Mercados Energy Markets India Private Limited

RFP FOR SELECTION OF CONSORTIUM PARTNER FOR "CONSULTANCY WORKS FOR RDSS SMART METERING IMPLEMENTATION WORKS COMPONENT" UNDER VARIOUS DISCOMS ACROSS INDIA.

TECHNICAL PROPOSAL

Submitted to:

WAPCOS LIMITED

Prepared by:

MERCADOS ENERGY MARKETS INDIA PRIVATE LIMITED

20th November 2023

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Mercados Energy Markets India Pvt. Ltd.

Mercados Energy Markets India Pvt. Ltd.
A2, Second Floor, Block-E,
International Trade Tower,
Opposite Satyam Cinema, Nehru Place,
New Delhi – 110019
Telefax: +91-11-47322668

20th November 2023

To,

M. Manoj Kumar
Chief Engineer (Transmission & Distribution)
WAPCOS Limited,
2nd Floor, Plot No. 57, SKV House,
Sector-18 Gurugram-122015, Haryana

Tender Ref: WAP/POWER/T&D/RFP/CONS/2023-01 dated 18-11-2023

Subject: Selection of Consortium Partner for "Consultancy Works for RDSS Smart Metering Implementation Works Component" under various Discoms Across India.

Dear Sir,

We, Mercados Energy Markets India Private Limited (Mercados), enclose herewith our detailed proposal for the tender for selection of **Consortium Partner for "Consultancy Works for RDSS Smart Metering Implementation Works Component" under various Discoms Across India.** as per the specifications of the **Tender Ref: WAP/POWER/T&D/RFP/CONS/2023-01 dated 18-11-2023**. Further, our offer/bid is unconditional and shall remain valid for a period of 90 days from last Date of Bid submission.

Yours Faithfully,

Mercados Energy Markets India Pvt. Ltd.

(Amiy Chaturvedi)
Senior Manager
Mercados Energy
Markets India Pvt. Ltd.
A2, Second Floor, Block-E,
International Trade Tower,
Opposite Satyam Cinema,
Nehru Place, New Delhi – 110019

Mercados Energy Markets India Pvt. Ltd.

Enclosures: All information & documents as per the specifications of the tender and supportive information/documents towards the qualifying criteria and experience of the bidder.

MEETING THE ELIGIBILITY CRITERIA:

Ref. Clause No.	Eligibility Criteria (As per the Clause 3.3)	Eligible (Yes/No)	Remarks	Documentary proof attached? (Yes/No)
1.	*Company Profile, Documentary evidence/certificates for Registration/ Incorporation along with copy of PAN card & GSTN Registration*	**Yes**	Company profile is Attached herewith this proposal. Mercados Energy Markets India Pvt. Ltd. is registered in India on 13th March 2008. GST Number: 07AAFCM5128D2ZP PAN Number: AAFCM5128D	Yes (Copy of Incorporation Certificate, Copy of GST, Copy of PAN attached in **Appendix A**)
2.	*Undertaking that the Firm is not blacklisted or debarred by any Government or any Government agencies including PSUs as on the date of submission of proposal*	**Yes**	Mercados is not blacklisted or debarred by any Government or any Government agencies including PSUs as on the date of submission of proposal.	Yes, undertaking regarding the same is submitted as **Annexure B** in the proposal.
3.	*Submission of Solvency Certificate*	**Yes**	NA	Yes, copy of solvency certificate is attached in **Appendix-B**.
4.	*Documentary evidence/certificates as a proof of meeting the QR as per Bid Forms.* • *Audited Annual Balance sheet and Profit & Loss statement, also provide Auditor Certificate confirming Net worth (Certificate from Statutory Auditor if Audited Annual Accounts for latest FY not available)* • *Details of past experience and documentary proof of the same*	**Yes**	**Minimum Average Annual Turn-over for the last 3 years:** FY 2018-19: Rs. 24.40 Crore FY 2019-20: Rs. 28.81 Crore FY 2020-21: Rs. 34.50 Crore FY 2021-22: Rs. 28.96 Crore FY 2022-23: Rs. 28.70 Crore **Average Turn-over of Last 5 years:** Rs. 29.31 Crore	Yes, copy of Turnover, networth, profit/loss certificate/form, and Annual Audited accounts carrying UDIN and Attested by independent Chartered Accountant for last 5 Financial years is attached in **Appendix-B.**
5.	*Must be in operation for at least last 05 financial years and The Consultant should not have incurred any loss in more than 2 years in last five financial years.*	**Yes**	Mecados is in operation for more that last 5 financial years. Mercados has not incurred any loss in last 5 years.	Yes, Copy of Incorporation Certificate **Appendix A** and Copy of turnover Certificate & Profit Loss Statement is attached in **Appendix-B**.
6.	*Firm should have been in operation for last 5 years ending on 31st March 2023 with average financial turnover of at least Rs. 17.5 Crore.*	**Yes**	**Minimum Average Annual Turn-over for the last 3 years:** FY 2018-19: Rs. 24.40 Crore FY 2019-20: Rs. 28.81 Crore FY 2020-21: Rs. 34.50 Crore FY 2021-22: Rs. 28.96 Crore FY 2022-23: Rs. 28.70 Crore **Average Turn-over of Last 5 years:** Rs. 29.31 Crore	Yes, Copy of Turnover Certificate and Annual Audited accounts of last 5 years are attached in **Appendix-B**.
7.	*Firm should have experience as project management consultant or implementation of AMI/ Smart metering for Power distribution sector in last 5 years (FY 2018-19 to FY 2022-23) involving installation of a minimum of 5,000 Smart Meters (only completed works along-with integration with MDM to be considered).*	**Yes**	Mercados has the relevant experience as required.	Yes, the Work Orders / Completion Certificate for the relevant assignments have been attached from **Exhibit-1.**
8.	*Experience of PMC/PMA for usage of digital technologies/ tools to manage complex programs in power sector in*	**Yes**	Mercados has the relevant experience as required.	Yes, the Work Orders / Completion Certificate for the

Mercados Energy Markets India Pvt. Ltd

Ref. Clause No.	Eligibility Criteria (As per the Clause 3.3)	Eligible (Yes/No)	Remarks	Documentary proof attached? (Yes/No)
	India/ Globally in last 5 years (FY 2018-19 to FY 2022-23).			relevant assignments have been attached from **Exhibit-2 to Exhibit-5.**

Mercados Energy Markets India Pvt. Ltd

(Amiy Chaturvedi)
Senior Manager
Mercados Energy
Markets India Pvt. Ltd.

A2, Second Floor, Block-E,
International Trade Tower,
Opposite Satyam Cinema,
Nehru Place, New Delhi –
110019

Mercados Energy Markets India Pvt. Ltd

Annexure -A

VENDOR PROFILE FORM

1	**Name & Legal Status of the Bidder**	MERCADOS ENERGY MARKETS INDIA PRIVATE LIMITED & Mercados is a Private Limited Company		
2	**Organization Registration Details (Incorporation or Commencement of Business/ Other Statutory Registrations etc.)**	Certificate of Incorporation with Corporate Identification number as U74140DL2008PTC175300	**Date of Incorporation/ Registration:**	13th March 2008
3	**GST Number:**	07AAFCM5128D2ZP	**PAN Number:**	AAFCM5128D
4	**Registered/ Corporate office Address of Bidder**	A2, Second Floor, Block-E, International Trade Tower, Opposite Satyam Cinema, Nehru Place, New Delhi – 110019		
	Address & Contact Details (E-Mail, Ph. Nos. etc.) of Proprietor/ Directors of the Bidders	**1) BHUSHAN RASTOGI, Managing Director, bhushan@mercadosemi.in, 9839095980**		
		2) SHWETA RASTOGI, Director, shweta@mercadosemi.in, 9839243665		
	Delhi (NCR) Office Address if any & Contact Details:	A2, Second Floor, Block-E, International Trade Tower, Opposite Satyam Cinema, Nehru Place, New Delhi – 110019, Phone Number: 011 47322668		
	Names and Designations of the persons authorized for single point interaction with RECL/WAPCOS	Name: AMIY CHATURVEDI Designation: Senior Manager		
	Mobile Numbers of Contact persons:	9559061201	**E-mail of Contact persons:**	amiy@mercadosemi.in
5	**a) MSME Registration:**	**Yes**	**If Yes,** Regd. No.:	UDYAM No. DL-08-0051265
			Date:	06th May 2023
			Category:	Small
			Range of Supply/ Services:	Consultancy Services
	b) GeM (Government e-Marketplace) Registration:	**Yes**	**If Yes,** mention GeM Seller ID:	4FD8200001226825
			Category:	BOQ, Hiring of Consultants, Custom bid for services
			Range of Supply/ Services:	Consultancy Services
	c) TReDS (Trade Receivables Discounting System) Registration:	**(Yes/No)**	**If Yes,** Regd. No:	Not Applicable
			Date:	
			Category:	
			Range of Supply/ Services:	

Mercados Energy Markets India Pvt. Ltd.

			If No, *then provide the date by which you will be registered on TReDS portal:*	
	d) Whether SC/ST/OBC Entrepreneur:	**No**	**(If Yes, Please provide Supporting Documents)**	
	e) Whether Women Entrepreneur:	**No**	**(If Yes, Please provide Supporting Documents)**	

(Amiy Chaturvedi)
Senior Manager
Mercados Energy
Markets India Pvt. Ltd.

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Brief Company Profile of the Bidder:

Mercados Energy Markets India Private Limited (Mercados EMI) is a specialist global consultancy firm supporting clients in liberalizing energy sectors, promoting efficient and sustainable energy markets, designing effective regulation, and assisting energy businesses to succeed. Our approach integrates innovative, state-of-the-art techniques with practical, tailor-made solutions to today's energy sector challenges. **Our key people have held top positions in government, regulatory authorities and energy companies, and bring a global perspective to local and regional issues.**

Our practice is founded in hands-on experience, quality analysis, and a detailed understanding of energy market; therein we are able to address the full range of issues relevant to energy sector companies and institutions.

Mercados EMI group is divided into the following main areas of expertise, covering Electricity, Oil and Gas, Environmental and Renewable sectors:

Mercados EMI Service Offering

Our Specialised Services

Mercados EMI is recognised internationally for its expertise in helping companies to find the commercial strategies best suited for the distinct challenges facing the energy sector; in helping the public sector to design effective policies for the energy sector; and for promoting the development of competitive markets with the appropriate regulatory approach for monopoly activities. Our consulting services are organised along three main areas: Policy & Regulation; Markets Simulation & Business Strategy; Network Industries.

- **Policy & Regulation**
  - Energy Markets & Policy Design
  - Economic Analysis & Regulation
- **Market Simulation & Business Strategy**
  - System & Market Analysis & Modelling
  - Sustainable Development
- **Network Industries**
  - Technical Analysis & Regulation
  - Utility Management Support

Mercados Energy Markets India Pvt. Ltd.

Policy & Regulation

a) ENERGY MARKETS & POLICY DESIGN

Mercados EMI has been instrumental in the development of energy markets on national and regional levels. We have advised numerous national governments and regulators on the design of wholesale electricity markets and on the appropriate regulatory and contractual provisions. We have also assisted multilateral agencies and ministerial teams to define the institutional and regulatory framework for the development of regional interconnection, energy cooperation, and trading initiatives.

The **Energy Markets and Policy Design** practice includes services related to policy, regulatory and institutional issues arising on energy sector restructuring and new markets design and implementation, and social and regional policy issues associated to these processes.

- Energy sector restructuring and markets design
- New regulatory and institutional frameworks
- Restructuring process road maps
- Wholesale markets design and regulation (market rules, balancing and settlement rules, ancillary services regulation)
- Regional markets design
- Support to institutional development and regulatory implementation national or regional markets initiatives
- Subsidy policies and implementation schemes
- Rural electrification (regulatory and institutional issues)
- Private sector participation processes design and implementation
- Stranded assets regulation and assessment
- Incentive-based schemes and efficiency targets
- PPAs and other commercial instruments / contracts design and trading support
- Competition policy in wholesale markets

b) ECONOMIC ANALYSIS & REGULATION

Mercados EMI helps to shape policy and regulatory regimes, and advises regulated companies on how to optimise their performance and improve profitability within the regulatory framework. Our services draw on the outstanding background of our experts, many of whom have held high level positions in government, regulatory agencies and major utilities in Europe and Latin America.

This practice includes services related to advanced policy, regulatory, institutional and strategic issues in already developed or mature energy markets (national or regional), and economic analysis and studies associated to these markets.

- Retail markets design and regulation
- Policy, regulatory and institutional design for policy and regulatory authorities
- Regulatory analysis and advice for sector agents
- Economic analysis and impact studies
- Trading arrangements and CBT (Cross Border Trading) regulation
- Tariffs design and support in tariff revision processes for public and private agents
- Regulatory accounting
- Competition policies design, implementation and monitoring
- Disputes and litigation services
- Market structure analysis
- Definition of relevant markets
- Identification of economic implications
- Competition impact assessment
- Assist clients in the definition of their strategy with respect to the competition authorities and other parties
- Specialized testimony
- Energy procurement assistance to big energy consumers
- Price analysis and consumption optimization
- Assistance in supply biding processes
- Supply contracts design
- Contract negotiation
- Project appraisal
- Competition policy
- Private sector participation
- Economic impact studies
- Stranded assets regulation and assessment
- Incentive-based schemes and efficiency targets
- Subsidy schemes

- Understand, assess and respond to other parties´ evidence
- Disputes and litigation services

Market Simulation & Business Strategy

1. SYSTEM & MARKET ANALYSIS, MODELLING

This practice includes services related to expansion planning, operational planning, dispatch and techno-economic modelling and analysis of electricity generation markets and transmission systems, and technical regulation issues in electricity generation markets:

- Wholesale markets simulation
- Generation and transmission systems expansion and long term planning
- Assessment of interconnection projects
- Dispatch optimization criteria and plans
- Transmission pricing and congestion management
- Business advice to generation agents
- Market studies and simulation
- Business restructuring and competitive strategies
- Risk assessment and mitigation strategies
- Expansion and operational planning
- Commercial, technical and financial appraisals
- Techno-Economic & Financial evaluation of power projects
- Software products for systems simulation and modelling

2. SUSTAINABLE DEVELOPMENT

Sustainable development is now one of the key criteria in defining energy policy at national and international levels, and environmental protection represents an important dimension of the sustainability concept. **Mercados EMI** provides strategic advice to private sector clients, banks and utilities on how best to adapt to environmental policies and take full advantage of opportunities in the new environmental markets.

This practice includes services related to policy, regulatory, institutional and strategic issues on carbon markets design and functioning, energy efficiency and renewable energy promotion, as well as technical, economic, environmental and social impact analysis related to these issues:

- Renewable Energy, Energy Efficiency & Climate Change Issues
- National policies and allocation plans
- Emissions simulation and reductions
- CDM/JI pricing and trading strategies
- Promotion policies for renewable and decentralized generation
- Renewable cost and pricing
- Network access regulation and technical standards
- Technology related issues associated to renewable energy development
- Isolated systems development
- Promotion policies for energy efficiency
- Promotion funds and agencies design
- Green and white certificate markets
- Strategic business repositioning in Carbon Markets

Mercados Energy Markets India Pvt. Ltd.

Network Industries

a) TECHNICAL ANALYSIS & REGULATION

Mercados EMI offers a wide range of advisory services to regulators and regulated companies in the energy sector. We have a particular expertise in helping regulators to advice the best approaches to tariffs and service quality regulation. We also help regulators and companies to define methodologies for measuring service quality and design incentives for improvement. We assist regulators in the implementation of tariff regimes and we support companies in the tariff revision process.

