Annexure I- Schedule of Requirement

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1 Overview

1.1 Structure of Document

This document is divided into following three parts

    a) Part I: Schedule of Requirements – This part provides the Schedule of Requirements related to the Data Center Space and Facilities.

    b) Part II: Technical Specifications & Minimum Requirement– the Technical Requirements for establishing the Data Center are stipulated in the respective sub-section.

1.2 Data Centre Work/Sub-Work Packages

    a. DCSP shall operate & maintain the complete data Centre physical infrastructure (Non-IT) and its support facility for following Work Packages and also include all the statuary approvals as applicable.

Sr. No.	Work/Sub-Work Package Component Description
1	**Electrical System work package**
2	**HVAC system work package**
3	**Networking – LAN work package**
4	**Management System – Safety & Security work package**
a	**Safety Systems**
a.1	Analog Addressable Fire Alarm System
a.2	Hand Held Extinguishers
a.3	Aspirating Smoke Detection System
a.4	Gas based fire suppression system
b	**Security Systems**
b.1	Smart Card based Access Control System
b.2	CCTV Surveillance system
b.3	Water Leak Detection
b.4	Rodent Repellent and Public Address system
c	**Intelligent Building Management System**
d	**Help Desk Support System**
5	**Civil & Interior Work Package**
6	**Other Miscellaneous Component**
	Others Miscellaneous equipments which is required as per overall design,schedule of requirement, scope of work ,specifications, etc.

    b. DCSP shall provide all items that are required to make the equipment-set/system operational whether specifically mentioned or not. The equipment-set/system and associated materials shall be in accordance with the intent or purpose of the guidelines & specifications and shall be considered to be in the scope of work of the contract to be furnished without any extra charge.

c. The solution offered by DCSP shall be complete to meet the intent of specification, guidelines, schedule of requirement and cover all the interfacing equipments/components irrespective the same is listed explicitly or not. Any omission later identified shall be provided by DCSP without any additional cost to UDIAI.

d. The above list shall be enhanced by DCSP to make the solution more effective and to include essential components as felt necessary by DCSP.

1.3 Minimum Data Centre Space and sizing requirement

Data Centre Space Requirement					
S. N.	Location	Description	Unit	Required Area (sq.ft)- Indicative	Data Center ready space proposed by Bidder in line with Annexure -1 requirement (Bidder to Specify)
1	Total Data Center Space/IT Production Area (Indoor Carpet Area)	a. IT Rack b. CRAC units C. PDUs	sq. ft	3,000	
2	Support Area (Indoor Carpet Area)	Total Area	sq. ft	2,100	
		a. Office Area - 15 seats	sq. ft	600	
		b. Staging Room	sq. ft	150	
		d. Communication Room	sq. ft	600	
		e. Secured Storage Room	sq. ft	450	
		f. Media Storage Room	sq. ft	300	

Minimum Rack Requirement				
S. N.	IT Load (rated load)	Location	Rack Qty (No's) Indicative	Rack quantity and Rack Density proposed (Bidder to specify)
A				
1	6.5 kW/Rack (a) Medium Density	Data Centre Space/ IT Production Area	76	
2	13.5 kW/ Rack (b) High Density	Data Centre Space/ IT Production Area	20	
	Total-A		96	
B				
1	4.5kW/ Rack	Staging Room	3	
2	4.5kW/Rack	Communication Room	10	
	Total-B		13	
	Total A+B		109	

a) System shall be designed as per specified IT load (rated load) kW capacity and each bus power distribution for IT rack shall be capable of delivering continuous 100% IT load as per respective stipulated IT load (rated load) per rack. There shall be dual bus power distribution upto IT Racks from two separate UPS Sources.

b) Bidder should optimize the layout to accommodate maximum number of racks and Floor utilisation factor (Total Data Centre Space/Total IT Racks) should not be more than 31.25 sq ft/Rack and in the event if the floor utilisation factor goes beyond 31.25 sq ft/Rack, the DCSP shall provide additional space to accommodate all the above mentioned Rack in the table above at no additional cost to any account to UIDAI.

c) There should be separate data centre room and separate room for support areas such as communication room, staging room, office area, secured storage room and media storage room.

d) Total required space is indicative as mentioned above and UIDAI at its discretion will decide the total space requirement at the time of contract finalization.

e) Facilitate and coordinate with the Manage Service Providers(MSP) for smooth deployment of IT infrastructure during transition, seamless migration & transformation of CIDR System & Operations from Data Centre Service Provider (DCSP) facility to UIDAI's own upcoming Captive Data Centre Facility in Manesar and Bengaluru

2   Part I: Schedule of Requirements

2.1   Data Center Space

a. The DC space shall be in ready condition or made ready in all respect for installing IT hardware, equipment etc within a period as stipulated in the project schedule below. Subsequently, UIDAI would commence equipment installation related activities.

  (i) Total space required preferably should be in a contiguous area or at maximum of two storey floors one above the other.

  (ii) The initial contract shall be signed for one years and the contract period shall be extendable in steps of six months each up to a maximum of 2 extensions of 6 months each at same terms, conditions and unit rates as quoted.

  (iii) The period of one year contract shall start after the date of handover of data center space to UIDAI .UIDAI shall have the right to decrease the contract period from one year to a lesser duration if required and for rental & other recurring services, variable charges shall be charged by the DCSP till the duration DC space is utilised by UIDAI.

b. In case of common DC Space, communication room, physical partition should be provided.

2.2 Communication Room

a. Dedicated communication room or Meet Me Room shall be provided to accommodate minimum of four Internet service providers' equipments. The service providers should be ready with IP version 6 connectivity. It should preferably have all major internet service providers along with all communication connectivity at the location and it should cover all connectivity types like p2p, mpls, internet, etc. UIDAI or its appointed agencies will procure the connectivity from other service providers, DCSP will assist and facilitate in setting up the connectivity.

b. The structured cabling for LAN should be provided and implemented by DCSP. This LAN should be designed for 10Gbps throughput. All the required passive components are to be provided by DCSP and with corresponding certifications for 20 years. Each rack should have provision of 24 copper ports sets and 48 fiber ports sets (quantity is indicative only). The active components will be supplied by UIDAI. DCSP should take prior approval from UIDAI before material delivery and it should be supplied and installed as per actual number of ports requirement at site. This should be provided as per the On-Demand requirement

c. DCSP will conduct physical layer testing and test and confirm that all cross-connects are functioning normally to the patch panel in the Data Center.

d. DCSP will install and maintain the following within 24 hours of request from UIDAI. This should be provided as per the On-Demand requirement

  (i) Copper patch cords between devices in the UIDAI Area.
  (ii) Fiber patch cords between devices in the UIDAI Area;

e. DCSP should provide Data Center Physical Infrastructure Services such as Power, Cooling, Fire Safety, Security and Fire Separation system, Interior services, Raised Floor and should provide dual bus UPS power distribution for total 10 Nos racks.

2.3 Office Space

DCSP shall provision and provide the followings,

a. Total seating workstation space requirement for 15 persons.

b. In addition to the above mentioned workstations, minimum of 1 cabin should be provided for senior cadre to monitor the people deployed.

In case of additional space requirement, the DCSP should have the space for scaling up and provide the same within the same floor for at least 10 resources. This should be provided as per the On-Demand requirement, while the space for 15 resources has to be provisioned for in the current DC space commercials.

2.4 Data Center Space Availability and Compliance

a. DCSP shall provide the Data Center facility as per the project timelines and requirement stipulated in the this document.

b. DCSP shall submit the compliance report along with the response as per Annexure-V of the EOI and the compliance & deviation (if any) that the proposed Data Center meets the criteria as per this document.

c. DCSP shall also have the following documents which may be reviewed by UIDAI during site visit inspection however the same will not be required to be submitted along with EOI response.

(i) Certificate or Lease Agreement as applicable

(ii) Copy of building Insurance document

(iii) Seismic Compliance of the building

(iv) Compliance Certificate for floor strength in Kg/Sq meter

(v) Data Center Layout drawing

(vi) Electrical SLD up to rack distribution

(vii) Schematic drawings of HVAC system for data Center and its support facility

(viii) Schematic   drawings for Fire detection, Fire Suppression, WLD, Rodent Repellent, access control system, Public Address System & CCTV etc.

(ix) Building Management System Architecture

(x) Two hrs Fire Rating Certificate for Doors/Partitions/Windows/Glass/Raised Floor/False Ceiling in IT Production area(Server hall)

(xi) ISP version 6 connectivity Certificate from ISPs

(xii) Explosive License copy for UG storage tank & DG Pollution certificate

(xiii) Power sanction approval certificate from relevant authority

(xiv) Fire Safety, security and suppression system Management process and procedure

(xv) Building Occupancy Certificate

(xvi) Building Fire Approval Certificate

(xvii)Floor structural strength certificate duly certified by Authorised signatory

(xviii) No Objection Certificate for deploying CISF at the premises if required by UIDAI

2.5 Scope of Work for DCSP- O&M Services

Under the scope of Operation & Maintenance including Facility Management Services, DCSP shall undertake monitoring, administration, management and maintenance of the entire Data Center infrastructure.

