Abbreviation

RTU:- Remote Telemetry Unit
DI:- Digital Input
DO:- Digital Output
POC:- Proof of Concept
BOQ :- Bill of Quantity
BOM:- Bill of Material
TOC:- Taking over certificate
OPGW:- Optical fiber ground wire
LL:- Lease Line
ILL :- Inter Lease Line
PLCC:- Power line Carrier Communication
SCADA:- Supervisor controller and Data acquisition
SLDC :- State Load dispatch centre
ALDC:- Area Load dispatch Centre
FAT:- Factory Acceptance Test
SAT:- Site Acceptance Test
LDMS:- Load Data Management System
MFM:- Multifunction meter
AMC:- Annual Maintenance Contract
SLA :- Service Level Agreement

General Terms and Conditions

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	MFM	
	Bill of material	

1. **Site Survey**: -

   Bidder may visit GETCO Sub-station prior to submit the bid. However, successful bidder has to visit GETCO sub-station to prepare the site survey report of all sub-stations necessary permission will be given by SLDC GETCO. Bidder has to carry out site survey in coordination with SLDC. Bidder has to submit the site survey report to SLDC for finalization of actual BOQ of the project. SLDC GETCO will approve the site survey report of each sub-stations as per actual requirement of Islanding scheme. Bidder has to supply the materials as per approval. SLDC will provide site survey report format for carrying out site survery at each sub-station.

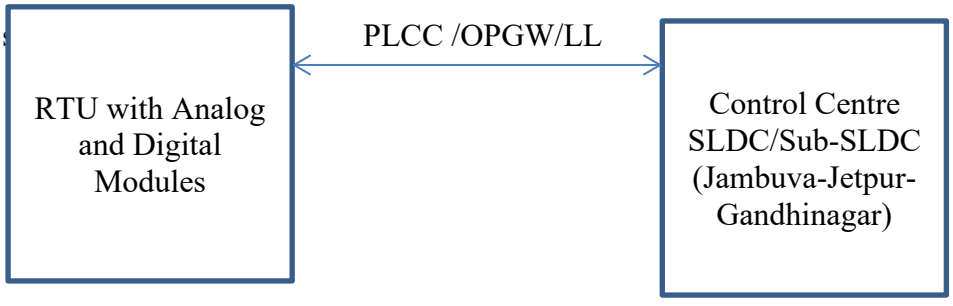
   Site survey shall be carried out jointly in line with SLDC officials or Jetpur Sub-SLDC officials. Bidder has to submit the detail reports for final approval of SLDC.

2. **Bar Chart**: -

   Bidder has to prepare and submit the bar chart for the delivery schedule of the material and execution period of the project. Bidder has to depute dedicated team of skilled engineers to execute the contract within time limit.

3. **Data Communication Architecture: -**

   Present Data communication architecture between RTU and Control Centre is as under



   The RTUs are communicating to respective control centre (Sub-SLDCs) over different communication media e.g. PLCC or Fiber network or Leased line. Bidder has to install the RTU and integrate the data as per present architecture. GETCO will provide communication to the said RTU locations and not in the scope of the bidder.

4. **Communication Availability: -**

Real time data 220KV and 132KV sub-stations will communicate over OPGW fiber network to control centre and 66kv Sub-station data will communicate through GSM/GPRS medium to control centre.

5. **Experienced Man power**: -

Bidder has to depute skilled man power to execute the entire project having experience in electrical wiring and RTU configuration work. Bidder has to submit details of project manager for making necessary correspondence during and after completion of project. Bidder has to submit relevant documents for the same along with technical bid of the tender.

6. Supply of Materials: -

Delivery of materials and Installation and commissioning period will be 12 months from the date of kick of meeting and issue of commencement letter. Commencement letter will be issued separately. Bidder has to submit the comprehensive project charter.

