as IEEE 802.1Qaz Data Centre Bridging Exchange (DCBX),LLDP etc. Switch should support layer 2 extension over VXLAN (RFC7348) across all Data Center to enable VM mobility & availability.			



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7.	<b>Warranty</b>	5 Years onsite comprehensive warranty including all other accessories related to smooth operation of Cooper Leaf Switches from the date of successfully installation, commissioning, integration and final acceptance			
<b>Tentative Bill of Materials for Delivery, Installation and implementation of Networking Devices with all related accessories. Additional components, if any, have to be covered with the bidder's own justification</b>					
S/N	<b>Item Description</b>				<b>Qty.</b>
1.	Spine Switch with Modules / transceivers				4 Nos.
2.	Fiber Leaf Switch with Modules / transceivers				4 Nos.
3.	Cooper Leaf Switch with Modules / transceivers				4 Nos.

### (20) Scope of Work & Minimum Technical Specification of Deliver, Installation & Integration of Hyper-Converged Infrastructure

**Qty : 1 Lot as per solution**

**Make :**

**Model /Part No. :**

S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
<b>A</b>	General	Proposed solution must be present in the Leader's Quadrant of latest released Gartner's Magic Quadrant for HCIS			
<b>B</b>	HCI Architecture				
1.		The proposed HCI software & hardware should be factory integrated by the OEM, License proposed should have flexibility to decouple the HCI software from hardware, in order to run HCI software on any certified hardware			
2.		Proposed solution must support at least One hypervisor listed in the latest Gartner's Magic Quadrant for x86 server Virtualization Infrastructure or any latest report.			
3.		The proposed HCI solution should be fully software defined and should not leverage any specialized (proprietary) hardware for providing data services such as de-duplication and compression			
4.		The proposed solution should independently scale storage and compute as and when needed without any downtime. HCI should support storage expansion without any virtualization license			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		implication for “only storage node” expansion.			
5.		The proposed solution must allow the mixing of different CPU families within a cluster, to allow for continual replacement of old hardware by “rolling forward” the cluster over time			
6.		The proposed solution must offer the ability to add nodes of different sizes, both in physical dimensions and in the quantity of RAM, Storage and Cores, to take account of the changing needs of the organization over time			
7.		The proposed HCI solution must support Data Compression, Deduplication & Erasure coding natively and licenses for this feature should be factored in the bill of material. If bidder wants to quote all flash to achieve the desired functionality, bidder can quote			
8.		The HCI storage must have integrated wizard to schedule snapshot for hourly / daily / weekly / monthly snapshot policies. Any additional software or license must be provided on day 1. If the proposed solution does not meet the above mentioned criteria then the proposed alternate solution to meet the requirement is allowed subject to the condition that the proposed solution should satisfy the reliability, availability, performance and scalability requirements mentioned in this specification.			
9.		The Solution should allow for taking clones of individual Virtual Machines for faster provisioning. Any additional software or license required must be provided on day 1.			
10.		The Solution should allow for taking snapshots of individual Virtual Machines to be able to revert back to an older state, if any additional software license is required, it must be provided on day 1.			
11.		Must support Instant space optimized point-in-time Snapshots. Should support unlimited snapshots			
12.		The proposed solution must support the automated rolling upgrades of hypervisor, storage software, and firmware with no VM or storage down time without requiring the VMs to be relocated to other cluster or storage platform to accomplish these non-			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		disruptive upgrades, all from a single GUI interface			
13.		The solution design should have features like zero data loss and near zero downtime in case of disk, host, network, rack and site failure.			
14.		No Single Point of Failure with complete redundancy at all levels. Nodes should be configured to have at least two copy of data available in cluster, in order to support data & cluster availability in event of One Node Failure			
15.		The solution should be able to work on latest x86 server hardware available from all the leading vendors in the industry and should not be restricted to a particular vendor/make/model			
16.		All servers in the HCI cluster must contribute Compute & Storage.			
17.		The proposed solution must offer native File Services, supporting NFS 3.0/4.0, with the ability to scale-out. This is required for any future requirement that may arise. if additional license needs to be factored for replication, factor the same from day-1			
18.		The proposed solution should able to configure Active Data stored on SSD and Non-Active Data should be stored on HDD (SAS, if provided)			
<b>C</b>	<b>Virtualization</b>				
1.		The proposed virtualization software shall provide a virtualization layer that sits directly on the bare metal server hardware with no dependence on a general purpose OS for greater reliability and security			
2.		The solution shall provide the ability to add Memory , storage disks and NICs (provided the same is supported by the guest operating system) without the need to reboot the workload			
3.		The solution shall provide a tool based physical/Virtual-to-virtual conversion to migrate existing physical workloads to the virtual platform with minimal disruption			
4.		The solution shall provide zero-downtime, zero-data loss continuous availability against physical host failures. This should be offered without any dependency on the guest operating system. The solution should also store a redundant copy of the data which is accessible immediately by			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		the Hypervisor and application.			
5.		The solution shall provide capabilities to limit I/O for virtual workloads to ensure that business critical VMs are not affected due to congestion by other VMs on the same host			
6.		The proposed solution's Hypervisor(s) must offer "Live VM Migration", "High Availability" and intelligent placement of workloads on nodes best suited to their execution.			
7.		Hypervisor shall provide automated live migration for initial placement and balancing of available resources with the rules to define affinity and / or anti-affinity of workloads			
<b>D.</b>	<b>Replication</b>				
1.		Proposed solution should support synchronous and asynchronous, local and remote replication to any x86 platforms as long as HCI SW is same.			
2.		The ability to carry simultaneous out bi-directional replication between two data centers.			
3.		The solution should provide orchestration layer to have automated disaster recovery. 1500 VMs licenses should be provided for covering all the VM's & any new VMs organization will deploy in future.			
4.		The ability to replicate bi-directional data center deployment of more than 2 DC's			
5.		The solution must allow changing of IP address of recovered Virtual Servers to match target datacenter.			
6.		The solution must allow the option to test DR failover to separate network with no impact to production workloads.			
7.		The solution should have feature to assist in failback process to Primary datacenter.			
8.		Replication & DR automation licenses to be included for 1500 VM's. There should not be any restriction in number of VM's that can be enabled for replication.			
<b>E</b>	<b>Security</b>				
1.		Proposed solution should have the feature of encrypting data-at-rest at SDS/Hard disk level, Third Party Key Management solution, if needed, should be provisioned from Day 1			
2.		The proposed solution must offer Micro			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		segmentation for VM-level security (at the vNIC).			
3.		The solution should provide a statefull distributed firewall such that the firewall for Virtual Machines can be provided closest to the application within the server itself without traffic going to a Physical Firewall			
<b>F</b>	<b>Management</b>				
1.		The proposed solution must be managed through an HTML5 web based console that provides a single pane of glass view for the entire environment			
2.		The solution should provide prebuilt & customizable operations dashboards & reports to provide real time insight into infrastructure behavior, upcoming problems & opportunities for efficiency improvements.			
3.		The solution should provide explanations, recommended solutions to performance, capacity & configuration problems. It should also associate workflows with alerts to automatically initiate corrective measures at critical thresholds.			
4.		The solution should provide capacity analytics which can identify over-provisioned resources so they can be right-sized for most efficient use of virtualized resources.			
5.		The solution shall provide assistance in troubleshooting and operational management in the virtualized environment.			
6.		Capacity Planning must be integrated into the proposed solution, showing both efficiency savings available to the deployed system (such as right-sizing workloads) and the predicted time remaining for RAM, CPU and Storage on the cluster (given “current” demand). Additionally, the planning should advise on what resources need to be added and allow administrators to model the behavior of the platform given additional (configurable) workloads			
<b>G</b>	<b>Cloud Management Platform</b>				
1.		The solution should have catalogue of private as well as public cloud services, and should support self-service provisioning capabilities not limited to only			

