File No DIT/SCITeG/03/2011   Dated Itanagar, the 12th February 2019

GeM Tender Notice

Government eMarketPlace (GeM) bid bearing No.GEM/2019/B/180591 dated 12.02.2019 has been published in the Government eMarketPlace (GeM) portal for 'Setting up of Arunachal State Data Center'.

The details of the bid can be seen & downloaded from GeM Portal www.gem.gov.in link: https://bidplus.gem.gov.in/buyer-bid-finalization/1199177.

The special terms & conditions can be downloaded from www.arunachalpradesh.gov.in

(Neelam Yapin Tana)
Director, IT&C
Govt.of Arunachal Pradesh

File No DIT/SCITeG/03/2011   Dated Itanagar, the 12th February 2019
Copy to:

1. The Secretary IT&C, Govt.of Arunachal Pradesh.
2. The Special Secretary, IT&C, Govt.of Arunachal Pradesh,
3. The Joint Director, Dept.of IT&C, Govt.of Arunachal Pradesh.
4. Content Manager, Silicon Techlab for publication in the website.
5. Office copy.

Director, IT&C
Govt.of Arunachal Pradesh

Annexure 4

Service Level Agreement

Definition of SLA

For purpose 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:

a) **"Availability"** shall mean the time for which the services and facilities are available for conducting operations from the equipment/ solution hosted in the Data Centre. Availability percentage is measured as Availability %age = {(Agreed Service time – Down time)/ (Agreed Service time) * (100%)

b) **"Downtime"** means accumulated time during which the System is totally inoperable within the Scheduled Operation Time but outside the scheduled maintenance time.

c) **''Helpdesk Support''** shall mean the 24x7x365 support which shall handle patch updates, Fault reporting, ticketing and resolution of related enquiries during this duration of this contract (includes the public holidays also). Interactive remote diagnostic support shall also be there, allowing Technical support engineers to troubleshoot an incident securely through a browser-based remote control feature.

d) **"Incident"** refers to any event / abnormalities in the functioning of the Data Centre Equipment / specified Services that may lead to disruption in normal operations of the Data Centre services.

e) **"Service Window"** shall mean the duration for which the facilities and services shall be available at the Data Centre. Service window in this case shall be 24x7x365.

f) **" T"** Is the time of reporting of the call.

Categories of SLA

This SLA document provides for minimum level of services required as per contractual obligations based on performance indicators and measurements thereof. The DCO 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 DCO shall be reviewed by the SCITeG/State Designated Agency. It shall:

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

The SLA has been logically segregated in the following categories:

1) Implementation Phase related service levels
2) IT Infrastructure related service levels
3) Physical Infrastructure related service levels
4) Help desk related service levels
5) Civil Work related service levels
6) Compliance and Reporting related service levels
7) Facility Management – Manpower Requirement & Availability related service levels
8) Cloud services related service levels
9) Security and Incident Management related service levels

1.1 *Description, Measurement & Target of the SLA*

1.1.1 **Implementation Phase related service levels**

SL. No.	Description	Measurement	Target
1	Team mobilization and commencement of work	The DCO is expected to mobilize team for the commencement of SDC project	One week from the date of Issuance of the LoI/ Work Order
2	Supply, Installation and Commissioning of all the equipment at SDC	Delivery, installation, integration, testing, of all components / equipment required for the system to the satisfaction of the purchaser. Final Acceptance Test of the SDC	As per the time schedule for Installation & Commissioning of SDC infrastructure is 27-28 weeks from the Issuance of the LoI/ Work Order

System Integration services include, but not limited to the following:

1. Team Mobilization for the commencement of the work
2. Before the initialization of the work a complete schedule (Project Plan) will be provided by the DCO to the SIA.
3. Weekly track/status report would be given by DCO to the SIA by end of every week for review.
4. Delivery of all the Equipment and Software on time which are part of Scope of Work.
5. Installation & Commissioning of all the equipment.
6. Installation reports needs to be checked and passed by the SIA.
7. All the documents, manuals & CDs need to be made available to the SIA.
8. Licenses, Service Support documents will be checked and cleared by the SIA.
9. Component wise installation, commissioning & testing schedule and reports shall be made available by the DCO to the SIA for review
10. Quality control document for installation and commissioning shall be prepared by DCO and verified by the SIA before installation.
11. Complete Load and integration testing of all the equipment as per the equipment Data Sheet would be done by the DCO in presence of appointed concerned authority of the SIA.
12. Minimum 1 application shall be running in the virtual environment in the SDC of the Cloud Enablement components.
13. Training schedule/plan shall be submitted by DCO two weeks prior to the start of Training and it will commence after receipt of approval from the SIA before training.

1.1.2 IT Infrastructure Related Service Levels

SL. No.	Description	Measurement Method	Target
Computing Infrastructure Components (includes servers,VM's, Hyper-V, OS, database, storage,Network & Security, LAN availability and services etc.)			
1	Data Centre Uptime	Uptime = {1 -[(Server downtime) / (Total Time - Maintenance Time)]} * 100	>=99.982%
2	Connectivity with SWAN	1) Applicable only if SWAN and SDC are co- located 2) Limited only to equipment/ component procured for SDC	>=99.982%
3	LAN Availability	1) For Active and passive Components 2) Limited only to equipment/ component procured for SDC	>=99.982%
4	SDC Security Equipment Availability	All Security equipment (IPS, HIPS, Firewall, UTM, Anti-Virus etc.)	>=99.982%
5	SDC Server Availability	All servers of SDC including *VM's, Hyper-V* OS, Database, application running on.	>=99.982%
6	SDC Storage Availability	All storage availability (storage and backup restore).	>=99.982%
7	SDC EMS Availability	All EMS equipment availability	>=99.982%
8	SIEM Availability	All SIEM Availability	>=99.982%
9	Power Availability (UPS + DG etc.)	Data Centre power will be available 24x7x365 days, inclusive of UPS and DG set backup time	>=99.982%