Bidder has to carry out proto type inspection before raising the actual inspection for checking the materials as per technical specifications of the tender. Bidder has to make necessary modification and alteration before manufacturing process as given by GETCO engineer required for smooth integration at field level and supply the materials as per tender terms and conditions. Bidder has to submit the relevant documents of the materials for GETCO approval.

Bidder has to submit the undertaking that the support including spares, patches, upgrades/updates, etc. for the quoted products/software shall be available for next 5 years from the date of successful supply & acceptance of the project. The quoted product should not be end of sale for next 5 years

7. Installation and Commissioning

Bidder has to install and commission the offered solutions with necessary materials as per BOQ of the tender to implement islanding scheme at two locations (Kutch and Jamnagar). Installation and commissioning period shall be as per tender notice.

8. Warranty

The project warranty duration will be 6 years from the date of TOC. (1 year warranty + 5 year AMC) Bidder shall have to provide 6 years warranty (1 year warranty +5 year Comprehensive warranty) of the offered solution. However, bidder has to provide back-to-back OEM support for 5 years. After TOC (Take over certificate) any gap between TOC and warranty period by OEM, that shall be covered. All quoted equipment should cover warranty and guarantee as given by the original manufacturer**.** Tenderer must submit the certificate from manufacturer for onsite warranty & service support for quoted model and it does not

have any addition / alteration in the shipment at dealer end. The Bidder should mention their office / Business partner addresses for maintenance support during the warranty period. In case of business partner, Bidder has to submit copy of undertaking from business partner to provide total service support for the offered product.If supplied items found faulty or damaged then it should be replaced by the bidder without any cost within 15 days within warranty period.

9. Inspection of material: -

Bidder has to raise the inspection after making necessary change if required in the materials and taking necessary approval from GETCO. Bidder has to carry out inspection in presence of GETCO engineers.

Inspection of each material or device shall be carried out at OEM premises only or Factory owned by OEM. Bidder has to remain present during inspection and inspection report shall be submitted for final approval of dispatch of materials at site. SLDC may provide additional agenda for FAT during or before carry out inspection of each material at factory end.

10. Vendor Registration details: -

Bidder has to submit the vendor registration documents for verification of offered RTU model to SLDC along with technical bid. Bidder has to submit the necessary type test report of the offered RTU model and it should not be older more than 5 years. Vendor registration is not mandatory for the project.

11. **Technical Evaluation**: -

i. There should be no compatibility issue among the supplied products, software & components etc. All offered products; software & components should be as per IEEE/ITU/ WPC/DoT standards where ever applicable.
ii. Bidder has to perform proof of concept of Islanding Scheme as per the logic at the location and schedule given by SLDC GETCO at free of cost. Failing to which bid will be technically-disqualified without any further correspondence in the matter.

12. **Factory Acceptance Test (FAT)**: -

Bidder has to submit the draft for FAT documents for GETCO approval and inspection shall be carried as per approved FAT documents. However, GETCO engineers may check the additional functionality at the time of inspection if required for reliable operation of RTU. Bidder has to depute concern engineer during the FAT and he/she shall have experience and knowledge of the project.

13. **Site Acceptance Test (SAT)**: -

Bidder has to submit the draft for SAT documents for GETCO approval and inspection shall be carried as per approved SAT documents. However, GETCO engineers may check the additional functionality at the time of inspection if required for reliable operation of RTU. Bidder has to depute concern engineer during the SAT and shall have experience and knowledge of the project.

14. **Training**: -

Bidder has to submit the training documents before conducting the training and take the necessary approval from GETCO. Bidder has to arrange one training at Bidder's facility and one training at owner's premises and the location for training will be conveyed by GETCO.

Bidder has to provide necessary training to GETCO officials and training agenda shall be provided by SLDC GETCO after successful implementation of islanding scheme. Bidder has to provide training as per training agenda given by SLDC GETCO without any additional cost.

Bidder has to submit the operation manual and various procedures as suggested by GETCO and submit the same in hard as well as in soft copy. The training points are covered in the scope of work of the tender.