## WEBEL TECHNOLOGY LIMITED

S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		HCI based solution but also for legacy architecture on X86 platform.			
2.		The proposed solution should support application lifecycle management with automated orchestration across multiple hypervisor and cloud.			
3.		The solution should provide authentication, authorization and accounting (AAA) out of the box like VM Access rights, Edit Rights, Delete Rights etc.			
4.		The solution should provide ability to orchestrate third-party integrations via APIs to simplify the use of complementary IT service management tools and products			
5.		The solution should have Life Cycle Management Work flows: Provisioning			
6.		The Solution should have the capabilities for customization of dashboards			
7.		The solution should provide capability of generating reports for usage & performance			
8.		The proposed solution should have capability to create VPC (virtual private cloud) with capability to use same subnets/CIDR in different VPC's			
9.		The solution shall provide an orchestration engine with ready workflows and ability to create custom workflows based on SOAP, REST operations and PowerShell scripts			
<b>H</b>	<b>Nodes</b>	Proposed cluster should have minimum 34 Nodes			
<b>I</b>	<b>CPU per Node</b>	2 Nos. x86 20 Core processor with minimum 2.3 GHz clock speed			
<b>J</b>	<b>RAM per Node</b>	Minimum 768 DDR4 3200 MHz			
<b>K</b>	<b>Disks Per Node</b>	Proposed solution should be configured with min 2PB of Storage (All-Flash or 60% SSD/Flash and 40% SAS) after RF2/FTT2 and should tolerate 1 Node Failure, the proposed storage should have data savings features like compression, deduplication and erasure coding. Should have redundant Boot drives"			
<b>L</b>	<b>Network Ports per Node</b>	4 Nos. 25/10 Gbps with SFP+ 2 Nos. 10 Gbps BaseT 1 No. IPMI			
<b>M</b>	<b>Power Supply per node</b>	Redundant power supplies			
<b>N</b>	<b>Firmware Code and Patch</b>				

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
	<b>Management</b>				
1.		The solution should provide seamless upgrade for (but not limited to) Firmware, Hypervisor, Storage OS, SDS software, BIOS and other such functions which are required in the solution.			
2.		All patches for the complete hardware and software solution must come from a single validated source. It should be possible to apply and upgrade all software and Hardware related firmware and patches from the same GUI that is used to manage the HCI (It should not use the hardware management console for doing firmware upgrade of hardware)			
<b>O</b>	<b>Proactive Maintenance and Support</b>				
1.		Proposed Appliance should come with a single proactive incident reporting and alerting which covers both Hardware components and full Software stack.			
2.		Proactive Maintenance feature should automatically have the ability to alert all hardware and hypervisor related alerts to the 24 x 7 Call center of the DC.			
3.		Original Equipment manufacturer should have online 24 x 7 support for any hardware or software related issue			
4.		Proposed solution should have one window support solution for all the components including hardware, firmware and software used. The support should be from OEM.			
5.		HCI solution must have direct OEM, L1, L2 and L3 support, 24x7x365 days with unlimited incident support (Telephonic / Web / Email) and technical contacts / contract with 60 mins or less response time including the unlimited upgrades and updates during tender specific warranty period.			
<b>P</b>	<b>Warranty</b>	5 Years onsite comprehensive warranty including all other accessories, Licenses related to smooth proposed HCI infrastructure from the date of successfully installation, commissioning, integration and final acceptance			

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### (21) Scope of Work & Minimum Technical Specification of Deliver, Installation, Configuration & Integration of Backup Device and Backup Software

S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
1.	Category	Hardware backup Appliance			
2.	Type of Backup Hardware Appliance	Purpose Built Backup Appliance (PBBA)			
3.	Configured usable capacity of offered integrated PBBA	300TB			
4.	Brief Product Description	Disk Based Backup Appliance			
5.	Software Appliance Tool Version	latest version			
6.	PBBA FEATURES 1	1. The offered product to be configured with RAID 6 or equivalent along with 1 hot/cold spare disk per disk shelf. 2. The offered product to be supplied with all licenses of Software and Hardware for the offered capacity. 4. The offered product to supports backup of 32 bits and 64 bits operating systems, databases and applications 5. The offered product to be integrated backup appliance with backup software and storage 6. The offered product have a capability for manual/Automated Data Integrity check for backup data on device.			
7.	PBBA FEATURES 2	1. The offered product capable to support incremental policy for all kinds of backup (agent based file system and DB backup, image based backup). 2. Offered PBBA to be provided with all features/capabilities available within it. 3. Disk appliance to be offered with protection against data loss in power failure scenario and continuous automated file system check to ensure data integrity.			
8.	LAN/SAN Connection	Minimum 4 x 10Gig Ethernet ports along with optional 4x16Gbps (FC) ports (if required by the solution) with all required accessories			
9.	Client OS systems backup support needed	Windows, Linux, Unix			
10.	Graphical User Interface Features	1. The offered product to have web based Graphical User Interface (GUI) so that all backup can be managed centrally, regardless of location.			



