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3rd Addendum to RFP Document No. GERMI/SRW/2015/CMPDI/010

Issued on 27th April, 2015

Dear All,

With reference to the Request for Proposal issued on 7th March, 2015 for selection of Microgrid System Integrator to supply, install, commission, operate and maintain a Microgrid System at CMPDI Campus, Ranchi, Jharkhand, this is to inform you all that there is further amendment in the RFP Document and the same is detailed below:

Page No.	Clause No.	Clause Details	Amendment Details
Important Dates and Amounts			
7	1.2.	Pre-bid meeting and last day for requesting clarification	Changed to Presentation and discussion for Microgrid Logic and Control till 30.04.2015 by 1100 Hrs
7	1.3.	Last date for submission of bid	Changed to 11.05.2015 at 1200 Hrs
7	1.4.	Technical bid opening	Changed to 11.05.2015 at 1500 Hrs
7	1.5.	Presentation and discussion for Microgrid Logic and Control	Not used
7	1.6.	Evaluation of technical bids and opening of financial bid	Changed to 18.05.2015 at 1500 Hrs
Instructions to Bidders			
10	6.13.	Clause Added	The MSI can be consortium of 2 or maximum 3 parties. If a company has to claim the experience of other party to meet the eligibility criteria outlined in Clause 7 of the RFP, then Appendix 24: Format of Consortium Agreement to be entered amongst all Members of a bidding Consortium needs to be duly filled and signed by all the members of the consortium along with Appendix 25: Format of Letter of Consent by Consortium Member reviewing each element of the Bid . Parties representing the consortium will be held responsible jointly and severally.

11	7.1.5.	Bidder must have supplied, installed and commissioned minimum of 400 Nos. such of Monitoring systems.	Bidder must have supplied, installed and commissioned minimum of 400 Nos. such of Load nodes/smart meters/Intelligent Electronic Devices (IEDs)/Field devices for data acquisition.				
Submission of Bid							
18	29.4.	Table changed. Refer the new table as mentioned in adjacent columns	Sr. No.	Criteria	Marks		
			1	Merit of scope of solution offered	10		
			2	Sophistication, specifications and technical capabilities of equipments used	10		
			3	Methodology and details of project execution	10		
			4	Past experience (Quantity and technical merit) of past similar projects*	10		
5	Clarity and details of quality of presentation of proposal	10					
18	29.5.	*Similar Projects mean demand response, Renewable energy integration, power automation amongst various generating sources functionalities in a microgrid of at least 500kW connected load consisting of all the following:	*Similar Projects mean demand response, Renewable energy integration, power automation amongst various generating sources functionalities in a microgrid of at least 500kW connected load installed globally consisting of all the following:				
19	4.9.2.	The financial bid will be evaluated based on:.....	d. Evaluation method example:				
			Parties	Financial quote	Technical score (out of 100)	Ratio= Financial (in lacs)/ % of Technical score	Results
			P1	50 lacs	80	62.5	L2
			P2	60 lacs	90	66.67	L3
			P3	45 lacs	90	50	L1
P4	45 lacs	60	75	L4			
20	35	Letter of Intent ("LOI") and Notification to Proceed	Letter of Intent ("LOI")/Letter of Award ("LoA") and Notification to Proceed				

20	35.1.	After selection of the successful bidder, a Letter of Intent shall be issued, in duplicate, to the successful bidder and the successful bidder shall accept the LoI within seven (7) days of the issuance of the LoI. The successful bidder shall not be entitled to seek any deviation from the contract, as may have been amended by GERMI prior to the bid submission date.	After selection of the successful bidder, a Letter of Intent/Letter of Award shall be issued, in duplicate, to the successful bidder and the successful bidder shall accept the LoI/LoA within seven (7) days of the issuance of the LoI/LoA. The successful bidder shall not be entitled to seek any deviation from the contract, as may have been amended by GERMI prior to the bid submission date.
Scope of Work			
21	37.1.4.	Able to forecast load, weather, availability of power source for smooth functionality	Able to but not mandatory to forecast load, weather, availability of power source for smooth functionality and participation in future power trade
21	37.1.11.	System should be able to take part in future power trade	System should able to but not mandatory to take part in future power trade
	37.1.19.	Addition of Clause	SI to install UPS with battery backup for smooth transition between Grid and Islanding mode. The battery to be designed such it should able to provide auxiliary power to the microgrid controller with 100% uptime.
	37.1.20	Addition of Clause	The SI to install the microgrid controller keeping in mind future expansion of loads in the campus i.e. assuming 20%, hence the controller/head end system to have the expansive capacity to establish link with future field devices to control/monitor the assumed 20% added loads.
	37.2	Addition of Clause	GERMI reserves the right to award full scope of work or reduce the same as per its own discretion.
22	38.3.13.	Operations and Maintenance Activities: The bidder is supposed to provide the operation and maintenance activity support for 5 (five) years (at the discretion of GERMI/CMPDI any year from one to five can be given as O&M period) after the date of commissioning of the project. Operation and Maintenance activities after five years would be on cost basis and would mutually decided by GERMI/CMPDI and bidders based on the quotation provided by the bidders.	Operations and Maintenance Activities: The bidder is supposed to provide the operation and maintenance activity support for 5 (five) years (at the discretion of GERMI/CMPDI any year from one to five can be given as O&M period) after the date of commissioning of the project. Operation and Maintenance activities after five years would be on cost basis and would mutually decided by GERMI/CMPDI and bidders based on the quotation provided by the bidders. The detailed maintenance & support services are mentioned in Appendix 23 : Maintenance and Support services.
24	40.2.6.	Integration of existing & new field devices;	Integration of new field devices with existing equipment including but not limited to GPRS based smart meters at MAINS supply side, load distribution side, DG sets and Solar rooftop systems;
24	40.2.7.	Integration with Central Control System;	Deleted and not used