1. Bidder has to explain the complete installation, testing & commissioning of all supplied devices to GETCO engineer during commissioning period.
2. Bidder has to demonstrate the complete features and functionality of all devices with complete installation of devices, software configuration part and integration with related devices. Also integrate the data with RTU and same should be available to Sub-SLDCs and SLDC, Gotri.

The Successful bidder shall be required to provide training and 2nos of training during the AMC period after successfully supplied and commission of the islanding scheme. The training should cover the theory and hands on training of:

a. Familiarization with instrument & its parts

b. Procedure of installation, testing & commissioning of each devices offered and supplied in islanding scheme

c. Procedure of installation, testing & commissioning of MFM and integration with RTU.

e. Procedure for creation, deletion, addition and modification of database for RTU,MFM,Switch,Firewall etc.

f. Procedure for uploading and downloading of database to the RTU

g. Procedure for addition of any extra analog input or digital input hardware and integration with RTU.

h. Procedure to chek the healthiness of each supplied devic RTU,MFM,Switch,Firewall etc.
i. Demonstration of software provided with equipment
j. Field maintenance & troubleshooting of equipment
k. Maintenance & troubleshooting of each supplied devices

Bidder has to submit the training agenda and number of days of the training of offered solutions for islanding scheme. However, the training agenda and subject will be finalized and approved by SLDC GETCO. The detail training programme shall be mutually discussed and finalized.

15. **Documentation**: -

3. Bidder has to submit the following documents (but not limited) to this office after completion of project

   a. Four set of engineering drawings of each location
   b. Approved network diagram of both islanding scheme
   c. Manual and handbook of each supplied devices for configuration and installation.
   d. License and firmware version details of each supplied device
   e. Installation and commissioning report of each supplied device
   f. Material list which are used and spare material list
   g. Document describing the procedure for integration of analog & digital data to the RTU, MFM, GPS, Switch, Firewall, Modem etc.
   h. Document for maintenance of database of each supplied devices i.e RTU, switch, firewall, etc.
   i. Site survey report
   j. Approved BOQ list
   k. Delivery challan of each device at respective locations
   l. Warranty certificate for each supplied device
   m. Letter from OEM back-to-back support for supplied items -
   n. Sign of SLA
   o. Ticketing portal URL or email address for complaint book

Above documents are minimum and GETCO may ask bidder to submit additional documents required for project.

Bidder has to submit the all documents relevant to the project to SLDC GETCO. Bidder has to provide list of documents that need to be deliver during the contract period and it shall be approved by GETCO for finalization. The document shall be submitted as per instruction given by GETCO. The detail of documents required for the project is mentioned in the scope of work of the tender.

16. **Earthing**: -

Bidder has to do earthing of panels and related equipment at GETCO sub-station end. However, GETCO will provide AC/DC Supply to the RTU Panel. RTU Panel as well as door of the panel shall be earthed properly and same will be checked during the FAT and SAT of the project. Earthing

will be in the scope of bidder and without proper earthing commissioning activity will not be allowed. Bidder has to submit report for the earthing resistance within permissible limit.

17. **LDMS**: -

Bidder has to develop single line diagram of the respective GETCO sub-stations and configure, map and test the associated I/O Signals in the SLD to implement LDMS (Local distributed management system) for local level monitoring and control of various feeders. Bidder has to design SLD as per the actual sub-station lay out and same shall be available in Local HMI.

Bidder has to map I/O signals which are integrated through MFM or through relay over Modbus or IEC-61850 protocols. Digital signals shall be mapped accordingly and all the data shall be in line with actual site conditions.

18. Packing and Transport: -

All equipment/ material shall be suitably packed for transport, carriage to site and outdoor storage during transit. The bidder shall be responsible for any damage to the equipment during transit and it should be replaced without any extra cost.