1.1.3 Physical Infrastructure related Service Levels

SL. No.	Description	Measurement Method	Target
Physical Infrastructure Components (includes In Row Cooling System, CCTV etc.)			
1	Row Based Cooling Availability	Availability = {1- [(Downtime) / (Total	>=99.982%

SL. No.	Description	Measurement Method	Target
		Time – Maintenance Time)]} *100	
2	Server Farm Area Temperature & Relative Humidity	> 22°C or <18°C	Temperature of 20°± 2°C at all times
		>55% or <45%	Relative Humidity of 50% ± 5% at all times
3	CCTV Availability	Availability = {1- [(Downtime) / (Total Time – Maintenance Time)]} *100	>=99.982%
4	CCTV recording availability	The DCO is required to record minimum 25 frames per second of CCTV footage and should maintain sufficient inventory of the captured footages.	The DCO should maintain CCTV recordings of past 7 days at any given point in time. After which the DCO is required to take a back-up of the same and store it for a period of at least 6 months. Unavailability of this data at any point of time is taken as an instance of SLA breach.
5	Public Address system availability	The DCO is required to keep the Public-address system running with all functionalities and should maintain sufficient inventory of the same.	The DCO should maintain Public address system ready for use with all functionalities at any given point in time. Unavailability of this system at any point of time is taken as an instance.
6	Fire Detection & Suppression System Availability	The DCO is required to keep the Fire Detection and suppression system always running with all functionalities and ready to be used automatically and BMS should maintain sufficient inventory for the same.	The DCO is required keep the Fire Detection and suppression system always running with all functionalities and ready to get used automatically. Unavailability of this system at any point of time is taken as an instance.
7	Rodent Repellent System Availability	The DCO is required to keep the Rodent repellent system always working with all functionalities and BMS should maintain	The DCO is required keep the Rodent repellent system always working with all

SL. No.	Description	Measurement Method	Target
		sufficient inventory for the same.	functionalities. Unavailability of this system at any point of time is taken as an instance.
8	Water Leak Detection System Availability	The DCO is required to keep the Water Leak Detection system always working with all functionalities and BMS should maintain sufficient inventory for the same.	The DCO is required keep the Water Leak Detection system always working. With all functionalities. Unavailability of this system at any point of time is taken as an instance.
9	Refilling of Novec-1230 Gas	The DCO is required to keep sufficient stock of Novec 1230 for one (1) complete refill at all time	Refilling done within ≤ 1 Day
			Refilling done in ≥ 2 days ≤ 5 Days
			Refilling done after >5 days
10	Access Control System Availability	The DCO is required to keep the Access Control Systemalways working with all functionalities and BMS should maintain sufficient inventory of the ACS.	The DCO is required keep the Access Control System always working. With all functionalities. Unavailability of this system at any point of time is taken as an instance.

1.1.4 Help Desk Related Service Levels

SL. No.	Measurement	Definition	Target
1	Resolution Time	"Resolution Time", is defined as the total time between receipt of the incidence (helpdesk call/ receipt of alarm generated by management system) and the resolution of the incidence.	100 % of the calls which are registered under various severity level to be resolved within the resolution time set for each severity which will be defined during the EMS deployment

			For every unresolved calls,appropriate penalty will be levied.

1.1.5 Civil Work related Service Levels

SL. No.	Description	Measurement Method	Target
1	**Civil work:** Any civil/ electrical work as defined under the SOW of the DCO, Civil Work including the	Any repairing / replacements works which does not affect the business continuity of all the services/ application hosted at the Data Centre.	All repairing / replacements within and up to 12 hours of reporting the problem at the Help Desk
2	False Flooring, False Ceiling, Doors & Locking, partitioning, Fire Proofing of all surfaces, Furniture & Fixtures and Painting etc.	Any repairing / replacements works which affect the partially business continuity of all the services/ application hosted at the Data Centre but which does not affect the services used by the critical users like Minister,Commissioner, District Collector etc.	Within and up to 08 hours
3		Any repairing / replacements works which affect the business continuity of all the services/application hosted at the Data Centre	Within and up to 60 minutes

1.1.6 Compliance and Reporting Related Service Levels

SL. No.	Description	Measurement Method	Target
1	Submission of MIS Reports	The DCO shall submit the MIS reports as requested by SCITeG /State Designated Agency broadly classified below but not limited to: • IMAC (Install, Move, Add, Change) Report • Quarterly availability of different category of equipment • Exception report indicating calls completed beyond SLA, with calculation of non- performance deduction. • Report on planned server backup and backups actually taken	Report for the previous month shall be submitted by the 5th of the next month

SL. No.	Description	Measurement Method	Target
		• Server Uptime Report • Performance Report • Network Availability and Utilization Report. The DCO shall workout the formats for above reports and get these approved by SCITeG /State Designated Agency within a month of being awarded the contract.	
2	Maintenance of Inventory	The DCO should maintain an inventory of items that will be required on an ongoing basis for IT, Non-IT & civil	The list of inventory items will be finalized after the discussion with DCO. The DCO will maintain inventory of 100% items

1.1.7 Facility Management

SL. No.	Measurement	Definition	Target
1	Resource availability for all services requested under RFP Section "Operations and Maintenance"	No. of shift days for which resource present at the designated location / Total no. of shift days	>80 % averaged over all resources designated for DCO services calculated on a quarterly basis, except Project Manager. Project Manager is required 100 %
			>=70% to <80% averaged over all resources designated for DCO services and calculated on a quarterly basis
			<70% averaged over all resources designated for DCO services and calculated on a quarterly basis