2.5.1 Scope of Services:-

a. On-site maintenance of all the equipments and their components supplied in setting up the basic infrastructure in the proposed Data Centre.

b. Onsite support for Data Centre Infrastructure Operations on 24*7*365 basis

c. Proactive, reactive maintenance, repair and replacement of defective components which is installed by DCSP .The cost of repair and replacement shall borne by the DCSP

d. Provide and maintain necessary documents on daily, weekly, fortnightly and monthly basis manage various system and vendors, DCSPs to ensure timely services, spares and AMC contract services.

e. Adequate onsite & offsite spare parts and spare component must be maintained by the DCSP to ensure that the uptime commitment as per SLA is met. To provide the services it is important for the DCSP to have back to back arrangement with the OEMs the DCSP would be required to provide a copy of the SLA signed with the respective OEMs.

f. Providing Tools, tackles, spares, skilled resource, safety & security arrangement, consumables, Fire Safety equipments, maintenance for entire contract period shall be the responsibility of DCSP

g. Repair and maintenance including periodic, preventive & breakdown maintenance of all kind of equipment appliances of all capacities

h. Day to day operation as system routine health check up, continuous monitoring, cleaning, preventive maintenance etc

i. Adherence to environmental Health and Safety Practices

j. The operations shall be managed in 3 shifts, each of 8 hour duration (6am to 2pm, 2pm to 10pm, 10pm to 6am) and a general shift from 9am to 5 pm.

k. All aspects of Data Centre would follow a continual improvement cyclic process:-
Measurement→ Reporting→ Improvement→Measurement

l. Daily log shall be kept for all activities for the Data Centre

m. Special tools/instruments if required for the maintenance/checking the parameters shall be arranged by the DCSP

n. The DCSP shall ensure that the persons deployed have the requisite knowledge/qualification/ experience and license required for carrying out the job contract, entrusted to him. The DCSP shall be responsible for the satisfactory and quality completion of the jobs and services.

o. All faults that have been identified would need to be isolated and rectified appropriately. The Root Cause analysis report shall include resolution measures undertaken by the DCSP and results produced accordingly

p. Day to day monitoring and upkeep of the Building Management System which includes Monitoring of temperature, humidity, run time, Equipment ON/OFF/TRIP Status, Breakers ON/OFF/TRIP Status etc. parameters for

    (i) Computer Room precision Air Conditioning System

    ▪ Monitoring of the temperature in different sections of the DC, automatic switch-over of the different units.

    (ii) Comfort Air Conditioning System

(iii) Chiller System

(iv) DG Set ,Fuel Storage Tank etc

(v) Electrical System

(vi) UPS system installed -UPS: Monitoring of voltages, Battery health etc

(vii) Safety & Security systems such as

- Access Control System: Report on intruder alerts, check all Locks work as programmed and re-program when authorized.

- CCTV System - Camera problems, backups and incidents and remarks of processed area is any.

- Fire Alarm and Detection System: Monitoring of Detectors, Hooters, False Alarm and take proper action in case of an actual fire. Monitor Gas based suppression system and the refill / pressure of the stand-alone Fire extinguishers.

- Gas Based Fire Suppression System

- Water Leak Detection System

- Aspirating Smoke Detection System

q. Other functions of the team shall include the following but not limited to

(i) Call logging / allocation / monitoring / follow up and closure of call/s.

(ii) Call allocation to each vendor/DCSP in case of any fault or malfunctioning noted in any equipment during monitoring/controlling

(iii) Monitoring of all calls till its closure

(iv) Regular performance analysis and measurement with respect to agreed SLAs

(v) Monitoring actions planned like Preventive maintenance and its scheduling

(vi) Periodic reporting as defined and mutually agreed

(vii) Monthly call analysis

(viii) Any fault which is noted shall be immediately reported and duly entered in a log book

(ix) Team should be properly dressed, punctual, maintain proper shift schedule

r. Other Responsibilities

(i) Weekly reporting. The site will be managed for Operation 24 X 7.

(ii) Programming of Access Card as per approval.

(iii) Access: Status & abnormality of Systems, Access cards, Software, in reader, Out reader, Pushbutton & Magnetic Lock,

(iv) CCTV: Camera description, abnormality, system status, incidents & remarks of processed area of zone.

(v) Fire: Status & remarks of Detectors, Hooters, Manual Call points, False Alarm & FAP.

(vi) Gas Based Suppression System Daily monitoring Pressure gauge of Cylinders, Release Actuator, Gas Inhibit Actuator, and Manual release push button status, Alarms & Module.

(vii) Water leak system: Daily Monitoring of System & Monthly testing.

(viii) BMS: PAC & Comfort AC–Monitoring of unit Temp with respect to set point, DG-Monitoring On/Off time along with consumption & UPS- Battery, Line IN/OUT voltage and Current status.

(ix) Provide duty roster on monthly basis.

(x) Operator should be Punctual & Well Dressed.

(xi) Maintain the Shift Schedule.

(xii) Weekly Report of all Systems.

(xiii) Monthly reports to concerned officer as per the requirement.

s. UIDAI has the right to review the operations at any stage and if found unsatisfactory would proceed to applicable actions as will be defined in the RFP.

t. The facility Management personnel team shall be deployed on the day of data Center floor readiness by DCSP for smooth functioning of system as per SLA compliance.

u. Facilitate and coordinate with the Manage Service Provider (MSP) /UIDAI for day to day operations and smooth deployment of IT infrastructure.

v. DCSP should ensure the availability and deployment of 24x7 Facility Management team at its own cost which should include but not be limited to Shift Manager, HVAC technician, Service Engineer, Inventory management staff, DG operator, Plumber, Carpenter, House Keeping Staff, Security Agency, Help Desk Support Team & any other resources for smooth operations.

2.5.1.1 Help Desk Support

For serving the Data Center users, the DCSP will establish a centralized online Help Desk with a toll free number, E-Mail and call tracking mechanism; Data Center users can log the queries/complaints, which should be resolved as per the service level requirements. Cost of Toll Free number shall be borne by DCSP.

a. Helpdesk support for logging calls related to Infrastructure services and facilities for data Centre such as Power, Air conditioning, Telecommunications, Cleanliness/ Upkeep, Fire protection, Access control, LAN Passive, etc which falls under the purview of the DCSP shall be provided on a 24x7 basis.

b. The DCSP should also provide a toll-free number to the help desk stationed in his premises.

c. To facilitate help desk function, help desk software shall be provided and established by the DCSP. The Software should be able to take care of classification, automatic escalation, management, status tracking and reporting of incidents as expected by the service level requirements. Status tracking should be available to Data Center users through a toll free number as well as online through software

d. The Help Desk will respond to and resolve the problems as per the SLA.DCSP will keep UIDAI's Managed Service team informed about the progress by contacting the management at regular intervals

2.5.1.2 MIS Reports

Agency shall provide the MIS reports for all the devices installed by the DCSP in a format and media as mutually agreed with the UIDAI on a monthly basis. The MIS reports would be including but not limited to the following reports. Whenever required by UIDAII, DCSP should be able to provide additional reports in a pre-specified format.

    a. Visitor details for UIDAI's Data Centre including name, time of entry and exit, entry authorised by, purpose of visit, etc as applicable.

    b. Material movement for all material entering / exiting from the Data Centre and details about inventory

    c. Uptime Report for Input AC Power supply (AC input from Transformer or DG set as applicable)

    d. Uptime Report for UPS system including load variations on an intraday basis.

    e. Uptime Report for Air-conditioning system

    f. Time of Day report for Temperature and Humidity variations

    g. Uptime and availability of CCTV Surveillance system

    h. Uptime and availability of Access Control

    i. Uptime Report for Fire Management System

    j. Incident reports leading to disruption, downtime, security violations or any such reports that UIDAI would like the DCSP to provide.

    k. Helpdesk report including details of each call, time of call, defect reported, time of call resolution, action taken, etc,

    l. SLA compliance reports

    m. Business Compliance report stating that DCSP is not violating the terms of contract, statutory/ regulatory requirements to ensure & commit continued services as applicable.

2.5.2 Deliverable

Deliverable shall comprise and submit the followings document on Monthly basis.

    a. MIS Report

    b. Daily/Weekly/Monthly report as per agreement and approved format by UIDAI

    c. Periodic Service /Preventive Maintenance Report

    d. Monthly Utility Management report including each Work/Sub-Package

    e. Power Utilisation Report (Power & Space)for Computer Room

    f. Resource Details with Experience, Skills in relevant field

    g. Equipment Fault Report & System Uptime Report equipment wise

    h. CCTV recoding/Access Log

    i. BMS System Log for complete Operation

    j. Site Assessment report and average actual PUE Value

    k. List Of deployed Tools, Tackles

    l. Inventory List Work/Sub-Wok Package Wise

    m. Maintaining Warranty & AMC Contract for each equipment

2.5.3 Completion Criteria

Submission of the above listed deliverables, respective acceptance and approval by UIDAI constitutes the completion of this activity.

2.5.4 Timelines

Payment shall be on quarterly basis after UIDAI's approval on deliverables and adherence to SLA after considering due penalty and liquidation damages if applicable.

2.6 Scope of Work for DCSP -Facility Management Services

The scope of work shall broadly include the following:

a. Provision of facility Management services for management and maintenance of the Data Center Physical infrastructure solution on a 24 x 7 x 365 basis for duration of contracts from the date of signing of this contract with the successful bidder. Maintenance, upgrade, enhancement and additional supplies on a need basis to ensure that Service Levels are met. The vendor shall provide adequate staffing with necessary skill sets for provision of these services.

b. Manage the DCSP contracts deliverables, SLAs and transition in a time-bound manner by maintaining the continuity of service level agreements.

c. Manage overall Non-IT systems of CIDR and SLA and MIS reporting to the UIDAI agency.

d. Manage the enhancement, development and maintenance of the services by bringing out next level version releases.

e. Facilitate and coordinate with the Manage Service Providers(MSP) for smooth deployment of IT infrastructure during transition, Migration & transformation of CIDR System & Operations from Data Center Service Provider (DCSP) facility to Captive Data Center Facility

f. Physical Security   is within the scope of Data Centre Service Provider. Since the Bidder is responsible for management & maintenance of installed equipment, bidder shall ensure vigilance, safety and prevention of unauthorised access at respective Data Centre Sites. The operators should ensure the physical security of the data centre by allowing only authorized personnel to enter the premises.

g. The bidder shall maintain at the data centre, a log of all personnel, including the bidder's personnel, entering or visiting the data centre. Such a log shall be provided to the purchaser whenever required.

h. Manage an inventory critical components and spares that are provisioned onsite and co-ordinate with the OEM to ensure replenishment of the same whenever required.

i. The UIDAI may undertake audits on a periodic basis and the same may be conducted by a third-party auditor. The bidder shall be required to provide necessary support for this and adequately address the audit findings in a timely manner. Implement the recommendations of third party audits conducted through either by DCSP. DCSP shall provide access of Data Center facility to UIDAI 'personnel or UIDAI designated team of auditor for carrying out the Audits. These audits may include:

   (i) SLA compliance audits

   (ii) Physical Infrastructure audit

   (iii) Policy compliance audit

   (iv) Site Assessment and others

j. Management reporting: The DCSP shall put in place a system for periodic management reporting of key performance indicators in line with the SLA framework proposed.

k. Technical support

(i) The bidder should provide comprehensive onsite support to the UIDAI at the designated data centres on a 24 x 7 basis to meet the service levels in accordance with the SLA mentioned as part of this bid.