## WEBEL TECHNOLOGY LIMITED

S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		2. GUI to be same across heterogeneous platform to ensure easy administration.			
11.	Recovery Features	The offered product have a capability to maintain a database for all backup jobs, policy jobs meta-data etc., and to have the capability of re-creating master system in case of disaster using this database.			
12.	De- Duplication Features	The offered products have a capability to support target based de-duplication along with source base de-duplication for improved backup window and lesser footprint.			
13.	Scheduling Features	1. Ability to configure automated backups for specific days and weeks within a month, while maintaining a simplified methodology for complex date scenarios., 2. The offered product to provide policy based system for backup scheduling i.e. clients with same data to be backed up may be added or removed from policy when required 3. The offered product to provide sets creation for backup selection, schedule, target backup device such that when this set is modified its impact to be visible to all jobs/policies using that particular set 4. The offered product to provide flexibility to backup data in multiple streams for lesser backup window.			
14.	Reporting Capabilities Features	1. Full job completion report:- Overview of the full backup jobs that are successful, partially successful and failed for each day 2. Full backup data volume report:- Overview of the total data volumes that are backed up for each day.			
15.	Image level backup Capability Features	1. To support image level backup on host/hypervisor level for multiple SIs like Hyper-V/Vmware/Acropolis etc. 2. To support source based deduplication while image level backup. 3. To support granular recovery from image level backup. 4. Software to provide instant recovery of image level backup.			
16.	Backup Software License	License as per perpetual with unlimited VMs backup			
17.	Replication Capability Features	Subsequent Replication to be transferred only difference data from previous successful replication. 2. Replication to provide the flexibility to			

## WEBEL TECHNOLOGY LIMITED

S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		transfer only dedup data. 3.To provide compression of data while replication.,4. The offered product to support bi-directional, many-to-one, one-to-many, and one-to-one replication. if additional license needs to be factored for replication, factor the same from day-1			
18.	Warranty	5 Years onsite comprehensive warranty including 5 years validity Backup License and all other accessories related to smooth Backup system from the date of successfully installation, commissioning, integration and final acceptance			

### (22) Scope of Work & Minimum Technical Specification of Deliver, Installation & Integration of Centralized Monitoring Software

**Qty : 1 Lot as per solutions**

**Make :**

**Model / Part / Version :**

S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
<b>A</b>	General				
1.		The proposed EMS solution should be an integrated, modular, and scalable solution from single OEM family (i.e., all Network Monitoring, server Monitoring including application, database monitoring and Service Management tools should be from single OEM) to provide comprehensive fault management, performance management, Traffic Analysis & SLA monitoring functionality.			
2.		The system should be accessible via a Web based GUI console/portal from intranet as well as from internet.			
3.		It should have a secured single sign-on and unified console for all functions of components offered for seamless cross-functional navigation & launch for single pane of glass visibility across multiple areas of monitoring & management.			
4.		The proposed EMS solution deployment must support latest version of Windows and Linux Operating Systems and should be 64-bit application to fully utilize the server resources on which it is installed.			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
5.		Any additional components (hardware, software, database, licenses, accessories, etc.) if required for implementation and execution of project, for providing the total solution as mentioned in the RFP document should be provided by the bidder.			
6.		The proposed EMS solution should be an integrated, modular, and scalable solution, accessible from a single pane of glass for KPI insights across the entire IT environment. This dashboard will provide service status, performance view, response-time data etc based on role-based access.			
7.		OEM of EMS solution provider should ISO 27034 certified from Global Leading Certified Agencies. Documentary proof must be provided at the time of submission.			
<b>B</b>	<b>Server, Database &amp; Application Fault, Performance Monitoring Management</b>				
1.		The proposed Enterprise Management tools must be able to monitor end to end performance of Server Operating Systems & Databases and Should be able to manage distributed, heterogeneous Systems – Windows, UNIX & LINUX from a single management station.			
2.		There should be a single agent on the managed node that provides the system performance data, and for event management it should be able to prioritize events, do correlation & duplicate suppression ability to buffer alarms and provide automatic actions with capability to add necessary annotations.			
3.		The system must support multiple built in discovery mechanisms for e.g., Active Directory, Windows Browser, DNS with capability to discover and services discovery.			
4.		Each operator should be provided with user roles that should include operational service views enabling operators to quickly determine impact and root cause associated with events.			
5.		Solution should provide alarm correlation and facilitate reduction of total number of alarms displayed by means of intelligent			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		alarm correlation, suppression and root cause analysis techniques built into the system. The system must ensure reduction in MTTR by means of advanced event correlation, filtering, and root cause analysis.			
6.		The proposed solution should provide out of the box root cause analysis with multiple root cause algorithms inbuilt for root cause analysis.			
7.		Alarms should be mapped to the live topology views and real time updates to topology based on alarm occurrences.			
<b>C</b>	<b>Network Management System (NMS)</b>				
1.		The Network Management function must monitor performance across heterogeneous networks from one end of the enterprise to the other.			
2.		The solution should allow for discovery to be run on a continuous basis which tracks dynamic changes near real-time; to keep the topology always up to date. This discovery should run at a low overhead, incrementally discovering devices and interfaces.			
3.		NMS should provide integrated fault, performance Monitoring, Configuration & compliance Management together in one tool.			
4.		NMS should support Industry-leading support for physical, virtual, and SDN-enabled devices like Cisco ACI, VMWare NSX, Viptela, Big Switch Networks, etc.			
5.		NMS should provide network Trap Analytics out of the box.			
6.		NMS should support out of the box monitoring of at least 5000+ devices			
7.		NMS should support 3-Dimensional Compliance Model - Configuration, Software, Running State.			
8.		The tool should automatically discover different type of heterogeneous devices (all SNMP supported devices i.e., Router, Switches, Servers etc.) and map the connectivity between them with granular visibility up to individual ports level. The tool shall be able to assign different icons/symbols to different type of discovered elements. It should show live interface			

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S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
		connections between discovered network devices.			
9.		The tool shall be able to discover IPv4 only, IPv6 only as well as devices in dual stack. In case of dual stack devices, the system shall be able to discover and show both IPv4 and IPv6 IP addresses.			
10.		The tool shall be able to work on SNMP V-1, V-2c & V-3 based on the SNMP version supported by the device. It shall provide an option to discover and manage the devices/elements based on SNMP as well as ICMP.			
<b>D</b>	<b>Network Configuration Automation</b>	The system should be able to clearly identify configuration changes / policy violations / inventory changes across multi-vendor network tool.			
1.		The system should support secure device configuration capture and upload and thereby detect inconsistent “running” and “start-up” configurations and alert the administrators.			
2.		The proposed system should be able to administer configuration changes to network elements by providing toolkits to automate the following administrative tasks of effecting configuration changes to network elements: a) Capture running configuration b) Capture startup configuration c) Upload configuration; d) Write start-up configuration; e) Upload firmware			
<b>E</b>	<b>Network Traffic Flow Analysis System</b>				
1.		It shall be able to capture, track & analyse traffic flowing over the network via different industry standard traffic capturing methodologies viz. NetFlow, jflow, sFlow, IPFIX etc.			
2.		It shall provide key performance monitoring capabilities by giving detailed insight into the application traffic flowing over the network.			
3.		It shall collect the real-time network flow data from devices across the network and provide reports on traffic based on standard TCP/IP packet metrics such as Flow Rate, Utilization, Byte Count, Flow Count, TOS fields etc.			
<b>F</b>	<b>Reporting</b>				