1.1.8 Cloud services Related Service Levels

Following outlines the service level indicators & and the target performance levels to be maintained by the DCO during the contract period. These SLAs shall be strictly imposed and a third-party

audit/certification agency shall be deployed for certifying the performance of the DCO against the target performance metrics as outlined in the table below:

SL. No.	Description	Target
1	Provisioning and De-provisioning of Virtual Machines	Within and up to 15 Minutes (After the approval of the SIA)
2	Uptime of Virtual Machines	≥99.982%
3	Uptime of Cloud Solution including the individual Cloud Solution Modules are mentioned in table below	≥99.982%

SL. No.	Description	Measurement Method	Target
1	Overall Cloud Solution Availability	Overall Cloud Solution Availability will be measured by following formula: Availability %age = {(Agreed Service Time – Subsystem Down Time)/ (Agreed Service time) *(100%)}	≥99.982%
2	Cloud Network Availability	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%)}	≥99.982%
3	Cloud Virtualization Layer Availability	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%)}	≥99.982%
4	Cloud Storage Availability	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%)}	≥99.982%
5	Virtual Operating System Availability	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%)}	≥99.982%
6	Cloud Orchestration Layer Availability	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%)}	≥99.982%

SL. No.	Description	Measurement Method	Target
7	Cloud Security Layer Availability	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%)}	≥99. 982%

Cloud Services includes, but not limited to the following:

1) Provisioning and de-provisioning of Virtual Machines
2) Maintaining the uptime of virtual Machine, which will also include the migration of virtual machine from one physical server to another based on the increased requirement of resources or due to the downtime of physical server
3) Regular backups for all Virtual Machines in accordance with the backup and archive policies and conduct recovery whenever required with appropriate permissions.
4) Management and maintenance of Cloud Solution Modules
5) Performance monitoring and tuning of the OS and Virtual Machines on a regular basis including, preventive maintenance of the VMs as required.
6) Add or modify administration and delegation of selected Virtual Machines or Services

1.1.9 Disaster Recovery services related Service Levels

Following outlines the service level indicators & and the target performance levels to be maintained by the DCO during the contract period. These SLAs shall be strictly imposed and a Third-Party Audit/ Certification agency shall be deployed for certifying the performance of the DCO against the target performance metrics as outlined in the table below:

SL. No.	Description	Target
1	Uptime of DR Replication Software	≥99.982%
2	Replication of Data	≥99.982%

1.1.10 Security and Incident Management related Service Levels

Sl. No	Incident	Target
1	Virus infection like (Trojan, malware, botnets etc.) attack reported	Nil
2	Network Latency (for LAN)	latency Less than 2ms
3	Incidence of Denial of service/Distributed denial	Nil

Sl. No	Incident	Target
	of service attack	
4	Incidence of intrusion	Nil
5	Incidence of unidentified personnel found in SDC	Nil
6	Incidence of person without legitimate Photo ID Proof	Nil
7	Incidence of Data Theft (Compromise of any data which is hosted in SDC)	Nil
8	Incidence of Hacking	Nil

1.2 *Priority Levels*

1.2.1 **Severity Levels for Critical Components (IT & Non-IT)**

The severity level of each component is defined by its importance in the infrastructure and its impact in case of failure as detailed below.

Severity Level-1

Denial of services due to total breakdown/failure of any one or more of the equipment/ component installed in SDC. Apart from this, hacking of website/data, Virus Attack (Malicious code) effecting Database system, System Software, data etc. leading to total system breakdown/ failure of any one or more of the equipment/component installed in SDC will come under severity level-1.

Severity Level-2

Denial of services due to partial breakdown/failure of any one or more of the equipment/component installed in SDC. However, if this partial denial of services is impacting critical users the Ministers/Secretaries and other senior officials the incident will come under Severity level-1. (The list of such critical users will decide by the SCITeG/State Designated Agency). Apart from this, Spamming will also come under severity level-2.

Severity Level-3

Partial or total failure/breakdown of any equipment/component installed in the Data Centre without disrupting any services and failure/delay in SDC will come under severity level-3.

The indicative list is mentioned below:

- OS Deployment
- Patch installation
- Acting on incidents which crosses threshold (TMP/Storage space)
- H/W up-gradation
- Antivirus updates
- Data archival, Data restoration
- Planned Maintenance activities
- User Management
- Backup policy
- Microcode upgrades
- Monitoring SAN fabric / Storage / Backup events & respond to events crossing threshold limits
- Adding new device to Fabric
- Passive cable component connecting the above equipment etc.
- Minor repairs of Physical Infrastructure components like breakage of tiles etc.
- Timely payment of dues/ fees for electricity, licenses, subscriptions, etc. All surcharge/ penalties etc. imposed due to non-payment to service providers shall be borne by DCO.

- Cleaning and security of SDC premises.
- Absence of FMS Manpower
- Failure of Monitoring SAN fabric / Storage / Backup events & respond to events crossing threshold limits.
- Failure of Adding new device to Fabric, as approved by the department
- Failure of Passive cable component connecting the above equipment etc.
- Ensure adequate diesel supply is stocked all the time for running each DG set for at least 8 Hrs.

Severity Level 3: As mutually agreed between the DCO/ SCITeG and not falling under level 1 or 2 as defined above

1.3 *Scheduled Downtime*

Scheduled downtime shall mean the time that the system is not in service due to a scheduled work. Scheduled maintenance time is planned downtime with the prior permission of the SCITeG and notified to SCITeG at least 48hrs in advance. It also includes urgent maintenance activities required by applications or systems that cannot be postponed until the next available or convenient maintenance window, and may include, but not limited to restarting applications, rebooting servers, applying patches or fixes, reconfiguring storage allocation, reloading data and making DNS & firewall changes to close security holes.