24	40.2.12.	To implement all minor civil works necessary for installation of proposed equipment, successful bidder should provide the details of such work to CMPDI/GERMI	To implement all civil works necessary for installation of proposed equipment, successful bidder should clearly indicate the detail drawings of all the civil works including but not limited to trench work, foundations, structures etc. to GERMI to execute installation.
24	40.2.20.	To provide storing, maintenance of storing area and security including full responsibility for protection from theft and fire for all the items to be supplied. The warehouse may be a temporary storage area to be constructed by SI or the same may be taken on rent in Employer's premises;	Deleted and not used

General Terms and Conditions

30	51.2.	The work must be completed as per the Timeline below from the date of handing over of Site..... (Table)	Table changed to		
			Sr. No.	Stage	Reference from Zero Date ("D") + weeks
			1	Issue of LoA	D
			2	Submission of detailed drawings for approval	D+4
			3	Approval of detailed drawings	D+6
			4	Manufacture, inspection, Supply and Delivery of entire microgrid equipments at site	D+22
5	Commissioning of entire Microgrid System	D+26			
31	53.1.	In case the Integrator fails to achieve successful commissioning of Microgrid System by the due date indicated in Timeline, then GERMI shall levy the liquidated damages on the Integrator individually (wherein partial commissioning shall not be accepted) at the rate of 1% of the EPC Contract Price every week continuing till the 10th week.	In case the Integrator fails to achieve successful commissioning of Microgrid System by the due date indicated in Timeline, then GERMI shall levy the liquidated damages on the Integrator individually (wherein partial commissioning shall not be accepted) at the rate of 1% of the EPC Contract Price every week continuing till the 4th week.		
31	53.2.	For calculation of liquidated damages, the 101st day from the dated of Acceptance of LoI shall be considered as the first day of starting of week for charging LD.	For calculation of liquidated damages, the 1 st day after completion of 6 th month from the dated of Acceptance of LoA shall be considered as the first day of starting of week for charging LD.		

31	53.3.	The maximum time period allowed with (LD) delay in Commissioning of the Project shall be 170 (hundred and seventy) days from the date of Acceptance of Lol. In case of commissioning taking more than 170 days, GERMI may terminate the Contract of the Integrator and get the Project completed by other suitable agency at the risk and cost of the Integrator.	The maximum time period allowed with (LD) delay in Commissioning of the Project shall be 6 months + 28 (TWENTY EIGHT) days from the date of Acceptance of LoA. In case of commissioning taking more than 6 months + 28 days, GERMI may terminate the Contract of the Integrator and get the Project completed by other suitable agency at the risk and cost of the Integrator.
31	54.1.	For calculation of penalty on underperformance (please see Appendix 19: Procedure for performance testing), failure accounted in percentage above the tolerance value of 2% will be reported annually and reviewed. The failure rate occurring the most in that typical year will be taken as a factor against EPC Contract Price as penalty. For e.g. 3% failure rate has been for the most number of days in that year, then 3% of the ECP will be considered for penalty.	For calculation of penalty on underperformance (please see Appendix 23: Maintenance and Support services ; section: 1.6.1 Availability computation for Microgrid system).
31	55.1.	The Defect Liability Period shall be eighteen (18) months from the date of expiry or early termination of this Contract (“Defects Liability Period”) including the operation and maintenance period. The Integrator shall also be undertaking the operation and maintenance of the Microgrid System and consequently shall be required to rectify any defects that emerge during the operation of the system for the entire term of this Contract.	The Defect Liability Period for supply portion shall be twelve (12) months from the date of commission or 18 months from the date of supply whichever is earlier of this Contract (“Defects Liability Period”). The Integrator shall also be undertaking the operation and maintenance of the Microgrid System and consequently shall be required to rectify any defects that emerge during the operation of the system. For O & M portion, warranty will be applicable only on the replaced parts for a period of 6 months.
35	68.1.	GERMI shall have the right to make any change in the Microgrid Logic/ algorithm based on effectiveness, which may be necessary in the opinion of GERMI to make the plant and materials conform to the provisions and contents of the specification without extra cost to GERMI. The Integrator then need to change the algorithm logic sent in the Cover II of technical bid, in the first place to meet with the demand.	GERMI shall have the right to make any change in the Microgrid Logic/ algorithm based on effectiveness, which may be necessary in the opinion of GERMI to make the plant and materials conform to the provisions and contents of the specification without extra cost to GERMI after successful commission of the microgrid. The Integrator shall accordingly change the algorithm logic within the capabilities of their supplied solutions to meet the current standard practices.
	79.1.4.	Addition of Clause	After receiving invoice each time, payment shall be made for EPC Contract Price through cheque only, within a period of 30 days from the date of receiving invoice