This practice includes services related to technical design, performance assessment, and technical and economic regulation of energy networks:

- Technical and economic feasibility studies
- Technical, economic and regulatory analysis and advice to all agents
- Network codes and regulations design
- Assets valuation and CAPEX assessment
- Service quality regulation
- Disputes and litigation services on network access and operational issues
- Technical loss reduction plans
- Distribution system analysis & planning
- Renewable energy generation grid integration
- Technology-wise assessment of renewable energy options

b) UTILITY MANAGEMENT SUPPORT

Mercados EMI helps utilities improve operational and financial performance through organisational restructuring and reengineering. Our management solutions are based on our own innovative approaches, supported by proprietary information systems developed jointly and shared with partner IT companies. Our services include benchmarking and performance improvement, design and implementation of strategic plans for optimizing company's performance, organisational restructuring.

This practice includes services related to strategic and management support to energy utilities:

- Business restructuring and competitive strategies
- Risk assessment and mitigation strategies
- Commercial, technical and financial appraisals
- Project implementation and management
- Benchmarking analysis and performance improvement
- OPEX analysis and "Reference utility" methodology
- Strategic plans for optimizing company performance
- Organizational restructuring
- Technical and commercial process reengineering
- Non-Technical Loss Reduction
- Optimization of metering, billing and collections
- Remote metering, disconnection and reconnection schemes
- Pre-paid consumption management programs
- MIS / ICT system advisory

Mercados Energy Markets India P. Ltd.

Transaction Services

This practice includes advisory services to energy markets agents related to assets transaction processes, as privatizations, mergers, acquisitions and other types of associations or partnerships, on contractual, corporate, financial, organizational and other relevant strategic issues:

- Search for target businesses and Joint Venture partner selection (JV)
- Assets definition and competitive analysis

- Technical and market due diligences. Specialist Valuations (VAL) and Commercial Due Diligence (CDD)
- Economic and financial analysis and modelling
- Integrated Risk Assessment and Management
- Project Development
- Equipment and services specification
- Contractual, transaction and financial structure advice
- Bid Advisory (BA)
- Bidding processes and contracts design

Integrated Energy Supply Services

This practice includes services for project developers provided by various suppliers that Mercados EMI is able to integrate in a single package, coordinate its rendering and guarantee its performance, related to technical feasibility and design; economic and financial assessment; procurement and EPC tender; construction supervision; and operation, of comprehensive energy supply projects:

- Integrated project coordination & management
- Detail implementation schedule including expenditures planning
- Equipment selection, inspection, etc.
- Location and technical feasibility studies
- Economic and financial feasibility studies
- Technical design and specification
- Regulatory and contractual advice for PPAs and other contractual arrangements
- Policy and regulatory risk assessment and mitigation
- Implementation agreement
- Power Purchase Agreements & Ancillary Agreements
- Permits and licenses
- Preparation of EPC, tender documentation and O&M contract
- Supervision
- Detailed plant and ancillary facilities design
- Equipment procurement
- Construction
- Commissioning
- Drafting O&M procedures (jointly with the Plant Operator)
- O&M operations

Within India, our key clients include:

Ministry of Power, Central Electricity Regulatory Commission, Haryana Electricity Regulatory Commission, Punjab State Electricity Regulatory Commission, Power Transmission Corporation of Uttarakhand Limited, Maharashtra Electricity Regulatory Commission, World Bank, Forum of Regulators, Asian Development Bank, International Finance Corporation, MNRE, Calcutta Electricity Supply Company, Haryana Vidyut Prasaran Nigam Ltd, The Finance Commission (Government of India), The Planning Commission, Power Trading Corporation, Gas Authority of India Ltd., India Oil Corporation, Adani Energy Limited, and several other public and private sector clients.

Mercados Energy Markets India Pvt. Ltd.

Mercados EMI has worked with financing from the following well-known International Institutions. With some, Mercados has developed an intense and committed international consultancy practice:

The World Bank Group (WB)

European Commission (Europe Aid)

Asian Development Bank (ADB)

European Bank for Reconstruction and Development (EBRD)

European Investment Bank (EIB)

Inter-American Development Bank (IADB)

USAID

Corporación Andina de Fomento (CAF)

Government of the United Kingdom, Department for International Development (DFID)

United Nations Development Programme (UNDP)

International Finance Corporation (IFC)

Amiy Chaturvedi,
Senior Manager,

Mercados Energy
Markets India Pvt. Ltd.

Mercados Energy Markets India Pvt. Ltd.
A2, Second Floor, Block-E,
International Trade Tower,
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New Delhi – 110019
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ANNEXURE -B

UNDERTAKING FOR NO CONFLICT OF INTEREST

To,

WAPCOS Limited
2nd Floor, Plot No. 57, SKV House,
Sector-18 Gurugram-122015
Haryana

Dear Sir/Madam,

1. We hereby certify that we have not been suspended or banned or de-listed or black-listed by any Government or Quasi-Government agencies or PSU's including WAPCOS or any of its subsidiaries.

2. The bidder shall not engage, and shall cause their Personnel not to engage, either directly or indirectly, in any business or professional activities which would conflict with the activities assigned to them under this Contract.

3. If the bidder is found to be involved in a conflict of interest situation with regard to the present assignment, the WAPCOS may choose to terminate this contract. In case of any change in the status of the above, any time hereinafter, we will immediately inform WAPCOS of the same.

Dated this 20th day of November of 2023
Place: Lucknow

Mercados Energy Markets India Pvt. Ltd.

(Amiy Chaturvedi)

Senior Manager,
Mercados Energy
Markets India Pvt. Ltd.
A2, Second Floor, Block-E,
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ANNEXURE -C-1

FORMAT FOR INTEGRITY PACT

To,

WAPCOS Limited
2nd Floor, Plot No. 57, SKV House,
Sector-18 Gurugram-122015
Haryana

Sub: Integrity Pact for selection of **Consortium Partner for "Consultancy Works for RDSS Smart Metering Implementation Works Component" under various Discoms Across India.** as per the specifications of the **Tender Ref: WAP/POWER/T&D/RFP/CONS/2023-01 dated 18-11-2023**

Dear Sir,

We acknowledge that WAPCOS and Its consortium partners are committed to follow the principles thereof as enumerated in the Integrity Agreement enclosed with the tender/bid document at Enclosure-I.

We agree that the Notice Inviting Tender {NIT) is an invitation to offer made on the condition that We will sign the enclosed integrity Agreement, which is an integral part of tender documents, failing which We will stand disqualified from the tendering process. We acknowledge that THE MAKING OF THE BID SHALL BE REGARDED AS AN UNCONDITIONAL AND ABSOLUTE ACCEPTANCE of this condition of the NIT.

We confirm acceptance and compliance with the Integrity Agreement in letter and spirit and further agree that execution of the said Integrity Agreement shall be separate and distinct from the main contract, which will come into existence when tender/bid is finally accepted by WAPCOS. We acknowledge and accept the duration of the Integrity Agreement, which shall be in the line with Article 1 of the enclosed Integrity Agreement.

We acknowledge that in the event of our failure to sign and accept the Integrity Agreement, while submitting the tender/bid, WAPCOS shall have unqualified, absolute and unfettered right to disqualify the tenderer/bidder and reject the tender/bid is accordance with terms and conditions of the tender/bid.

Dated this 20th day of November of 2023
Place: Lucknow

Mercados Energy Markets India Pvt. Ltd.

(Amiy Chaturvedi)

Senior Manager,
Mercados Energy
Markets India Pvt. Ltd.
A2, Second Floor, Block-E,
International Trade Tower,
Opposite Satyam Cinema,
Nehru Place, New Delhi – 110019

Mercados Energy Markets India Pvt. Ltd.

QUALIFICATION CRITERIA AND EVALUATION CRITERIA:

The details of the relevant experience of Mercados Energy Markets India Private Limited in line with the Qualification Criteria And Evaluation Criteria of the Tender Ref: WAP/POWER/T&D/RFP/CONS/2023-01 dated 18-11-2023 is as mentioned below:

Clause No. c,3.0 Qualification Criteria and (i), c, 4.0 Evaluation Criteria
"Firm should have experience as project management consultant or implementation of AMI/ Smart metering for Power distribution sector in last 5 years (FY 2018-19 to FY 2022-23) involving installation of a minimum of 5,000 Smart Meters (only completed works along-with integration with MDM to be considered)."

<table>
<tr><th colspan="3">Project 1</th></tr>
<tr><td>Project Name:
Project management consultancy to review and monitor the progress of Action plan under UDAY in 5 Discoms DVVNL, PVVNL, MVVNL, PuVVNL and KESCO in Uttar Pradesh</td><td colspan="2">Country:
India</td></tr>
<tr><td>Location within Country:
Lucknow</td><td colspan="2">No of persons/ Professional Staff deployed by bidder firm
15</td></tr>
<tr><td>Name of Client:
Uttar Pradesh Power Corporation Limited</td><td colspan="2">No. of Person Months of professional staff by the firm:
360</td></tr>
<tr><td>Address
Shakti Bhawan
14 Ashok Marg,
Lucknow -226001</td><td colspan="2">Consultancy Contract Value (in Current INR):
240800000</td></tr>
<tr><td>Key personnel deployed /specialization/degree (Technical/team leader)
Mr. Arun Kanchan, Mr. Rajiv Goyal, Mr. Mohit Goyal, Mr. Avijit Saha, Mr. Shyam Tyagi, Mr. Saurabh Srivastava, Mr. Amiy Chaturvedi & Others</td><td colspan="2">Firm which undertook work?
Mercados Energy Markets India Private Limited</td></tr>
<tr><td>Start Date (Month/Year)
Sept-17</td><td>Completion Date (Month/Year)
Dec-2021</td><td>Total person months under the Consultancy Contract:
360</td></tr>
<tr><td>Name of Associated Consultants, if any:
In Consortium with AF Mercados</td><td colspan="2">Experience relevant to the present assignment:
As per the detailed scope of work mentioned in below section.</td></tr>
<tr><td colspan="3">Narrative Description of Project:
Stress testing the Restructuring / turnaround plan by all Discoms: It is essential that a new restructuring / turnaround plan which is being put in place should be appropriately stress tested to ensure no negative surprises during execution. A comprehensive turnaround plan needs to be put in place, with realistic, achievable and time bound targets backed up by a set of tangible and detailed operational actions/Energy Audit with clear accountabilities.</td></tr>
<tr><td colspan="3">Description of Actual Services provided by your staff:
As a part of Project Management Consultancy (PMC) the key services provided to UPPCL under the project involved reviewing and monitoring of the following activities on retainership basis, as per the Action Plan committed under UDAY scheme:

– Mercados has assisted UPPCL in monitoring of smart meter project in Uttar Pradesh, with approximately 11 Lakh meters installed in the state till December 2021.
– Tariff rationalization plan specific to customer segments/ types of feeders
– Development of approach for power purchase cost optimization through review of power purchase plans/agreements for conventional as well as renewable energy (long, medium and short term PPAs)
– Comprehensive AT & C loss reduction plan, starting with priority districts/divisions. For the purpose re-engineering and standardization of commercial process such as a) connection management process, b) meter management, c) meter reading process, d) revenue billing, collection and recovery process, e) energy audit mechanism and f) support for standardization of procurement & services related to metering, billing and collection shall be provided.
– Reducing technical losses by identifying specific lines/ substations where strengthening is required. Under this scope a) ill maintained equipment's, sub-stations and ageing transformers shall be identified, b) overloading of system elements like transformers, feeders, conductors shall be identified, c) requirement of reactive compensation in the system shall be identified, d) recommendation for appropriate ratio for LT Vs HT lines shall be provided. Further, for the above purposes investments to be made in infrastructure for overall improvement shall be suggested.</td></tr>
</table>

Mercados Energy Markets India Pvt. Ltd

– Addressing theft/ unauthorized use (e.g. direct hooking, meter bypassing)
– Improving metering e.g. through installation of tamper proof meters, metering of unmetered connections, meter reading efficiency, meter tracking and online meter inventory management, evolution of strategy for large scale meter installation.
– Framing action plan for achieving 100% billing and its continuous review, addressing billing errors and improving collection efficiency
– Capex rationalization on existing plan, by reviewing each planned project for return on investment. Identifying more important (and better return on investment) projects which need to be prioritized
– Compulsory feeder and Distribution Transformer (DT) metering.
– Consumer Indexing & GIS Mapping of losses
– 11 KV Feeder metering in Rural and Urban area
– DT Metering in Urban area (Distt. HQ& Other municipal town)
– Urban/Rural Franchisee Model to be suggested if required and designing of franchisee on exact database.
– Meter Procurement - Technical review, procurement strategy and tendering
– Feeder Improvement Program on Feeders
– Feeder separation (separation of Ag load) on Feeders
– Upgrade or change transformers, meters etc.
– Smart metering of all consumers and its tracking:
    o For average Consumption >=500 units and having three phase meters having load >=5KW
    o For average Consumption >=200 units and having three phase meters having load >=2KW
– Formulation of a system for efficient realization of government dues and its tracking.
– Assisting the distribution utilities in improving its PFC rating.
– Awareness campaign against theft to ensure "honest do not pay for dishonest"
– Assure increased power supply in areas where the AT&C losses reduce.
 	
Solarisation of Agriculture Feeders and Appointment of Franchisee:
• Formulation of scheme for solarisation of Agricultural feeders.
• To provide cost benefits to UPPCL/State Government on the Scheme.
• To prepare Standard Bidding Document
• Participation into various management meetings to facilitate the process. Providing requisite documents, presentation, data and strategy for Senior Management of UPPCL / State Government and preparation & issuance of Minutes of meetings
• Communication with concerned officials of Discom to collect data necessary for finalisation of Bidding documents.
• Preparation of Bidding document for implementation of Solar Project & Appointment of Franchisee Operator. Attending all meetings and discussions to seek comments from various stakeholders.
• Summarising of comments received for the management with strategic inputs.
• Providing support in communication with bidders. Attend all the meetings conducted by UPPCL and record bidder comments.
• Finalisation of bidding document, based on the comments received from the management.
• Attending Pre-bid meetings. Coordination with bidders. Preparation of Minutes of Meetings and submission to management with strategic outlook.
• To obtain the comments from the UPPCL management and the final decision of the management to be suitably incorporated in the Bidding document.
• Attending hearings at UPERC to providing consulting support to UPPCL officers / UPPCL's appointed lawyers
• To facilitate in collecting bids, analyse the same and providing a report on technical evaluation of bidding document
• To provide draft report on the financial bid received, to UPPCL management for its review and appropriate actions
• To provide support in drafting various communications & letters to Bidders, UPERC, State Government, Officers of discom, MNRE and UPNEDA.
• To provide support in Signing of Agreement
• Assisting UPPCL to complete the tender process upto issue of LOI to selected bidder

Copy of Work Order/Client Certificate attached as Exhibit - 1

Mercados Energy Markets India Pvt. Ltd.

Clause No. d,3.0 Qualification Criteria and (ii), c, 4.0 Evaluation Criteria
"Experience of PMC/PMA for usage of digital technologies tools to manage complex programs in power sector in India/ Globally inlast 5 years (FY 2018-19 to FY 2022-23)."