1.3.1 SLA down Time Guidance or Escalation Matrix

The calculation of downtime with reference to severity levels is as defined below:

SL. No.	Equipment Severity Level	Down time hours factored for SLA
1	Severity Level-1	Every additional one minute of failure/downtime is equal to two minutes of unresolved call
2	Severity Level-2	Beyond the allowed resolution time for severity level-2, the incident will escalate to Severity Level-1 and every additional one minute of failure / downtime is equal to two minute of unresolved call
3	Severity Level-3	Beyond the allowed resolution time for severity level-3, the incident will escalate to Severity Level-2. Every additional one minute of failure/downtime beyond 240 min/4hrs., failure/downtime is equal to two minute of unresolved call

SL. No.	Severity Level for Equipment & Services	Degradation of SLA

1	Severity Level-1	Beyond Thirty minutes of unresolved issue is equal to 0.25% degradation of SLA
2	Severity Level-2	Beyond Four hours of unresolved issue is equal to 0.25% degradation of SLA
3	Severity Level-3	Beyond eight hours of unresolved failure is equal to 0.25% degradation of SLA

1) In case of redundant Power supplies, If any of the power supply fails and a redundant power supply is available and equipment are providing services, the down time will be calculated as per the severity level-3 instead of Severity level-1 & 2.

2) In case an equipment remains non-functional for more than allowed hours of the severity level, the severity level will go up for the device to the next higher level (i.e. If an equipment of severity level-3 is non-functional for more than 8 hours, onwards the severity level for the equipment will be calculated based on the Severity level-2 from the time of initial failure reporting) and will keep on escalating to further level if still remains non-functional.

3) In case maximum response time is violated after problem is reported to the DCO, then severity level of the reported call would change to next higher severity level and downtime would be factored accordingly to the new severity level. (E.g. if problem reported under severity level 3 is not responded within its defined maximum response time, severity level would change to 2 and downtime would be factored according to level 2 from the time of initial failure reporting. Further if the call is still not responded within maximum response time of severity level 2, call would get escalated to severity level 1 and so on).

1.3.2   Response / Resolution Time

Broad level Priority classification along with time frame for Response/Resolution time is showcased below.

Response time is defined as the time between receipt of the incidence (helpdesk call/receipt of alarm generated by management system) and a support team member begins working on the incident.

Resolution time is defined as the total time between receipt of the incidence (helpdesk call/receipt of alarm generated by management system) and the incidence being resolved.

1.3.3   Service Window

The Service Window will be available 24x7x365 days. Pre-approved downtime will not be considered for penalty. The pre-approved downtime will be a window for regular maintenance schedules, which will have to be discussed every time during the SLA meetings.

Table for Severity levels along with Response time and Resolution time

Severity	Response Time	Resolution Time
1	05 minutes	Within and up to 30 minutes
2	10 minutes	Within and up to 04 hours
3	30 minutes	Within and up to 08 hours

1) Downtime shall be considered as per service window defined above and net impact on operations with reference to the time of incident receipt (helpdesk call/ receipt of alarm generated by management system).
2) If a severity one incident reoccurs within four hours of resolution, downtime will be calculated from time of first occurrence.
3) 100% of the calls will be attended to within the stipulated response time - Measured on a quarterly basis.
4) 100% of the calls will be closed within the stipulated resolution time - Measured on a quarterly basis.
5) The resolution times will be considered with respect to the service window.
6) The DCO should maintain an inventory of critical items that will be required on an ongoing basis to ensure the uptime of the SDC as per SLA.
7) Resolutions norms will not include WAN link related issues or any product/service which is beyond of the scope/limit of the DCO.

1.4   *Penalty*

The following measurements and targets shall be used to track and report performance on a regular basis. Based on SLA performance, QGR (Quarterly Guaranteed Revenue) would be released on Quarterly basis against performance and subject to verification and clearance from the Third-Party Agency (TPA) as and when appointed. QGR (Quarterly Guaranteed Revenue) is 5% of the OPEX value of the bid, to be paid quarterly to the selected DCO on satisfying terms and conditions as stipulated in the RFP.

The targets shown in the following table are applicable for the duration of the contract. The maximum cap of total deduction is 20% of any one or all QGRs as the case may be. Two consecutive quarterly deductions of more than 20% of the applicable fee on account of any reasons will be deemed to be an event of default & termination.

1.4.1   Implementation Phase Related Penalty

SL. No.	Measurement	Definition	Target	Penalty
1	Team mobilization and commencement of work	The DCO is expected to mobilize team for the commencement SDC project	One week from the date of signing of the work order	Letter of Warning
2	Supply, Installation and commissioning of the system at the new SDC facility	Delivery, installation, integration, testing, of all components / equipment required for the system to the satisfaction of the purchaser.	As per the time schedule for Installation & Commissioning & operations of SDC infrastructure is 27-28 weeks from the Issuance of the LoI/ Work Order	A Penalty as 0.5% per week for first two weeks, 1% per week for every subsequent week. Subject to a maximum of 5% Penalty will be computed on CAPEX value of contract. (If the work is not completed within 06 weeks)

1.4.2   IT Infrastructure Related Penalty

SL. No.	Description	Measurement Method	Target	Penalty
Computing Infrastructure Components (includes servers, OS, database, storage, LAN availability and services etc.)				
1	Data Centre Uptime	Uptime = {1 -[(Server downtime) / (Total Time		< 99.982% - 99.75% = 1% of QGR