## WEBEL TECHNOLOGY LIMITED

S/N	Component / Performance / Utility	Minimum Specification	Specification (Quoted / Applicable – by the bidder)	Compliance (Yes/ No)	Remarks
1.		Reporting solution should be able to report on Service Level status of configured business service.			
2.		Solution should be able to collect Key performance measurements and statistics from all network domains and store it. This data is to be used for evaluation of performance of the end-to-end network infrastructure/services.			
3.		The performance management system shall be able to collect and report data like: a) Packet delay and packet loss b) User bandwidth usage rate c) Network availability rate d) CPU usage rate e) Input/output traffic through physical ports f) Input/output traffic through logical ports			
<b>G</b>	<b>License</b>	Bidder should calculate license as per proposed Infrastructure required as per RFP			
<b>H</b>	<b>Warranty</b>	5 Years onsite warranty support including all other accessories related to smooth operation of EMS and NMS Software from the date of successfully installation, commissioning, integration and final acceptance			

### (23) Scope of Work / Service for providing Operation & Maintenance Support Service

S/N	Type of Service	Scope of Work / Service	No. of Resources / Working Experience / Minimum Qualification	Compliance (Yes/ No)	Remarks
1.	Facility Manager	<ul style="list-style-type: none"> <li>● Co-ordinate and review with user department/vendors/ OEM's</li> <li>● Consultant with respective authority for change management of system architecture</li> <li>● Co-ordination with Network Service Provider</li> <li>● Knowledge transfer with all O&amp;M team members for project update</li> <li>● Preparation &amp; analysis of various daily, weekly and monthly report generate from Server health, Network &amp; other devices as an when requirement</li> <li>● Co-ordinate with WTL-WBSDC team for smooth operation of DR setup</li> </ul>	01 / 7 years working experience in FMS/O&M team / B.E/MCA/Diploma Eng		

## WEBEL TECHNOLOGY LIMITED

S/N	Type of Service	Scope of Work / Service	No. of Resources / Working Experience / Minimum Qualification	Compliance (Yes/ No)	Remarks
		<ul style="list-style-type: none"> <li>● Co-ordinate with WTL-WBSDC authority for various activities related to project.</li> <li>● Co-ordinate with existing DCO of WBSDC-DC database replication</li> <li>● <b>Any other O&amp;M support related job</b></li> </ul>			
2.	<b>System Admin Support Service</b>	<ul style="list-style-type: none"> <li>● Monitoring all IT Infra through management console and other monitoring tools /script in daily basis.</li> <li>● Servers Operating system installation, re-installation, configuration, re-configuration, update the patch, additional software installation along with configuration, performance tuning and periodic updates.</li> <li>● Diagnosis of Hardware and Operating system related issues and immediate reporting to FM with a resolution / work around.</li> <li>● Implementation, configuration &amp; Monitoring of SMS, NTP, DNS Server</li> <li>● Periodic Password change for all server and devices as per the policy.</li> <li>● Call logging and coordinate with concerned hardware OEM for any hardware faults until the faulty hardware is replaced /repaired and proper functioning.</li> <li>● Installation, Re-installation, configuration &amp; tuning of Backup Software.</li> <li>● Checking and configuration of OS level Firewall as per requirement.</li> <li>● Co-ordinate with OS &amp; Backup Software OEM for resolution.</li> <li>● Configuration of LUN/Partitions/RAID on HCI Infra</li> <li>● Monitoring of HCI performance</li> <li>● Preparation of weekly report for IT Infra</li> <li>● Other System Admin related job.</li> </ul>	03 / 3 years working experience in Datacenter with the relevant OS, Storage & Backup / B.E/MCA/Diploma Eng		
3.	<b>Network &amp; Security Admin Service</b>	<ul style="list-style-type: none"> <li>● Preparation of Installation plan, Installation, re-installation of Network devices installed at DR Site.</li> <li>● Configuration &amp; Monitoring the Network system installed at DR Site.</li> <li>● Call logging &amp; coordinate with OEM &amp; Vendor for replacement of faulty Network device or any other related issues.</li> <li>● Co-ordinate with DCO-WBSDC for any network related issue</li> <li>● Implementation &amp; maintain of VLAN &amp; other network configuration as per project requirement.</li> </ul>	03/ 3 years working experience in LAN & WAN with the relevant switches, routers, network security and certificate on relevant Network / B.E/MCA/Diploma Eng/B.Sc		

## WEBEL TECHNOLOGY LIMITED

S/N	Type of Service	Scope of Work / Service	No. of Resources / Working Experience / Minimum Qualification	Compliance (Yes/ No)	Remarks
		<ul style="list-style-type: none"> <li>● Prepare and maintain the Asset list of Network infrastructure installed at DR Site</li> <li>● Any other Network related job.</li> </ul>			
4.	BMS Admin Service	<ul style="list-style-type: none"> <li>● Re-Installation, Re-configuration &amp; Monitoring the Non-IT Infrastructure installed at DR Site.</li> <li>● Call logging &amp; coordinate with OEM &amp; Vendor for replacement of faulty Non-IT device or any other related issues.</li> <li>● Prepare and maintain the Asset list of Non-IT Infrastructure installed at DR Site</li> <li>● Any other BMS Service related job.</li> </ul>	02/ 3 years working experience in Data Center / B.E/MCA/Diploma Eng/B.Sc		
5.	Security Personnel	<ul style="list-style-type: none"> <li>● Providing 24x7x 365 physical security for entire Data Center area at Purulia</li> </ul>	04 / 3 years working experience in relevant filed		
6.	Housekeeping	<ul style="list-style-type: none"> <li>● Providing housekeeping service for entire Data Center area at Purulia</li> </ul>	02 / 3 years working experience in relevant filed		
5.	<b>Tenure of O&amp;M Support</b>	5 Years O&M Support Service will start from the date of successfully installation, commissioning, integration and final acceptance of DR site.			