<table>
<tr><th colspan="3">Project-2</th></tr>
<tr><td colspan="2">Project Name:
Load/Demand Forecasting, Procurement of Power Purchase Cost Optimization Service and Energy Portfolio Management Services</td><td>Country:
India</td></tr>
<tr><td colspan="2">Location within Country:
Lucknow</td><td>No of persons/ Professional Staff deployed by bidder firm
6</td></tr>
<tr><td colspan="2">Name of Client:
Uttar Pradesh Power Corporation Limited</td><td>No. of Person Months of professional staff by the firm:
252</td></tr>
<tr><td colspan="2">Address
Shakti Bhawan
14 Ashok Marg,
Lucknow -226001</td><td>Consultancy Contract Value (in Current INR):
14.01 Cr.</td></tr>
<tr><td colspan="2">Key personnel deployed /specialization/degree (Technical/team leader)
Mr. Bhushan Rastogi, Mr. Akhilesh Awasthi, Mr. Ajay Rawat, Mr. Mohit Goyal, Nitin Gupta, Ashman, Gopi & Others</td><td>Firm which undertook work?
Mercados Energy Markets India Private Limited</td></tr>
<tr><td>Start Date (Month/Year)
May-2018</td><td>Completion Date (Month/Year)
Dec-2022</td><td>Total person months under the Consultancy Contract:
252</td></tr>
<tr><td colspan="2">Name of Associated Consultants, if any:
NA</td><td>Experience relevant to the present assignment:
As per the detailed scope of work mentioned in below section.</td></tr>
<tr><td colspan="3">Narrative Description of Project:
Load/Demand Forecasting, Procurement of Power Purchase Cost Optimization Service and Energy Portfolio Management Services</td></tr>
<tr><td colspan="3">Description of Actual Services provided by your staff:

The scope of work involves support on retainership basis for the following key activities by using latest digital technologies like Artificial Intellegence / Machine Learning and creating a web-based cloud solution dashboard:

1. Providing advisory solutions in Power Procurement Strategy, banking of power, short term bilateral and collective transactions, Merit order dispatch of tied up generators to UP Discom, support services to avoid risks of unscheduled interchanges as per Deviation Settlement Mechanism Regulation.
2. IT based tools for Demand/ Supply Forecasting, Energy Planning & Optimization of Power Purchase Cost Daily Support in Power market participation, Overall Energy Trading Strategy design & Energy Portfolio Risk Management
3. Day ahead trading through Power Exchange (IEX/PXIL) as per CERC regulations.
4. Sale and Purchase of Power in RTM Session.
5. Regulatory Compliances
6. Development of Short, Medium and Long-term dispatch modelling of the electrical system composed of thermal, hydro and renewable generators for a time horizon of 15 min using mixed integer linear programming model considering all economic and technical constraints to generate most optimal schedule so as to meet the demand at the least cost.
7. Spot market participation strategic tool as per the demand-supply gap analysis on day ahead and intraday.
8. Scheduling of power as per Merit Order Dispatch (MOD).
9. Banking of Power with other states for fulfilling the demand of UPPCL as per CERC/UPERC regulations.
10. Analysis of Cost saving against RSD of high VC plant.
11. Forecasting of Power demand for next 15 years.</td></tr>
<tr><td colspan="3">Copy of Work Order/Client Certificate attached as Exhibit-2</td></tr>
</table>

Mercados Energy Markets India Pvt. Ltd.

Project-3	
Project Name: Providing Consultancy Services for Energy Portfolio Management of Bihar	**Country:** India

<table>
<tr><td colspan="2">Location within Country:
Patna</td><td>No of persons/ Professional Staff deployed by bidder firm
3</td></tr>
<tr><td colspan="2">Name of Client:
Bihar State Power Holding Company Limited /Power Trading Company</td><td>No. of Person Months of professional staff by the firm:
108</td></tr>
<tr><td colspan="2">Address
2nd Floor, NBCC Tower,
15 Bikaji Cama Place,
New Delhi 110066</td><td>Consultancy Contract Value (in Current INR):
70192243</td></tr>
<tr><td colspan="2">Key personnel deployed /specialization/degree (Technical/team leader)
Rachit Agarwal, Ajay Rawat, Shailendra Shukla, Manu Ranjan Sharan, Rahul Jha, Akash Sharma, Nikilvish Paliwal and others</td><td>Firm which undertook work?
Mercados Energy Markets India Private Limited</td></tr>
<tr><td>Start Date (Month/Year)

June-2019</td><td>Completion Date (Month/Year)
Feb-2023</td><td>Total person months under the Consultancy Contract:
108</td></tr>
<tr><td colspan="2">Name of Associated Consultants, if any:
NA</td><td>Experience relevant to the present assignment:
As per the detailed scope of work mentioned in below section.</td></tr>
<tr><td colspan="3">Narrative Description of the Project:
Providing Consultancy Services for Energy Portfolio Management of Bihar</td></tr>
<tr><td colspan="3">Description of Actual Services provided by your staff:

The key services provided to BSPHCL on retainership basis under the project involved analysing, reviewing and monitoring of the following activities, as per the requirement of providing most optimized results of portfolio management by using latest technologies like Artificial Intellegence / Machine Learning and creating a web-based cloud solution dashboard:
– Demand/ Supply Forecasting, Energy Planning & Optimization of Power Purchase Cost Daily Support in Power market participation, Overall Energy Trading Strategy design & Energy Portfolio Risk Management
– Short term load forecast for the utility from Day Ahead to up to Week Ahead on granularity of 96 time blocks via IT based tools.
– Econometric Modelling for Long Term Electricity demand forecast of the Discoms (NBPDCL & SBPDCL) for next 10 years.
– Modelling capacity expansion models to simulate generation capacity investments and adequately examine the variability, intermittency and curtailment of RE technologies assuming future electricity demand, fuel prices, investment costs and effect of policy and regulations.
– Development of Short, Medium and Long-term dispatch modelling of the electrical system composed of thermal, hydro and renewable generators for a time horizon of 15 min using mixed integer linear programming model considering all economic and technical constraints to generate most optimal schedule so as to meet the demand at the least cost.
– Development and Implementation of Day ahead price forecasting model for Indian Energy Exchange(IEX) based on statistical and econometric factors.
– Spot market participation strategy as per the demand-supply gap analysis on day ahead and intra-day basis so as to minimize the price and volume risk in different segments of power market like DAM, TAM & RTM.
– Assessment and review of different long, medium and short term PPA's for critical evaluation on penalty, compensation and contractual obligations as per terms & condition of the PPA.
– Providing advisory solutions in power procurement strategy to Discoms (NBPDCL & SBPDCL) and support services to avoid risks of unscheduled interchanges as per Deviation Settlement Regulation.
– Database management of source wise power procurement from different generators and power exchanges in different segment like DAM, TAM & RTM in terms of declared capacity, scheduled generation, Merit Order Despatch and associated Fixed and Energy Charges.
– Quarterly Savings Accrued in overall process optimization for power procurement of Discoms
– Preparation of Yearly Power Procurement Plan and Fulfilment of data gaps pertaining to Power Procurement in preparation of ARR, APR and True Up for Discoms (NBPDCL & SBPDCL)
– Tracking Renewable Purchase Obligation (RPO) of Discoms (NBPDCL & SBPDCL) and managing renewable portfolio in achieving the targets set by Regulatory commission.</td></tr>
<tr><td colspan="3">Copy of Work Order/Client Certificate attached as Exhibit - 3</td></tr>
</table>

Mercados Energy Markets India Pvt. Ltd.

Project-4	
Project Name: Letter of Award for providing Consultancy services for	**Country:** India

Energy Portfolio Management of MP Power Management Company Limited		
Location within Country: Jabalpur		**No of persons/ Professional Staff deployed by bidder firm** 3
Name of Client: MP Power Management Company Limited / Power Trading Company		**No. of Person Months of professional staff by the firm:** 108
Address 2nd Floor, NBCC Tower, 15 Bikaji Cama Place, New Delhi 110066		**Consultancy Contract Value (in Current INR):** 57226056
Key personnel deployed /specialization/degree (Technical/team leader) Rachit Agarwal, Mohit Goyal, Shailendra Shukla, Jeeban Behra, Gaurav Punjabi and others		**Firm which undertook work?** Mercados Energy Markets India Private Limited
Start Date (Month/Year) Mar-2021	**Completion Date (Month/Year)** Till Date	**Total person months under the Consultancy Contract:** 108
Name of Associated Consultants, if any: NA		**Experience relevant to the present assignment:** As per the detailed scope of work mentioned in below section.

Narrative Description of the Project:
Providing Consultancy services for Energy Portfolio Management of MP Power Management Company Limited

Description of Actual Services provided by your staff:
The scope of work involves support on retainership basis for the following key activities by **using latest technologies like Artificial Intellegence / Machine Learning and creating a web-based cloud solution dashboard**:

1. Generate demand/ load forecast across varying horizon from Day ahead to up to 7 days ahead at 15 minute intervals.
2. IT based tools for analysis of Historical & forecasted weather parameters, Demand side management activities by Utility, Econometric parameters such as GDP, growth rate, real estate growth, industrial growth, sale of white goods in load centers etc., Population Growth, Government Programs & Regulatory Policies, New connections/ Electrification, any other factors which will affect demand or consumption.
3. Shall be aggregating all available sources of power in the name of PPAs, Banking, Bilateral etc. available with Bihar.
4. Forecast of renewable generation and/or integrate the RE forecast(s) of the existing and upcoming RE PPA in the above Supply Availability Assessment scenario, along with other sources of power procurement.
5. Provide a holistic market strategy and advisory support to Bihar's Power Management cell.
6. Assistance in procurement through bilateral market, so as to manage price and volume risk associated with procurement in the market.
7. Preparing the optimal schedule considering Policy constraints, Technical constraints, Transmission constraints, Existing ST, MT and LT PPA contracts and their costs (MERIT Order), Existing generation availability (schedule outages, forced outages), Short-term Demand forecasts, RES intermittency.
8. Provide the MCP & MCV for Day Ahead Market (DAM) with a capability to store 365 days' information and if required increase storage further.
9. Energy calculations of all the contracts would be done to cater to the different needs of the Bihar like knowing their total energy consumption on a particular date, verification for compensation applicability while downward revision of their schedule, etc.
10. Support services to Network Monitoring, Wide Area Monitoring, Database Management, Transmission Corridor Availability, Unscheduled Interchange (UI)

Copy of Work Order/Client Certificate attached as Annexure - 4

Project-2	
Project Name: Load/Demand Forecasting, Procurement of Power Purchase Cost Optimization Service and Energy Portfolio Management Services	**Country:** India
Location within Country: Lucknow	**No of persons/ Professional Staff deployed by bidder firm** 8
Name of Client: Uttar Pradesh Power Corporation Limited	**No. of Person Months of professional staff by the firm:** 252
Address Shakti Bhawan 14 Ashok Marg, Lucknow -226001	**Consultancy Contract Value (in Current INR):** 8.81 Cr.

Mercados Energy Markets India Pvt.

<table>
<tr><td colspan="2">Key personnel deployed /specialization/degree (Technical/team leader)
Mr. Bhushan Rastogi, Mr. Akhilesh Awasthi, Mr. Ajay Rawat, Mr. Mohit Goyal, Nitin Gupta, Ashman, Gopi & Others</td><td>Firm which undertook work?
Mercados Energy Markets India Private Limited</td></tr>
<tr><td>Start Date (Month/Year)

Dec-2022</td><td>Completion Date (Month/Year)
Ongoing</td><td>Total person months under the Consultancy Contract:
252</td></tr>
<tr><td colspan="2">Name of Associated Consultants, if any:
NA</td><td>Experience relevant to the present assignment:
As per the detailed scope of work mentioned in below section.</td></tr>
<tr><td colspan="3">Narrative Description of Project:
Load/Demand Forecasting, Procurement of Power Purchase Cost Optimization Service and Energy Portfolio Management Services</td></tr>
<tr><td colspan="3">Description of Actual Services provided by your staff:

The scope of work involves support on retainership basis for the following key activities by using latest digital technologies like Artificial Intellegence / Machine Learning and creating a web-based cloud solution dashboard:

1. Providing advisory solutions in Power Procurement Strategy, banking of power, short term bilateral and collective transactions, Merit order dispatch of tied up generators to UP Discom, support services to avoid risks of unscheduled interchanges as per Deviation Settlement Mechanism Regulation.
2. IT based tools for Demand/ Supply Forecasting, Energy Planning & Optimization of Power Purchase Cost Daily Support in Power market participation, Overall Energy Trading Strategy design & Energy Portfolio Risk Management
3. Day ahead trading through Power Exchange (IEX/PXIL) as per CERC regulations.
4. Sale and Purchase of Power in RTM Session.
5. Regulatory Compliances
6. Development of Short, Medium and Long-term dispatch modelling of the electrical system composed of thermal, hydro and renewable generators for a time horizon of 15 min using mixed integer linear programming model considering all economic and technical constraints to generate most optimal schedule so as to meet the demand at the least cost.
7. Spot market participation strategic tool as per the demand-supply gap analysis on day ahead and intraday.
8. Scheduling of power as per Merit Order Dispatch (MOD).
9. Banking of Power with other states for fulfilling the demand of UPPCL as per CERC/UPERC regulations.
10. Analysis of Cost saving against RSD of high VC plant.
11. Forecasting tools for Power demand for next 15 years.</td></tr>
<tr><td colspan="3">Copy of Work Order/Client Certificate attached as Exhibit-5</td></tr>
</table>

Mercados Energy Markets India Pvt. Ltd

KEY EXPERTS FOR THE ASSIGNMENT

S. No.	Name of the Expert	Proposed Position	Brief About the Expert
1.	Manikyala Rao	Smart Metering Expert	Manikyala Rao has experience of **nine and half years of experience in power distribution sector**. He has good experience in installation and monitoring of smart meters with MDMS & HES solution. He has been appointed as project management consultant for installation of **70,000 GPRS based smart prepaid meters** for LT residential, commercial and Industrial under jurisdiction of Tata Power Mumbai. He was also involved in installation of **18,500 GPRS based prepaid smart meters** for discoms of Telangana state. Mani had independently managed the Project Management of **DDUGJY & IPDS** projects for GESCOM, Karnataka and HRESCL, Karnataka. He was also supported Goa Discom for implementation of GIS based solutions for consumer indexing under **RAPDRP**. He had inspected various power distribution major equipment on behalf of REC as **Quality Inspector.** He also worked with REC PDCL as **Third Party Inspector for RGGVY** scheme in Bescom.
2.	Aravind M	MDMS Expert	Aravind has vast experience of **~9 years in power distribution sector** and he been majorly involved in **AMR, AMI metering projects in past more than 5 years.** He has also handled various power discoms client at southern states for Smart meter related projects. He has recently executed the project AMR integration with Existing MDAS/CMS billing software, MPLS network integration, Static/Dynamic/VPN Tunnels based Sim Cards integration for utilities like BESCOM, HESCOM, Goa Discom and Tangedco. Aravind has good experience in system metering, energy accounting and also smart metering projects. He conducts the lab test for quality check of MFM, Energy Meters using AMR, DCU, GPS Time synchronizing AMR, CMRI & DLMS Mobile App. He has knowledge of Technology used in Metering - RS232 serial for - AMR GPRS Push type data polling to Central Base Station with the specified periodicity.
3.	Rakesh Sharma	HES Expert	Rakesh Sharma has **Nine years of experience in power distribution sector**. He has good experience in installation and monitoring of smart meters with MDMS & HES solution. He has been involved in preparation of Roadmap and implementation of smart meters. He has expertise in loss reduction projects for the utilities. He assisted the BSES in reducing the AT&C losses from 28% to 4.5%. Rakesh has vast experience with BSES in the implementation of Smart meter projects in the jurisdiction. He was also involved in operation and monitoring of smart meter works in the Utility. He worked as Project Manager for the Smart meter implementation with MDMS and HES system.
4.	Anil Kumar Singh	Cloud Expert	Anil Kumar Singh is a highly skilled Cloud Expert with extensive experience in the field. Since November 2015, he has been serving as Deputy Manager at Indian Energy Exchange Limited, Noida. In this role, he has demonstrated expertise in setting up and managing Microsoft Windows Servers, developing active directory domain services, administering Linux application servers, and ensuring network and server uptime. Anil has also excelled in managing Azure-based application servers and facilitating cloud migration. His previous role as a System Engineer at Accent Overseas Pvt. Ltd. from April 2014 to November 2015 showcased his ability to design servers for backup and recovery, troubleshoot hardware-related issues, and provide high-end technical support.

Mercados Energy Markets India Pvt. Ltd.