(ii) Ensure that the entire solution as a whole is operational and run according to stipulated performance standards.

(iii) The bidder along with all the associated OEMs should commit to provide all necessary resources and expertise to resolve any issues and carry out required changes, optimizations and modification so that complete system as a whole works according to the specified requirements and satisfaction of the purchaser.

l. The bidder should provide comprehensive technical support services for all the equipment installed for the entire period of the contract.

m. Change management

(i) The bidder should undertake planning required for changes, draw up a task list, decide on responsibilities, co-ordinate with all the affected parties, establish and maintain communication between parties to identify and mitigate risks, manage the schedule, execute the change, ensure and manage the port change tests and documentation.

n. AMC tracking

(i) Track the Annual Maintenance Contracts for all the assets at the data centres and initiate procedure for renewal of the same at appropriate points in time. The bidder should provision for appropriate tools for managing the same.

o. Documentation requirements: The bidder shall be required to submit documentation in the format, media and number of copies as desired by UIDAI after each milestone as decided mutually with UIDAI and in accordance with the plan.

(i) The documentation should be kept updated throughout the contract period with appropriate change management procedure and version control.

(ii) The bidder shall be responsible for creating and maintenance of all the documentation mentioned wherever in the scope of work including but not limited to configuration documents, layout diagram, data center operation manual, electrical Single line Diagram, HVAC Schematic Design .system administration manual, database administration manual, security administration manual, etc.

(iii) The maintenance manual shall, include but not limited to the sections on overall configuration of the system with layouts showing the location of every unit with block diagram with details for operation, detailed descriptions of component units with details for operation, block diagrams showing the flow and interaction, data and logic diagrams, detailed connectivity/cabling information, etc. The manual should also include part list and wiring schedules, but care shall be taken to avoid obscuring of the operational description.

(iv) Maintenance procedures manual shall include but not limited to the sections on diagnosis of faults, testing and setting up adjustments, replacement of units, guidelines for preventive servicing, routine servicing, tuning guidelines and operation of test equipment.

(v) The servicing manual should cover all the test and maintenance procedures and information necessary for the diagnosis and repair of faulty units or components of every type. It shall include circuits, board layouts, component schedules, test points and test parameters, and use of test equipment.

(vi) The bidder should make changes to the documents as and when there is change in the infrastructure or policies or as and when required by the purchaser.

(vii) The bidder should maintain a library of various artefacts including, but not limited to, documents, manuals, knowledge bases, CD / DVDs, etc. pertaining to all the components supplied by various OEMs. The bidder should keep a track of all the artefacts and manage the issue and return of the artefacts into the library.

(viii) All the documents would be solely owned by the purchaser.

(ix) The bidder should hand-over the processes, documentation and inventory to the Purchaser or any agency appointed by the Purchaser at the end of the contract period. The bidder shall ensure that a smooth transition takes place.

3   Part II: Technical Specifications & Minimum Requirements

3.1   General Technical

a. The DCSP is expected to provide sufficient network points, telecom facilities, electrical connections, air conditioning, backup power through generator(s), access control, integrated fire detection and suppression, physical security and soft services etc as applicable for Data Center and as required for the proposed equipment on 24 x 7 basis in order to maintain uptime of all such facilities at as per SLA.

b. DCSP to identify any Single Point of Failure in their infrastructure; reduce the same to absolute minimum and indicate any plan for future upgrade.

c. DCSP shall submit necessary certificate and document to illustrate compliance in the aspects of building, electrical certification, fire certification, water treatment, safety and security.

3.2   Architectural and Structural

3.2.1   Location

The proposed DC should be located:-

a. In Bengaluru region .

b. Should be easily accessible by public transport.

c. Free from hazards like chemicals, radiation, industrial pollution, fumes, etc.

d. Safe from natural disasters like earthquake, floods, hurricane, volcano etc.

e. Isolated from neighbouring buildings with adequate setbacks.

f. Should have adequate access for entry of vehicles and personnel to carry out emergency activities like fire fighting, evacuation etc.

g. The building should not be located at the sites that are near the sources of continued or intermittent vibrations such as airports, mines, railway lines etc.

3.2.2 Building

The proposed DC building shall fulfil the following minimum criteria:-

a. The building structure should be complying to IS 1893, IS 4326 and respective revisions thereon.

b. Preferably it should be a standalone structure. If the DC is located in a multi storied building then the height of the building should not be more than 40 meters.

c. In any case, the Data Center would summarily be rejected if it is below ground floor. If the Data center Space provided by the bidder is on ground floor , than following criteria should be met:-

   (i) The ground level would be considered as "The ground level of the campus or the road anywhere on the perimeter of the campus" whichever is higher.

   (ii) There should be no history of water accumulation/ logging/ flooding in that particular building location.

   (iii) The Main flooring of the Data Center of the Ground floor should be at a minimum height of four feet above the Ground level (Ground level as defined in S. No. (a) above)

   (iv) If the Data center Space provided by the bidder is on top floor , than following criteria should be met:-

   - There should be no shafts, risers which would be open to sky.

   - All the Shafts, wet risers should be sealed with water proof material and tested.

   - The Terrace floor should have treated for Water proofing using the latest technologies and certified for all tests like Pond test, etc. Compliance should be done on yearly basis.

   - The monsoon preparedness program should be in place, and the reinforcement of the water proofing annually before monsoon, pond test to be carried out and certified by a third party expert.

   - Should be certified for under deck/over deck treatment and CFD (Computerized fluid dynamics) tests should be provided as part of the Bid to prove that the heat gain from the external factors is well within the specified limits.

   - Due to the treatment on the terrace slab (both above and below), the slab to slab height on the Top DC floor should not be compromised.

   - The Weight of Satellite Antennae (if placed on terrace), should be structurally balanced to ensure that the loading on the building would not affect the structural stability of the building.

d. Age of the building should be not older than 10 years on the stipulated date of submission of the bid. If the building is older, Structural Stability Certificate to be provided from a chartered structural Engineer issued within last 1 year.

e. Should be built to withstand seismic disturbances complying with Zone requirements.

f. DC true floor should have a structural load bearing capacity of minimum 850 kg/sq mtr or above

g. Should have a freight elevator to carry the IT equipment to DC located in upper floors and Should be of minimum 2000kg Capacity, 1300mm clear opening, Min 1750 mm depth and 2400 mm clear Height

h. Should have adequate fire exit staircase as per the statutory norms.

i. Should be provided with Fire fighting, public address and surveillance system.

j. The periphery where the building is located should be provided with fencing and possible surveillance deployed.

k. It should be a concrete structure with brick walls to resist forcible attacks.

l. Should be protected from Electro-Magnetic Interference and Radio-Frequency Interference.

m. Separate redundant ducts / trenches for entry of power cables and fiber cables.

3.3 Data Center Space (IT Production Area)

a. Bidder should offer a contiguous space of Data Center ,separately indicating scalability of additional space if available..

b. There should be separate Data Center room other than support areas

c. There should be an emergency exit,

d. Ramp should be provided at the entry of the Data Center Space to facilitate movement of IT equipments without any hindrance.

e. Clear Door width & height (mm) for Rack movement should be 1200 mm(W), 2200mm (H)

f. The Data Center Space should be 2hrs Fire rated including Wall Partitions, doors, Windows, floor etc.

g. The hall should be provided with cementitious tile false flooring system & the minimum distance between the true floor and the false floor should be 600mm.

h. The false floor tile should be 600mm x 600mm and the false floor should be provided with anti-static laminate.

i. The false floor should have a uniform load bearing capacity of minimum 1500kq/Sq Mtr and Point Loading 500 kg/Sq Mtr

j. All openings in the Data Center Space should be sealed with fire rated material.

k. The Data Center Space should be treated for termite and rodent menace.

l. The walls and the slab should be treated appropriately for water ingress.

m. Ramp should be provided at the entry of the Data Center Space to facilitate movement of IT equipments without any hindrance?

n. The clear height between the false floor and the bottom of ceiling (True ceiling or False Ceiling – whichever is applicable) should not be less than 2.6mtrs.

o. Glass where ever provided in the hall should be minimum 2hrs fire rated.

p. The DC space should be provided with minimum requirement such as 24x7 CCTV surveillance covering entire area(on at each Aisle, Door entry and Exit), fire detection and alarm system, Gas based Automatic Fire Suppression System, Lighting, Precision Air-Conditioning System, smart card based access control system (Palm geometry for entry and proximity reader for exist) to allow only authorized personnel of UIDAI to enter, Emergency Panic bar on Emergency Doors, Water Leak detection System, Rodent Repellent, Hand held fire extinguisher, Very Early Smoke Detection system and other as per the solution requirement.