**Note: One resource can continue 22 days in a month. This is the tentative service asked in this tender, for smooth running of Data Center and maintaining of SLA bidder should provide support service through technical resources. No cost will be charged during the period.**



## **WEBEL TECHNOLOGY LIMITED**

# **WEBEL TECHNOLOGY LIMITED**

## **SECTION – K**

### **MANUFACTURER AUTHORIZATION FORM**

Date:

**To**  
**Webel Technology limited**  
**Plot-5, Block-BP, Sector-V**  
**Salt Lake**  
**Kolkata-700 091**

Ref: Tender No.: WTL/WBSDC/DR/22-23/012 dated 05.07.2022

WHEREAS \_\_\_\_\_ who are official producers of  
\_\_\_\_\_ and having production facilities at  
\_\_\_\_\_ do hereby authorize  
\_\_\_\_\_ located at  
\_\_\_\_\_ (hereinafter, the "Bidder") to submit a bid of the  
following Products produced by us, for the Supply Requirements associated with the above Invitation for  
Bids.

When resold by \_\_\_\_\_, these products are subject to our applicable end user  
warranty terms.

We assure you that in the event of \_\_\_\_\_, not being able to fulfill its obligation as our  
Service Provider in respect of our Warranty Terms we would continue to meet our Warranty Terms through  
alternate arrangements.

We also confirm that \_\_\_\_\_ is our authorized service provider/system integrator  
and can hence provide maintenance and upgrade support for our products.

We also confirm that the products quoted are on our current product list and are not likely to be  
discontinued within 5 years from the day of this letter. We assure availability of spares for the products for  
the next three years after five years warranty.

We also confirm that the material will be delivered as per delivery schedule against above mentioned  
tender from the date of placement of confirmed order.

Name \_\_\_\_\_ In the capacity of \_\_\_\_\_

Signed \_\_\_\_\_

Duly authorized to sign the authorization for and on behalf of \_\_\_\_\_

Dated on \_\_\_\_\_ day of \_\_\_\_\_ 2022

## WEBEL TECHNOLOGY LIMITED

**Note:** This letter of authority must be on the letterhead of the Manufacturer and duly signed by an authorized signatory.

### SECTION – I

#### DETAILS OF ORDERS EXECUTED BY BIDDER

(Tender No. WTL/WBSDC/DR/22-23/012)

Sl. No.	Order No.	Order Date	Order Value	Brief description of items and job details	Completed (Yes/No)	Name of the Customer	Contact details of the Customer

Authorized Signatory (Signature In full): \_\_\_\_\_

Name and title of Signatory: \_\_\_\_\_

Stamp of the Company: \_\_\_\_\_

#### **Note:**

- A. Type of Project shall indicate the implementation of services (Delivery & Installation of Network Security Device).
- B. Scope of work shall indicate whether it is implementation, Operation or maintenance.
- C. Submit Customer Order Copy details of the order indicating the project value, customer contact details.

# **WEBEL TECHNOLOGY LIMITED**

## **SECTION – M**

### **FINANCIAL CAPABILITY OF BIDDER**

(Tender No. WTL/WBSDC/DR/22-23/012)

#### **FINANCIAL INFORMATION**

Sl. No.	Name of the Bidder	Turnover (Rs. / Crore)						
		2014-15	2015-16	2016-17	2017-19	2018-19	2019-20	2020-21
1								

Authorized Signatory (Signature In full): \_\_\_\_\_

Name and title of Signatory: \_\_\_\_\_

Stamp of the Company: \_\_\_\_\_

**Note:**

Submit the audited financial statement/ audited annual report of the last three financial years.

# **WEBEL TECHNOLOGY LIMITED**

## **SECTION – N**

### **BIDDERS'S DETAILS**

(Tender No. WTL/WBSDC/DR/22-23/012)

	Name of the Firm	
2	Registered Office Address	
	Contact Number	
	Fax Number	
	E-mail	
3	Correspondence / Contact address	
	Name & Designation of Contact person	
	Address	
	Contact Number	
	Fax Number	
	E-mail	
4	Is the firm a registered company? If yes, submit documentary proof	
	Year and Place of the establishment of the company	
6	Former name of the company, if any	
7	<p>Is the firm</p> <ul style="list-style-type: none"> <li>▪ a Government/ Public Sector Undertaking</li> <li>▪ a propriety firms</li> <li>▪ a partnership firm (if yes, give partnership deed)</li> <li>▪ a limited company or limited corporation</li> <li>▪ a member of a group of companies, (if yes, give</li> <li>▪ name and address and description of other companies)</li> <li>▪ a subsidiary of a large corporation (if yes give the name and address of the parent organization). If the company is subsidiary, state what involvement if any, will the parent company have in the project.</li> </ul>	
8	Is the firm registered with Sales Tax department? If yes, submit valid GST Registration certificate.	
9	Total number of employees. Attach the organizational chart showing the structure of the organization.	
10	Are you registered with any Government/ Department/ Public Sector Undertaking (if yes, give details)	
11	How many years has your organization been in business under your present name? What were your fields when you established your organization	
12	<p>What type best describes your firm? (Purchaser reserves the right to verify the claims if necessary)</p> <ul style="list-style-type: none"> <li>▪ Manufacturer</li> </ul>	

## **WEBEL TECHNOLOGY LIMITED**

	<ul style="list-style-type: none"> <li>▪ Supplier</li> <li>▪ System Integrator</li> <li>▪ Consultant</li> <li>▪ Service Provider (Pl. specify details)</li> <li>▪ Software Development</li> <li>▪ Total Solution provider (Design, Supply, Integration, O&amp;M)</li> <li>▪ IT Company</li> </ul>	
13	Number of Offices in district headquarters in West Bengal, if any	
14	Is your organization having ISO 9001:2015 certificates?	
15	List the major clients with whom your organization has been / is currently associated.	
16	Have you in any capacity not completed any work awarded to you? (If so, give the name of project and reason for not completing the work)	
17	Have you ever been denied tendering facilities by any Government / Department / Public sector Undertaking? (Give details)	

Authorized Signatory (Signature In full): \_\_\_\_\_

Name and title of Signatory: \_\_\_\_\_

Company Rubber Stamp: \_\_\_\_\_

# **WEBEL TECHNOLOGY LIMITED**

## **SECTION – O**

### **FORMAT FOR PRE-BID MEETING QUERY**

(Tender No. WTL/WBSDC/DR/22-23/012)

Name of the Bidder:

Queries

<b>Sl. No.</b>	<b>Section No.</b>	<b>Clause No.</b>	<b>Page No.</b>	<b>Queries</b>

**Note:** The filled form to be submitted in XLS & PDF Format. There is a cutoff date for receiving of queries before Pre Bid Meeting. Queries received after the cutoff period will not be accepted. The Purchaser reserves the right to respond all queries over e-mail.