	79.1.5.	Addition of Clause	The payments for O&M Contract Price will be released quarterly against the invoices raised in pro-rata basis within a period of 30 days
40	87.1.	The Operation and Maintenance of the System shall be comprehensive for a period of 5 years. GERMI may have discretion to reduce this period also. The maintenance service provided shall ensure project functioning of the Microgrid controller system and its auxiliary components and power evacuation system to the extent covered in the Contract. All preventive/ routine maintenance and breakdown/ corrective maintenance required for ensuring maximum uptime shall have to be provided. Accordingly, the Comprehensive Operation and Maintenance shall have two distinct components as described below:	The Operation and Maintenance of the System shall be comprehensive for a period of 5 years. GERMI may have discretion to reduce this period also. The maintenance service provided shall ensure project functioning of the Microgrid controller system and its auxiliary components and power evacuation system to the extent covered in the Contract. All preventive/ routine maintenance and breakdown/ corrective maintenance required for ensuring maximum uptime shall have to be provided. Please refer Appendix 23: Maintenance and support services
40	87.1.1.	Preventive / Routine Maintenance: This shall be done by the Integrator regularly and shall include activities such as cleaning and checking the health of the System, tightening of all electrical connections, and any other activity that may be required for proper functioning of the Microgrid controlling system as a whole.	Deleted and not used
40	87.1.2.	Breakdown/ Corrective Maintenance: Whenever a fault has occurred, the Integrator has to attend to rectify the fault. The fault must be rectified within 24 hrs time from the time of occurrence of fault failing which the Integrator will be penalized as per terms and conditions of this RFP.	Deleted and not used
Special Terms and Conditions			
44	103	Samples	Deleted and not used

44	103.1.	<p>Apart from adhering to special provision made in the specification regarding submission of samples, the Integrator shall within ten (10) days of its receipt of Letter of Award, provide to GERMI samples along with detailed literature of all materials it proposes to use irrespective of the fact that specific make/ material might have been stipulated. If certain items proposed to be used are of such nature that samples cannot be presented or prepared at Site, detailed literature / test certificate of the same shall be provided instead. GERMI shall check the samples and give his comments and/or approval to the same.</p>	Deleted and not used
	Change	Appendix 12: Format for Financial Bid - Table A	Refer Attachment 1 to this document
	Not Used	Appendix 19: Procedure for performance testing	Deleted and not used
	Addition	Appendix 23: Maintenance and Support Services	Refer Attachment 2 to this document
	Addition	Appendix 24: Format of Consortium Agreement to be entered amongst all Members of a bidding Consortium	Refer Attachment 3 o this document
	Addition	Appendix 25. Format of Letter of Consent by Consortium Member reviewing each element of the Bid	Refer Attachment 4 o this document

.....(Sd/-).....
Prof. (Dr.) T. Harinarayana
(Director, GERMI)

Appendix 12: Format for Financial Bid

(On Company's letter head)

Date:

To,

The Deputy Manager (Commercial)

1st Floor, Energy Building
Pandit Deendayal Petroleum University Campus, Raisan
Gandhinagar 382 007, Gujarat
INDIA

Sub: Financial Proposal for Supply, Installation, commissioning and maintenance of a microgrid system for 5 years at CMPDI Campus, Ranchi

RFP No.: _____

Dear Madam,

I, _____, present the Financial bid for the Bid for "Supply, Installation, commissioning and maintenance of a microgrid system for 5 years at CMPDI Campus, Ranchi" on EPC, confirming that:

- i. I agree to all the terms and conditions set forth in this RFP Document. If awarded the Project, the implementation of the Project shall also conform to the terms and conditions, as well as specifications indicated in the RFP Document and as finally indicated by the Evaluation Committee.
- ii. Rates quoted in this Bid is for destination prices inclusive of all taxes (unless stated otherwise), levies, duties, packing, forwarding, freight, insurance, loading, unloading, supply, installation, commissioning, and any/all charges for successful Supply, Installation, commissioning of a microgrid at Site. The break-up of taxes considered are also furnished in price bid.
- iii. Rates quoted in this Bid show the rates and taxes separately. The statutory variation in taxes shall be dealt by GERMI as specified in the RFP.

The details quoted herein stand valid for at least 90 (Ninety) days from the date of submission of the Bid:

(Continued on next page.....)

(A) Table A: Price Quote for EPC Contract

(A) Hardware Components							
Sr. No.	Item	Equipment rate/Microgrid system (without taxes & duties)	Units/ Qty.	Total	Freight and transportation	CST/ VAT/ Duty (if applicable)	Final Rate For Equipment/Microgrid system
		(A)	(B)	(A) * (B) = (C)	(D)	(E)	(H)=(C+D+E)
		(In Rs.)		(In Rs.)	(In Rs.)	(In Rs.)	(In Rs.)
1	Equipment no. 1						
2	Equipment no. 2						
3						
4						
Total Hardware costs (I) in figures							
Total service cost (B) in words:							
(B) Services Part							
Sr. No.	Items	Cost of Service		Services Tax	Final Rate		
		(A)	(B)	(C)=(A+B)			
		(In Rs.)	(In Rs.)	(In Rs.)			
1	General work including erection, commissioning, testing etc. of entire microgrid system						
Total Service Cost (II) in figures							
Total service cost (B) in words:							
TOTAL FINANCIAL COST (I) + (II) IN FIGURES							
Total Financial Cost (A) + (B) in words:							

Note:

1. Total hardware and installation and commissioning cost should not increase more than Rs 50,00,000/- (INR Fifty Lacs Only).
2. EPC cost without CST/VAT shall be considered for evaluation of bid.
3. No variation due to change in forex rate shall be admissible.
4. Payment shall be made in Indian National Rupees (INR) only. Bidder(s) has to quote their rate in INR only.