3.4 Communication Room

a. The Communication room should be of size 600 **sq. ft**. (10 racks space) exclusive for UIDAI and strategically located with independent access control. Shared Communication Room with dedicated Cage/physical partition for UIDAI should be acceptable with dedicated communication paths/race ways to UIDAI data Center.

b. The room should be provided with adequate cooling preferably through the plenum of false floor.

c. The fiber entering into the communication room should be from two different distinct paths

d. The Room should be provided with minimum requirement such as 24x7 surveillance covering entire area, fire detection and alarm system, Fire Suppression System, Lighting, Precision Air-Conditioning System, smart card based access control system (Proximity reader for entry and push button for exist) to allow only authorized personnel of UIDAI to enter, Water Leak detection System, Rodent Repellent.

e. Wall Partitions, doors, Windows, floor, etc should be minimum 2 hrs fire rated.

f. Should provide dual UPS power feed for total 10 nos racks preferably from different sets of UPS

g. Should be provided with minimum 3-ph, 32 A power sockets with plug and cable upto power strip for all Racks

3.5 Staging Room

a. The staging room should be having enough room for unpacking the equipments and total should be 1**50 Sq feet** (space for 3 IT racks)

b. Should be provided with minimum 3-ph, 32 A power sockets with plug and cable upto power strip for all racks.

c. At least three racks, each with a capacity of 4.5kW IT Consumed Load should be provided for testing the equipments

d. Staging room should be adjacent to DC room.

e. Clear Door width & height (mm) for Rack movement should be 1200 mm(W), 2200mm (H)

f. Minimum of two seats with PC and LAN connectivity should be available for the personnel to upload applications and test the servers. Cost of the same shall be borne by DCSP

g. The Staging Room should be provided with minimum requirement such as 24x7 CCTV surveillance covering entire area, fire detection and alarm system, Fire Suppression System, Lighting, Precision Air-Conditioning System, smart card based access control system (proximity reader for entry and exit) to allow only authorized personnel of UIDAI to enter, Water Leak detection System, Rodent Repellent.

h. Wall Partitions, doors, Windows, floor, etc should be of minimum 2 hrs fire rated.

i. Provide minimum of two seats with PC and LAN connectivity for the personnel to upload applications and test the servers in the Staging Room.

3.6 Secure Storage Space (Material handling Room-Store Room)

a. The Secure Storage Space (store room) should be of 450 **sq. ft** exclusive for UIDAI with option for expansion in future and conveniently located with independent access control. There should be adequate space for unloading the IT equipments / materials and storing should be available. The storeroom to be provided with adjustable racks for keeping the materials.

b. The Secure Storage Space (store room) should be a secure place with proper locking arrangement.

c. The movement of equipments from the unloading dock to the store and from store room to the staging should be carried out using proper material movement trolleys.

d. In case of additional 500 Sq feet space requirement, the DCSP should have the space for scaling up and provide the same within the same building.

e. The space should be provided with minimum requirement such as 24x7 CCTV surveillance covering entire area, fire detection and alarm system, Fire Suppression System, Lighting, Comfort Air-Conditioning, smart card based proximity access control system (proximity reader for entry & push button for exit) to allow only authorized personnel of UIDAI to enter.

f. Store Room should be 2 hrs fire rated including wall partitions, doors, etc.

3.7 Office Space

a. Total seating workstation space requirement is for 15 persons & 1 nos cabin, should be of 6**00 sq Ft** Carpet Area.

b. Seating space with LAN connectivity for minimum of 15 persons shall be provided for UIDAI and its representatives to monitor and upload the data.

c. Each workstation/seat shall be provided with UPS power back up and shall include:

(i) Telephone phone Instruments ,Telephone connection with STD facility and local intercom,

(ii) PC covering the following configuration: Intel i5/i7 or equivalent, 4GB RAM, 300 GB HDD, 20" Colour TFT Monitor, keyboard, mouse, etc. with OS as Windows XP or higher version and MS Office 2010

(iii) Anti-Virus software installed as per standard industry norms with a licence till contract period

(iv) Provide ergonomic furniture such as tables, storage units, key board tray, CPU trolley, Chair etc.

(v) Three UPS Power and one Raw Power Points, Network Points, etc.

d. Two (2) no's of heavy-duty laser printer with a standby unit in case of a fault with primary unit and should have capability of A3/A4 print, color and black & white paper printing

e. One number photocopier machine with scan & fax facilities and should have an arrangement of standby unit in case of fault with primary unit.

f. Minimum of one(1) cabins should be provided for the senior cadre.

g. In case of additional space requirement for 10 more persons, the DCSP should have the space for scaling up and provide the same within the same floor.

h. The room should be provided with minimum requirement such as 24x7 CCTV surveillance covering entire area, fire detection and alarm system, Fire Extinguisher, ergonomic lighting, Comfort Air-Conditioning, smart card based proximity access control system (proximity reader for entry & push button for exit) to allow only authorized personnel of UIDAI to enter.

i. Wall Partitions, doors, Windows, floor, ceiling etc should be minimum 1 hrs fire rated.

j. The Office space should have a seating capacity of 15 scalable to 25 persons.

k. The office space provided should comprise of work stations, ergonomically designed chairs, storage space, lighting and access control.

l. The office space should be secure so as to allow only the UIDAI authorized personnel to enter.

m. Each work station shall be of 2feet x 4feet minimum along with keyboard tray and personal pedestal.

n. The office area should be provided with UPS power and DG backup.

o. Connectivity should be provided between the work stations and server hall including internet. Dedicated line of 2Mbps should be provisioned and the cost of the same should be included as a part of the DC support area rental charges quoted in the commercial bid form.

p. Cafeteria / pantry facility should be provided for having lunch/dinner.

3.8 Media Storage Room

a. Media Storage room of **300 sq** feet adjacent to Office area should be provided for storing fire retardant cabinet

b. A full sized Fire Retardant Filing Cabinet for media storage (Space should be sufficient to accommodate one (1) Petabyte of data stored in LTO-5 media) should be provided with all keys to be handed over to authorised personnel of the Purchaser.

c. Quantity of Fire retardant cabinet should be as per On-Demand Requirement by UIDAI

d. The room space shall be provided with minimum requirement such as 24X7 CCTV and physical surveillance covering entire area, fire detection and alarm system, Fire Extinguisher, Lighting, Comfort Air-Conditioning, smart card based proximity card access control system (Proximity card reader for entry and push button for exit) to allow only authorized personnel of UIDAI to enter

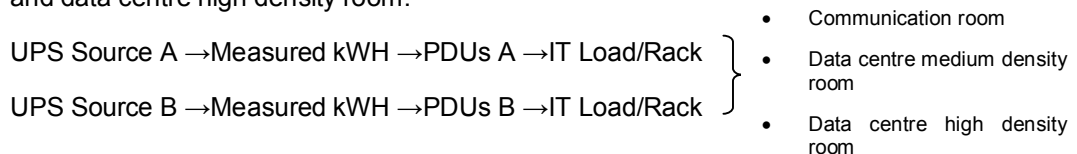e. Media Storage Room should be 2 hrs fire rated including wall partitions, doors etc.

3.9 Services/ Utility Rooms

a. The electrical room should be strategically located to receive power and distribute the same to the building and the Data Center Space.

b. The electrical room should be provided with fire alarm and fire suppression system.

c. The room should be provided with access control to circumvent unauthorized entry.

d. Proper ventilation should be provided.

e. Chiller & AHU rooms should be provided with proper slope to drain water out of the building.

f. There should not be water stagnation in the chillers and AHU rooms

g. Cafeteria, Pantry or Rest rooms should not be provided by DCSP and should not be above the Data Center Space.

h. No food should be cooked in the cafeteria or pantry.

3.10 Electrical Systems

3.10.1 Power

a. The sanctioned power from the concerned electricity board/department for the data center facility should be sufficient to accommodate the load power requirement by UIDAI.

b. The variable recurring cost of Environmental and Infrastructure service charges (Power Cost) shall be paid on actual consumption of power (kWH) as measured on a common meter for all installed PDUs which are delivering power to respective IT racks. The measurement meter should measure the total Power (kWh) supplied from each UPS set/source to all the PDUs connected to it. These measurement meters should be installed to measure the power for racks in communication room, data centre medium density room and data centre high density room.

UPS Source A →Measured kWH →PDUs A →IT Load/Rack

UPS Source B →Measured kWH →PDUs B →IT Load/Rack

- Communication room
- Data centre medium density room
- Data centre high density room

3.10.2 Transformer

a. The transformer employed should be as per the designed capacity with N+N/ N+1 Configuration.

b. If a dry type transformer is employed it should be properly protected against rodents

c. The dry type transformer should be provided with winding temperature indicator for monitoring.

d. In case of oil type transformer it is preferred to be installed outdoors.

e. The oil type transformer should be properly fenced and protected.

f. Separate earthing for neutral and body should be provided.

g. Adequate fire suppression system to be provided especially if the oil type transformer is housed within the building.

h. Adequate protection against surge in voltage and current should be incorporated.

3.10.3 Diesel Generator

a. Backup diesel generator of sufficient capacity with N+1 Configuration & should supply power to the building in case of failure in main power from the Electricity board.

b. The diesel generator should be provided with acoustic enclosure to reduce noise level as CPCB directives.

c. The exhaust of the generator should be installed at an appropriate height as per the directive of the pollution control board.

d. Neutral and Body earthing should be provided through separate earth pits.

e. The generator should be cranked and take the full load immediately in the event of failure of the main power through AMF feature.

f. The each generator should be provided with Day-Oil fuel tank of 990 Ltrs.

g. Local control near the generator should be provided.

h. The generator capacity should fulfil the power requirement of IT, Electrical Load and air conditioning load and other related load of the data centre.

i. Separate bulk storage tank should be installed within the campus to supply continuous diesel to the fuel tanks.

j. The bulk fuel storage tank capacity should be sufficient to run all the generators required for at least 24 hrs.

k. The fuel stored for the DG set/s should be more than 12 hours on full load at any given point of time with an SLA formalized with fuel supplier for continuous replenishment within an agreed time period in hours.

l. Should have a SLA with a vendor / fuel company for re-filling the fuel tank.