Authorized Signatory (Signature In full): \_\_\_\_\_

Name and title of Signatory: \_\_\_\_\_

Company Rubber Stamp: \_\_\_\_\_

# WEBEL TECHNOLOGY LIMITED

## SECTION – P

### LIST OF CLIENTS OF SIMILAR ORDERS

(Tender No. WTL/WBSDC/DR/22-23/012)

Sl. No.	Name of the Client	Address	Contact Person	Designation	Contact Numbers

Authorized Signatory (Signature In full): \_\_\_\_\_

Name and title of Signatory: \_\_\_\_\_

Company Rubber Stamp: \_\_\_\_\_



# WEBEL TECHNOLOGY LIMITED

## SECTION – Q

### FORMAT FOR BID SECURITY (BANK GUARANTEE)

Bank Guarantee No.....

Date.....

WHEREAS,.....(name & address) (hereinafter called "the Applicant") has submitted his Bid dated \_\_\_\_\_ [date] or will submit his Bid for execution of \_\_\_\_\_ [name of Contract] (hereinafter called "the Bid") under Request for Bids No..... [insert number] (hereinafter called "the RFB")

KNOW ALL PEOPLE by these presents that We \_\_\_\_\_ [name of bank] of \_\_\_\_\_ [name of country] having our registered office at \_\_\_\_\_ (hereinafter called "the Bank") are bound unto \_\_\_\_\_ [name of Employer] (hereinafter called "the Employer") in the sum of \_\_\_\_\_ for which payment will and truly to be made to the said Employer the Bank binds itself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_.

THE CONDITIONS of this obligation are:

(1) If after Bid opening the Applicant (a) withdraws his bid during the period of Bid validity specified in the Letter of Bid, ("the Bid Validity Period"); or (b) does not accept the correction of the Bid Price

or

(2) If the Applicant having been notified of the acceptance of his bid by the Employer during the period of Bid validity:

(a) fails or refuses to execute the Contract Agreement in accordance with the Instructions to Bidders, if required; or

(b) fails or refuses to furnish the Performance Security, in accordance with the Instruction to Bidders.

we undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him owing to the occurrence of one or any of the four conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date \_\_\_\_\_ 30 days after the deadline for submission of Bids as such deadline is stated in the Instructions to Bidders or as it may be extended by the Employer, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this guarantee should reach the Bank not later than the above date.

DATE \_\_\_\_\_ SIGNATURE OF THE BANK \_\_\_\_\_

WITNESS \_\_\_\_\_ SEAL \_\_\_\_\_

## **WEBEL TECHNOLOGY LIMITED**

[signature, name, and address]

## **WEBEL TECHNOLOGY LIMITED**

### **INSTRUCTIONS FOR FURNISHING BANK GUARANTEE**

1. Bank Guarantee (B.G.) for Advance payment, Mobilization Advance, B.G. for security Deposit-cum-Performance Guarantee, Earnest Money should be executed on the Non- Judicial Stamp paper of the applicable value and to be purchased in the name of the Bank.
2. The Executor (Bank authorities) may mention the Power of Attorney No. and date of execution in his/her favour with authorization to sign the documents. The Power of Attorney is to be witnessed by two persons mentioning their full name and address.
3. The B.G. should be executed by a Nationalised Bank/ Scheduled Commercial Bank preferably on a branch located in Kolkata. B.G. from Co-operative Bank / Rural Banks is not acceptable.
4. A Confirmation Letter of the concerned Bank must be furnished as a proof of genuineness of the Guarantee issued by them.
5. Any B.G. if executed on Non-Judicial Stamp paper after 6 (six) months of the purchase of such stamp shall be treated as Non-valid.
6. Each page of the B.G. must bear signature and seal of the Bank and B.G. Number.
7. The content of the B.G. shall be strictly as Proforma prescribed by WTL in line with Purchase Order /LOI/ Work Order etc. and must contain all factual details.
8. Any correction, deletion etc. in the B.G. should be authenticated by the Bank Officials signing the B.G.
9. In case of extension of a Contract the validity of the B.G. must be extended accordingly.
10. B.G. must be furnished within the stipulated period as mentioned in Purchase Order / LOI / Work Order etc.
11. Issuing Bank / The Bidder are requested to mention the Purchase Order / Contract / Work Order reference along with the B.G. No. For making any future queries to WTL.

# WEBEL TECHNOLOGY LIMITED

## SECTION – R

### PROFORMA FOR PERFORMANCE BANK GUARANTEE

(On non-judicial stamp paper of appropriate value to be purchased in the name of executing Bank)

#### PROFORMA OF BANK GUARANTEE FOR SECURITY DEPOSIT –CUM-PRFORMANCE GUARANTEE

Ref ..... Bank Guarantee no.....

Date.....

#### PROFORMA OF BG FOR SECURITY DEPOSIT

KNOW ALL MEN BY THESE PRESENTS that in consideration of WEBEL TECHNOLOGY LIMITED, a Government of West Bengal Undertaking incorporated under the Companies Act, 1956 having its Registered office at Webel Bhavan, Block EP&GP, Sector V, Kolkata-700 091 (hereinafter called "The Purchaser") having agreed to accept from \_\_\_\_\_ (hereinafter called "The Contractor") Having its Head Office at \_\_\_\_\_, a Bank guarantee for Rs. \_\_\_\_\_ in lieu of Cash Security Deposit for the due fulfillment by the Contractor of the terms & conditions of the Work Order No. \_\_\_\_\_ dated \_\_\_\_\_ issued by the Purchaser for \_\_\_\_\_ (hereinafter called "the said work order \_\_\_\_\_ dated \_\_\_\_\_"). We \_\_\_\_\_ (Name & detailed address of the branch) (hereinafter called "the Guarantor") do hereby undertake to indemnify and keep indemnified the Purchaser to the extent of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_) only against any loss or damage caused to or suffered by the Purchaser by reason of any breach by the Contractor of any of the terms and conditions contained in the said Work Order No. \_\_\_\_\_ dated \_\_\_\_\_ of which breach the opinion of the Purchaser shall be final and conclusive.

(2) AND WE, \_\_\_\_\_ DO HEREBY Guarantee and undertake to pay forthwith on demand to the Purchaser such sum not exceeding the said sum of \_\_\_\_\_ Rupees \_\_\_\_\_) only as may be specified in such demand, in the event of the Contractor failing or neglecting to execute fully efficiently and satisfactorily the order for \_\_\_\_\_ Work Order no. \_\_\_\_\_, dated \_\_\_\_\_

(3) WE \_\_\_\_\_ further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said order as laid down in the said Work Order No. \_\_\_\_\_ dated \_\_\_\_\_ including the warranty obligations and that it shall continue to be enforceable till all the dues of the Purchaser under or by virtue of the said Work Order No. \_\_\_\_\_ dated \_\_\_\_\_ have been fully paid and its claims satisfied or is charged or till the Purchaser or its authorized representative certified that the terms and conditions of the said Work Order No. \_\_\_\_\_ dated \_\_\_\_\_ have been fully and properly carried out by the said contractor and accordingly discharged the guarantee.