The cases containing material shall be very carefully packed and marked with
appropriate caution symbols i.e. “FRAGILE”, “HANDLE WITH CARE”, “USE NO HOOK” etc.

The contents of each package shall bear marking that can be readily identified from the package list.

Packing shall provide complete protection against moisture, termites and mechanical shocks etc.

The moisture absorbent material like silica or other substance should be packed in cotton bags and placed inside the packing.

Wherever necessary proper arrangement for attaching slings for lifting shall be provided and all packages clearly marked with gross weight, signs showing ‘UP’ and ‘DOWN’ sides of boxes, contents of each package, order no. and date, name of the plant/SS/ of which the material in the package forms part of and any handling and unpacking instructions considered necessary.

Any material found short inside the packing case, shall be supplied by the manufacturer/ supplier without any extra cost within 15 days

Any material found short inside the packing case, shall be supplied by the manufacturer / supplier without any extra cost within 15 days.

Bidder shall ascertain, prior to shipment, from concerned authorities, the transport limitations like weight, maximum allowable package size for transportation, material fragile or not etc.

Each consignment shall be accompanied by a detailed packing list containing the following information:

a. Purchase order reference
b. Name of consignee
c. Details of consignment
d. Destination
e. Total weight of consignment
f. Handling & unpacking instructions
g. Bill of materials indicating contents of each package
h. Sign showing upper/ lower side of crate, fragile material or not etc.

19. **AMC Support and service (Non comprehensive)**: -

Bidder has to provide service and support (online/remote) 24x7x365 days for maintaining the islanding scheme at field level as well as at the control centre end. Bidder has to nominate the concern engineer (single point of contact) during the entire AMC period for providing support and services. Bidder has to submit details for making call log / Compliant portal or any web portal or any other in which GETCO can raise the compliant and same shall be resolved by concern engineer within given time limit. In case of non-compliance GETCO can take necessary action i.e. withheld payment-issuance of notice etc. AMC period will be started from the date of completion of warranty period of each RTUs.

In addition to online/remote support as stated above, bidder has to visit for maintenance of installed devices in the field, twice in a year and schedule for the same will be provided by SLDC GETCO. Maintain ace report shall be submitted to respective SUB-SLDC and SLDC. AMC is comprehensive hence any of the faulty part of the installed devices shall be replaced/repair by bidder at no extra cost.

Bidder has to check the logic of islanding scheme at every quarter to test and ensure the functionality of the islanding scheme at Kutch and Jamnagar.

The scope of work under maintenance & support services shall include maintenance of all the software, hardware and services of supplied System along with the future integration and support services for meeting the future requirement envisaged under this project on single responsibility basis.

~~Bidder has to support for firmware upgradation or license version upgradation for the supplied materials for adopting new features and technologies for next 5 years after successfully commissioning of islanding scheme at free cost.~~

~~Bidder has to visit site as and when required by SLDC GETCO and resolve the issue arise in supplied materials at the site without any additional cost.~~

The payment of AMC will be released at every six month and on submission of maintenance report of islanding scheme. Bidder has to visit locations twice in a year.

The AMC of the Islanding Scheme can be extended for further two years after completion of 5 years of AMC period on mutually agreed terms and conditions.

AMC period will be started from the date of completion of warranty period of supplied materials.

5 Year AMC period of islanding scheme will be consider from the date of completion of 1 year warranty period.

The availability of all the equipment/items supplied under the contract is the essence of the contract. Bidder shall maintain required availability of the system during entire contract period (including extension of contract, if any) as per the terms and conditions and requirements mentioned in document. The maintenance of all the supplied system comprises of all activities required to keep the systems up and running all the time at an optimum level by proactive monitoring, diagnosis and rectification of any failure of all the hardware(s) and software(s). The 24x7x365 support shall be provided by Bidder.