3.10.4 Main LT Distribution Panel

a. The Main LT distribution panel should be housed in an electrical room.

b. The panel should have minimum two incomers one for the main power from the electricity board and the other for the diesel generator.

c. The incomer should be a breaker of equivalent capacity to the transformer and generator installed.

d. The breaker should have earth fault, overload and thermal protections.

e. The panel should have sufficient out going feeders to add any additional equipment required in future.

f. The panel should be provided with proper ventilation

g. Clearances from other equipments and walls from the panel should be as per the IEC guidelines.

3.10.5 Un-interrupted Power Supply (UPS)

a. The UPS should be of adequate capacity to cater to the IT load.

b. Separate sets of UPS systems should be deployed for IT Racks in IT Production Area and should be of N+N configuration. Each set/source of UPS System should preferably be housed in separate rooms. The battery backup for the each UPS should be of 10 minutes at full load and the Generator should take over the supply within one minute

c. Separate UPS should be deployed for catering to the office equipment like PCs, fax machines, printers etc. and should have 2hrs battery backup.

d. Separate UPS (N+N) should be deployed for Racks in communication Room & Staging Room with 10 minutes back up on full load.

e. The UPS should have capability to withstand leading power factor load.

f. UPS should be provided with isolation transformer with output neutral grounded through dedicated earth grid or should have isolation transformer installed in each PDU (output neutral grounded through dedicated earth grid)which supply the power to IT Racks.

g. Dedicated earth system has to be provided for the neutral of UPS.

h. The downstream from UPS should be double neutral.

i. The UPS System should be dedicated to UIDAI.

j. The UPS should be able to handle leading power factor without degradation

3.10.6 Distribution Panels and Rack Distribution

a. Each rack should be provided with dual power source through two separate/isolated feeds from UPS systems.

b. Each Rack distribution should be provided through Three phase, 4P+E, 5 pin industrial socket of required capacity with power cable upto Rack's power strip and nominal current, kA rating of each sockets should be sized adequately considering IT kW Load, inrush current, surge and other factors.

c. The power distribution units (PDU) installed in the Data Center Space for supplying power to the racks should have MCB's as per required IT consumed Load requirement and MCB's nominal current rating should not be less than 32 A, 3-phase.

d. The power distribution units (PDU) installed in the Data Center Space for supplying power to the racks should have 3 phase circuits and provision for 1 phase circuits to cater to any specific equipment requirement being deployed.

e. Emergency lighting panel should be separate and connected from the separate UPS designated for lighting and office area.

f. The power supply to the air conditioning equipments should be achieved through a separate distribution panel.

g. The panels should be properly named and tags to be provided for the cables.

h. Panels should be IP 45 as per IEC guidelines.

i. During maintenance of panels the regular operations should not be disturbed.

j. Capacitor panel of adequate capacity should be employed for correction of power factor.

k. The downstream of UPS shall have double neutral including the PDU.

l. Lightening arrestor should be provided for the building

3.10.7 Earthing

a. Earthing shall be provided in accordance to IS 3043 (latest version).

b. The cross sectional area of earthing conductor shall not be less than half that of the largest current carrying conductor

c. The resistance of the earthing pit and system should be less than 1 ohm.

d. All panels and equipments should be earthed to avoid accidents to the personnel.

e. Single reference grid should be laid below false floor.

f. The pedestals of the false floor should also be earthed.

g. Methods to control Electro static discharge should be adopted by employing hand straps, mats, etc.

3.10.8 Lighting

a. Wiring for lighting should be laid in MS conduits (if exposed).

b. The DCSP shall provide evenly distributed lighting luminance of 500 LUX illumination. The distribution of lights shall be aligned with floor and equipment layouts to avoid shadowy areas caused by tall equipment, cabinets or racks. The lighting, sectional-wise controlled by switches, should be able to switch off when they are not required.

c. Emergency lights shall be provided in each row. These lights will be wired through separate circuits & will not have switching arrangement within Data Centre. Power supply to these emergency lights will be provided through separate uninterrupted power system.

d. Lighting fixtures used in the office area should be of low glare.

e. Following should be the average LUX level to be maintained in different areas:-

Area	Minimum LUX levels Required
Front & Back side of the each rack	500 LUX
Passages within the DC area	250 LUX
Store Room	400 LUX

Area	Minimum LUX levels Required
Staging Room	400 LUX

3.11 Heat Ventilation and Air Conditioning

HVAC Design basis & approach

The general design philosophy is based on the following:

(i) No Single Point of Failure

The entire Air-conditioning design centres on avoiding any single points of failure, be it at

a) Equipment level or

b) Cable level or

c) Connectivity level or

d) Power level

The DCSP shall ensure that all single points of failures are eliminated and that the chances of a complete failure are minimal or tends towards rarity. The entire design should be based on minimum N + 1 architecture or more as required for PAHU and failure of any single air conditioning equipment or component should essentially not affect the delivery of services.

(ii) Choice of Best of Breed Products with inbuilt resiliency

The products chosen by the DCSP should be such that their specifications meet the minimum requirements for a Data Centre grade deployment. Resiliency at various levels including all HVAC Units, Piping, Power, Control and Interface level redundancy would be the minimum requirement for the deployed products. The products shall be capable of operating in mission/ business critical environments 24 x 7 x 365 days a year without leading to any downtime of the data centre

(iii) Self-healing Architecture

The systems shall be able to function even in the event of a failure and transparently move to redundant options without any manual intervention.

a) Maximum Flexibility

The systems, products and the design would ensure that the entire system delivering services is flexible enough to offer services to various customers with differing requirements and to meet the demands of changing IT scenario.

b) Scalability

Scalability shall be inbuilt in the design such that the same is achieved with the addition of a few modules instead of major changes or replacements.

c) Open Systems

The products chosen to deliver the services shall be based on open standards so that best of breed products can be used to provide a comprehensive and flexible model.

d) Accessibility for maintenance

The layout of all the equipments including AC, Ducting (if any) and piping will be such that importance is given to access them appropriately for performing any kind of maintenance without any downtime. Areas to be earmarked for person to move around and access equipments

HVAC Design

(i) For computer room air-conditioning units the DCSP shall design, plan the best suitable, latest industry cooling solution for different density area.

(ii) Racks shall be arranged in such a way so as to create hot aisles and cold aisles in the raised floor of the Data Centre. This approach positions racks so that rows of racks face each other, with the front of each opposing row of racks drawing cold air from the same "cold" aisle. Hot air from 2 rows is exhausted into a "hot" aisle, raising the temperature of the air returning to the CRAC and allowing the CRAC to operate more efficiently

3.11.1 Comfort HVAC

a. Comfort AC should be deployed in the office area, Storage Room and Media Storage Room.

b. Fresh air should be routed to the AHU.

c. Grills for supply and return should be strategically located to provide a good environment for working.

d. The ducts should be properly insulated.

e. The ducts should be provided with fire dampers.

3.11.2 Computer Room Precision Air Conditioning Units

a. Precision Air Conditioner units should be deployed in the Data Center Space (IT Production Area).

b. The PAC should have a redundancy of minimum N+1(20% additional redundant Unit).

c. The PAC should be intelligent micro-processor based system.

d. The temperature of the hall should be in the range 22 degree centigrade +/- 2 degrees centigrade. The relative humidity should be 50% +/-10%.

e. The PAC should have water leak detection to communicate any leak in the chilled water pipeline, humidifier pipe or drain pipe.

f. The refrigerant in the HVAC system should be CFC Free.

g. Floor grills wherever required should be installed.

h. Precision air-conditioning units should be designed as per IT Load requirement for different density rack.

i. Cable trays blocking the path of the air flow should be re-routed to provide proper cooling to the server racks.

j. The rack layout should be designed to have hot and cold aisle arrangement.

k. The PAC units should have High Efficiency Particle Filters for Air Filtration to 5 microns. The HVAC should be designed such that the air should not contain more than 5, 00,000 particles per cubic foot of air of size 5 micron or higher.

l. Temperature & humidity monitoring sensors should be deployed on each aisle and the same should be connected to BMS System.

3.12 Fire Alarm & Fire Suppression System

3.12.1 Fire Detection & Alarm System

a. The Data Center should be protected from Fire using State-of-the-art Automatic Smoke/ Heat Detection Alarms & Fire Control mechanism as per National Fire Protection Association (NFPA) standards.

b. The fire detection system should be Analogue Addressable type.

c. The fire panel indicating the alarms shall to be monitored on a 24 x 7 basis & logged for providing reports.

d. Along with addressable the fire alarm detection system, an Aspirating Smoke Detection system with redundant controller should also be deployed to allow swift detection of smoke or change in air quality.

e. The system should comprise a high sensitive smoke detector, aspirator, and filter.

f. The alarm system should be integrated to the building fire alarm system.

3.12.2 Gas Based Automatic fire Suppression System

a. Gas Based automatic fire suppression system deployed should be state-of the art and in accordance with NFPA.

b. The suppression should employ non toxic gas based system.

c. The fire suppression agent shall not contain Ozone Depleting substances.

d. The smoke detector / heat detectors along with the fire panel should be programmed in a manner that they activate the suppression system.

e. Portable fire extinguishers should be provided in the building including office area, electrical room, utility areas etc.

f. The fire alarm system should be integrated with the Public Address System of the building.

3.13 Security Systems

3.13.1 Access Control System

a. Entry to all critical locations in the building should be through the Access Control system employing proximity cards.

b. The Data Center Space should be provided with biometric access to enable entry of only authorized personnel.

c. A panic bar should be installed to the emergency exit and integrated with the alarm system.

d. Access control software has to be installed on a standalone computer and the logs of movements have to be recorded.

e. Periodic reports of the logs have to be recorded and sent to UIDAI.

f. Minimum 4 level of physical and electronic scrutiny should be incorporated before a person can enter the Data Center.