(B) Table B: Price Quote for O&M Contract

Sr. No.	Item	Rate (excluding service tax)[#] (in INR)
1	Operation and Maintenance of the Microgrid system for First YEAR	
2	Operation and Maintenance of the Microgrid system for SECOND YEAR	
3	Operation and Maintenance of the Microgrid system for THIRD YEAR	
4	Operation and Maintenance of the Microgrid system for FOURTH YEAR	
5	Operation and Maintenance of the Microgrid system for FIFTH YEAR	

Only applicable service tax and any surcharge or cess thereon shall be paid by GERMI. All other applicable taxes are included in the quoted number

Signature: _____

Designation: _____

Name: _____

Phone: _____

Seal of Company/ Organization: _____

Email: _____

Appendix 22: Maintenance and Support Services

The scope of work under maintenance & support services shall include a comprehensive maintenance of all the software and hardware provided by the System Integrator (SI) for the microgrid system along with future integration and support services for meeting the future expansion requirement envisaged under this project. The maintenance practices to be followed shall be as per ISO 20000 Standard. The essence of the maintenance and support services is to provide maintenance support for the designated hardware and software, with the goal of meeting the availability as set forth herein.

1.1 Maintenance support

The period of maintenance support shall be the one year Warranty (Defect Liability) period commencing from Operational Acceptance and subsequent remaining 4 years of the O & M period thereafter. **GERMI may extend the duration of maintenance period on the same rates in the contract and at the same terms and conditions.**

The nature of maintenance support required for the microgrid system described in the **Table 1.1** below:

Table 1.1 Maintenance support and Availability requirements

Sr. no.	System	System Availability requirements
1	Microgrid System (Field devices/RTUs, network equipments, servers, cyber security systems, micro controller, Data acquisition system etc.)	95%

For all third party equipment (Hardware & Software) System Integrator (SI) shall have back to back support along with supply of spare with appropriate response time from OEM/OEM Authorised representatives. System Integrator (SI) shall be responsible for coordination with the OEM for all matter related to that equipment. But the System Integrator (SI) shall be responsible for meeting the overall response times and availability requirements specified in the Specification.

The maintenance of the System shall be comprehensive and shall comprise of the following category of works which is further elaborated for each of the different subsystems:

- (a) Preventive Maintenance Activity (performance monitoring, system backup, Server software updates, emergency response and troubleshooting etc.)
- (b) Integration of new equipment (RTUs, load nodes, Servers, Workstations, Data Historian, Storage devices, Printers, Switch, Router etc.) and
- (c) Integration of existing smart meter or other field devices installed at generation, supply or consumption side to the main control system. The System Integrator (SI) shall provide the services for integration during Maintenance Period for the quantities mentioned in BOQ without any cost implication to the Owner.

1.2 Preventive Maintenance Activity

The preventive maintenance activity is the activities to be performed by the System Integrator (SI) to keep the system running at optimum level by diagnosis and rectification of all hardware and software failures and would broadly include

- Repair / replacement of defective equipments. The System Integrator (SI) shall be responsible for repair/replacement of all the hardware including consumables required for the various systems. Only replacement of printer cartridge and paper rim shall be excluded from the scope of the System Integrator (SI).
- Configuration of the replaced hardware and software, periodic routine checking as part of a preventive maintenance program (as described in further detail in this document) which would include checking of functionality of hardware and software,
- Monitoring of the performance of the system and doing necessary tuning for optimum performance to accommodate any changes such as addition of new components.
- Providing all necessary assistance to Employer for addition and modification of database and displays and Database sizing activities.
- Take Backup of the system at regular interval
- Restoration of the systems upon its failure and to restore the functioning of the various systems at the different Control Centres.

Routine works like database works and other such day-to-day operational activity would primarily be the responsibility of Owner and in case of any difficulty in this regard the same shall be referred to the System Integrator (SI) for support.

1.2.1 Hours of Cover

The System Integrator (SI) shall provide at least one engineer who has an experience and skill to maintain the microgrid system to the desired level of availability. The System Integrator (SI)'s on-site support for microgrid system shall be:

- i. Preventative maintenance: Quarterly 1 no. visit by the SI representatives for 2 days
- ii. Breakdown maintenance: 1 visit of 2 days in a year.

The support personnel so deployed shall be qualified personnel having at least one year of experience in the relevant field. The System Integrator (SI) shall submit the CV's and recommendation letter from customer's for all support personnel(s) to GERMI for approval before deployment at site. The Employer can ask the System Integrator (SI) to replace the personnel deployed for maintenance support if his performance is not found to be satisfactory.

System Integrator (SI) and its personnel have to follow all rules and regulations of CMPDI's office premises in view of owner's certifications of ISO-9001, ISO-14001, OHSAS-18001 and ISO-27001 including any other future certification.

1.2.2 Service Response requirements

The severity levels are defined in coming sections and the requirement of response time for various severity levels is defined below:

Emergency Support for Severity 1 issues are to be provided 24 hours a day, seven days a week. The on-call support team shall include all key technical competencies so that any aspect of a system failure can be attended. The team shall comprise of experienced technical staff that are skilled in troubleshooting of the various systems covered under AMC (OM). Severity 1 problems shall be reported by telephone for rapid response; target response times are defined in **section 1.6**. For severity 1 problems, the key objective is to restore the system to an operational state as quickly as possible, including by a temporary workaround. Resolution of the defect may be completed during standard hours.

Severity 2, 3, and 4 problems shall be reported by CMPDI/GERMI through a call tracking system to be provided by the System Integrator (SI). Resolution of problems may also be provided by an individual fix that will be installed by the System Integrator (SI) at no extra cost to Owner.

1.2.3 Monitoring

The operation and performance of the various systems under AMC shall be monitored on a fortnightly basis, the System Integrator (SI) shall review the following, analyse the results, and submit report to Owner. The System Integrator (SI) shall conduct at least the following monitoring, for the all Control Centres.