The contract period shall include 1 year warranty period and 5 years comprehensive AMC period of supplied materials as per BOQ of the tender. The Owner at their own discretion may extend the duration of maintenance period for further up to 2 years based on the same rates in the contract and at the same terms and conditions. For any addition during the maintenance period, Bidder shall provide services for maintenance of those systems also without any additional cost.

The Bidder shall guarantee continuous availability of the system at 99.0% for a period of four years commencing after completion of the warrantee period. The availability figures of 99.0% will be measured and verified for each device and related accessories at SLDC. Further the availability of 99.0% of Islanding System at SLDC including RTUs, Switches, Firewall,

MFM, UFR, Modem, GPS etc. shall also be ensured by the Bidder. During this period, the Bidder shall take continual actions to ensure the guaranteed availability and shall make available all the necessary resources such as specialist personnel, tools, test devices etc for replacement or repair of all defective parts and shall have prime responsibility for keeping the system operational.

For this period, commencing immediately after Operational Acceptance, the actual availability achieve would be calculated jointly by the Bidder's representative and SLDC.

In case the actual achieved availability falls short of the guaranteed availability, it would be considered as Bidders default. However, before declaring the Bidder's default the SLDC shall negotiate for reaching a mutually acceptable agreement.

The Bidder shall ensure 99.0% availability of entire system including RTUs, Switches, Firewall, MFM, UFR, Modem, GPS etc & all other items supplied as per the BOQ. For all third-party equipment (Hardware & Software), Bidder shall have back-to-back support & warranty with appropriate response time from OEM and these Back-to-Back contracts will be shared with owner before start of defect liability period. Bidder shall be responsible for coordination with the OEM for all matter related to that equipment and for meeting the overall response times and availability requirements specified in the Specification. Bidder shall also be responsible for hardware/software replacement/upgradation without any additional cost in case OEM declares end of life/end of support/ obsolescence for the product.

The maintenance of the System shall comprise of the following category of works (not limited to following work) which is further elaborated for each of the different subsystems:

(a) Preventive Maintenance of Substation RTU/GPS/Router/Switch & Control Centre (SLDC) equipment like, Router, Workstation, Printer, LDMS, etc.

(b) Preventive Maintenance Activity (performance monitoring, system backup, patch management, updates, emergency response and troubleshooting. Need to take regular backup of supplied hardwares and software. Checking the logs of each systems for its healthiness.

(c) Integration of new equipment (RTU, Workstations, Printers, Switch, Router etc.)

(d) Bidder has to make necessary changes in the logics of operation of both islanding scheme (i.e. kutch and Jamnagar islanding scheme) as and when required during the contract period and given by SLDC GETCO.

(e) OEM Back-to-back Support: for all supplied items.

i. All the supplied system shall be under OEM (Hardware and Software) warranty & support till the completion of entire AMC period (including extension of contract, if any).

ii. During entire contract period (including extension of contract, if any), if OEM discontinues / declared ends support to any item supplied (software/hardware/security solution/OS) under the contract, Bidder has to replace such hardware, software (or both, depending on software or hardware dependencies on each-other) without any additional cost to Owner. Replacement shall be of either same or higher configuration keeping required performance specified under the contract and it shall be from the same OEMs. OEM can be changed only after the receipt of letter from OEM regarding non-availability of similar or higher configuration of non-supported item(s).

If any development, customizations, testing, etc. needs to be done for the compatibility of Islanding Scheme and other applications, then the same shall be done by the Bidder at its own cost.

However, SLDC GETCO may provide actual quantum of work before commencement of AMC period as per mutually agreed between SLDC GETCO and successful bidder.

(a) Availability and Maintenance Charges Payment Calculation for field devices:-

Service response requirements:

The severity levels and requirement of response time for various severity levels are define below: -

Three Types of severity level i.e. Severity level-1, Severity Level-2, Severity Level-3

The problems shall be reported telephonically/mail and a call tracking system shall be provided by the bidder at no extra cost. The key objective is to restore the availability of RTU to an operational state as quickly as possible.