3.13.2 Closed Circuit Tele Vision System (CCTV)

a. 24x7 CCTV should be installed in strategic locations to monitor the movement of personnel in and out of all critical areas and there should not be any blind spots for Data Center space and other support area.

b. The CCTV should be fixed doom type.

c. PTZ cameras may be installed as required.

d. The CCTV should not only cover the movements within the building but also the periphery.

e. The DG area and the storage area should be covered through the CCTV.

f. The Digital Video Recorder should be IP based to allow accessibility for UIDAI to monitor remotely.

g. Recordings of all cameras should be retained for a period of 180 days and should be available for UIDAI review as and when required.

Camera Positioning- CCTV (Fixed Dome Camera) will be required but not limited to the following locations

- on each entry & exit of Data Center area and support areas

- on each Rack Row on the cold & hot aisle side

- other areas deemed critical and key locations The positioning should be such that it eliminates the blind spots

3.13.3 Physical Security

Security is given a careful consideration, and based on operation requirements, following mechanisms shall be enforced for the Physical Security of the Data Centre.

a) The building should have physical security deployed 24x7.

b) The security personnel should be trained to scrutinize the personnel entering the premises and also to carry out combat activities.

c) The security should monitor all the entrances.

d) Patrolling of the total campus should be done round the clock.

e) Single Entry and Exit for Normal Activities and restricted access to personnel.

f) Biometric with Pin/ Proximity Access all the Doors.

g) Entry Portal scans with metal detector.

h) Digital Surveillance Cameras with long Retention

i) Entry into the Data Center

   (i) The Data Centre shall be divided into multiple zones with graded security for restriction of physical movement and entry into the Data Centre.

(ii) The entrance to the building shall be guarded by the Building Management's Security Guards and each visitor shall be scrutinised before entry into the building. At the reception, details of all visitors would be logged by the Security officials. Scanning of all personnel before entry into data Centre would be mandatory.

(iii) The entry of personnel into the Data Centre shall be restricted. A minimum of two factor authentication will be required at all entry points in the Data Centre. For critical areas like IT Production area(Server hall) entry point, Meet Me Room, Staging Room two factor authentication by use of biometric and proximity/ contact less card should be provided. Only pre-authorised officials shall be allowed into the Data Centre using authentication procedures.

(iv) At the second level, entry to the Data Centre office and other admin areas around the Data Centre should also be controlled with proximity/ contactless card coupled with password based numeric access control.

(v) Entry into the data Centre premise should be configurable for each access point and for each user. One user can have different policy access rights for different access points

(vi) Entry into the Data Centre Area shall be based on Biometric access control. Fingerprint impression of each entrant shall be captured and verified. Image of each entrant shall also be captured on the CCTV for Security records. Security officials shall monitor all the entrances including the reception on a 24x7 basis.

(vii) Biometric reader shall be RoHS compliant. It shall utilise industry standard finger scan algorithm FVC 2002, FVC 2004, it should have a compact and modular design. It should provide duress finger option, the algorithm utilised should have enrolment time of <3 seconds, verification time of < 2 seconds with an Equal Error Rate (EER) of 0.1%. The algorithm should also allow for adjustable False Acceptance Rate (FAR) and False Rejection Rate (FRR).

(viii) A minimum of 24-hour battery power backup designed for full load is required for the access control system including the electric door lock(s). The access control system should also be connected to a UPS, separate from the Data Centre UPS.

(ix) Heavy-duty electric lock is recommended for the main entrance doors. With time delay setting, the lock would activate after specified time duration. The lock must be fail-safe type.

(x) Panic Bolt should be provided at the emergency exit.

(xi) The CCTV monitor and recorder should be available at the BMS Control room.

(xii) DCSP should keep spare inactivated proximity/contact less cards and provide a facility for onsite access card activation in case of emergency requirement of entering the Data Centre.

(xiii) The Access control system should manage Biometric Access control, Card Access Control. The software should connect and communicate using TCP/IP protocol. The standard options should at least include features like the access control with Alarm Management, backup and restore facilities of master and swipe data, reports on employee master and swipe data.

3.14 BMS System

a. The Building Management System should be implemented to monitor the various systems installed.

b. The BMS software should be installed which can communicate with all the equipments at site.

c. The system should be capable of generating reports of power consumption from the PDU.

d. The BMS should be monitored 24x7.

e. The system should be integrated with all the other systems including fire alarm system and water leak detection systems.

f. Monthly reports should be submitted for access logs, CCTV recordings, alarms of critical equipments and power consumption.

g. Building Management system (BMS) shall consist of microprocessor based controller and shall be designed to monitor all mechanical, electrical, and other facility equipment and system. The system shall be capable of local and remote monitoring and operation. Specifications for 24-hour monitoring shall be developed.

h. BMS should be capable of monitoring each Computer Room Air-conditioning units, UPS, DG, Chillers, Electrical Panels, ATS, and complete security system as Fire alarm system, fire suppression system, ACS, CCTV, VESDA, WLD, Burglar alarm system, etc

i. BMS should have a provision of integration with the Environmental monitoring system to be provided and have 1G network interface copper/fibre for connectivity with the EMS

j. Following systems shall communicate through Open protocols for monitoring & controlling of various parameter of but not limited to following:-

   o Computer Room Air-conditioning units monitoring

   o UPS Monitoring

   o DG Monitoring & control of various parameter, DG Battery voltage status

   o Chiller Systems

   o Fuel Storage tanks-Fuel Level monitoring, transfer line flow metering, each pump run status, Fuel high & low level monitoring, supply flow rate monitoring & other critical monitoring components

   o Energy meters/ Multifunction meters installed in electrical distribution panels

   o ON/ OFF/ Trip status of breakers in electrical distribution panels

   o Room Temp & RH monitoring.

   o Gas based suppression system-Normal Alarm condition, Auto/ Manual mode

   o Water leak detection panel monitoring

   o Fire Detection system monitoring

   o Access Control system monitoring and control

k. Above mentioned monitoring will be through hard-wired points to BMS.

3.15 Network Setup & Racks

a. Rack for Communication Room, Staging Room and others shall be provided by DCSP at no cost to UIDAI and Racks for Data Center Space (IT Production Area) should be as per the On-Demand requirement by UIDAI as mentioned in "Clause 3.1,Data Center Space, Section V"

b. Rack should be Strong Steel end frame embedded at Top and Bottom with cable entry from Top and Bottom Panel Provision 19" MTG angles with unique "U" marking. Four Number of reducing cable channel for neat cable management.

c. Rack should be with perforated double leaf doors in each front and rear

d. The racks should have base frame and firmly rest on the false floor.

e. The racks should have at least 55% of perforation to facilitate sufficient flow of air to the servers.

f. The racks should have cable managers and ties for dressing of the cables.

g. DCSP shall be responsible for Installation of racks in position

h. Every Rack should be equipped with 3-phase dual power strips with 20 nos Power sockets and type of sockets will be intimated at the time of rack ordering.

i. The network system should be properly routed such that the cable laying can be carried out in short period of time

j. The network cable tray should be laid with a clearance of 300mm from the power cable trays to overcome interference.

k. The cable trays should be such that they can accommodate both fiber and copper cables.

l. The cables should be properly laid and terminated as per TIA 942.

m. The network cables shall be laid between the server racks and between the network rack and server racks as per requirement as per the design submitted by UIDAI as and when required.

n. Supply, laying and termination of network cables shall be the responsibility of the DCSP.

o. Horizontal Cable Managers

(i) Should be made of lightweight plastic construction that provides durability and easy installation.

(ii) Should have rounded edges on fingers to protect cables from snags and damage to cable.

(iii) Should have flexible fingers to allow easy installation and removal of cables.

(iv) Should have pass through holes that allow front to rear cabling.

(v) Should mount to standard 19" EIA racks and cabinets.

p. Vertical Cable Management System

(i) Should have high density which minimizes area required for network layout, freeing up valuable floor space.

(ii) Should have curved cable management fingers that support cables as they transition to the vertical pathway eliminating the need for horizontal managers.

(iii) Should have slack management spools to organize and manage patch cord slack allowing standardization of patch cords.

(iv) Should have a combination of 10" W and 6" W wire managers for cable management.

(v) Should be equipped with end panels and doors for the wire managers.

3.16 LAN Cabling

The structured cabling for LAN should be provided and implemented by DCSP. All the required passive components are to be provided by DCSP and with corresponding certifications for 20 years. Each rack should have provision of 24 copper ports sets and 48 fiber ports sets (quantity is indicative only). The active components will be supplied by UIDAI. DCSP should take prior approval from UIDAI before material delivery and it should be supplied and installed as per actual number of ports requirement at the site. This should be provided as per the On-Demand requirement. LAN Passive components up to the patch cord level shall be compliant to Category 6 Augmented EIA/ TIA 568-B.2.1 standards and should meet the following requirements -

a. The LAN cable should be a 4 pair copper 24 AWG UTP cable compliant to enhanced Cat **6A** Gigabit standards or as per the latest standards available during installation phase.

b. Port Count

   o Copper channel from one Active device to other Active device end Including all I/O, patch panels, Cable, accessories and faceplates (if required) shall be counted as one port. Patch cords are to be supplied as per requirement.

   o Fiber channel (transmit + receive) from one Active device to other Active device end including all Connectors, pigtails, LIU, Fiber Cable and accessories shall be counted as one port. Patch cords are to be supplied as per requirement.

c. All cable and connectors should be 10G supportable and with supporting previous standards of structured cabling (1/10/100 Kbps and 1Ghz)

d. Before initiating the work, UIDAI approval shall be sought whether the latest standards cabling can be done without any cost implication to UIDAI.

e. All horizontal cabling should emanate from patch panels on the distribution switch and be routed to outlets nominated through ceiling space, risers, skirting duct etc - 24/ 48 port patch panel which will be clamped to server keeping cost efficiencies in mind. The cables must be laid in an aggregated manner to reduce the cabling space requirement.