S. No.	Name of the Expert	Proposed Position	Brief About the Expert
			He has actively contributed to project planning, implementation, and management, demonstrating proficiency in technologies such as IIS, PostgreSQL, Windows, HP hardware, JAVA, Tomcat, and more. Anil Kumar Singh is not only technically adept but also possesses strong leadership skills, evident in his roles overseeing firewall performance tuning, disaster recovery planning, and supervision of manpower. His certifications and commitment to the highest standards make him a valuable asset in the field of cloud computing
5.	Shailendra Shukla	Cyber Security Expert	Shailendra Shukla is a seasoned IT professional with over 25 years of experience in system architecture, design, analysis, software development, and implementation. He also has more than 9 years of experience in supporting design and implementation, deployment of IT hardware and supporting hosting services on cloud for standard software. In his carrier he has also done security audits & risk mitigation of IT systems, carrying out VAPT, designing and implementing Cyber Security solutions. He is a multi-stream certificate holder in IT including CISA, CISM from ISACA and Analytics from IIM. Post 3 years of experience in analysis and development with BSE, Shailendra became a part of Core team member responsible for establishment of IEX Hardware management, Managed service, Security, Audit, software design, development & Analytics including ML & AI. As part of Mercados he is spear heading the SaaS division which provides cutting edge solutions to clients in handling power portfolio optimisation. He has a proven track record of developing, implementing, and maintaining software solutions that is capable of handling all power exchange-related requirements and issues including DAM, RTM related continuous biddings. Based on the interim requirement in the assignment, the expert may operate from the New Delhi location and can provided adequate resource at the client location. The resources deployed at client location shall be guided by the IT Head from New Delhi location.

Mercados Energy Markets India Pvt. Ltd.

CURRICULUM VITAE OF THE EXPERTS

1. Manikyala Rao

1.	**Position Title and No.**	**SMART METER EXPERT**
2.	**Name of Expert:**	**Manikyala Rao**
3.	**Date of Birth:**	**04/01/91**
4.	**Country of Citizenship/ Residence**	**Indian**
5.	**Education**	

Specialization	Institute/University	Year of Passing
B. E (Electrical & Electronics Engineering)	Amrita Sai Institute of Science & Technology, Vijayawada	2013

Brief About Manikyala Rao:

Manikyala Rao has experience of **nine and half years** of experience in power distribution sector. He has good experience in installation and monitoring of smart meters with MDMS & HES solution. He has been appointed as project management consultant for installation of **70,000 GPRS based smart prepaid meters** for LT residential, commercial and Industrial under jurisdiction of Tata Power Mumbai. He was also involved in installation of **18,500 GPRS based prepaid smart meters** for discoms of Telangana state.

Mani had independently managed the Project Management of **DDUGJY & IPDS** projects for GESCOM, Karnataka and HRESCL, Karnataka. He was also supported Goa Discom for implementation of GIS based solutions for consumer indexing under **RAPDRP**. He had inspected various power distribution major equipment on behalf of REC as **Quality Inspector.** He also worked with REC PDCL as **Third Party Inspector for RGGVY** scheme in Bescom.

6. Employment Record

Period	Employing organization and your title/ position. Contact information for references	Country	Summary of activities performed relevant to the Assignment
Mar-23 to present	**Employer: PricewaterhouseCoopers Private Limited** **Position: Senior Associate**	**India**	• Coordination for proposal towards smart meter (AMI) & AMR projects. • Coordinating and conducting the tender evaluation related to smart meter projects. • Assistance in technological interventions Mukhyamantri Saur Krushi Vahini Yojana (MSKVY) project.
Jun'21 – Feb'23	Tata Power Company Limited (TPCL), Mumbai Deputy Manager-Smart Metering Solutions (AMI)	India	• Project management for the implementation of **Smart meter** along with HES and MDM solutions. • Preparation of SOPs for all day-to-day metering activities and new activities • Conduct AMR/AMI data analysis for fault identification and rectification for correction of the bill for the faulty period. • Working on Meter reading tools -CMRI, URJA, M-Cube, VinPlus and TP Mobile applications. • Coordination and meetings with execution & SIM vendors for daily activities. • Working on SAP -CRM, ERP modules for consumer to meter data management. • Data Support to EA, MR, Billing & KYEC teams for analysis. • Support the drafting of HLD/LLD for MDM and HES solution deployments. • Network mapping of all electrical assets through ARC GIS application. • Submission of MIS for smooth monitoring and reviewing of day-to-day metering activities. • Ensuring safety of all workforce and assets by following JSA/PTW/LOTO while execution. • Ensuring automatic connect /disconnection of supply for late payment consumers through MDM.

			• Expertise in L&T, Secure, Genus, and HPL make LT, LTCT, HTLT, and ABT meters. • Scheduling, Planning, Executing & Integration of 70K AMI Nodes for LT Residential, Commercial and Industrial consumers. • Hands on Experience -IOT applications for SM Data analysis, Validation & visualization. • Conducting training sessions for workman on various processes.
Mar'17 – Jun'21	Genus Power Infrastructures Limited, Hyderabad Project In charge—Smart Prepaid Metering Project Implementation, TSSPDCL & TSNPDCL	India	• Planning, scheduling, execution & Integration of Smart prepaid meters with HES and MDM solutions • Configuration of Smart meters with MDM applications. • Involved in System Metering and energy accounting for smart metering projects. • Drafting of functional requirements of the overall solution, architecture along with HLD/LLD • Monitoring continuous data flow from Meter to MDM to utility prepaid billing system • Coordination with system integrator for developing web services and new reports in MDM • Worked on Airtel & Vodafone M2M-IOT SIM web applications for SIM management. • Meeting with Nodal officers, CGMs, Directors of TSSPDCL & TSNPDCL. • Creating documentation, certification, invoicing and collection of payments as per SLA • Provide training to the DISCOM/Internal Teams on product Intelligence and functionality. • Preparation of MIS and presenting the progress report in terms of Technical and revenue status of the project. • Checking recharge transactions in DISCOM EBS Vs Real time Meter data. • Providing monthly billing data to the DISCOM for smart bill generation which includes Instant data of meters, Load survey data, Energy details and Tamper Events. • Meeting with Superintending Engineers and senior accounts offices for billing. • Maintaining local office and fulfilling the project requirements by coordinating with corporate office. • Verification and certification of contractor's progress for payments. • Selection of vendors through bidding and Creation of POs for project works • Assurance of Quality of meters and quality work execution. • Specialized in Lab testing of MFM, Energy Meters using AMR, DCU, GPS Time synchronizing AMR, CMRI & DLMS Mobile App as a third party Inspector. • Compliance of technical specifications and issues of smart meter and other materials.
Nov'13 – Feb'17	RECPDCL, Bangalore Project Engineer – RGGVY XII/DDUGJY-Karnataka, RAPDRP-Goa, IPDS & PMA-Karnataka	India	• Inspection of power distribution Materials and meters at manufacturing companies to issue DI. • Worked in RGGVY, DDUGJY, RAPDRP & IPDS schemes for utilities of Karnataka and Goa.

			• Worked as project engineer for Preparation of Detailed project report of RGGVY -KA by collecting the data through GPS based site survey. • Drawing SLDs in Auto Cad and submission of the same to DISCOMs for approval. • Conduct load check analysis for new proposals of RE network (DT, LT & HT line infra). • Finalization of GTP and Drawings for power distribution works. • Quantification of survey data for submission of DPRs in respect to Technical and Revenue requirements for DISCOM. • Worked as Team lead for RAPDRP -Goa Project for Implementation of **GIS Network Mapping through Land base - GPS survey.** • Migration of Survey data with Land Base/Base Camp software for network mapping. • Worked as consultant for DDUGJY& IPDS projects – Karnataka under project Management agency services. • Support utilities for submission of DPRs to central Govt. for fund approvals and follow up with PFC/REC central teams for preparation of Bidding documents (SBD). • Preparation of BOQ and uploading tender documents in E- Procurement Portal for selection of executing and material supply agencies. • Assisted in Bid process management. • Monitoring vendors work for on time work execution as per SLAs. • Dealing with AMI for smart meter solutions and co coordinating with Energy Meter Manufacturers and DISCOMs for smooth execution of meter reading projects and Testing projects.

7. Membership in Professional Associations and Publications: NIL

8. Languages Skills

Languages	Speaking	Reading	Writing
English	Excellent	Excellent	Excellent
Hindi	Excellent	Excellent	Excellent
Telugu	Excellent	Excellent	Excellent
Kananda	Excellent	Moderate	Moderate

9. Adequacy for the Assignment:

Detailed Tasks Assigned on Consultant's Team of Experts:	Reference to Prior Work/Assignments that Best Illustrates Capability to Handle the Assigned Tasks
• Participate and contribute in discussion within the team from the Smart Metering aspects and provide necessary inputs with respect to MDM related technical and function specification, standards, interoperability, integration etc. • Stakeholder consultation (Including MoP, REC etc.) • Finalization of Technical specifications of the hardware/ software components with respect to MDM and its integration with utility legacy system • Support in quality assurance	**Project Reference-1** ➢ **Name of assignment or project:** Project Management for the deployment of 70,000 Smart Meters in Mumbai ➢ **Year:** 2021 – 2023 ➢ **Location:** Mumbai ➢ **Client:** Tata Power Company limited (TPCL), ➢ **Main Project Features:** The project was to implement 70,000 GPRS based smart prepaid meters for LT Residential, Commercial and Industrial consumers under the jurisdiction of Tata Power Mumbai. It involved supply, installation, commissioning of smart prepaid meters and also deployment of AMI solutions along with necessary support. ➢ **Position Held:** AMI project team member ➢ **Activities Performed:** • Project management for the implementation of 70,000 smart meters • Project management for the implementation for AMI solutions such HES and MDM • Assisted in drafting HLD/LLD for MDM and HES solution deployments

• Preparation of draft bidding documents from the aspects of Smart Metering, standards, interoperability etc. • Technical bid evaluation report, contract award etc. • Developing and maintaining MIS related to the project, progress reports and details required for Results Evaluation Framework from the MDM aspects • Identification of anticipated bottlenecks in project implementation & preparation of remedial action plan • Fund flow management and recommend the claim of DISCOM for fund release • Monthly progress report, system hand-over and final report on aspects related MDM and its integration.	• Assisted in UAT of AMI solutions such as MDM and HES • Involved in smart meter data analytics for customer complaint analysis etc. • Conduct AMI data analysis for fault identification and rectification for correction of the bill for the faulty period • Assisted in configuration of SAP, CRM, ERP modules for consumer to meter data management. • Provide data support for Energy Audit, Meter Reading, Billing & KYEC teams for analysis. • Support the preparation of SOPs for all day-to-day metering activities
	Project Reference-2 ➢ **Name of assignment or project**: Implementation of Smart Prepaid Metering Project in Telangana State Southern Power Distribution Company Limited (TSSPDCL) ➢ **Year:** 2017 – 2021 ➢ **Location:** Telangana ➢ **Client:** TSSPDCL ➢ **Main Project Features:** The project was to implement 8500 GPRS based smart prepaid meters for all the government offices under the jurisdiction of Telangana State Southern Power Distribution Company Limited (TSSPDCL). It involved supply, installation, commissioning of smart prepaid meters and also deployment of AMI solutions along with necessary support for a period of five (5) years. ➢ **Position Held:** Project In-charge ➢ **Activities Performed:** • Planning, scheduling, execution & Integration of Smart prepaid meters • Configuration of Smart meters with MDM applications • Assisted in drafting HLD/LLD for MDM and HES solution deployments • Creation of sequence diagrams for documentation of required business processes, creation of HLD/LLD architecture • Assisted in UAT of AMI solutions such as MDM and HES • Monitoring continuous data flow from Meter to MDM to utility prepaid billing system • Assisted in development of real-time pre-paid billing application • Creating documentation, certification, invoicing, and collection of payments as per SLA • Provide training to the DISCOM/Internal Teams on product Intelligence and functionality • Preparation of MIS and presenting the progress report in terms of Technical and revenue status of the project.
	Project Reference-3 ➢ **Name of assignment or project**: Implementation of Smart Prepaid Metering Project in Telangana State Southern Power Distribution Company Limited (TSNPDCL) ➢ **Year:** 2017 – 2021 ➢ **Location:** Telangana ➢ **Client:** TSNPDCL ➢ **Main Project Features:** The project was to implement 10,00 GPRS based smart prepaid meters for all the government offices under the jurisdiction of Telangana State Southern Power Distribution Company Limited (TSNPDCL). It involved supply, installation, commissioning of smart prepaid meters and also deployment of AMI solutions along with necessary support for a period of five (5) years. ➢ **Position Held:** Project In-charge ➢ **Activities Performed:** • Planning, scheduling, execution & Integration of Smart prepaid meters • Configuration of Smart meters with MDM applications • Assisted in drafting HLD/LLD for MDM and HES solution deployments • Creation of sequence diagrams for documentation of required business processes, creation of HLD/LLD architecture • Assisted in UAT of AMI solutions such as MDM and HES

	• Monitoring continuous data flow from Meter to MDM to utility prepaid billing system • Assisted in development of real-time pre-paid billing application • Creating documentation, certification, invoicing, and collection of payments as per SLA • Provide training to the DISCOM/Internal Teams on product Intelligence and functionality • Preparation of MIS and presenting the progress report in terms of Technical and revenue status of the project.
	Project Reference-4 ➢ **Name of assignment or project:** Implementation of GIS based solutions for consumer indexing and support for distribution system augmentation (power transformers, feeders etc.) under R-APDRP – Goa ➢ **Year:** 2016-17 ➢ **Location:** Goa ➢ **Client:** Goa Electricity Department (GED) ➢ **Main Project Features:** Implementation of GIS based solutions for consumer indexing, collection of GPS coordinates for the entire consumer base of Goa and mapping of GPS coordinates with GED web application. The project also involved support for distribution system augmentation (power transformers, feeders etc.) ➢ **Activities Performed:** • Assisted in formulation of SOPs for collection of GPS coordinates • Monitoring the consumer indexing work done by the vendor • Involved in implementation of land-based survey for South Goa • Implementation of GPS coordinates capturing for electrical assets such as poles, transformers, feeders etc. • Mapping GPS coordinates of the electrical assets on ArcGIS and Mapsource solutions • Drawing SLDs in Autocad and submission of the same to DISCOMs for approval
	Project Reference-5 ➢ **Name of assignment or project:** Preparation of Detailed project report of Rajiv Gandhi Grameen Vidyutikaran Yojana, Deen Dayal Upadhyaya Gram Jyoti Yojana and Integrated Power Development Scheme(IPDS) ➢ **Year:** 2013 – 2016 ➢ **Location:** Karnataka ➢ **Client:** BESCOM and GESCOM ➢ **Main Project Features:** Preparation of DPRs for augmentation of village electrification network under RGGVY XII plan and preparation of DPRs & RfPs for RE component (feeder separation, System Strengthening & Metering) under DDUGJY & IPDS project ➢ **Activities Performed:** • Support utilities for submission of DPRs to central Govt. and follow up with PFC/REC officials for fund approvals. • Preparation of Bidding documents (SBD) for floating tenders under IPDS and DDUGJY. • Evaluation of Techno-Commercial bidding documents of vendors in coordination with Utility project team • Preparation of LOI and Work award, Agreements for supply and execution works. • Monitoring of various power distribution projects. • Monitoring of DDUGJY and IPDS works in various discoms of Karnataka which includes ~more than 600KMs of UG cable and ~700Kms of LT AB cable. • **Quality assurance of distribution works** including energy meters, system meters and Solar rooftop installed on Govt. buildings. • **Material Quality checking at manufacturer premises as well as at various work locations**. • **Assist discom in finalization of specification of power distribution major equipment**. • Preparation of Need Assessment Document • Formulation of DPR's • Assisting Utility in preparation of Tender Documents for appointment of Turnkey contractor. • Assisting utilities in bidding process (Including Pre-bid meeting etc.) and Technical evaluations of bid

	• Assisting the utilities for placement of Letter of Award and related activities • Assisting Discoms in progress of detailed Work implementation schedule in association with Turnkey Contractors. • Recommend the claim of utility for fund release from Nodal Agency. The recommendation is to be supported by report on expenditure, progress and constraints if any for timely completion of project. • Submit report to Nodal Agency, regarding project completion and expenditure incurred along with recommendation in accordance with the Guidelines. • To assist utility in Supervision of Flow of fund in dedicated bank account of Project. • detailed Work implementation schedule in association with Turnkey Contractors. • Coordination and Monitoring of Project implementation activities. • Monitored DPR wise monthly, Physical & Financial progress of Scheme, prepare consolidated report & submit utility for onward submission to Nodal Agency. • Identification of anticipated bottlenecks in project implementation and preparation of remedial action plan in consultation with utilities & project implementing Agency
	Project Reference-6 ➢ **Name of assignment or project:** Third Party Inspection of RGGVY works in BESCOM, Karnataka ➢ **Year:** 2013 – 2016 ➢ **Location:** Karnataka ➢ **Client:** BESCOM ➢ **Main Project Features:** Quality Assurance of Village electrification including consumer metering, system metering and material inspection at field as well as at manufacturer premises. **Activities Performed** • **Third party inspection under RGGVY in BESCOM of Karnataka.** • **Quality Monitoring and reporting to Client.** • **Field Quality monitoring in various villages of BESCOM in Karnataka on sampling basis.** • Visit to assets installed villages and verification of technical specifications, standards, adherence to OEM procedures. • Asset geo mapping through photographs and reporting. • Testing of few equipment installed on sampling basis for confirmation of quality and actual operation.