Following outages/disruptions will be considered provided Communication link, SDH connectivity and Control Centre hardware are healthy.:-

Category	Definition
Severity-1	Total islanding system shutdown
Severity-2	Outage of RTU/GPS/Switch/Firewall/Modem/Digitalcard/MFM , Delay in RTU data, poor GPS lock, latency, non-availability of designated manpower, Change in the logics of Islanding Scheme etc.
Severity-3	Problem in cabling, panel etc not affecting data availability and functionality

Bidder has to provide online ticketing tool for pr problem or non-availability of real time data of islanding scheme to Bidder and Bidder has to response and resolve the issue within time limit.

The non-availability hours for availability calculation will be counted from the end of the allowed Action Resolution time. It is the endeavor of both the bidder and SLDC to maximize system availability to the extent possible.

Duration of outages over and above the action resolution time, as defined in below mentioned Table, in each of the Severity levels will be counted for the non-availability computation. The resolution may be accomplished by a work around, and such solution will mark the end of non-availability.

In the event of multiple failures at a site, due to a common cause, the first FPR (Field Problem, Report) logged will be used for availability calculation. However, simultaneous multiple outages due to unrelated cause would be counted separately and such multiple outages under each category of Severity level will be counted for availability computation of the system as given in the section below.

Availability computation shall be done on per quarter yearly basis per site. The formula to be used for availability computation shall be as under:

Availability per quarter of field devices

(Af) = [THQ- (S1 x 1+S2 x0.8+S3 x 0.5)]/THQ x 100%

Where THQ is Total Hours in the Quarter
S1 is the total non-available hours in Severity Level-1 in the Quarter
S2 is the total non-available hours in Severity Level-2 in the Quarter
S3 is the total non-available hours in Severity Level -3 in the Quarter

Note:- The above calculation methodology for computation of RTU availability is tentative & may be revised during Order Placement period.

Response and Resolution Time for field devices:

This section describes the target times within which the bidder should respond to support requests. The Initial Response Time is defined as the period from the initial receipt of the support request (through approved communications channels) and the acknowledgment of the bidder subject to the Maximum time defined in table below. The Action Resolution Time is the period from the acknowledgement of support request to the bidder delivering a solution subject to the Maximum time defined in table below. This period includes investigation time and consideration of alternative courses of action to remedy the situation. The Action is defined as a direct solution or a workaround.

Severity	Initial Response Time	Action Resolution Time
1	30minutes	2 hours

2	2Hours	24 Hours
3	1 Day	2 Days

(b) Availability and Maintenance Charges Payment Calculation for control centre:-

Category	Definition
Severity-1	Complete system failure, failure of servers, loss or failure of any major subsystem or system component such as to cause a significant adverse impact to system availability, performance, or operational capability
Severity-2	Degradation of services or expiry of software licenses or critical functions such as to negatively impact system operation. Failure of any redundant system component such that the normal redundancy is lost (as described below) Non-availability of Manpower at Control Centre, cyber security compliance, patch Management, Non-availability of Back-to-Back OEM warranty contract for third party hardware/software/solutions along-with its subscription.
Severity-3	Any other system defect, failure, or unexpected operation (as described below), patch application as recommended by Owner.
Severity-4	Request for information, technical configuration assistance, “how to” guidance, and enhancement requests. (As described below)

Severity-1

This support is required when there is a complete system failure, failure of servers, severe system instability, the loss/ failure of any major sub-system / system or its components, which may significantly impact the system availability, performance, or operational capability at Control Centre.