1.2.3.1 Log Monitoring

- System logs for a selected day
- System history log
- Aggregate data collection
- Events Collection

During monitoring if any defect/ abnormality is found, the System Integrator (SI) shall undertake corrective maintenance for the same.

1.2.3.2 Resource Monitoring

Resource Monitoring services comprises checking the system's major node resources, gather log data, analyse results, and advise Owner/Employer on the appropriate actions to be taken and undertake any agreed upon actions. The NMS system shall be able to continuously collect the following information:

- CPU loading (Peak and Average)
- Memory utilisation (Peak and Average)
- Disk utilization (Peak and Average)
- LAN utilization (Peak and Average)
- Operating system resource utilisation reports
- System error log

The bidder shall submit the procedures details to meet the above along with the offer.

1.2.3.3 Cyber security System monitoring

The System Integrator (SI) shall also be responsible for monitoring of the cyber security system. The logs of the system shall be analysed for exceptions and the possible incident of intrusion/trespass shall be informed to the Employer.

The monitoring shall encompass the various cyber security devices installed at Control Centre and Substations such as firewalls, Intrusion prevention system (both network based and host based), routers etc. The Centralised Monitoring Console (CMC) shall monitor and continuously collect the above logs.

1.2.4 Patch Management

The System Integrator (SI) shall also be responsible for providing updates/patches for the software products supplied under the project. All other patches of third party product like Operating System and Anti-virus shall be tested by the System Integrator (SI) prior to installing in the CMPDI's network. Other products like Firewalls shall also be provided with secure patch management. A secure patch management and deployment system is to be established which shall be provided with single point of Internet connectivity. All the patches shall be downloaded through this single point of connection.

The System Integrator (SI) shall provide a mechanism for patch management so that it is known that what patches have been applied, what all patches are pending but available with us and what is the recent release of patches for the various products. Any patch shall be applied only with express permission of the employer's representative.

1.2.5 Physical maintenance

The System Integrator (SI) shall undertake physical maintenance of all equipment/modules under the scope of this contract, in accordance with this section. The physical maintenance shall include cleaning, dusting, inspection of equipment for loose connections, damage to insulation, pest infections etc. as follows:

Activities shall include but not limited to:

- (a) Online diagnostics for servers and workstations - once every 3 months.
- (b) Connection test of LAN cables for identifying potential loose contacts in machines, switches and routers - once every 3 months.
- (c) Physical hardware checks to ensure proper working of cooling fans etc. - Once every 3 months.
- (d) Physical inspection to check the machines and the panels for rat droppings, lizards or other vermin - once every 3 months.
- (e) Cleaning and blowing for removal of dust from Servers and Workstations and CFE panels - once every 3 months.

Exclusions:

- a) Interfacing panels cleaning etc. are excluded from the scope above.
- b) Maintaining dust free environment and protection from rodents and vermin is the responsibility of Owner.

- c) Regular cleaning of computer furniture and surroundings is the responsibility of Owner.

Equipment shutdown for preventive maintenance shall be deemed as available for calculation of availability.

1.3 Integration of new equipment

All future services, protocol emulations and configuration support for integration of field devices/ smart meters/ load nodes/ RTUs with the Control Centre integration with Web services shall be the responsibility of System Integrator (SI) and shall be part of the maintenance charges. The integration services to be provided by the bidder will include the field devices/ smart meters/ load nodes/ RTUs configuration, addition of New field devices/ smart meters/ load nodes/ RTUs and its integration with other PDCs, addition of interface for Analytical real time & off-line Applications, OPC Clients if applicable etc .

1.4 Problem/Defect Reporting

The bidder shall submit an appropriate problem/defect reporting procedure to meet the requirement of all severity levels to get the approval of the same from GERMI.

The problems will be categorized as follows:

Table 1.2 Severity Levels

Category	Definition
Severity 1 – Urgent	Complete system failure, severe system instability, 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 – Serious	Degradation of services or critical functions such as to negatively impact system operation. Failure of any redundant system component such that the normal redundancy is lost Non-availability of Man-power at Control Centre during working hours, non-availability of spares
Severity 3 – Minor	Any other system defect, failure, or unexpected operation
Severity 4- General / Technical Help	Request for information, technical configuration assistance, “how to” guidance, and enhancement requests.

1.5 Response and Resolution Time

This section describes the target times within which the System Integrator (SI) 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 System Integrator (SI) subject to the Maximum time defined in **Table 1.3**. The *Action Resolution Time* is the period from the acknowledgement of support request to the System Integrator (SI) delivering a solution subject to the Maximum time defined in **Table 1.3**. 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.

Except for Severity Level 1 all response/resolution times (hours and days) specified below are working hours only.

Table: 1.3 Emergency Support Response/Resolution Time

Severity	Initial Response Time	Action Resolution Time	Action
1	30 minutes	2 hours	An urgent or emergency situation requiring continuous attention from necessary support staff until system operation is restored – may be by workaround.
2	2 Hours	12 Hours	Attempt to find a solution acceptable to Owner/ Employer (dependent on reproducibility), as quickly as practical.
3	1 day	2 days	Evaluation and action plan. Resolution time is dependent on reproducibility, ability to gather data, and CMPDI/ GERMI’s prioritization. Resolution may be by workaround.
4	1 day	5 days	Report on the problem/query is to be furnished.

1.6 Availability and Maintenance Charges Payment Calculation

It is the endeavour of both the System Integrator (SI) and GERMI to maximize system availability to the extent possible. The System Integrator (SI) shall provide guaranteed availability for various types of Systems as specified in Table 1.1.