2. Aravind M

1.	**Position Title and No.**	**MDMS EXPERT**
2.	**Name of Expert:**	**Aravind M**
3.	**Date of Birth:**	**19/05/91**
4.	**Country of Citizenship/ Residence**	**Indian**
5.	**Education**	

Specialization	Institute/University	Year of Passing
B. E (Electrical & Electronics Engineering)	Anna University (Jayamatha Eng college)	2013

About Aravind M:
Aravind has vast experience of ~9 years in power sector and he been majorly involved in AMR, AMI metering projects in past more than 5 years. He has also handled various power discoms client at southern states for Smart meter related projects. He has recently executed the project AMR integration with Existing MDAS/CMS billing software, MPLS network integration, Static/Dynamic/VPN Tunnels based Sim Cards integration for utilities like BESCOM, HESCOM, Goa Discom and Tangedco.
Aravind has good experience in system metering, energy accounting and also smart metering projects. He conducts the lab test for quality check of MFM, Energy Meters using AMR, DCU, GPS Time synchronizing AMR, CMRI & DLMS Mobile App. He has knowledge of Technology used in Metering - RS232 serial for - AMR GPRS Push type data polling to Central Base Station with the specified periodicity.

6. Employment Record

Period	Employing organization and your title/ position. Contact information for references	Country	Summary of activities performed relevant to the Assignment

Aug 2017 to present	**Employer: SANDS (Signals and Systems India Pvt Ltd)** **Position: Manager Technical Support**	**India**	• Coordination & Monitoring of pilot smart meter (AMI) & AMR projects. • Coordinating and conducting tender sample evaluation of smart meter products with Government & Pvt NABL labs as third party inspector. • Assurance of Quality of meters and quality work execution. • Dealing with AMI for smart meter solutions and co coordinating with Energy Meter Manufacturers and DISCOMs for smooth execution of meter reading projects and Testing projects. • Involved in System Metering and energy accounting for smart metering projects. • Technology used in Metering - RS232 serial for - AMR GPRS Push type data polling to Central Base Station with the specified periodicity. • In-depth knowledge of the products related to Energy Meter Applications of various states Power Generation. Transmission and distribution Companies (GENCO, TRANSCO & DISCOMS) and Private Clients in India. • **Specialized in Lab testing of MFM, Energy Meters using AMR, DCU, GPS Time synchronizing AMR, CMRI & DLMS Mobile App as a third party Inspector.** • Compliance of technical specifications and issues of smart meter and other materials. **Clients handled:** • **TANGEDCO** • Bangalore Electricity Supply Company **(BESCOM)**. • Chamundeshwari Electricity Supply Company Limited **(CESC)**. • Hubli Electricity Supply Company Limited **(HESCOM).** • Mangalore Electricity Supply Company Limited (MESCOM). • Gulbarga Electricity Supply Company Limited **(GESCOM).** • BEST Mumbai • Goa Electricity Department **(GED).** • CESC Kolkata • MSEDCL Vasai, Thane and Nagpur • KSEB Kannur, Angamaly, Shoranur, Palom, Trivandrum • Hitachi • KPTCL and KPCL • NLC • Energy Meter companies Ziota, Spectrum, LNT & EDMI
Oct 2014 to Jul-2017	**Employer: SML Electricals India Pvt Ltd** **Position: Project Engineer**	**India**	• PPA- Document approval and Commissioning under RAPDRP and IPDS schemes. • Inspection and commissioning with DISCOM Engineers, substation Erection Testing and commissioning activities with the help of third party agencies • Project execution Erection, testing and commissioning of HT/LT in both Generation & Transmission,

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			• Quality check for power distribution, generation & Transmission equipment including metering. • Monitoring of execution of various substations, transmission lines works for various private clients. Clients: **ACCIONA, INOX, Laxjeet solar, TATA power, Aditya Birla Renewable Energy.**

7. Membership in Professional Associations and Publications: NIL

8. Languages Skills

Languages	Speaking	Reading	Writing
Tamil	Good	Good	Good
English	Good	Good	Good
Malayalam	Good	No	No
Kannada	Good	Average	Average
Hindi	Good	Average	Average

9. Adequacy for the Assignment:

Detailed Tasks Assigned on Consultant's Team of Experts:	Reference to Prior Work/Assignments that Best Illustrates Capability to Handle the Assigned Tasks
• Closely involved in project planning activities to complete the activities on stipulated timelines. • Prepared detailed project report along with the consumer mapping with GIS app. • Provided trainings and awareness programs to utility officers and consumers on prepaid metering and online recharge. • Supported bid management team for RFPs preparation and finalization of technical specifications. • Attended review meetings with utility CMDs and Other Directors for smooth project execution. • Day to day monitoring and coordination with system integrator for resolution of IT related Issues. • Submission of MIS to Utility and higher management for smooth project monitoring. • Frame work from the MDM aspects.	➢ **Name of Assignment: T-AMR integration with Utility Feeder** ➢ **Duration: 2022-Ongoing** ➢ **Location: Chennai** ➢ **Client Name: TANGEDCO- DSM** ➢ **Company: Signals and Systems India Pvt Ltd** ➢ **Position Held: Project Coordinator** ➢ **Activity Performed:** • T-AMR integration for Chindadripet, Ennore substation, Feeder Meter Time stamping with MDAS. • Time synchronized AMR, (i.e) GPS device linked with AMR to find out the time drift in feeder meters. • Ethernet based for uninterrupted communication. • Battery operated AMR modems for power restoration and other event Alerts. • Provide training to the DISCOM/Internal Teams on product Intelligence and functionality • Preparation of MIS and presenting the progress report in terms of Technical and revenue status of the project. • **AMI (MDMS, HES AND MDAS) Configuration.** • **AMI Control Center along communication infrastructure along with applications for Head End System (HES) & Meter Data Management (MDM) System.** • **Implemented HES including solution design and architecture process design.** • **Creation of HLD / LLD** • **Supporting research on various products and communication accessories associated with metering infrastructure like AMI systems, Energy Management Systems, Prepaid Energy Billing Systems.** • Training and capacity building of team • Providing software development inputs to the design and development wing for various projects includes web-based applications, MDM, MDAS, EMS etc.
	➢ **Name of Assignment: HT panel AMR/AMI integration** ➢ **Duration: 2021-Ongoing** ➢ **Location: Bangalore** ➢ **Client Name: BESCOM** ➢ **Company: Signals and Systems India Pvt Ltd** ➢ **Position Held: Project Coordinator** ➢ **Activity Performed:** • POC, AMI/AMR, Dual channel AMR, DLMS APP. • Dual Channel AMR (AMR with Built in Mobile communications.) • Ethernet Based AMR • Bluetooth Probes. • DLMS/Non DLMS Mobile App with Spot billing. • Time Synchronised GPS-AMR. • Worked for Static/VPN/Tunnel channel based sim networks. • MDAS analytics.

	• Providing software development inputs to the design and development wing for various projects includes web-based applications, MDM, MDAS, EMS etc. • Validation of billing of the accuracy• Identification of critical meter events obtained from LT AMR • Monthly billing validation of mapped and unmapped meters • Monitoring of live communication of tracking and resolution of issue • Liaised with client, contractor, vendors and local authorities.
	➢ **Name of Assignment: AMR integration with Utility AMI/MDAS** ➢ **Duration: 2019-2023** ➢ **Location: Bangalore** ➢ **Client Name: Analogics** ➢ **Company: BESCOM.** ➢ **Position Held: Project Co-ordinator** ➢ **Activity Performed:** • AMR integration with Existing MDAS/CMS billing software, MPLS network integration, Static Sim Cards. • M2M sim based FTP protocol • Final XML file to be linked with HTTP based Analogics MDAS Applications. • MPLS based networked linked with VPN Sim card for Data security. • SANDS Make XML tool used for XML data conversion and final XML output linked with Analogics/ BESCOM Billing Applications. • Provide training to the DISCOM/Internal Teams on product Intelligence and functionality • Preparation of MIS and presenting the progress report in terms of Technical and revenue status of the project. • **Validation for the billing of the accuracy and performance of meter reads and outage event data.** • **Monitoring of real time Communication status of Smart meter.** • **Identification of critical meter events obtained from LT AMR**
	➢ **Name of Assignment: AMR/ DLMS Mobile APP Distribution metering DLMS and Non DLMS Meters.** ➢ **Duration: 2019-2020** ➢ **Location: Hubli** ➢ **Client Name: Transvision India** ➢ **Company: HESCOM** ➢ **Position Held: Project Co-ordinator** ➢ **Activity Performed:** • DLMS and Non DLMS Billing App integration for utility. • Bluetooth based AMR/ Mobile based applications for Billing solutions with Spot billing machines. • Non DLMS protocol used in mobile applications. • USB to optical probe for Mobile billing Applications. • Raw data send to HESCOM utility servers using FTP protocal communication.
	➢ **Name of Assignment: AMR integration with Utility AMI/MDAS** ➢ **Duration: 2017-2019** ➢ **Location: GOA** ➢ **Client Name: Analogics** ➢ **Company: GEB** ➢ **Position Held: Project Coordinator** ➢ **Activity Performed:** • AMR integration with Existing MDAS/ billing software, VPN network integration, Static Sim Cards. • Integration of our modems with GOA Analogics MDAS using FTP protocol. • M2M sim based FTP protocol. • XML files of All Data, Load Survey,INS, & Tamper events will be linked with GEB billing Applications
	➢ **Name of Assignment: 33KV Kanakagiri Switch Yard and Substations with 7KM Line.** ➢ **Duration: 2016-2017.** ➢ **Location: Kanakagiri.** ➢ **Client Name: Tata Power Solar.** ➢ **Company: SML Electricals.** • **Activities like AMR/ CMRI/Laptop reading and integration with Energy Meters.**

	• Substation testing includes Bus bar Inspection & testing, Inspection of cables, • Insulation resistance testing for cables and Circuit breaker. • HV testing of cables and Circuit breakers, • Main Meter and check Meter testing using Accu-check instruments, • CT PT testing using Megger Kits. • Preparing Project reports for commissioning activities.
	➢ **Name of Assignment: 33KV Double Circuit Line(11KMs) and Substation for Acciona Windmill Generation with Testing and commissioning activities.** ➢ **Duration: 2016-2017** ➢ **Location: BasavnaBagvadi Bijapur** ➢ **Client Name: Inox Wind** ➢ **Company: SML Electricals** • Commissioning activities of CMRI/Laptop reading and integration with Energy Meters. • Substation testing includes Bus bar Inspection & testing, Inspection of cables, • Insulation resistance testing for cables and Circuit breaker. • HV testing of cables and Circuit breakers, • Main Meter and check Meter testing using Accu-check instruments, • CT PT testing using Megger Kits. • Preparing Project reports of commissioning activities
	➢ **Name of Assignment: 33KV Windmill Generation Testing and commissioning and 220KV transmission Substation lines(38KMs)** ➢ **Duration: 2016-2017** ➢ **Location: Telsang & Kanamadi** ➢ **Client Name: Acciona** ➢ **Company: SML Electricals** • Activities like CMRI/Laptop reading and integration with Energy Meters. • Substation testing includes Bus bar Inspection & testing, Inspection of cables, • Insulation resistance testing for cables and Circuit breaker. • HV testing of cables and Circuit breakers, • Main Meter and check Meter testing using Accu-check instruments, • CT PT testing using Megger Kits. • Preparing Project reports of commissioning activities
	➢ **Name of Assignment: 220KV substation Testing and commissioning.** ➢ **Duration: 2014-2016** ➢ **Location: Athani** ➢ **Client Name: ACCIONA** ➢ **Company: SML Electricals** ➢ **Position Held: Project Engineer.** ➢ **Activity Performed:** • Commissioning activities of CMRI/Laptop reading and integration with Energy Meters. • Substation testing includes Bus bar Inspection & testing, Inspection of cables, • Insulation resistance testing for cables and Circuit breaker. • HV testing of cables and Circuit breakers, • Main Meter and check Meter testing using Accu-check instruments, • CT PT testing using Megger Kits. • Preparing Project reports of commissioning activities.

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3. Rakesh Sharma

1.	**Position Title and No.**	HES EXPERT
2.	**Name of Expert:**	Rakesh Sharma
3.	**Date of Birth:**	16/03/91
4.	**Country of Citizenship/ Residence**	Indian
5.	**Education**	

Specialization	Institute/University	Year of Passing
B. Tech (Electrical Engineering)	Govind Ballabh Pant Engineering College, Pauri, Uttarakhand	2013

Brief About Rakesh Sharma:

Rakesh Sharma has **Nine years** of experience in power distribution sector. He has good experience in installation and monitoring of smart meters with MDMS & HES solution. He has been involved in preparation of Roadmap and implementation of smart meters. He has expertise in loss reduction projects for the utilities. He assisted the BSES in reducing the AT&C losses from 28% to 4.5%.

Rakesh has vast experience with BSES in the implementation of Smart meter projects in the jurisdiction. He was also involved in operation and monitoring of smart meter works in the Utility. He worked as Project Manager for the Smart meter implementation with MDMS and HES system.

6. Employment Record

Period	Employing organization and your title/ position. Contact information for references	Country	Summary of activities performed relevant to the Assignment
Sep-13 to present	**Employer: BSES Yamuna Power Limited, New Delhi** **Position: Sr. Manager**	**India**	• AMI and AMR (MDMS, HES AND MDAS) Configuration. • Configuring the business configuration like TOD, Billing profile, Demand integration period, Holiday list and general Configuration in Smart Meters. • Implemented HES including solution design and architecture, process design • Monitoring the MDAS, MDMS and DB server and It's deployed AMI applications • Support implementation of interventions for AT&C loss reduction, network optimization & project management, • Raise the stature of O&M function and ensure development, implementation, and monitoring of O&M plans. • Project Lead of Mass Meter Replacement and Installed more than 30k Energy Meters and achieve the target to Reduce the AT&C loss level from 28% to 4.5%(current loss level) • Conducting QC of all the T&D loss reduction activities like Installation and replacement of Energy Meters, Distribution Transformers Load Balancing, and Securitization of Electrical network in Allocated area. • Lead a team for Implement best practices in power distribution planning, operations, and maintenance to reduce losses and improve quality of supply. • Lead a team of 10 plus members for Smart Metering Project Management (installation of Smart meters, HES and MDM system) and monitoring the operations part (Smart Meter/ Prepaid meters' installation) • Collecting the data and inspecting the sites with various stake holders for data collection and progress. • Finalizing project scope while preparing asset details when required and preparing MRS slips in SAP PM on monthly basis for material consumption details in allocated area • Work in a Team of Project for Installation of Energy Meters in HT feeders and Inter Zonal HT feeders for

			• Energy Accounting and actual Loss Level Calculation • Daily monitoring and Reporting for Smart Meter/Energy meters Installation, O&M Activities and TSP Issues. • Leading a team of installation of IGMS meters, HT Feeder Meters, Smart Meters and normal meters. • Drafting the technical proposals for migration projects to meet financial/technical deadlines • Conduct trainings and capacity development workshops for distribution utilities Staff. • Identify and implement best practices in power distribution design, planning, operations, and maintenance to reduce AT&C losses and improve quality of supply and help in Utility business transformation too. • Analysis of Meter Consumption Pattern on sampling basis and energy accounting. • Managing and Deputing the staff for resolution of Consumer NCC complaint and ensuring complaints should be closed according to the timeline of DERC. • Develop protocols, standards, MIS, etc., to improve regular maintenance to enhance quality of supply and reduce cost of supply. • Deploying Innovative Digital Technologies for Data monitoring and operations technologies in company. • Conducting safety awareness Programme, trainings and capacity development workshops for the AMC staff..