(4) We \_\_\_\_\_ the Guarantor undertake to extend the validity of Bank Guarantee at the request of the contractor for further period of periods from time to time beyond its present validity period failing which we shall pay the Purchaser the amount of Guarantee.

(5) The liability under the Guarantee is restricted to Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_) only and will expire on \_\_\_\_\_ and unless a claim in writing is presented to us or an action or suit to enforce the claim is filed against us within 6 months from \_\_\_\_\_ all your rights will be forfeited and we shall be relieved of and discharged from all our liabilities (thereinafter)

(6) The Guarantee herein contained shall not be determined or affected by liquidation or winding up or insolvency or closer of the Contractor.

## **WEBEL TECHNOLOGY LIMITED**

(7) The executants has the power to issue this guarantee on behalf of Guarantor and holds full and valid power of Attorney granted in his favour by the Guarantor authorizing him to execute the Guarantee.

(8) Notwithstanding anything contained herein above, our liability under this guarantee is restricted to Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_) only and our guarantee shall remain in force up to \_\_\_\_\_ and unless a demand or claim under the guarantee is made on us in writing on or before \_\_\_\_\_ all your rights under the guarantee shall be forfeited and we shall be relieved and discharged from all liabilities there under.

WE, \_\_\_\_\_ lastly undertake not to revoke this guarantee during the currency except with the previous consent of the Purchaser in writing. In witness whereof we \_\_\_\_\_ have set and subscribed our hand on this \_\_\_\_\_ day of \_\_\_\_\_.

SIGNED, SEALED AND DELIVERED

\_\_\_\_\_  
(Stamp of the executants)

WITNESS

1) \_\_\_\_\_

2) \_\_\_\_\_

(Name & address in full with Rubber Stamp)

### **INSTRUCTIONS FOR FURNISHING BANK GUARANTEE**

12. Bank Guarantee (B.G.) for Advance payment, Mobilization Advance, B.G. for security Deposit-cum-Performance Guarantee, Earnest Money should be executed on the Non- Judicial Stamp paper of the applicable value and to be purchased in the name of the Bank.
13. The Executor (Bank authorities) may mention the Power of Attorney No. and date of execution in his/her favour with authorization to sign the documents. The Power of Attorney is to be witnessed by two persons mentioning their full name and address.
14. The B.G. should be executed by a Nationalised Bank/ Scheduled Commercial Bank preferably on a branch located in Kolkata. B.G. from Co-operative Bank / Rural Banks is not acceptable.
15. A Confirmation Letter of the concerned Bank must be furnished as a proof of genuineness of the Guarantee issued by them.
16. Any B.G. if executed on Non-Judicial Stamp paper after 6 (six) months of the purchase of such stamp shall be treated as Non-valid.
17. Each page of the B.G. must bear signature and seal of the Bank and B.G. Number.
18. The content of the B.G. shall be strictly as Proforma prescribed by WTL in line with Purchase Order /LOI/ Work Order etc. and must contain all factual details.
19. Any correction, deletion etc. in the B.G. should be authenticated by the Bank Officials signing the B.G.
20. In case of extension of a Contract the validity of the B.G. must be extended accordingly.
21. B.G. must be furnished within the stipulated period as mentioned in Purchase Order / LOI / Work Order etc.
22. Issuing Bank / The Bidder are requested to mention the Purchase Order / Contract / Work Order reference along with the B.G. No. For making any future queries to WTL.

# **WEBEL TECHNOLOGY LIMITED**

## **SECTION – S**

### **NIT DECLARATION**

(Bidders are requested to furnish the Format given in this section, filling the entire Blank and to be submitted on Bidder's Letter Head)

To  
**Webel Technology Limited**  
**Plot – 5, Block – BP, Sector - V,**  
**Salt Lake City,**  
**Kolkata – 700091.**

**Sub: Selection of System Integrator for setting up Data Centre cum DR facility at Purulia, West Bengal.**

Dear Sir,

We the undersigned bidder/(s) declare that we have read and examined in details the specifications and other documents of the subject Tender No. WTL/WBSDC/DR/22-23/012 dated 05.07.2022 for Selection of System Integrator for setting up Data Centre cum DR facility at Purulia, West Bengal, West Bengal, published by Webel Technology Limited in e-Tender website.

We further declare that we have agreed and accepted all the clauses / sub-clauses / formats / terms & conditions other requirements related to the said tender and we will abide by the same as mentioned in the tender document while participating and executing the said tender.