The non-availability hours for availability calculation shall be counted from the end of the allowed Action Resolution time. A standardized register shall be maintained at site containing full details of each outages, actions taken by CMPDI to correct the problem, applicable Severity level, time of reporting to the System Integrator (SI) support engineer/support center pursuant to the appropriate methods in the Agreement, allowed Response time as per the Response times defined in above section, actual Resolution time, and signature of Engineer-in-charge as well as the System Integrator (SI)’s support engineer of the site if available.

Duration of outages over and above the Action Resolution time, as defined in Table 1.3, in each of the Severity levels shall be counted for the non- availability computation and shall be clearly brought out in the register. The resolution may be accomplished by a work around, and such solution shall 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 shall be used for the purpose of availability calculation. However, simultaneous multiple outages due to unrelated cause would be counted separately. And such multiple outages under each category of Severity level shall be counted for availability computation of the system as given in the Section 4.6.1 below.

1.6.1 Availability computation for Microgrid system

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 yearly (per site)

= THQ - ((S1 x 1)+(S2 x 0.8)+(S3 x 0.5)+(O1 x 0.2)+(O2 x 0.1)) x 100%

THQ

Where THQ is total hours in the quarter

S1 is the total non-available hours in Severity Level-1

S2 is the total non-available hours in Severity Level-2

S3 is the total non-available hours in Severity Level -3

O1 is the no of outages in Severity-1

O2 is the no of outages in Severity-2

1.6.2 Payment of maintenance charges (based on microgrid system availability)

In the event of availability below a certain level, the maintenance charges would be proportionately reduced as follows: The same shall be applicable for the Auxiliary Power supply system with the availability specified for the respective systems.

For Microgrid System:

Availability for the Control Centre per quarter	Deduction as % of the apportioned price of total OM for that specific year for microgrid system applicable for CMPDI site (quarterly price)
≥ 95%	NIL
Less than 95%	Deduction of 2% of the apportioned quarterly OM charges for that specific year; for every 1% or part there of decrease in availability under 95%.

1.6.3 Computation of Availability / Non-availability

The computation of Availability / Non-availability would be rounded up to 2 decimal places at each Contract Co-ordination Site on quarterly basis and any deduction in the maintenance charges thereof would be calculated as stated above in **Section 1.6.2** on pro-rata basis.

1.7 System Integrator (SI)'s Obligations and Responsibility

The System Integrator (SI) shall guarantee continuous availability of the system as indicated in Table 1.1 for the defect liability period of one year from the date of operational acceptance. The system availability shall be calculated as indicated above on monthly basis. During this period, the System Integrator (SI) shall take continuous actions to ensure the guaranteed availability. In case the actual availability falls short of the guaranteed availability, it would be considered as System Integrator (SI)s default and under the provision of clause 55: Defect liability period shall be extended by a period equal to the period / months during which the availability is less than the guaranteed availability.

In order to optimise and improve the response of the system, the System Integrator (SI) may re-install the program modules after making the CMPDI/ GERMI engineer aware of the consequence (like data loss, database rebuild etc).

Any modification of software/Operating System required to restore functionality due to hardware upgrades/replacement, patches, or arising out of a necessity to fix FPRs (Field problem reports), would be done by the System Integrator (SI) at no extra cost to Owner / Employer.

The System Integrator (SI) will submit FSR (Field Service Report) and the steps taken to solve the

problem, along with details of code changes.

1.8 Responsibilities of Owner

The responsibilities of the owner during the maintenance period are as follows:

- (a) Owner shall ensure that proper Environmental conditions are maintained for the system.
- (b) Owner shall ensure that the System is kept and operated in a proper and prudent manner as described in the system documentation provided by the System Integrator (SI) and only trained Owner representatives (or persons under their supervision) are allowed to operate the system.
- (c) Owner shall provide access to the sites of installation for purposes of providing Support Services.
- (d) Owner shall provide the System Integrator (SI) with Space for Office and storage for their maintenance staff and spares.

1.9 Responsibility Matrix

The table in this section provides a summary definition of the roles and responsibilities of the System Integrator (SI) and CMPDI.

Legend: • This indicates who has primary responsibility to perform this function.

A This indicates who will provide assistance. Table 4.5 Responsibility Matrix

Item	Task	Owner	System Integrator (SI)
0.0	PROBLEM IDENTIFICATION		
0.1	Root cause analysis to determine whether the fault is attributable to Hardware or Software.	----	•
0.2	Resolution of problems involving third party maintainer where there is uncertainty whether the root cause is hardware or software.	----	•
1.0	SOFTWARE PROBLEM RESOLUTION		
1.1	Report problem and assist with problem identification	----	•
1.2	Provide or recommend corrections, temporary patches, workarounds or other fixes to system problems	----	•
1.3	Install and test corrections, temporary patches, workarounds or other fixes to system problems	----	•
2.0	ROUTINE SOFTWARE SUPPORT		
2.1	Build and maintain database, displays and reports	----	•
2.2	Perform system back-ups	----	•
2.3	Restore or reinstall software from back-ups	----	•
2.4	Monitor system logs (part of remote monitoring service)	----	•
2.5	Maintain system logs	----	•
2.6	Maintain user accounts	•	A
3.0	HARDWARE PROBLEM RESOLUTION		