f. Manufacturer's cable guidelines shall be followed at all times. No distortion due to kinks, sharp bends or excessive hauling tension is permitted.

g. Care shall be taken to prevent other work activities damaging the cable by walking or storing heavy objects on them whilst laying and installation.

h. Cables shall be run in a manner eliminating any possibility of strain on the cable itself or on the terminations.

i. Cables shall be concealed except where nominated and should run in neat lines.

j. Cables shall not have joints or splices.

k. Cables should be kept at a minimum distance of 150mm from items liable to become hot or cold. The distance should be consistent with the maximum or minimum temperature possible and the cable type. Cables shall not make direct contact with such items.

l. Cables should not be embedded in plaster, concrete, mortar or other finishes unless they are in conduit and capable of being fully withdrawn and replaced after the building is finished without damage to finishes.

m. Bending radii should not be less than the manufacturer's recommendation and in any case should be not less than eight times the overall cable diameter.

n. Cabling will run in separate shafts and ducts from the electrical ducts so as to avoid any interference.

o. Cable should either have a nylon sheath or should be enclosed in a conduit if running underground.

p. Labelling shall be done using automated print labels as per the TIA/ EIA standards. Hand labelling of the cables is not acceptable.

q. All copper conductors must be tested for continuity and pair integrity as well as EMI interference.

r. Any cable that does not meet TIA/ EIA specifications shall be replaced at the Vendor's expense.

s. Termination of connectors shall be on RJ-45 Single Information Outlets or as specified by MSP's with faceplates, shutter and Surface box

t. The Fibre Couplers and Connectors shall be LC type or as specified by MSP's. In case of any other termination requirement, MSP will specify the same during implementation. DCSP should seek detailed information on type of ports required (LC/SC or other) at the device end, accordingly should Supply and installation.

u. Professional Cable Management and tools shall be used at site, e.g. UTP Cable Termination, Fiber Splicing, labelling tools Etc. All Cable managers, Mounting Hardware etc. should be provided by DCSP

v. Each node shall be tested for satisfactory operation based on certification parameters valid for the entire warranty period of 20 years. All nodes in the Data Centre shall be clearly marked, labelled & documented for future reference.

w. Maintenance of the LAN Passive components shall be done by the DCSP. Provision of additional Passive nodes whenever required shall need to be provided based on requests. Maintenance Scope should include the Break fix support of any type in the fiber/Copper channel in any of the nodes during the Contract period.

x. Shorter cable runs shall be planned so as to avoid tangled cables ('spaghetti') and to improve signal levels.

y. DCSP should lay both power and LAN cables upto each rack level in the Data Centre

z. Dedicated raceways / cable-trays and Bus ducts wherever required should be used for laying LAN and Power cables. The power Cables and Copper Data cables trays should not be planned to run in parallel (less than 1.5 meters), Any Crossing of Power and Electrical cables should be at 90 Degrees.

aa. Cables entering or exiting trays, conduits, catenaries wires and other fixed support should have a small gooseneck or slack provided and should be fixed at both ends to prevent the possibility of cable stress.

bb. Cables should be installed in a workmanlike manner, parallel to walls, floors and ceilings, as applicable.

cc. DCSP should ensure that all the cable raceways are adequately grounded and fully concealed with covers.

dd. The cables should be appropriately marked and labelled at intervals so as to be identified easily

ee. Fibre raceway

(i) Fibre raceway shall be available system for both overhead and under floor/above suspended ceiling applications.

(ii) The fibre raceway shall be available in a plastic non-plenum rated as well as a metal plenum rated system.

(iii) Under floor and above suspended ceilings raceways shall be plenum rated to meet NEC standards.

(iv) The under floor/suspended ceiling system must meet grounding requirements as specified in section 300-10 of the National Electric Code (NEC).

(v) The overhead and under floor/suspended ceiling systems must be modular.

(vi) The overhead and under floor/suspended ceiling systems shall be used together.

(vii) Fibre raceway system shall provide routing for both fibre optic patch cords (jumpers) 3 mm in diameter and multi-fibre cables.

(viii)   A fibre patch cord bend radius of at least two inches (5.08 cm) shall be maintained at all points in your system.

(ix) The fibre raceways system shall be available in 2-, 4-, 6-, and 12-inch dimensions.

(x) All plastic materials in your overhead fiber routing systems must meet UL 94V-0 and Bellcore TR-EOP-000063 standards.

(xi) All materials used in the systems must comply with NEC and NEBS standards for fire resistance.

(xii) No overhead system offered can contain nylon or poly-vinyl chloride (PVC) materials.

ff. Patch Panels both copper and Fibre panels should be mountable onto wire raceways/cable guides above the rack. There should be a gap of 18"/24" gap between rack and raceways. Patch panel/LIU should supplied with all mounting accessories

3.16.1 Structured Fibre cabling

DCSP to comply with the specification for fibre cabling and other components which is as follows,

SI No	Parameters	Minimum Requirements
1	**Fibre Cable**	
a	Cable Type	6-core, Multimode, 50/125 um (OM3), Indoor OFC
b	Fibre Type	50/125, Laser Grade, Primary coated buffers
c	Number of Cores	6
d	Fibre Attenuation	
e	@850nm	<=2.7 dB / KM
f	@1300nm	<=.7db /KM
g	Bandwidth	
g.1	@850nm	>1500 MHz-KM
g.2	@1300nm	>500 MHz-KM
h	Tensile Rating	1000N
i	Maximum Crush Resistance	2000N
j	**Operating Temperature**	-20 Degree C to +70 Degree C
k	Outer Jacket	LSZH
l	Should Comply below mentioned standards	
l.1	Fire Propagation	IEC 3321 and 332-3
l.2	Flammability	IEC 1034
l.3	smoke Emission	IEC 1034

SI No	Parameters	Minimum Requirements
I.4	Acid Gas Emission	IEC 754-1
I.5	Toxicity	NES 73
I.6	Water Absorption	IEC 811-1-3 (<2mg/cm2 10 days @ 70 Degree C)
m	ROHS	ROHS/ELV Compliant
n	Cable Color	
2	**Fibre optic LIU-1U**	
a	Connector Type	SC/**LC** Style, Duplex
b	Operating Temperature	-40 Degree C to +85 Degree C
c	Durability and Color	
d	MM Connectors	500 Cycles, Beige
e	SM Connectors	220 Cycle, Blue
f	Ferrules	Pre-radiused Ceramic Ferrules
g	Attenuation	Not more than .75 DB per Mated Pair
h	Fibre Optic Patch Panels	
i	FMS-Front Patching/Splicing Shelf	1U + 19" ETSI Version a Available
		The FMS Fibre Management Shelf series is ideal for high density front patching applications
		Its compact design and high density capacity allows it to deliver carrier class fibre management to central offices, POP, FTTx, mobile systems and LANs.
		High Density
		1U: 24 (SC) / **1U:48 (LC)** Fibre Terminations
		Should be supplied loaded with secondary Coated SC/LC pigtails

SI No	Parameters	Minimum Requirements
	Drawer concept allows for	Mounting brackets cab be placed in different positions
		Easy Access to splicing tray
		Easy access to back side of connector
		trays with higges (book type) which allows facilities easy fibre management and greater access during installation and rework
j		Fibre guides, radius controls and secure tie downs provided
k	Dimensions	Width -450mm and Depth 280mm, height -44mm
l	Color	RAL 7035 /Black
3	**Fibre Optic LIU-2U**	
a	Connector Type	SC/LC Style, Duplex
b	Operating Temperature	-40 Degree C to +85 Degree C
c	Durability and Color	
d	MM Connectors	500 Cycles, Beige
e	SM Connectors	220 Cycle, Blue
f	Ferrules	Pre-radiused Ceramic Ferrules
g	Attenuation	Not more than .75 DB per Mated Pair
h	Fibre Optic Patch Panels	
i	FMS-Front Patching/Splicing Shelf	2U + 19" ETSI Version a Available
i.1		The FMS Fibre Management Shelf series is ideal for high density front patching applications
i.2		Its compact design and high density capacity allows it to deliver carrier class fibre management to central offices, POP, FTTx, mobile systems and LANs.

SI No	Parameters	Minimum Requirements
i.3		High Density
i.4		2U: 96 Fibre Terminations
i.5		Should be supplied loaded with secondary Coated SC pigtails
i.6		Mounting brackets cab be placed in different positions
j.1	Drawer concept allows for	Easy Access to splicing tray
j.2		Easy access to back side of connector
j.3		trays with higges (book type) which allows facilities easy fibre management and greater access during installation and rework
j.4		Fibre guides, radius controls and secure tie downs provided
k	Dimensions	Width -450mm and Depth 280mm, height -44mmx2
l	Color	RAL 7035 /Black
4	**Fibre Optic Patch SC-SCMM**	
a	Make and Type	SC to SC Duplex Fibre Optic Patch Cord with SC Pigtail pre terminated and compatible with SC snap in adapter plates, 50/125 Micron OM2/OM3
b	Cable Sheath	LSZH
c	Cable Diameter	2.5mm twin zip
d	Ferrule	Ceramic
e	Buffer	.9mm easy strip
f	Insertion Loss	MAX .3db
g	Return Loss	>20 db
h	Temperature Range	Minus -10 Degree C to +60 Degree C

SI No	Parameters	Minimum Requirements
i	ROHS	ROHS/ELV Compliant
5	**Fibre Optic SC-LC / LC-LC MM**	
a	Make and Type	SC to SC / **LC to LC** Duplex Fibre Optic Patch Cord , 50/125 Micron OM2/OM3
b	Cable Sheath	LSZH
c	Cable Diameter	1.8mm twin zip
d	Ferrule	Ceramic
e	Buffer	.6mm easy strip
f	Insertion Loss	MAX .3db
g	Return Loss	>20 db
h	Temperature Range	Minus -10 Degree C to +60 Degree C
i	ROHS	ROHS/ELV Compliant