SL. No.	Description	Measurement Method	Target	Penalty
		- Maintenance Time)]} * 100	>=99.982%	<99.75% - 99.25% = 2% of QGR For every subsequent 0.25% degradation in the uptime, there will be a penalty of 1 % of QGR
2	Connectivity with SWAN	1) Applicable only if SWAN and SDC are co-located 2) Limited only to equipment/ component procured for SDC	>=99.982%	< 99.982% - 99.75% = 1% of QGR <99.75% - 99.25% = 2% of QGR For every subsequent 0.25% degradation in the uptime, there will be a penalty of 1 % of QGR
3	LAN Availability	1) For Active & Passive Components 2) Limited only to equipment/ component procured for SDC	>=99.982%	< 99.982% - 99.75% = 1% of QGR <99.75% - 99.25% = 2% of QGR For every subsequent 0.25% degradation in the uptime, there will be a penalty of 1 % of QGR
4	SDC Security Equipment Availability	All Security equipment (IPS, HIPS, Firewall, UTM, Anti-Virus etc.)	>=99.982%	< 99.982% - 99.75% = 1% of QGR <99.75% - 99.25% = 2% of QGR For every subsequent 0.25% degradation in the uptime, there will be a penalty of 1 % of QGR
5	SDC Server Availability	All servers of SDC including OS, Database, application running on.	>=99.982%	< 99.982% - 99.75% = 1% of QGR <99.75% - 99.25% = 2% of QGR For every subsequent 0.25% degradation in the uptime, there will be a penalty of 1 % of QGR
6	SDC Storage Availability	All storage availability (storage and backup restore).	>=99.982%	< 99.982% - 99.75% = 1% of QGR <99.75% - 99.25% = 2% of QGR For every subsequent 0.25% degradation in the uptime, there will be a penalty of 1 % of QGR
7	SDC EMS	All EMS equipment	>=99.98%	< 99.982% - 99.75% = 1% of QGR

SL. No.	Description	Measurement Method	Target	Penalty
	Availability	availability		<99.75% - 99.25% = 2% of QGR For every subsequent 0.25% degradation in the uptime, there will be a penalty of 1 % of QGR
8	SIEM Availability	All SIEM Availability	>=99.982%	< 99.982% - 99.75% = 1% of QGR <99.75% - 99.25% = 2% of QGR For every subsequent 0.25% degradation in the uptime, there will be a penalty of 1 % of QGR
9	Power Availability (UPS + DG etc.)	Data Centre power will be available 24x7x365 days, inclusive of UPS and DG set backup time	>=99.98%	< 99.982% - 99.75% = 1% of QGR <99.75% - 99.25% = 2% of QGR For every subsequent 0.25% degradation in the uptime, there will be a penalty of 1 % of QGR

1.4.3 Physical Infrastructure Related Penalty

SL. No.	Description	Measurement Method	Target	Penalty
Computing Infrastructure Components (includes servers, OS, database, storage, LAN availability and services etc.)				
1	Row Based Cooling Availability	Availability = {1-[(Downtime) / (Total Time - Maintenance Time)]} *100	>=99.982%	< 99.982% - 99.75% = 1% of QGR < 99.75% - 99.25% = 2% of QGR For every subsequent 0.25% degradation in the uptime, there will be an additional penalty of 1 % of QGR.
2	Server Farm Area Temperature & Relative Humidity	> 22°C or <18°C	Temperature of 20°± 2°C at all times	>22°-23°C = 0.25% of QGR >23°-24°C = 0.50% of QGR <18°-17°C = 0.25% of QGR <17°-16°C = 0.50% of QGR Above 24°C & below 16°C. For every

SL. No.	Description	Measurement Method	Target	Penalty
				subsequent 1°C degradation in the temperature, there will be an additional penalty of 1% of QGR.
		>55% or <45%	Relative Humidity of 50% ± 5% at all times	>55% - 60% = 0.5% of QGR < 45% - 40% = 0.5% of QGR For every subsequent ± 5% degradation in relative humidity, there will be an additional penalty of 1% of QGR.
3	CCTV Availability	Availability = {1- [(Downtime) / (Total Time - Maintenance Time)]} *100	>=99.982%	< 99.982% - 99.75% = 1% of QGR < 99.75% - 99.25% = 2% of QGR For every subsequent 0.25% degradation in the uptime, there will be an additional penalty of 1 % of QGR.
4	CCTV recording availability	The DCO is required to record minimum 25 frames per second of CCTV footage and should maintain sufficient inventory of the captured footages.	The DCO should maintain CCTV recordings of past 7 days at any given point in time. After which the DCO is required to take a back-up of the same and store it for a period of at least 6 months. Unavailability of this data at any point of time is taken as an instance of SLA breach.	1 - 3 instances per quarter - 1% of QGR 4 - 6 instances per quarter - 2% of QGR. 7 - 9 instances per quarter - 3% of QGR. 10 – 12 instances per quarter - 4% of QGR. Greater than 12 instances- 5 % of QGR and letter of warning will be issued and which may lead to termination of contract.