7. Membership in Professional Associations and Publications: NIL

8. Languages Skills

Languages	Speaking	Reading	Writing
English	Excellent	Excellent	Excellent
Hindi	Excellent	Excellent	Excellent

9. Adequacy for the Assignment:

Detailed Tasks Assigned on Consultant's Team of Experts:	Reference to Prior Work/Assignments that Best Illustrates Capability to Handle the Assigned Tasks
• Participate and contribute in discussion within the team from the Smart Metering aspects and provide necessary inputs with respect to MDM related technical and function specification, standards, interoperability, integration etc. • Finalization of Technical specifications of the hardware/ software components with respect to MDM and its integration with utility legacy system • Support in quality assurance • Preparation of draft bidding documents from the aspects of Smart Metering, standards, interoperability etc. • Technical bid evaluation report, contract award etc.	**Project Reference-1** ➢ **Name of assignment or project:** Installation of Smart Meters and IGMS in BSES ➢ **Year:** 2020 to ongoing ➢ **Location:** East Delhi ➢ **Client:** BSES ➢ **Main Project Features:** Installation of Smart Meter/IGMS meters ➢ **Position Held: Team Lead** ➢ **Activities Performed:** • Installation of Smart Meters in Govt offices, societies, and Key Consumers. • Implementation for AMI solutions such HES and MDM. • Installation of IGMS (Intelligent Group Metering System) in High Loss areas of East Delhi. • UAT of AMI solutions such as MDM and HES. • AMI and AMR (MDMS, HES AND MDAS) Configuration. • Configuring the business configuration like TOD, Billing profile, Demand integration period, Holiday list and general Configuration in Smart Meters. • Monitoring the MDAS, MDMS and DB server and It' deployed AMI applications.

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• Developing and maintaining MIS related to the project, progress reports and details required for Results Evaluation Framework from the MDM aspects
• Identification of anticipated bottlenecks in project implementation & preparation of remedial action plan
• Fund flow management and recommend the claim of DISCOM for fund release
• Monthly progress report, system hand-over and final report on aspects related MDM and its integration.
• Project Management
• Electricity Distribution and Operations
• Electrical Administration
• ISO 9001, 14001, 45001 Auditor
• Training and Development
• Network Planning
• CAPEX/OPEX Budgeting
• Metering
• System Capacity Analysis
• Technology Planning
• Vendor Management
• T&D Loss Reduction Operation
• Troubleshooting
• Data Analysis (Basic SQL)
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• Deploying FOTA application and bin files for firmware update in AMI devices.
• Helping the discom's to clear the non-assessment cases in a timely manner.
• Remotely Reconnecting & Disconnecting the smart meter when required.
• Configuring Network devices like router, server installation configuration & firewall.
• Configuring Billing integrating software with Utility Billing system/Engines.
• Validating the meter dump data (xml and dlm) from different MDAS providers.
• Interact with R&D team, different MDAS provider and NSP vendor to resolve the technical issue.
• Preparing proposed technical solution, technical documents and product presentations for the AMI and non-AMI based energy meters.
• Smart meter configuration through CMRI devices & BCS software's.
• Working with communication technologies like RFMesh, NBIOT, Cellular(2G/3G/4G) and M2M protocols.
• AMI & AMR (MDMS, HES AND MDAS) Configuration.
• Monitoring the MDAS, MDMS and DB server and It's deployed AMI applications.
• Deploying FOTA application and bin files for firmware update in AMI devices.
• Implemented HES including solution design and architecture, process design Creation of HLD / LLD
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Project Reference-2
➢ Name of assignment or project: Mass Meter Replacement(MMR) for reduction of T&D losses
➢ Year: 2014 - ongoing
➢ Location: East Delhi
➢ Client: BSES
➢ Main Project Features: Replacement of Old Kaifa Meters with new Digital meters of higher accuracy
➢ Activities Performed:
● Work as team lead consisting of a team of group of 5 Engineers and replaced more than 50K meters in High T&D loss areas of east delhi.
● Ensure availability of materials for Meter Replacement work by requesting material from Stores thru SAP.
● Quality Check of installed Meters and ensure meter should be installed as per SOP.
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Project Reference-3
➢ Name of assignment or project: Implementation of Digital Technologies in BSES area for load management and monitoring health of Electrical equipments.
➢ Year: 2019 - ongoing
➢ Location: East Delhi
➢ Client: BSES
➢ Main Project Features: Implementing Digital Technologies in BSES electrical sub-stations for load management and monitoring health of Electrical equipment and reduction of time in Outages.
➢ Position Held: Team Member
➢ Activities Performed:
• Installation of Digital sensors in Electrical sub-stations for monitoring health of electrical equipment which help in Load Management and Electrical equipment safety.
• Installation of FPIs in 11KV feeders so that in case of fault FPI help in reduction of restoration time Breakdown.
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Project Reference-4
➢ Name of assignment or project: Project Shaskth
➢ Year: 2017
➢ Location: Delhi
➢ Client: BSES
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	➢ **Main Project Features: Capture Data of meters from site and Tag them with Unique code Provided to the LT Feeders and S/stsn Equipments** ➢ **Activities Performed:** • Capturing data from site and with the help of SAP team SAP code Generation for Electrical Equipments in s/stsn and LT feeders from the s/stsn • Tag the consumers in LT Feeders and S/stsn according to the electricity supply feeding to the consumers by maintaining the data of all the consumers and with the help of SAP team tag that data accurately.

4. Anil Kumar Singh

Proposed Position		**Cloud Expert**	
Name of Expert:		Anil Kumar Singh	
Date of Birth:		10^{th} August 1990	
Country of Citizenship/Residence		Indian/ India	
Education			
#	**Degrees/ Diploma Obtained**	**Name of the educational Institution / College / University**	**Dates attended (Date From-to)**
1.	B. E (Information technology Engineering)	Maharaja Agarsain Institute of Technology, Uttar Pradesh	2012

Brief Profile:

Anil Kumar Singh is a highly skilled Cloud Expert with extensive experience in the field. Since November 2015, he has been serving as Deputy Manager at Indian Energy Exchange Limited, Noida. In this role, he has demonstrated expertise in setting up and managing Microsoft Windows Servers, developing active directory domain services, administering Linux application servers, and ensuring network and server uptime. Anil has also excelled in managing Azure-based application servers and facilitating cloud migration.

His previous role as a System Engineer at Accent Overseas Pvt. Ltd. from April 2014 to November 2015 showcased his ability to design servers for backup and recovery, troubleshoot hardware-related issues, and provide high-end technical support.

He has actively contributed to project planning, implementation, and management, demonstrating proficiency in technologies such as IIS, PostgreSQL, Windows, HP hardware, JAVA, Tomcat, and more.

Anil Kumar Singh is not only technically adept but also possesses strong leadership skills, evident in his roles overseeing firewall performance tuning, disaster recovery planning, and supervision of manpower. His certifications and commitment to the highest standards make him a valuable asset in the field of cloud computing

Employment Record

#	**Period**	**Employing organization and your title/ position. Contact information for references**	**Country**	**Summary of activities performed relevant to the Assignment**
1.	Nov-2015 – till date	**Employer**: Indian Energy Exchange Limited, Noida **Position**: Deputy Manager	India	• Setting up Microsoft Windows Server 2008 (2012) and managing Windows Server in 2008 (AD Server), Windows Server 2012 (Cluster), and Windows 2016 application-based server • Developing active directory domain services and configuring domain name system • Providing users with Read/Write/Execute access and sharing data between users through the server system • Administering Linux 7.6 application server with platform2008,2012, 2016 and 2019 • Ensuring network and server uptime at all times • Provide Server Support within Office Outside the office • Conducting daily, weekly, and monthly backups of every application server and database server, as well as managing and monitoring the Domain Controller for high availability • Setting up a SQL database server, backing up and restoring databases, and performing daily server health checks • Tracking data center applications, server, and network devices through Solar Winds and Zabbix Monitoring tool, Azure IAAS, PAAS, subnet, gateway.

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				• Upgrading Windows Patches periodically as per the application and System Security requirement • Managing Azure-based application servers and facilitating migration on the cloud. • Working on Microsoft Azure Iaas • Working on change requests and exchange server patching, and managing call-related issues • Maintaining network & systems by managing product and capability roadmaps; established maintenance procedures, and worked with systems administrators and engineers to perform regular network maintenance • Leading firewall performance tuning, installation & configuration multiple Demilitarized Zones (DMZs); configured, and troubleshot wired and wireless network problems and checked firewall logs & activity Conducting performance and stress testing of the network and security components to ensure effective information systems security • Managing the daily review of system logs to proactively catch suspicious network activity • Preparing disaster recovery plans for the network and security devices; interfaced with vendors for network and security products • Ensuring that IT systems, applications, and communication equipment within the organization are managed and maintained by documented processes, procedures, guidelines, and instructions • Spearheading the integrity, availability, and confidentiality targets as defined via a risk-based approach • Supervising manpower and segregation of duties along with authorization and implementation of changes in the Process Control Domain (PCD) • Monitoring network performance including maintenance, upgrades, and back-up/recovery for software (OS, applications, and data), hardware (process control domain equipment), and network equipment (e.g., switch, router, and firewalls)
2.	April, 2014 – Nov, 2015	**Employer**: Accent Overseas Pvt. Ltd. Noida. **Position**: System Engineer	India	• Successfully designed servers for backup and recovery of database information; restored database in case of crash/ emergencies & maintained high availability with configuration • Provided high-end technical support on various servers and ensured high customer satisfaction levels through prompt redressal of their problems • Facilitated troubleshooting of H/w Related issues, creating FTP, and hosting sites of a different client for payroll service

Membership in Professional Associations and Publications:

NA

Trainings:

NA

Language Skills (indicate only languages in which you can work):

Language	**Writing**	**Reading**	**Speaking**
English	Excellent	Excellent	Excellent
Hindi	Excellent	Excellent	Excellent

Adequacy for the Assignment:

Detailed Tasks Assigned on Consultant's Team of Experts:	**Reference to Prior Work/Assignments that Best Illustrates Capability to Handle the Assigned Tasks**
As per the Terms of Reference of the Project	**Project Reference 1:** **Name of Project:** Web-based trading **Year:** 2022 to till date **Location:** Noida, Uttar Pradesh **Client:** IEX

Positions held: Deputy Manager
Activities Performed:

- Project planning, designing, implementation and management.
- Tech platform – IIS, PostgreSQL, WINDOWS, HP hardware.
- Setting up Microsoft Windows Server 2008 (2012) and managing Windows Server in 2008 (AD Server), Windows Server 2012 (Cluster), and Windows 2016 application-based server
- Developing active directory domain services and configuring domain name system
- Providing users with Read/Write/Execute access and sharing data between users through the server system
- Administering Linux 7.6 application server with platform2008,2012, 2016 and 2019
- Ensuring network and server uptime at all times
- Provide Server Support within Office Outside the office
- Leading firewall performance tuning, installation & configuration multiple Demilitarized Zones (DMZs); configured, and troubleshot wired and wireless network problems and checked firewall logs & activity Conducting performance and stress testing of the network and security components to ensure effective information systems security
- Managing the daily review of system logs to proactively catch suspicious network activity
- Preparing disaster recovery plans for the network and security devices; interfaced with vendors for network and security products

Project Reference 2:
Name of Project: RTM (real time market) and RTM API
Year: 2020 to till date
Location: Delhi
Client: IEX
Positions held: Assistant Manager
Activities Performed:

- Infra and applications planning architecture planning and designing implementation and operations support.
- Developing active directory domain services and configuring domain name system
- Providing users with Read/Write/Execute access and sharing data between users through the server system
- Administering Linux 7.6 application server with platform2008,2012, 2016 and 2019
- Ensuring network and server uptime at all times
- Provide Server Support within Office Outside the office
- Conducting daily, weekly, and monthly backups of every application server and database server, as well as managing and monitoring the Domain Controller for high availability
- Ensuring that IT systems, applications, and communication equipment within the organization are managed and maintained by documented processes, procedures, guidelines, and instructions
- Spearheading the integrity, availability, and confidentiality targets as defined via a risk-based approach
- Supervising manpower and segregation of duties along with authorization and implementation of changes in the Process Control Domain (PCD)
- Monitoring network performance including maintenance, upgrades, and back-up/recovery for software (OS, applications, and data), hardware (process control domain equipment), and network equipment (e.g., switch, router, and firewalls)

Project Reference 3:
Name of Project: Indian gas exchange infra and applications setup
Year: 2018-2020
Location: Noida, Uttar Pradesh
Client: Indian gas exchange limited
Positions held: Assistant Manager

Mercados Energy Markets India Pvt. Ltd.

	Activities Performed: • Project planning, designing, implementation and management. • Tech platform- JAVA, tomcat, PostgreSQL, VMware azure cloud platform. • Setting up a SQL database server, backing up and restoring databases, and performing daily server health checks • Upgrading Windows Patches periodically as per the application and System Security requirement
	Project Reference 4: **Name of Project: Smart power procurement** **Year:** 2015 to 2018 **Location:** Noida, Uttar Pradesh **Client:** Indian Energy exchange Limited **Positions held:** Asst. Manager **Activities Performed:** • Planning, designing and implementation of infra in azure cloud prior to that operation management. • Tracking data center applications, server, and network devices through Solar Winds and Zabbix Monitoring tool, Azure IAAS, PAAS, subnet, gateway. • Upgrading Windows Patches periodically as per the application and System Security requirement • Managing Azure-based application servers and facilitating migration on the cloud. • Working on Microsoft Azure Iaas • Working on change requests and exchange server patching, and managing call-related issues • Ensuring that IT systems, applications, and communication equipment within the organization are managed and maintained by documented processes, procedures, guidelines, and instructions • Spearheading the integrity, availability, and confidentiality targets as defined via a risk-based approach • Supervising manpower and segregation of duties along with authorization and implementation of changes in the Process Control Domain (PCD) • Monitoring network performance including maintenance, upgrades, and back-up/recovery for software (OS, applications, and data), hardware (process control domain equipment), and network equipment (e.g., switch, router, and firewalls)
	Project Reference 5: **Name of Project: HRP (Human resource process)** **Year:** 2014-2015 **Location:** Noida, Uttar Pradesh **Client:** Surya carpet Pvt. Ltd and Richa industries limited **Positions held:** System engineer **Activities Performed:** • Implementation and support • Successfully designed servers for backup and recovery of database information; restored database in case of crash/ emergencies & maintained high availability with configuration • Provided high-end technical support on various servers and ensured high customer satisfaction levels through prompt redressal of their problems • Facilitated troubleshooting of H/w Related issues, creating FTP, and hosting sites of a different client for payroll service • Tech platform – IIS, SQL DB, Windows server

Mercados Energy Markets India Pvt. Ltd

5. Shailendra Shukla

1.	**Position Title and No.**	CYBER SECURITY EXPERT
2.	**Name of Expert:**	Shailendra Shukla
3.	**Date of Birth:**	07/03/1970
4.	**Country of Citizenship/ Residence**	Indian
5.	**Education**	

Specialization	Institute/University	Year of Passing
CISA, CISM (IT Security)	ISACA	2014,15
MCA, Computers	IGNOU	2008
BCA, Computers	IGNOU	2004

Brief About Shailendra Shukla:

Shailendra Shukla is a seasoned IT professional with over 25 years of experience in system architecture, design, analysis, software development, and implementation. He also has more than 9 years of experience in supporting design and implementation, deployment of IT hardware and supporting hosting services on cloud for standard software. In his carrier he has also done security audits & risk mitigation of IT systems, carrying out VAPT, designing and implementing Cyber Security solutions.