Following critical functionality will be considered under Seveirty-1:

a) Loss of Critical functionality that causes outage of Software/Hardware-related functionality in Islanding System

b) Outage of hardware, networking, software etc including RTU/GPS/Switch/Firewall/Modem/Digitalcard/MFM etc

c) Outage of any Critical Functions as envisaged in Specifications.

d) Loss of data exchange with RTU/other systems

Severity-2

The support services not defined under Severity-1 are included under this category as mentioned below-

a) Inability of user to create/edit logics, display, database and calculations.

b) Cyber Security remedial actions/compliance suggested by owner within a time-frame & Timely Patch Management.

c) Stoppage of data collections for archiving (provided data storing going on in pre- specified buffer)

d) Outage of other applications not covered under severity-1 are included in this category.

e) Non-availability of OEM back-to-back warranty for supplied systems (hardware and software) during AMC period.

f) Non-availability of designated Bidder's Man-power at Control Centre. However maximum travel time of 24 hours shall be provided in case of manpower replacement.

g) Non-compliance of Monitoring functions

Severity-3

The support services included under this category are when the outage or loss of functionality is neither of an emergency nor priority functionalities as indicated in severity level 1 or 2 above. Problems like Support at Control center for the integration of new equipment (RTU/GPS/Switch/Workstation/Printers), failure of workstation, would be covered under this Severity.

Severity-4

Request for information, technical configuration assistance, "how to" guidance, and enhancement requests are included under this category.

Response and Resolution Time for control centre:

This section describes the target times within which the Bidder should respond to support requests for each category of severity. The Initial Response Time is defined as the period from the initial receipt of the support request (through approved communications channels) and the acknowledgment of the Bidder subject to the Maximum time defined in Table. The Action Resolution Time is the period from the acknowledgement of support request to the Bidder delivering a solution subject to the Maximum time defined in Table. This period includes investigation time and consideration of alternative courses of action to remedy the situation. The Action is defined as a direct solution or a workaround.

Severity	Initial response time	Action resolution time
1	30 Min	1 Hour
2	1 Hour	6 Hours
3	12 Hours	1 Day
4	1 Day	5 Days

Availability per quarter of control centre

(Ac) = [THQ- (S1 x 1+S2 x0.8+S3 x 0.5)]/THQ x 100%

Where THQ is Total Hours in the Quarter
S1 is the total non-available hours in Severity Level-1 in the Quarter
S2 is the total non-available hours in Severity Level-2 in the Quarter
S3 is the total non-available hours in Severity Level -3 in the Quarter

Total Availability per quarter = (Af + Ac)/2

5.0 Security Related Aspects for Service Level Agreement

1. The Bidder shall ensure that the procured product is aligned to current good practices for cyber security of industrial systems.
2. The Bidder shall provide documentation of software/firmware that supports the procured product, including scripts and/or macros, run time configuration files and interpreters, databases and tables, and all other included software (identifying versions, revisions, and/or patch levels, as delivered). The listing shall include all ports and authorized services required for normal operation, emergency operation, or troubleshooting. The Bidder shall also provide documentation of disabled ports, connectors, and interfaces. The Bidder shall configure the procured product to allow the

owner the ability to re-enable ports and/or services if they are disabled by software.

3. The Bidder shall have the responsibility to manage any identified vulnerabilities prior to delivery of the procured product and inform the owner of any remaining in the procured product at the time of delivery. In addition, the Bidder shall have the responsibility to provide product vulnerability notifications related to the procured product during their life in accordance with agreed support contracts. The Bidder shall also provide summary documentation of uncorrected security vulnerabilities or any identified security breaches involving the procured product. The summary documentation shall also include a description of each vulnerability or breach, its potential security impact, root cause, and recommended corrective actions (compensating security controls, mitigations, and/or procedural workarounds) involving the procured product.
4. The Bidder to notify the owner of potential security incidents or relevant risk, such as breaches affecting agreed data connections, personnel issues or compromise of information (physical or electronic) in their organisation and identified vulnerabilities that may affect the owner's systems whether considered a cybersecurity risk by the Bidder or not.
5. The Bidder shall have the accountability for the cyber security of their supply chain, this includes but is not limited to sub-Bidders or sub-suppliers contracted in the supply of the procured product to the owner. The equipment/ devices included in the scope of the procured product are subject to the same security requirements as mentioned in case of procured product.
6. The Bidder shall meet any agreed product assurance, monitoring, vulnerability testing, audits or other supply chain security requirements appropriate to the procured product. Security assurance measures for the procured product may include penetration testing against non-operational environments or testing of individual components in a test environment.
7. The Bidder shall provide summary documentation of its secure product development life cycle including the standards, practices (including continuous improvement), and development environment (including the use of secure coding practices) used to create or modify company-provided energy delivery system hardware, software, and firmware.