SL. No.	Description	Measurement Method	Target	Penalty
5	Public Address system availability	The DCO is required to keep the Public-address system running with all functionalities and should maintain sufficient inventory of the same.	The DCO should maintain Public address system ready for use with all functionalities at any given point in time. Unavailability of this system at any point of time is taken as an instance.	1-3 instances per quarter - 1% of QGR 4-6 instances per quarter - 2% of QGR. 7-9 instances per quarter - 3% of QGR. 10-12 instances per quarter - 4% of QGR. Greater than 12 instances- 5 % of QGR and letter of warning will be issued and which may lead to termination of contract.
6	Fire Detection & Suppression System Availability	The DCO is required to keep the Fire Detection and suppression system always running with all functionalities and ready to be used automatically and BMS should maintain sufficient inventory for the same.	The DCO is required keep the Fire Detection and suppression system always running with all functionalities and ready to get used automatically. Unavailability of this system at any point of time is taken as an instance.	1-3 instances per quarter - 1% of QGR 4-6 instances per quarter - 2% of QGR. 7-9 instances per quarter - 3% of QGR. 10-12 instances per quarter - 4% of QGR. Greater than 12 instances - 5 % of QGR and letter of warning will be issued and which may lead to termination of contract.
7	Rodent Repellent System Availability	The DCO is required to keep the Rodent repellent system always working with all functionalities and BMS should maintain sufficient inventory for the same.	The DCO is required keep the Rodent repellent system always working with all functionalities. Unavailability of this system at any point of	1-3 instances per quarter - 1% of QGR 4-6 instances per quarter - 2% of QGR. 7-9 instances per quarter - 3% of QGR. 10-12 instances per quarter - 4% of QGR. Greater than 12 instances- 5 % of QGR and letter of warning will be issued and which may lead to termination of contract.

SL. No.	Description	Measurement Method	Target	Penalty
			time is taken as an instance.	
8	Water Leak Detection System Availability	The DCO is required to keep the Water Leak Detection system always working with all functionalities and BMS should maintain sufficient inventory for the same.	The DCO is required keep the Water Leak Detection system always working. With all functionalities. Unavailability of this system at any point of time is taken as an instance.	1-3 instances per quarter - 1% of QGR 4-6 instances per quarter - 2% of QGR. 7-9 instances per quarter - 3% of QGR. 10-12 instances per quarter - 4% of QGR. Greater than 12 instances - 5 % of QGR and letter of warning will be issued and which may lead to termination of contract.
9	Refilling of Novec-1230 Gas	The DCO is required to keep sufficient stock of Novec 1230 for one (1) complete refill at all time	Refilling done within ≤ 1 Day	No Penalty
			Refilling done in ≥ 2 days ≤ 5 Days	2% of the QGR
			Refilling done after >5 days	5% of the QGR. For every subsequent delay in refilling for each day, there will be an additional penalty of 1% of QGR.
10	Access Control System Availability	The DCO is required to keep the Access Control Systemalways working with all functionalities and BMS should maintain sufficient inventory of the ACS.	The DCO is required keep the Access Control System always working. With all functionalities. Unavailability of this system at any point of time is taken as	1-3 instances per quarter - 1% of QGR 4-6 instances per quarter - 2% of QGR. 7-9 instances per quarter - 3% of QGR. 10-12 instances per quarter - 4% of QGR. Greater than 12 instances 6 % of QGR and letter of warning will be issued and which will be followed as termination of contract.

SL. No.	Description	Measurement Method	Target	Penalty
			an instance.	

Note: During the implementation phase and prior to FAT acceptance, in case Novec-1230 gas is consumed due to any reason including mock test(s), it has to be refilled by the DCO at his own cost as per standards (certified by OEM) within 01 day (24 hrs.) from the time of release of gas However, DCO may provide more numbers of fire extinguishers to meet the SLA.

1.4.4   **Civil Works Related Penalty**

SL. No.	Description	Measurement Method	Target	Severity Level	Penalty
1	**Civil work:** Any civil/ electrical work as defined under the SOW of the DCO, Civil Work including the False Flooring,	Any repairing / replacements works which does not affect the business continuity of all the services/ application hosted at the Data Centre.	All repairing / replacements within and up to 12 hours of reporting the problem at the Help Desk	Severity Level 3	Rs. 5,000 per incident
2	False Ceiling, Doors & Locking, Partitioning, Fire Proofing of all surfaces, Furniture & Fixtures and Painting etc.	Any repairing / replacements works which affect the partially business continuity of all the services/ application hosted at the Data Centre but which does not affect the services used by the critical users like Minister,Commissioner, District Collector etc.	Within and up to 08 hours	Severity Level 2	Rs. 10,000 per incident
3		Any repairing / replacements works which affect the business continuity of all the services/application hosted at the Data Centre	Within and up to 60 minutes	Severity Level 1	Rs. 15,000 per incident

1.4.5 Help Desk Services Related Penalty

SL. No.	Measurement	Definition	Target	Penalty
1	Resolution Time	"Resolution Time", is defined as the total time between receipt of the incidence (helpdesk call/ receipt of alarm generated by management system) and the resolution of the incidence.	100 % of the calls which are registered under various severity level to be resolved within the resolution time set for each severity which will be defined during the EMS deployment	No Penalty
			For every unresolved call	Penalty would be levied as defined in IT infrastructure related service levels and Physical Infrastructure related service levels) for the respective components

1.4.6 Compliance and Reporting Penalty

SL. No.	Measurement	Definition	Target	Penalty
1	Submission of MIS Reports	The DCO shall submit the MIS reports as requested by SCITeG /State Designated Agency broadly classified below but not limited to: • IMAC (Install, Move, Add, Change) Report • Quarterly availability of different category of equipment • Exception report indicating calls completed beyond SLA, with calculation of non- performance deduction. • Report on planned server backup and backups actually taken • Server Uptime Report	Reports due in a month shall be submitted by 5th of that month. In case of non-submission of reports up till 15th of the month which they are due in, a penalty equivalent to breach of SLA linked to the report will be	Between 1st – 5th: NA Between 6th - 10th :0.1%of QGR Between 11th - 20th: 0.2% of QGR Between 21st - 30th: 0.3% of QGR Any delay beyond the