3.1	Report problem and assist with defining problem	•	A
3.2	Troubleshoot problem to diagnose if it is software- related or hardware-related	----	•
3.3	Identify failed component, Replace failed components in the system using parts from spares inventory	----	•
3.4	Restore operation of repaired/replaced equipment	----	•
4.0	HARDWARE SPARE PARTS		
4.1	Manage local spares inventory	----	•
4.2	Replenish local spares inventory	----	•
5.0	INTEGRATION AND DATABASE WORK AT CONTROL CENTRE END		
5.1	Field devices Integration at Substation end	----	•
5.2	PDC Integration with field devices or other PDCs	----	•
6.0	CYBER SECURITY MONITORING		
6.1	Patch Updates	----	•
6.2	Cyber Security Monitoring	•	A
6.3	Annual Audits	----	•
6.4	Implementation of Recommendations during Audit	----	•
6.5	Maintenance of Spares	---	•

Format A: UPS/ACDB MAINTENANCE FORMAT

S.NO.	DESCRIPTION	VALUE,IF ANY	REMARKS
1	UPS & ACDB Cleaning has been done		
2	Power connections checked for tightness & over heating		
3	Control Connections are all tight		
4	All indications on the panel are working		
5	All cooling fans are working		
6	Checking for AC Voltage L-L, L-N		
7	Checking for input AC current		
8	Checking for Input frequency		
9	Checking of DC Voltage		
10	Checking AC output Current		
11	Checking for O/P frequency		
12	Rectifier LED		
13	Inverter Led		
14	Static Switch Led		
15	Normal Operation & link status as per manufacturer recommendations/performa		
16	Battery Current Limit		
17	Float voltage		
18	Invertor Voltage		
19	Invertor frequency		
20	Indication Bulbs Of ACDB		
21	Checking for transfer, of UPS to Bypass and bypass to UPS		
22	Checking for UPS transfer to batteries		
23	Checking of earthing		
24	Battery voltage, resistance/impedance measurement done & details enclosed		
25	Parameter checked in SCADA System		

26	Proper guidance given for normal day to day activities.		
27	Check functioning of hooter		
28	Remarks from Customer/System Integrator(SI) :		
	System Integrator (SI)'s Representative	GERMI Representative	

Appendix 24: Format of Consortium Agreement to be entered amongst all Members of a bidding Consortium

[To be on non-judicial stamp paper of Rupees One Hundred Only (INR 100/-) or appropriate value as per Stamp Act relevant to place of execution, duly signed on each page. Foreign entities submitting Bid are required to follow the applicable law in their country.]

FORM OF CONSORTIUM AGREEMENT BETWEEN M/s., M/s., AND M/s. for bidding for RFP Document No. GERMI/SRW/2015/CMPDI/010 (the "RFP") dated 7th March, 2015 as per its Clause 6.2.

THIS Consortium Agreement (hereinafter referred to as "AGREEMENT") executed on this [date] day of [month], [year] between:

1. M/s., a company incorporated under the laws of and having its Registered Office at, (hereinafter called the "**Party 1**," which expression shall include its successors, executors and permitted assigns);
2. M/s., a company incorporated under the laws of and having its Registered Office at, (hereinafter called the "**Party 2**," which expression shall include its successors, executors and permitted assigns);
3. M/s., a company incorporated under the laws of and having its Registered Office at, (hereinafter called the "**Party 3**," which expression shall include its successors, executors and permitted assigns);

[The Bidding Consortium should list the name, address of its registered office and other details of all the Consortium Members above.]

for the purpose of submitting the Bid in response to the RFP and in the event of selection as Selected Bidder to comply with the requirements as specified in the RFP and ensure execution of the RFP Documents as may be required to be entered into with GERMI.

Party 1, Party 2 and Party 3 are hereinafter collectively referred to as the "Parties" and individually as a "Party."

WHEREAS Clause 6.2 of the RFP stipulates that the Bidders qualifying on the strength of a Bidding Consortium shall submit a legally enforceable Consortium AGREEMENT in a format specified in the RFP, whereby each Consortium Member undertakes to be liable for its Roles and Responsibilities, provide necessary guarantees and pay required fees as required as per the provisions of the RFP, as specified herein.

WHEREAS any capitalized term in this AGREEMENT shall have the meaning ascribed to such term in the RFP document.

NOW THEREFORE, THIS INDENTURE WITNESSTH AS UNDER:

In consideration of the above premises and agreement of all the Parties in this Consortium do hereby mutually agree as follows:

1. In consideration of the selection of the Consortium as the Bidding Consortium by GERMI, we the Members of the Consortium and Parties to the Consortium Agreement do hereby unequivocally

agree that M/s. *[Insert name of the Lead Member]*, shall act as the Lead Member as defined in the RFP for self and agent for and on behalf of M/s. and M/s. *[the names of all the other Members of the Consortium to be filled in here]*.