8. The Bidder shall have the responsibility to provide an inventory of all assets included in the delivery of procured products. The inventory contains appropriate information for asset management and identifies critical or operationally important assets where possible. The Bidder shall identify and document system interfaces and dependencies for the procured product. The Bidder shall ensure any changes to the Energy Delivery System are updated in inventory or a record is provided to the owner.
9. The Bidder shall have the responsibility to comply with the owner's security policies and procedures relating to the information or connections to the owner's systems.
10. The Bidder shall ensure that procured product has appropriate security, network and segregation provisions to support and enable a 'defence-in-depth' approach. The Bidder shall recommend guidance on the design and configuration of network security zones within the procured product. The Bidder shall provide information on all communications (e.g., protocols) required between network security zones, whether inbound or outbound, and identify each network component of the procured product initiating communication. The Bidder shall verify and document that disconnection points are established between the network security zones and provide the methods to isolate the zones to continue limited operations.
11. The Bidder shall verify and provide documentation for the procured product, attesting that unauthorized logging devices are not installed (e.g., key loggers, cameras, and microphones), as specified by the owner.
12. The Bidder shall document all accounts (including, but not limited to, generic and/or default) that need to be active for proper operation of the procured product.
13. The Bidder shall change default account settings to Owner-specific settings (e.g., length, complexity, history, and configurations) or support the Owner in these changes. The Bidder shall not publish changed account information. The Bidder shall provide new account information to the Owner via a protected mechanism.
14. Prior to delivery of the procured product to the Owner, the Bidder shall remove or disable any accounts that are not needed for normal or maintenance operations of the energy delivery system.

15. As specified by the Owner, accounts for emergency operations shall be placed in a highly secure configuration and documentation on their configuration shall be provided to the Owner.
16. The Bidder shall provide a configurable account password management system that allows for, but is not limited to, the following:
    - Changes to passwords (including default passwords)
    - Selection of password length
    - Frequency of change
    - Setting of required password complexity
    - Number of login attempts prior to lockout
    - Inactive session logout
    - Screen lock by application
    - Comparison to a library of forbidden strings
    - Derivative use of the user name
    - Denial of repeated or recycled use of the same password
17. The Bidder shall protect passwords, including not storing passwords in clear text and not hardcoding passwords into software or scripts.

20. **Training in AMC**: -

    Bidder has to provide 5 days training during warranty and AMC period to 10Nos. of GETCO officials and the location for training will be approved by SLDC GETCO. Training manual shall be provided in the form of soft and hard copy to GETCO engineers. Training topics will be prepared and finalized by SLDC GETCO.

21. **Outage**: -

    Bidder shall carry out the installation and commissioning activity with minimum outage period of the existing RTU in the respective GETCO sub-station to ensure the minimum loss of real time data to the control centre. Installation and commissioning plan will be decided and guided by SLDC GETCO in coordination with respective SUB-SLDCs.

22. **MFM for 220KV AND 66KV Sub-stations**: -

    Multi Function meter shall be supplied as per technical specifications. The quantity of the Multi function meter will be decided on the basis of site survey report. Bidder has to procure required materials i.e. lugs, cables, terminal block etc. for integration of Multi-function meter at GETCO sub-station end.

23. Bill of materials

Bidder has to visit GETCO sub-stations for preparation of bill of materials for the project and same has to submit SLDC GETCO for final approval before commencement.