SL. No.	Measurement	Definition	Target	Penalty
		• Performance Report • Network Availability and Utilization Report. The DCO shall workout the formats for above reports and get these approved by SCITeG /State Designated Agency within a month of being awarded the contract.	imposed on DCO.	above timelines repeated two consecutive defaults will lead to Termination of Contract.
2	Maintenance of Inventory	The DCO should maintain an inventory of items that will be required on an ongoing basis for IT Non-IT and Civil	The list of inventory items will be finalized after the discussion with DCO. The DCO will maintain inventory of 100% items as per this list	Letter of Warning

1.4.7 Cloud Services Related Penalty

SL. No.	Measurement	Target	Penalty
1	Provisioning and De-provisioning of Virtual Machines	Within and up to 15 Minutes (After the approval of SCITeG)	0.5% of the QGR for every 30 Mins of delay beyond the target time to the maximum capping of 3 hrs. Beyond 3 hours, 1% of the QGR for every 1 hour. Any delay beyond 3 hours repeated two consecutive defaults will be lead to termination of Contract.
2	Uptime of Virtual Machines	>= 99.982%	< 99.982% - 99.75% - 1% of QGR < 99.75% - 99.25% - 2% of QGR Subsequently, every 0.5% drop in SLA criteria - 2% of QGR
3	Uptime of Cloud Solution including the individual Cloud	> = 99.982%	< 99.982% - 99.75% - 1% of QGR < 99.75% - 99.25% - 2% of QGR Subsequently,

SL. No.	Measurement	Target	Penalty
	Solution Modules		every 0.5% drop in SLA criteria - 2% of QGR
4	Overall Cloud Solution Availability	> = 99.982%	< 99.982% - 99.75% - 1% of QGR < 99.75% - 99.25% - 2% of QGR Subsequently, every 0.5% drop in SLA criteria - 2% of QGR
5	Cloud Network Availability	> = 99.982%	< 99.982% - 99.75% - 1% of QGR < 99.75% - 99.25% - 2% of QGR Subsequently, every 0.5% drop in SLA criteria - 2% of QGR
6	Cloud Virtualization Layer Availability	> = 99.982%	< 99.982% - 99.75% - 1% of QGR < 99.75% - 99.25% - 2% of QGR Subsequently, every 0.5% drop in SLA criteria - 2% of QGR
7	Cloud Storage Availability	> = 99.982%	< 99.982% - 99.75% - 1% of QGR < 99.75% - 99.25% - 2% of QGR Subsequently, every 0.5% drop in SLA criteria - 2% of QGR
8	Virtual Operating System Availability	> = 99.982%	< 99.982% - 99.75% - 1% of QGR < 99.75% - 99.25% - 2% of QGR Subsequently, every 0.5% drop in SLA criteria - 2% of QGR
9	Cloud Orchestration Layer Availability	> = 99.982%	< 99.982% - 99.75% - 1% of QGR < 99.75% - 99.25% - 2% of QGR Subsequently, every 0.5% drop in SLA criteria - 2% of QGR
10	Cloud Security Layer Availability	> = 99.982%	< 99.982% - 99.75% - 1% of QGR < 99.75% - 99.25% - 2% of QGR Subsequently, every 0.5% drop in SLA criteria - 2% of QGR

1.4.8   **DR Related Penalty**

SL. No.	Measurement	Target	Penalty
1	Uptime of DR Replication Software	>= 99.982%	< 99.982% - 99.75% - 1% of QGR < 99.75% - 99.25% - 2% of QGR Subsequently, every 0.5% drop in SLA criteria - 2% of QGR

2	Replication of Data	>= 99.982%	< 99.982% - 99.75% - 1% of QGR
			< 99.75% - 99.25% - 2% of QGR Subsequently, every 0.5% drop in SLA criteria - 2% of QGR

1.4.9   **Security and Incident Management Related Penalty**

Sl. No	Incident	Penalty
1	For every virus infection like (Trojan, malware, botnets etc.) attack reported	A penalty of Rs 5,000 will be Imposed for every Virus attack reported and an additional penalty of Rs. 20,000 per instance of unresolved incidence as per the severity level defined at clause no. .5.3.1 (SLA down Time Guidance or Escalation Matrix)
2	Network Latency (for LAN)	Rs. 5,000 per instance of latency more than 2ms up to 4ms Rs. 10,000 per instance of latency more than 4ms up to 5ms Rs. 20,000 per instance of latency more than 5ms
3	For every incidence of Denial of service/Distributed denial of service attack	Rs. 2,00,000
4	For every incidence of intrusion	Rs. 1,00,000
5	For every incidence of unidentified personnel found in SDC	Rs. 10,000/-
6	For every incidence of person without legitimate Photo ID Proof	Rs. 5,000/-
7	For every incidence of Data Theft (Compromise of any data which is hosted in SDC)	Rs. 5,00,000/- will be in addition to any other penalty, punishment applicable under the legal provisions of the country and the State Government prevailing at that point of time.
8	For every incidence of Hacking	Rs. 10,00,000/-

Note: Clause for data theft needs to be read in conjunction with other legal provisions for data theft under IT Act 2000 (and as amended from time to time), breach of confidentiality clause of the RFP and other prevailing laws. Therefore, such instances will not be linked to monetary penalty alone. Penalties will be in addition to other penalties and punishments provisioned as per prevailing law.