He is a multi-stream certificate holder in IT including CISA, CISM from ISACA and Analytics from IIM. Post 3 years of experience in analysis and development with BSE, Shailendra became a part of Core team member responsible for establishment of IEX Hardware management, Managed service, Security, Audit, software design, development & Analytics including ML & AI.

As part of Mercados he is spear heading the SaaS division which provides cutting edge solutions to clients in handling power portfolio optimisation. He has a proven track record of developing, implementing, and maintaining software solutions that is capable of handling all power exchange-related requirements and issues including DAM, RTM related continuous biddings.

6. Employment Record

Period	Employing organization and your title/ position. Contact information for references	Country	Summary of activities performed relevant to the Assignment
Aug-19 to present	**Employer: Mercados Energy Markets India Pvt Ltd** **Position: IT Head**	**India**	• Development of IT tool for monitoring the demand supply for Uttar Pradesh, Bihar and Madhya Pradesh States. • Deployment of IT hardware and supporting hosting services on cloud. • Ensuring network and server uptime at all times. • Provide Server Support within Office Outside the office • Monitoring network performance including maintenance, upgrades, and back-up/recovery for software (OS, applications, and data), hardware (process control domain equipment), and network equipment (e.g. switch, router, and firewalls) • Conducting daily, weekly, and monthly backups of every application server and database server, as well as managing and monitoring the Domain Controller for high availability. • Managing Azure-based application servers and facilitating migration on the cloud. • Working on Microsoft Azure Iaas, SaaS Joule. • Development of IT solution for Power Procurement Strategy, banking of power, short term bilateral and collective transactions, Merit order dispatch of tied up generators
April 2008-August 2019	India Exchange Designation: AVP	India	• Setting up Microsoft Windows Server 2008 (2012) and managing Windows Server in 2008 (AD Server), Windows Server 2012 (Cluster), and Windows 2016 application-based server • Developing active directory domain services and configuring domain name system Providing users with Read/Write /Execute access and sharing data between users through the server system

			• Administering Linux 7.6 application server with platform2008, 2012, 2016 and 2019 • Ensuring network and server uptime at all times • Provide Server Support within Office Outside the office • Conducting daily, weekly, and monthly backups of every application server and database server, as well as managing and monitoring the Domain Controller for high availability • Setting up a SQL database server, backing up and restoring databases, and performing daily server health checks • Tracking data center applications, server, and network devices through Solar Winds and Zabbix Monitoring tool, Azure IAAS, PAAS, subnet, gateway. • Upgrading Windows Patches periodically as per the application and System Security requirement • Managing Azure-based application servers and facilitating migration on the cloud. • Working on change requests and exchange server patching, and managing call-related issues • Maintaining network & systems by managing product and capability roadmaps; established maintenance procedures, and worked with systems administrators and engineers to perform regular network maintenance • Leading firewall performance tuning, installation & configuration multiple Demilitarized Zones (DMZs); configured, and troubleshot wired and wireless network problems and checked firewall logs & activity Conducting performance and stress testing of the network and security components to ensure effective information systems security • Managing the daily review of system logs to proactively catch suspicious network activity • Preparing disaster recovery plans for the network and security devices; interfaced with vendors for network and security products • Ensuring that IT systems, applications, and communication equipment within the organization are managed and maintained by documented processes, procedures, guidelines, and instructions • Spearheading the integrity, availability, and confidentiality targets as defined via a risk-based approach. • Supervising manpower and segregation of duties along with authorization and implementation of changes in the Process Control Domain (PCD)

7. Membership in Professional Associations and Publications: NIL

8. Languages Skills

Languages	Speaking	Reading	Writing
English	Excellent	Excellent	Excellent
Hindi	Excellent	Excellent	Excellent
Marathi	Excellent	Excellent	Excellent

9. Adequacy for the Assignment:

Detailed Tasks Assigned on Consultant's Team of Experts:	Reference to Prior Work/Assignments that Best Illustrates Capability to Handle the Assigned Tasks
	Project Reference-1

	➢ **Name of assignment or project:** Providing Energy Portfolio Management consultancy services to UPPCL Client ➢ **Year:** March 2022- Present ➢ **Location:** New Delhi ➢ **Client:** Uttar Pradesh Power Corporation Limited ➢ **Position Held:** IT technical Developer and Advisor ➢ **Activities Performed:** **Developed the software solution for** • Power Procurement Strategy, banking of power, short term bilateral and collective transactions, Merit order dispatch of tied up generators to UP Discom, support services to avoid risks of unscheduled interchanges as per Deviation Settlement Mechanism Regulation. • Demand/ Supply Forecasting, Energy Planning & Optimization of Power Purchase Cost Daily Support in Power market participation, Overall Energy Trading Strategy design & Energy Portfolio Risk Management • Day ahead trading through Power Exchange (IEX/PXIL) as per CERC regulations. • Sale and Purchase of Power in RTM Session. • Regulatory Compliances • Development of Short, Medium and Long-term dispatch modelling of the electrical system composed of thermal, hydro and renewable generators for a time horizon of 15 min using mixed integer linear programming model considering all economic and technical constraints to generate most optimal schedule so as to meet the demand at the least cost. • Spot market participation strategy as per the demand-supply gap analysis on day ahead and intraday. • Scheduling of power as per Merit Order Dispatch (MOD). • Banking of Power with other states for fulfilling the demand of UPPCL as per CERC/UPERC regulations.
	Project Reference-2 ➢ **Name of assignment or project**: Providing Consultancy services for Energy Portfolio Management of MP Power Management Company Limited ➢ **Year:** 2020 – Ongoing ➢ **Location:** New Delhi ➢ **Client:** Madhya Pradesh Power Management Company Ltd. ➢ **Position Held:** IT technical Developer and Advisor ➢ **Activities Performed:** Developed the software solution including cyber security for • Power Procurement Strategy, banking of power, short term bilateral and collective transactions, Merit order dispatch of tied up generators to MP Discom, support services to avoid risks of unscheduled interchanges as per Deviation Settlement Mechanism Regulation. • Demand/ Supply Forecasting, Energy Planning & Optimization of Power Purchase Cost Daily Support in Power market participation, Overall Energy Trading Strategy design & Energy Portfolio Risk Management • Day ahead trading through Power Exchange (IEX/PXIL) as per CERC regulations. • Sale and Purchase of Power in RTM Session. • Regulatory Compliances • Development of Short, Medium and Long-term dispatch modelling of the electrical system composed of thermal, hydro and renewable generators for a time horizon of 15 min using mixed integer linear programming model considering all economic and technical constraints to generate most optimal schedule so as to meet the demand at the least cost. • Spot market participation strategy as per the demand-supply gap analysis on day ahead and intraday. • Scheduling of power as per Merit Order Dispatch (MOD). • Banking of Power with other states for fulfilling the demand of MPPMCL as per CERC/UPERC regulations. • Analysis of Cost saving against RSD of high VC plant. • The demand supply gap of MPPMCL on day ahead basis and real time.
	Project Reference-3 ➢ **Name of assignment or project**: Providing energy portfolio management consultancy services to Bihar State Power Holding Company Limited ➢ **Year:** Aug 2019- March-2023 ➢ **Location:** New Delhi ➢ **Client:** Bihar State Power Holding Company Limited

- **Position Held:** Technical Developer and Advisor
- **Activities Performed:**

Developed the software solution including cyber security for:

- Power Procurement Strategy, banking of power, short term bilateral and collective transactions, Merit order dispatch of tied up generators to Bihar Discom, support services to avoid risks of unscheduled interchanges as per Deviation Settlement Mechanism Regulation.
- Demand/ Supply Forecasting, Energy Planning & Optimization of Power Purchase Cost Daily Support in Power market participation, Overall Energy Trading Strategy design & Energy Portfolio Risk Management
- Day ahead trading through Power Exchange (IEX/PXIL) as per CERC regulations.
- Sale and Purchase of Power in RTM Session.
- Regulatory Compliances
- Development of Short, Medium and Long-term dispatch modelling of the electrical system composed of thermal, hydro and renewable generators for a time horizon of 15 min using mixed integer linear programming model considering all economic and technical constraints to generate most optimal schedule so as to meet the demand at the least cost.
- Spot market participation strategy as per the demand-supply gap analysis on day ahead and intraday.
- Scheduling of power as per Merit Order Dispatch (MOD).
- Banking of Power with other states for fulfilling the demand of BSPHCL as per CERC/UPERC regulations.
- Analysis of Cost saving against RSD of high VC plant.
- The demand supply gap of BSPHCL on day ahead basis and real time

Project Reference-4

- **Name of assignment or project:** Indian Energy Exchange Limited (Financial Technology), New Delhi.
- **Year:** April 2014 – August 2019
- **Location:** New Delhi
- **Client:** Inhouse
- **Position:** AVP – IT and CISO
- **Activities Performed:**
- Planning, designing and implementation of infra in azure cloud prior to that operation management.
- Infra and applications planning architecture planning and designing implementation and operations support.
- IEX is India's first power exchange using SAPRI (Nasdaq OMX). The algorithm is use for matching; all C&S activities and Scheduling requirements are handled separately by taking results from Sapri.
- Management of Hardware- Effectively managing Hardware side of Managed (Trading) and Enterprise system with an uptime of >99.95%.
- Management of Information Security system- All the systems' security is maintained with a near about 100% CIA. This includes implementation of companywide ISO-27001 and SOC for controlling security issues.
- ERP implementation- This includes rolling out of companywide ERP (SAP HANA) which includes integration with our existing Trading platform, Salesforce, Membership portal, ITMS and HRMS software.
- Automation for manual work- Various time-consuming practices of report preparing and cross checking of scheduling and settlement are atomized. The same improves output of the workforce.
- Preparation of new software- Modified programs for surveillance and system analysis. Prepared a GST management software for managing the GST payment complexity. Prototype for reviewing and understanding of system result.
- Data Analytics- This is holistic analysis of nationwide Power sector data comprises of RLDC, SLDC, ALDCs and Power Exchange data.

Project Reference-5

- **Name of assignment or project:** Indian Energy Exchange Limited (Financial Technology).
- **Year:** April 2008 – August 2012
- **Location:** New Delhi
- **Client:** Inhouse
- **Positon Held:** Asst. Manager – IT
- **Activities Performed:**
- Planning, designing and implementation of infra in azure cloud prior to that operation management.

	• IEX is India's first power exchange using SAPRI (Nasdaq OMX). The algorithm is use for matching; all C&S activities and Scheduling requirements are handled separately by taking results from Sapri. • Surveillance- Many programs provided to surveillance department for checking bids and historical data. • C & S activity- Result from Sapri in xls/ csv format used as input for various reports using TSO software. Report for Members, NLDC & SLDC consists of their schedule and payments. Daily nearly 20 types of reports are prepared and maintained through TSO software. The reports were appreciated by members for the details and formatting. TSO also has cross checking system to maintain data integrity. Thus eliminates manual cross checking burden. • Solutions to Congestion management- Constrains provided by NLDC has to be maintain in the schedule for power flow. A solution is developed in MS-Excel to calculate the transmission capacity for SAPRI system using Ms Excel. This is a linear type program with various constrains. • Automation for manual work- Various time-consuming practices of report preparing and cross checking of scheduling and settlement are atomized. The same improves output of the workforce. • Daily MIS- Daily more than 5 MIS reports are prepared programmatically. • Analysis of data- All the bids are thoroughly analyses in various aspect for DSS of higher management. • Preparation of new software- Prototype of Imported software like SAPRI and CONDICO were prepared in Ms Excel for In-house use and handling new products development in Company. • More than 20 programs with more than 100 modules were developed in less than 4 month of effective effort. The whole system operates on MS-Excel software apart from imported software (SAPRI).

Mercados Energy Markets India Pvt. Ltd.

Appendix A: Incorporation Certificate, Copy of GST, Copy of PAN Card, EPF details, MSME Certificate, Integrity Agreement, etc.

Mercados Energy Markets India Pvt. Ltd

CERTIFICATE OF INCORPORATION

प्रारुप 1

पंजीकरण प्रमाण-पत्र

कॉर्पोरेट पहचान संख्या : U74140DL2008PTC175300 2007 - 2008

मैं एतदद्वारा सत्यापित करता हूँ कि मैसर्स

MERCADOS ENERGY MARKETS INDIA PRIVATE LIMITED

का पंजीकरण, कम्पनी अधिनियम 1956 (1956 का 1) के अतंर्गत आज किया जाता है और यह कम्पनी प्राइवेट लिमिटेड है।

यह निगमन-पत्र आज दिनांक तेरह मार्च दो हजार आठ को मेरे हस्ताक्षर से दिल्ली में जारी किया जाता है।

Form 1

Certificate of Incorporation

Corporate Identity Number : U74140DL2008PTC175300 2007 - 2008

I hereby certify that MERCADOS ENERGY MARKETS INDIA PRIVATE LIMITED is this day incorporated under the Companies Act, 1956 (No. 1 of 1956) and that the company is private limited.

Given under my hand at Delhi this Thirteenth day of March Two Thousand Eight.

(KLAIR ANITA)

सहायक कम्पनी रजिस्ट्रार / Assistant Registrar of Companies

राष्ट्रीय राजधानी क्षेत्र दिल्ली एवं हरियाणा

National Capital Territory of Delhi and Haryana

कम्पनी रजिस्ट्रार के कार्यालय अभिलेख में उपलब्ध पत्राचार का पता :

Mailing Address as per record available in Registrar of Companies office:

MERCADOS ENERGY MARKETS INDIA PRIVATE LIMITED

S-454, Greater Kailash Part - II,

New Delhi - 110048,

Delhi, INDIA

सत्यापित प्रतिलिपि

GST REGISTRATION CERTIFICATE

GST CERTIFICATE

(Amended)

सत्यमेव जयते

Government of India

Form GST REG-06

[See Rule 10(1)]

Registration Certificate

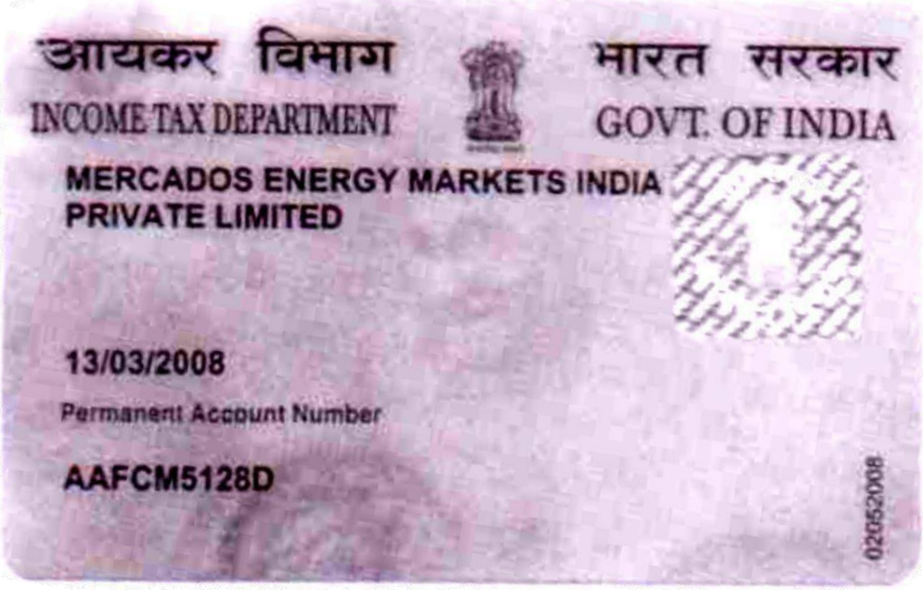
Registration Number :07AAFCM5128D2ZP

1.	Legal Name	MERCADOS ENERGY MARKETS INDIA PRIVATE LIMITED			
2.	Trade Name, if any	MERCADOS ENERGY MARKETS INDIA PRIVATE LIMITED			
3.	Constitution of Business	Private Limited Company			
4.	Address of Principal Place of Business	SECOND FLOOR, A2, INTERNATIONAL TRADE TOWER, SATYAM CINEMA, NEW DELHI, New Delhi, Delhi, 110019			
5.	Date of Liability	03/05/2017			
6.	Date of Validity	From	02/07/2017	To	Not Applicable
7.	Type of Registration	Regular			
8.	Particulars of Approving Authority				
Signature					
Name					
Designation					
Jurisdictional Office					
9. Date of issue of Certificate	24/08/2019				
Note: The registration certificate is required to be prominently displayed at all places of Business/Office(s) in the State.					