Thanking you, we remain

Yours faithfully

.....  
Signature

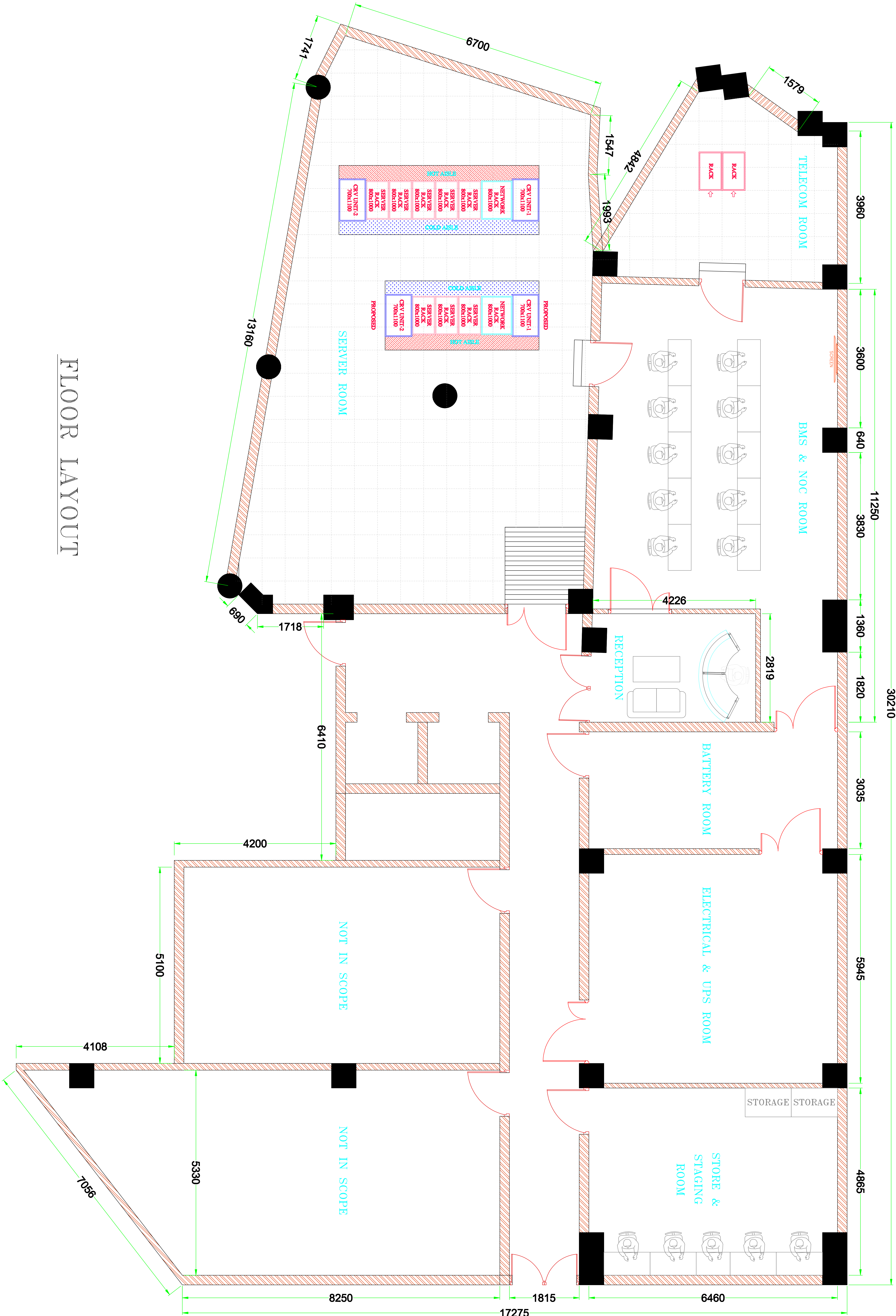
.....  
Name in full

.....  
Designation

.....  
Company Stamp

Dated, this .....day of .....2022

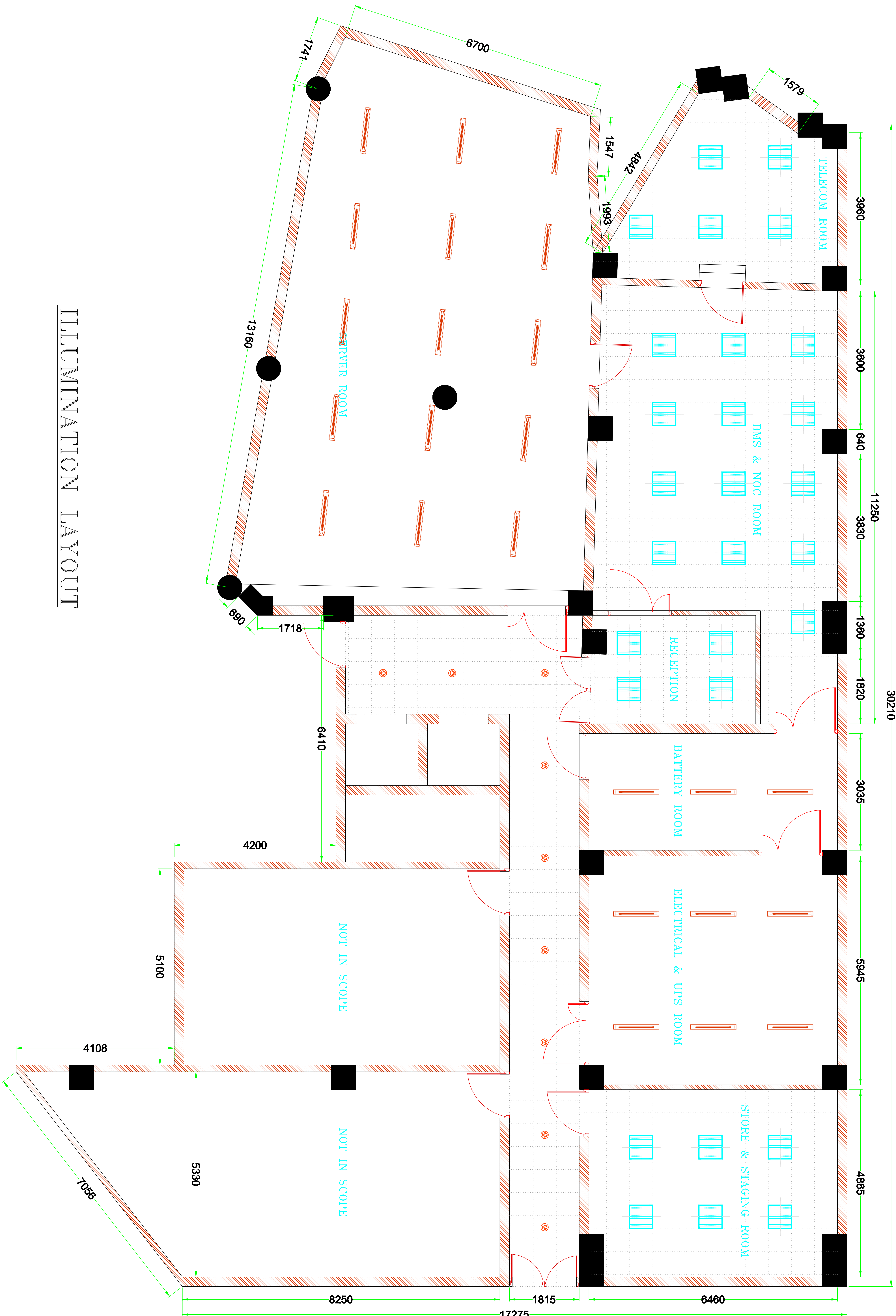
## **WEBEL TECHNOLOGY LIMITED**



FLOOR LAYOUT

REVISION						PROJECT				
REV. NO.	DESCRIPTION	DRAWN	DATE	CHKD.	APPRD.	Client:  <div>Webel Technology Ltd</div>  TITLE  FLOOR LAYOUT				
						DRAWING NO.				
						SI/DR/ILLUMINATION LAYOUT				
						DESIGN	DATE	CHKD.	APP.	
						REVISION NO.	SCALE	SHEET NO	SHEET SIZE	
	1	1:35	1 OF 1	A0						





ILLUMINATION LAYOUT

REVISION						PROJECT	Client:	DRAWING NO.
REV. NO.	DESCRIPTION	DRAWN	DATE	CHKD.	APPRD.			
Setting up DR Site at Purulia, West Bengal						TITLE	Webel Technology Ltd	SI/DR/ILLUMINATION LAYOUTT
ILLUMINATION LAYOUT								
REVISION NO.		SCALE		SHEET NO		SHEET SIZE		
1		1:35		1 OF 1		A0		