1.4.10 Facility Management (O&M) Manpower Availability related penalty

SL. No.	Measurement	Definition	Target	Penalty
1	Resource availability for all services requested under RFP Section "Operations and Maintenance"	No. of shift days for which resource present at the designated location / Total no. of shift days	>80 % averaged over all resources designated for DCO services calculated on a quarterly basis, except Project Manager. Project Manager is required 100 %	No penalty
			>=70% to <80% averaged over all resources designated for DCO services and calculated on a quarterly basis	2% of QGR
			<70% averaged over all resources designated for DCO services and calculated on a quarterly basis	5% 0f QGR + letter of warning

1.4.11 Penalty on Resources

SL. No.	Incident	Definition	Penalty
1.	Knowledge Transfer (KT) will be provided by the outgoing resource to any Substituted/ Replaced resource in any of the case must have been imparted at least 15 working days	There should be a minimum overlap of 15 days between the outgoing and the incoming resource. At the end of this period, a report signed by both the resources will be submitted to the SCITeG /State Designated Agency as proof of successful completion of knowledge transfer (KT)	A penalty of INR 20,000 will be levied in case of insufficient or incomplete knowledge transfer as determined by the SCITeG /State Designated Agency
2.	If without Prior approval of SCITeG /State Designated Agency, any resource substitution/ replacement happens	This will be considered as breach of this agreement	A penalty of Rs. 1,00,000 shall be imposed on the DCO for every instance of breach

3.	If any resource is found unsuitable during the project period	As determined by the SCITeG /State Designated Agency	The DCO will replace these resources within 30 days of intimation by SCITeG failing which a penalty of Rs. 1,00,000 shall be imposed on the DCO for every such resource

1.5 *Change Management Board*

State Government and DCO would mutually be responsible for constitution of a Change Management Board.

The objective of Change Management in this context is to ensure that standardized methods and procedures are used for efficient and prompt handling of all changes to controlled IT infrastructure, in order to minimize the number and impact of any related incidents upon service. Changes in the IT infrastructure may arise reactively in response to problems or externally imposed requirements, e.g. legislative changes, or proactively from seeking imposed efficiency and effectiveness. Change Management can ensure standardized methods, processes and procedures are used for all changes, facilitate efficient and prompt handling of all changes, and maintain the proper balance between the need for change and the potential detrimental impact of changes.

Change Management Board would meet every Friday or as mutually convenient, to review change requests received during the week related to Patches, software or hardware updates, maintenance activities etc.

The change management board would review change requests and determine whether or not they should be made. All changes approved by the change management board would ideally be implemented during scheduled maintenance periods, unless otherwise, felt necessary, notification for which would be sent to the entire user community at the latest by every Friday evening.

5.6.1 SLA Compliance and Review Process

1) DCO has to submit all the reports pertaining to SLA Review process within two (2) weeks after the end of every quarter.

2) All the reports must be made available to State, as and when the report is generated or as and when asked by the State Government.

3) Either SCITeG/State Designated Agency or DCO may raise an issue by documenting the business or Technical problem, which presents a reasonably objective summary of both points of view and identifies specific points of disagreement with possible solutions.

4) A meeting or conference call or any other mutually convenient arrangement will be called and conducted by DCO to resolve the issue in a timely manner. The physical copy of documented issues will be distributed by the DCO to the participants at least 24 hours prior to the discussion.

5) If considered necessary, the DCO shall develop an interim solution, if required, and subsequently the permanent solution for the problem at hand. The DCO will then communicate the resolution to all interested parties.

6) SLA may be revised after every 1 year with mutually acceptable terms between DCO and the SCITeG/State Designated Agency.

1.6 *Liquidated Damages*

In case of delayed submission of design documents mentioned in the scope of work and schedule mentioned therein, penalty of Rs. 20000/- per week per document would be imposed from the stipulated submission date of respective documents. In case of non-submission of such documents at all, an aggregate amount of Rs.10,00,000/- would be deducted.

In case of extension in the delivery period / completion with liquidated damages the recovery shall be made on the basis of following percentages of value of Stores / work completion, which the Bidder has failed to supply/ complete the work.

i.   A Penalty as of 0.5% per week for first 6 weeks, 1% per week for every subsequent week. Subject to a maximum of 5%. Penalty will be computed on CAPEX value of contract. If the work is not completed with the stipulated 8 weeks of time the applicable LD would be 2.5% of CAPEX value of the project per week after the 8th week of delay, subject to maximum value of 10% of CAPEX value of the project. The maximum amount of liquidated damages shall be 10% of CAPEX.

ii.   LD is applicable for implementation period only, for Operation & Maintenance SLA clause will be applicable.

iii.   If the DCO requires an extension of time in completion of contractual supply on account of occurrence of any hindrance, he shall apply in writing to the authority, which has placed the supply order, for the same immediately on occurrence of the hindrance but not after the stipulated date of completion of supply.

iv.   Delivery period may be extended with or without liquidated damages if the delay in the supply of equipment / software / components is on account of hindrances beyond the control of the Bidder.

v.   If State Govt of Arunachal Pradesh government fails to provide space at the respective sites of SDC to DCO and/or delay in statutory/ regulatory approvals/ Non-availability of Bandwidth, the Liquidated damages for such delay shall not be levied on the DCO

vi.   Subject to clause for Force Majeure if the Bidder fails to complete the Commissioning of Data Centre before the scheduled completion date or the extended date or if DCO repudiates the Contract before completion of the Work, the Tendering authority, at its discretion, may without prejudice to any other right or remedy available to the Tendering authority the Contract recover a maximum of 10 percent of the total CAPEX cost from the Implementation Agency, as Liquidated Damages (LD).

vii.   In the case, it leads to termination, the Tendering authority shall give 30 days' notice to the DCO of its intention to terminate the Contract and shall so terminate the Contract unless during the 30 days' notice period, the DCO initiates remedial action acceptable to the Tendering authority.

viii. The Tendering authority may without prejudice to its right to affect recovery by any other method, deduct the amount of liquidated damages from any money belonging to the DCO in its hands (which includes the Tendering authority right to claim such amount against Implementation Agency's Bank Guarantee) or which may become due to the

Implementation Agency. Any such recovery or liquidated damages shall not in any way relieve the DCO from any of its obligations to complete the Works or from any other obligations and liabilities under the Contract.