3.16.2 Structured Copper Cabling

DCSP to comply with the specification for copper cabling and other components which is as follows:

S N	Parameters	Minimum Requirements
1	**Copper Cable**	
a	The horizontal cables should be 4-pair unshielded twisted pair (UTP) meeting Category6A specifications.	Yes
b	The cable should be of 4 twisted pairs of 23 AWG solid conductors with a Non-lead, flame retardant, PVC jacket.	Yes

S N	Parameters	Minimum Requirements
c	4 pair Riser cable must be with a oblique elliptical offset filler/Equivalent for improved Alien Crosstalk & high speed data links suitable for use up to 10 Gigabit transmission speeds.	Yes
d	Insulation Material	Polyolefin/Equivalent
e	Separator	Flame Retardant Polyolefin/Equivalent
f	Electrical Performance	
		Conductor DC resistance @ 20°C (max) 9.38 W / 100m
		DC resistance Unbalance (max) 2%
		Mutual Capacitance @ 20°C (max) 5.6 nF/100m
		Nominal Velocity of Propagation 65%
		Attenuation at 550 MHz 45.6 dB
		Return Loss at 550 MHz 29.2 dB
		ACR at 550 MHz 3.8 dB
		PSACR at 550 MHz -2.5 dB
		NEXT at 550 MHz 49.9 dB
		PSNEXT at 550 MHz 43.1 dB
		ELFEXT at 550 MHz 22.0 dB

S N	Parameters	Minimum Requirements
		PSELFEXT at 550 Mhz 15.0 dB
g	Thermal Characteristics	Operating temperature -20 to +75 °C
h	Mechanical Characteristics :Minimum Bending Radius	
		During Installation
		After Installation
		Maximum Pulling Tension
i	Telecommunication Outlet Support	Multivendor Cat6A unshielded Jack compatibility
2	**10G-24 Port Patch Panel**	
a	The Cat6A patch panel should be capable of transmitting 10GB Ethernet over 100m channel	Yes
b	The patch panel should be made of polymer material (Metal frame not allowed) to reduce alien cross talk	Yes
c	Patch panel should be available in 1U	1U/24 Ports or equivalents
d	Patch panel should have information outlet assembled in two different level (Step design) and with staggered arrangement to reduce alien cross talk	Yes
e	Should have Comprehensive individual port numbering on front and rear	Yes
f	Patch panel must be supplied with Rear cable management as a standard accessory and this should only occupy the same space as the panel	Yes

S N	Parameters	Minimum Requirements
g	Material Construction	Moulded glass filled polyphenylene sulfide/equivalent
h	Operating temperature range:	-10°C to + 70°C
i	Flammability Rating:	UL 94 V-0
j	Safety Rating:	UL 1863
k	Compliance	TIA-568.B.2-10 IOS/IEC 11801 ed 2.1
l	Compatible with both Copper and Fibre Jacks	10G copper and fibre outlets
3	**10G-48Port Patch Panel**	
a	The Cat6A patch panel should be capable of transmitting 10GB Ethernet over 100m channel	Yes
b	The patch panel should be made of polymer material (Metal frame not allowed) to reduce alien cross talk	Yes
c	Patch panel should be available in 2U	2U/48 Ports or equivalents
d	Patch panel should have information outlet assembled in two different level (Step design) and with staggered arrangement to reduce alien cross talk	Yes
e	Should have Comprehensive individual port numbering on front and rear	Yes
f	Patch panel must be supplied with Rear cable management as a standard accessory and this should only occupy the same space as the panel	Yes
g	Material Construction	Moulded glass filled polyphenylene sulfide/equivalent
h	Operating temperature range:	-10°C to + 70°C

S N	Parameters	Minimum Requirements
i	Flammability Rating:	UL 94 V-0
10	Safety Rating:	UL 1863
11	Compliance	TIA-568.B.2-10 IOS/IEC 11801 ed 2.1
12	Compatible with both Copper and Fiber Jacks	10G copper and fibre outlets
4	**10G Copper Patch Cord**	
a	Make and Type	RJ45 to RJ45 Patch Cords
b	It should be snag less plug design with integrated strain relief	
c	Operation temperature range	Negative 20 Degree C to Positive 75 Degree C
d	Number of plug insertion cycles	≥750 (IEC/EN 60603-7)
e	Jacket	Lead Free PVC
f	Conductor	24 AWG 7x32 stranded tinned
g	Flammability Rating	UL 94 V-0
h	Safety Rating	UL 1863
5	**10G Copper Outlet**	
a	Should Support 10 Gigabit Ethernet over unshielded copper to a full 100m channel	Yes
b	It should have an inbuilt conductor management system for well-Controlled terminations, The conductor management piece should be capable of maintaining the pair relationship of the cable	Yes
c	Contacts should made of 45° IDC (Insulation Displacement Contact) type/Equivalent To provide reliable gas-tight connections	Yes

S N	Parameters	Minimum Requirements
d	Fully interoperable and backwards compatible with component compliant Category 5e / Class D and Category 6 / Class E systems	Yes
e	Outlet should offer tool free termination	Yes
f	Operation temperature range	-10°C to + 60°C
g	Transmission performance and reliability	TIA-568.B.2-10 & ISO/IEC 11801ed2.1
h	Contact Resistance	≤ 1mΩ
i	Conductor Terminations of Contacts	≥ 200
j	Conductor Diameter	0.5-0.65mm (AWG 24-22)
k	Insulation Diameter	1.04-1.6mm
l	Plug / Jack Mating Cycles	≥ 750 (IEC / EN60603-7)
m	Outlet Color (Gray/Black/White/Yellow,etc)	Selected In consultation with UID
n	Outlet should support leading vendor copper cable	Yes
o	Safety Rating	UL 1863

3.17 **Other Requirement**

a. At UIDAI's request, DCSP will receive any UIDAI Materials on UIDAI's behalf. DCSP will store UIDAI Materials in the Secure Storage Space (store room) immediately upon delivery to the Facility and maintain a written log of a description, date and time of UIDAI Materials placed by Service Provider in the Secure Storage Space (store room).

b. DCSP will provide UIDAI all necessary assistance in preparing return materials authorization ("RMA") documentation and packing, returning and shipping such damaged UIDAI Materials to a location or manufacturer, service provider or other third party designated by UIDAI.

c. UIDAI may depute personnel from CISF at the DCSP location to strengthen the security of the data centre. The DCSP should provide a No Objection Certificate along with the Bid for the same.

d. UIDAI would also conduct audit of the facility periodically to access the operations and to sign off the uptime report.

e. DCSP should have a Help-Desk operating on a 24/7 basis to login any calls and avail services under the scope of DCSP. Shared Helpdesk is acceptable.

3.18 Facility Management and O&M Team

a. DCSP shall deploy 24X7 Data Center O&M facility management team for facility management and delivery of physical infrastructure services. This team shall be responsible for proactive monitoring and reporting of as well as compliance to Service Level Agreements pertaining to service delivery.

b. DCSP should ensure the availability and deployment of Data Center Shift Manager, HVAC technician, Service Engineer, Inventory management staff, DG operator, Plumber, Carpenter, House Keeping Staff, 24x7 Security Agency (Supervisor and Security Guard) for Data Center and its Support area, Help Desk Support Team & any other staff which is required for smooth operations of Data Center.

c. DCSP shall deploy a Data Center Operation Manager who should directly report to the UIDAI's Programme Manager.

3.19 Operational Requirements

a. All operation procedures for the MEP Systems should be documented and available for review.

b. Security policy and procedures for movement of materials & men, within the building and the data center should be made available to UIDAI.

c. The Sample Operating Process (SOP) and Emergency Operation Process (EOP) for the fire alarm and fire suppression system should be demonstrated to UIDAI to ensure that during an incident, there should be no untoward damage to human resources and equipment.

d. Maintenance schedules of all equipments should be made available to UIDAI to ensure that all equipments are maintained as per the specifications mentioned by the respective OEMs and that all equipment is in healthy condition.

e. Maintenance procedures, Risk Assessment and Work method statements should be shared with UIDAI and the documents to be made available for review.

f. Operation procedures for critical situations like power failure, water leak, damage of fuel line, short circuit, etc should be available for review.

g. There should be a robust emergency response plan backed up with trained team members, escalation and communication system.

h. The earth resistance should be measured periodically and monitored.

i. The access logs should be available for at least 180 days.

j. The power consumption logs should be updated every 15 days and intimated to UIDAI.

k. The Managed Service Logs to be provided on a weekly basis and the Change Request Summary/ approvals to be taken from the Purchaser before any activity. Incident ticket

Numbers to be generated, shared and escalated on an immediate basis and their resolution and closure should be at the earliest.

l. Shared Helpdesk is acceptable for the Data Center Facilities catering to the Data Center Infrastructure.

4 Project Schedule

The timelines for the Key Activities are tabulated below,

S. N	Key Activity Description	Timelines in Calendar days
1	Deployment of Facility Management team and Operation Manager	T+7
Availability of DC Space (IT Production area) and support area		
2	Data Center Space readiness and Handing over to UIDAI for starting the deployment of IT hardware,equipment etc "Space availability of IT Production Area (Data Center Raised Floor Area) complete in all respect including respective work packages as Electrical, HVAC, Management-Safety and Security System, Civil & Interior etc as per Annexure-I"	T+21
3	Support area space readiness and handing over to UIDAI "Space availability of office Area, secured storage space ,Staging room, Media Storage room, Communication room and other support areas as per Annexure-I""	T+21
4	Supply ,Installation, commissioning and acceptance of Structured cabling and IT Racks (if required) for IT Production area (Data Center)	D+30
T= Date of signing the contract **D= Date of handover of Network Architecture layout and approval for supplying total number of copper and fibre ports by UIDAI**		