2. The Lead Member is hereby authorized by the Members of Consortium and Parties to the Consortium AGREEMENT to bind the Consortium and receive instructions for and on behalf of all Members. The Roles and Responsibilities of all other members shall be as per the **Annexure** to this Agreement.
3. The Lead Member shall be liable and responsible for ensuring the individual and collective commitment of each of the Members of the Consortium in discharging all their respective Roles and Responsibilities. Each Consortium Member further undertakes to be individually liable for the performance of its part of the Roles and Responsibilities without in any way limiting the scope of collective liability envisaged in this Agreement jointly and severally in order to meet the requirements and obligations of the RFP.
4. In case of any breach of any of the commitment as specified under this AGREEMENT by any of the Consortium Members, the all Members of the Consortium and Parties shall be liable to meet the obligations under the RFP.
5. Except as specified in the AGREEMENT, it is agreed that sharing of responsibilities as aforesaid and obligations thereto shall not in any way be a limitation of responsibility of the Lead Member under these presents.
6. This Consortium AGREEMENT shall be construed and interpreted in accordance with the Laws of India and Courts at Ahmedabad/ Gandhinagar alone shall have the exclusive jurisdiction in all matters relating thereto and arising there under.
7. It is hereby agreed that the Lead Consortium Member shall furnish the Bid Security, as stipulated in the RFP, on behalf of the Bidding Consortium.
8. It is hereby agreed that in case of selection of Bidding Consortium as Microgrid System Integrator (MSI), the Parties to this Consortium Agreement do hereby agree that they shall furnish the Performance Guarantee and other commitments to GERMI as stipulated in the RFP. The Lead Member shall be responsible for ensuring the submission of the Performance Guarantee and other commitments on behalf of all the Consortium Members.
9. It is further expressly agreed that the Consortium AGREEMENT shall be irrevocable and, for the Project Implementing Consortium, shall remain valid over the term of the Project, unless expressly agreed to the contrary by GERMI.
10. The Lead Member is authorized and shall be fully responsible for the accuracy and veracity of the representations and information submitted by the Consortium Members respectively from time to time in response to the RFP for the purposes of the Bid.
11. It is expressly understood and agreed between the Members of the Consortium and Parties that the responsibilities and obligations of each of the Members shall be as delineated as annexed hereto as **Annexure** forming integral part of this AGREEMENT. It is further agreed by the Members that the above sharing of responsibilities and obligations shall not in any way be a limitation of joint and several responsibilities and liabilities of the Members, with regards to all matters relating to the execution of the Bid and implementation of the Project envisaged in the RFP Documents.

12. It is clearly agreed that the Lead Consortium Member shall ensure performance indicated in the RFP and if one or more Consortium Members fail to perform its/ their respective obligations, the same shall be deemed to be a default by all the Consortium Members.

13. It is hereby expressly agreed between the Parties to this Consortium AGREEMENT that neither Party shall assign or delegate or subcontract its rights, duties or obligations under this AGREEMENT except with prior written consent of GERMI.

14. This Consortium AGREEMENT:

- a. has been duly executed and delivered on behalf of each Party hereto and constitutes the legal, valid, binding and enforceable obligation of each such Party;
- b. sets forth the entire understanding of the Parties hereto with respect to the subject matter hereof; and
- c. may not be amended or modified except in writing signed by each of the Parties and with prior written consent of GERMI.

IN WITNESS WHEREOF, the Parties to the Consortium AGREEMENT have, through GERMI, executed these presents and affixed common seals of their respective companies on the Day, Month and Year first mentioned above.

1. Common Seal of has For M/s. (Party 1)
been affixed in my/ our presence pursuant
to Board Resolution dated

.....
[Signature of Authorized Representative]

[Name of the Authorized Representative]
[Designation of the Authorized Representative]

Witness 1

Witness 2

.....
[Signature of Witness 1]

Name:
Designation:

.....
[Signature of Witness 1]

Name:
Designation:

2. Common Seal of has For M/s. (Party 1)
been affixed in my/ our presence pursuant
to Board Resolution dated

.....
[Signature of Authorized Representative]

[Name of the Authorized Representative]
[Designation of the Authorized Representative]

Witness 1

Witness 2

.....

.....

[Signature of Witness 1]

Name:

Designation:

[Signature of Witness 1]

Name:

Designation:

3. Common Seal of has been affixed in my/ our presence pursuant to Board Resolution dated

For M/s. (Party 1)

.....
[Signature of Authorized Representative]

[Name of the Authorized Representative]

[Designation of the Authorized Representative]

Witness 1

Witness 2

.....
[Signature of Witness 1]

Name:

Designation:

.....
[Signature of Witness 1]

Name:

Designation:

Attested:

..... [Signature] (Notary Public)

Place:

Date:

Annexure to the Consortium Agreement

Role and Responsibility of each Member of the Consortium:

1. Roles and Responsibilities of the Party 1 (Lead Consortium Member):
2. Roles and Responsibilities of the Party 2
3. Roles and Responsibilities of the Party 3

Appendix 25: Format of Letter of Consent by Consortium Member reviewing each element of the Bid

[On the letter head of each Member of the Consortium including Lead Member]

[Reference No.]

From:

[Address of the Lead Consortium Member]

[Telephone No., Fax No., Email]

[Date]

To:

The Deputy Manager (Commercial)

1st Floor, Energy Building,

PDPU campus, Raisan, Gandhinagar

Gujarat 382 007

Sub: Bid for Appointment of System Integrator for Implementation of Microgrid at CMPDI Ranchi

Ref: Your Tender No. GERMI/SRW/2015/CMPDI/010 dated 7th March, 2015 (the "RFP").

Dear Sir,

We, *[Insert name of the undersigned Consortium Member]* Member of Consortium Lead by *[Insert name of the Lead Consortium Member]* have read, examined and understood the RFP and RFP Documents for Appointment of System Integrator (SI).

We hereby confirm our concurrence with the RFP including in particular the Consortium Agreement and the Bid submitted by *[Insert name of the Lead Consortium Member]* in response to the RFP. We confirm that the Bid has been reviewed and each element of the Bid is agreed to including but not limited to the commitment and obligations of our Company.

The details of contact person are furnished as under:

Name :
Designation :
Name of the Company :
Address :
Phone Nos. :
Fax Nos. :
E-mail address :

Dated the day of of 20...

Thanking you,
Yours faithfully,

.....
[Signature, Name, Designation of Authorized Signatory of Consortium Member and Company's Seal]

Business Address: *[Name and address of principal officer]*