This is a system generated digitally signed Registration Certificate issued based on the deemed approval of application on null .

Mercados Energy Markets India Pvt. Ltd

PAN CARD


आयकर विभाग
INCOME TAX DEPARTMENT
भारत सरकार
GOVT. OF INDIA
MERCADOS ENERGY MARKETS INDIA PRIVATE LIMITED
13/03/2008
Permanent Account Number
AAFCM5128D
02052008

Mercados Energy Markets India Pvt. Ltd

TAN DETAILS

TAN Details	
TAN	DELM15834A
Category of Deductor	Company/Firms/AOP/BOI/AJP/AOP(Trust) and Branches
Name	MERCADOS ENERGY MARKETS INDIA PRIVATE LIMITED
Address 110001	807 NEW DELHI HOUSE BARAKHAMBA ROAD CONNAUGHT PLACE NEW DELHI
PAN	AAFCM5128D
Status of TAN	Active
Email ID 1	TAX@KVAONLINE.COM
Email ID 2.	
TAN AO Code	
Area Code	DEL
AO Type	W
Range Code	80
AO Number	4
AO Description	-
Building Name	-
Email Id	-

Mercados Energy Markets India Pvt. Ltd ★

EPF CERTIFICATE

EMPLOYEES' PROVIDENT FUND ORGANISATION

(A statutory Body under the Ministry of Labour and Employment, Government of India)

www.epfindia.gov.in

PROVIDENT FUND CODE NUMBER INTIMATION LETTER

No : 1293847062NHP　　　　Date : 16/04/2019

To,

BHUSHAN RASTOGI
DIRECTOR
MERCADOS ENERGY MARKETS INDIA PRIVATE LIMITED
A-1/74, GROUND FLOOR, PANCHSHEEL ENCLAVE,
DELHI SOUTH
DELHI - 110017

Sub: Allotment of Code Number to establishment M/s MERCADOS ENERGY MARKETS INDIA PRIVATE LIMITED under Employees' Provident Fund and Miscellaneous Provisions Act, 1952-regarding.

Sir/Madam ,

Based on the information submitted online by you, your establishment is registered with Employees' Provident Fund Organisation with the following code number :

Code Number : DSNHP1472203000

This code number is allotted based on the following declarations by you:

1. Name of Establishment	:	MERCADOS ENERGY MARKETS INDIA PRIVATE LIMITED
2. PAN of Establishment	:	AAFCM5128D
3. Date on which employment strength crossed 19	:	-
4. Section under which covered	:	00000002-A
5. Primary Activity	:	EXPERT SERVICES
6. Ownership Type	:	Private Limited Company
7. The address proof of the establishment is	:	- Copy of bank passbook/statement

Mercados Energy Markets India Pvt. Ltd.

MSME CERTIFICATE

भारत सरकार
Government of India
सूक्ष्म, लघु एवं मध्यम उद्यम मंत्रालय
Ministry of Micro, Small and Medium Enterprises

MSME

UDYAM REGISTRATION CERTIFICATE

UDYAM REGISTRATION NUMBER	UDYAM-DL-08-0051265
NAME OF ENTERPRISE	M/S MERCADOS ENERGY MARKETS INDIA PRIVATE LIMITED

TYPE OF ENTERPRISE *

S.No.	Classification Year	Enterprise Type	Classification Date
1	2023-24	Small	06/05/2023

MAJOR ACTIVITY	SERVICES
SOCIAL CATEGORY OF ENTREPRENEUR	GENERAL

NAME OF UNIT(S)

S.No.	Name of Unit(s)
1	Mercados Energy Markets India Private Limited

OFFICAL ADDRESS OF ENTERPRISE

Flat/Door/Block No.	Unit No. -A2	Name of Premises/ Building	International Trade Tower
Village/Town	Opposite Satyam Cinemas	Block	Second Floor
Road/Street/Lane	Nehru Place	City	New Delhi
State	DELHI	District	SOUTH , Pin 110019
Mobile	[illegible]	Email:	[illegible]

DATE OF INCORPORATION / REGISTRATION OF ENTERPRISE	13/05/2008
DATE OF COMMENCEMENT OF PRODUCTION/BUSINESS	13/05/2008

NATIONAL INDUSTRY CLASSIFICATION CODE(S)

SNo.	NIC 2 Digit	NIC 4 Digit	NIC 5 Digit	Activity
1	62 - Computer programming, consultancy and related activities	6201 - Computer programming activities	62013 - Providing software support and maintenance to the clients	Services
2	62 - Computer programming, consultancy and related activities	6202 - Computer consultancy and computer facilities management activities	62020 - Computer consultancy and computer facilities management activities	Services
3	62 - Computer programming, consultancy and related activities	6209 - Other information technology and computer service activities	62091 - Software installation	Services
	head offices; management consultancy activities	consultancy activities	Management consultancy activities	

DATE OF UDYAM REGISTRATION	06/05/2023

* In case of graduation (upward/reverse) of status of an enterprise, the benefit of the Government Schemes will be availed as per the provisions of Notification No. S.O. 2119(E) dated 26.06.2020 issued by the M/o MSME.

Disclaimer: This is computer generated statement, no signature required. Printed from https://udyamregistration.gov.in & Date of printing:- 06/05/2023

For any assistance, you may contact:

1. District Industries Centre: DELHI (DELHI)

2. MSME-DFO: DELHI (DELHI)

Visit : www.msme.gov.in ; www.dcmsme.gov.in ; ww... v.in

Follow us @minmsme & ... @r...

Mercados Energy Markets India Pvt. Ltd

POWER OF ATTORNEY

INDIA NON JUDICIAL

Government of Uttar Pradesh

e-Stamp

Certificate No.	:	IN-UP00417586708558U
Certificate Issued Date	:	20-Sep-2022 10:58 AM
Account Reference	:	NEWIMPACC (SV)/ up14172204/ LUCKNOW SADAR/ UP-LKN
Unique Doc. Reference	:	SUBIN-UPUP14172204935372267225660
Purchased by	:	MERCADOS ENERGY MARKETS INDIA PVT LTD
Description of Document	:	Article 48 Power of Attorney
Property Description	:	Not Applicable
Consideration Price (Rs.)	:	
First Party	:	MERCADOS ENERGY MARKETS INDIA PVT LTD
Second Party	:	Not Applicable
Stamp Duty Paid By	:	MERCADOS ENERGY MARKETS INDIA PVT LTD
Stamp Duty Amount(Rs.)	:	100 (One Hundred only)

NOTARY C.P. MISRA ADV. & NOTARY LUCKNOW U.P. GOVERNMENT OF INDIA

GENERAL POWER OF ATTORNEY

KNOW ALL MEN BY THIS POWER OF ATTORNEY:

WHEREAS, Mercados Energy Markets India Private Limited a Company registered under the Companies Act, 1956, and having its registered office at A2, Second Floor, Block-E, International Trade Tower, Opposite Satyam Cinema, Nehru Place, New Delhi – 110019 (hereinafter referred to as the 'Company') has from time to time participate in various tender of different organisations (hereinafter referred to as the 'Tender Inviting Agencies') in India and outside;

AND WHEREAS the Company has to enter into various agreements and contracts and execute various sorts of documents, including consortium agreements, undertakings, guarantees, indemnity bonds etc.;

AND WHEREAS it is considered necessary and expedient to execute a General Power of Attorney in favour of Shri Amiy Chaturvedi, Senior Manager in the Company;

AND WHEREAS the Board of Directors of the Company, by resolution dated 16th December 2022 have resolved to execute a General Power of Attorney in terms of the draft placed before the Board in favour of Shri Amiy Chaturvedi, Senior Manager in the Company.

NOW THIS POWER OF ATTORNEY WITNESSES AS FOLLOWS:

The Company hereby appoints Shri Amiy Chaturvedi as its Attorney so long as he is employed in the Company to do acts, deeds and things in the name and/or behalf of the Company that are necessary or required in connection

C.P. MISRA ADV. & NOTARY HQ LUCKNOW U.P. INDIA REGN. NO. 2061 EXPIRY DATE-15-3-2025

12/22

Mercados Energy Markets India Pvt. Ltd.

with or incidental to submission of bids but not limited to signing and submission of all applications, bids and other documents and writings, participate in bidders' and other conferences and providing information / responses to Tender Inviting Agencies, representing us in all matters before the Tender Inviting Agencies, signing and execution of all contracts including the Agreement and undertakings consequent to acceptance of our bid, and generally dealing with Tender Inviting Agencies in all matters in connection with or relating to or arising out of our bid(s) and/or upon award thereof to us and/or till the entering into of the Agreement with the Tender Inviting Agencies.
AND the Company hereby agrees that all acts, deeds or things lawfully done by the said Attorney under the authority of this power shall be construed as acts, deeds and things done by the Company and the Company hereby undertakes to confirm and ratify all and whatsoever the said Attorney shall lawfully do or cause to be done by virtue of the powers hereby given.

Amiy Chaturvedi
Senior Manager

Mercados Energy Markets India Pvt. Ltd.

IN WITNESS WHEREOF, we have signed this deed at Lucknow, on 16th December 2022.

For and on Behalf of MERCADOS ENERGY MARKETS INDIA PRIVATE LIMITED

Bhushan Rastogi
Managing Director

Mercados Energy Markets India Pvt. Ltd.

Shweta Rastogi
Director

WITNESSES:

1. Ashish (Ashish Verma) (Analyst)
2.

NOTARY

Sworn and Verified Before Me

17/12/22

C.P. MISHRA
ADV. & NOTARY
HQ LUCKNOW U.P. INDIA
REGN. NO. 20914
EXPIRY DATE-14-3-2025

2

Mercados Energy Markets India Pvt. Ltd.

भारतीय गैर न्यायिक

एक सौ रुपये Rs. 100

रु. 100 ONE HUNDRED RUPEES

सत्यमेव जयते

भारत INDIA

INDIA NON JUDICIAL

उत्तर प्रदेश UTTAR PRADESH

GH 299423

ANNEXURE -C-II

2 5 OCT 2023

Enclosure-I

INTEGRITY AGREEMENT

This Integrity Agreement is made at Lucknow on this 20th Day of November 2023

BETWEEN

WAPCOS Limited, Gurgaon (Hereinafter referred as the 'Principal/Owner', which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

AND

Mercados Energy Markets India Private Limited having registered office at A2, Second Floor, Block-E, International Trade Tower, Opposite Satyam Cinema, Nehru Place, New Delhi -110019

through

Mr. Amiy Chaturvedi, Senior Manager at Mercados Energy Markets India Private Limited

Hereinafter referred to as the

"Bidder/Contractor" and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

Preamble

WHEREAS the Principal / Owner has floated the Tender with Tender Reference No. WAP/POWER/T&D/RFP/CONS/2023-01 dated 18-11-2023 (Hereinafter

referred to as "Tender/Bid") and intends to award, under laid down organizational procedure, contract for Selection of Consortium Partner for "Consultancy Works for RDSS Smart Metering Implementation Works Component" under various Discoms Across India.

hereinafter referred to as the "Contract".

AND WHEREAS the Principal/Owner values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relation with its Bidder(s) and Contractor(s).

Markets India Pvt Ltd

AND WHEREAS to meet the purpose aforesaid both the parties have agreed to enter into this Integrity Agreement (hereinafter referred to as "Integrity Pact" or "Pact"), the terms and conditions of which shall also be read as integral part and parcel of the Tender/Bid documents and Contract between the parties.

NOW, THEREFORE, in consideration of mutual covenants contained in this Pact, the parties hereby agree as follows and this Pact witnesses as under:-

Article 1: Commitment of the Principal/Owner

1) The Principal/Owner commits itself to take all measures necessary to prevent corruption and to observe the following principles:
   a) No employee of the Principal/Owner, personally or through any of his/her family members, will in connection with the Tender, or the execution of the Contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
   b) The Principal/Owner will, during the Tender process1 treat all Bidder(s) with equity and reason. The Principal/Owner will, in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any-Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the Tender process or the Contract execution.
   c) The Principal/Owner shall endeavor to exclude from the Tender process any person, whose conduct in the past has been of biased nature.
2) If the Principal/Owner obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal code (IPC)/Prevention of Corruption Act, 1988 (PC Act) or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard1 the Principal/Owner will inform the Chief Vigilance Officer and in addition can also initiate disciplinary actions as per its internal laid down policies and procedures.

Article 2: Commitment of the Bidder(s)/Contractor(s)

1) It is required that each Bidder/Contractor (including their respective officers, employees and agents) adhere to the highest ethical standards, and report to the WAPCOS all suspected acts of fraud or corruption or Coercion or Collusion of which it has knowledge or becomes aware1 during the tendering process and throughout the negotiation or award of a contract.
2) The Bidder(s)/Contractor(s) commits himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the Contract execution:

(a) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal/Owner's employees involved in the Tender process or execution of the Contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the Tender process or during the execution of the Contract.

(b) The Bidder(s)/Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to cartelize in the bidding process.

(c) The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act. Further the Bidder(s)/ Contract(s) will not use improperly, (for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the Principal/Owner as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

(d) The Bidder(s)/Contractor(s) of foreign origin shall disclose the names and addresses of agents/ representatives in India, if any. Similarly Bidder(s)/Contractor(s) of Indian Nationality shall disclose names and addresses of foreign agents/representatives, if any. Either the Indian agent on behalf of the foreign principal or the foreign principal directly could bid in a tender but not both. Further, in cases where an agent participate in a tender-on behalf of one manufacturer, he shall not be allowed to quote on behalf of another manufacturer along with the first manufacturer in a subsequent/parallel tender for the same item.

(e) The Bidder(s)/Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.

3) The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.
4) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice means a willful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by

Energy Markets India Pvt Ltd

or causing damage to justified interest of others and/or to influence the procurement process to the detriment of the WAPCOS interests.

5) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may befall upon a person, his/her reputation or property to influence their participation in the tendering process).

Article 3: Consequences of Breach

1) Without prejudice to any rights that may be available to the Principal/Owner under law or the Contract or its established policies and laid down procedures, the Principal/Owner shall have the following rights in case of breach of this Integrity Pact by the Bidder(s)/Contractor(s) and the Bidder/ Contractor accepts and undertakes to respect and uphold the Principal/Owner's absolute right :
2) If the Bidder(s)/Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Principal/Owner after giving 14 days' notice to the contractor shall have powers to disqualify the Bidder(s)/Contractor(s) from the Tender process or terminate/determine the Contract, if already executed or exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Principal/Owner. Such exclusion may be forever or for a limited period as decided by the Principal/Owner.
3) Forfeiture of Performance Guarantee/Security Deposit: If the Principal/Owner has disqualified the Bidder(s) from the Tender process prior to the award of the Contract or terminated/determined the Contract or has accrued the right to terminate/determine the Contract according to Article 3(1), the Principal/Owner apart from exercising any legal rights that may have accrued to the Principal/Owner, may in its considered opinion forfeit the entire amount of Earnest Money Deposit, Performance Guarantee and Security Deposit of the Bidder/Contractor.
4) Criminal Liability: If the Principal/Owner obtains knowledge of conduct of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of IPC Act, or if the Principal/Owner has substantive suspicion in this regard, the Principal/Owner will inform the same to law enforcing agencies for further investigation.

Article 4: Previous Transgression

1) The Bidder declares that no previous transgressions occurred in the last 5 years with any other Company in any country confirming to the anticorruption approach or with Central Government or State Government or any other Central/State Public Sector Enterprises in India that could justify his exclusion from the Tender process.
2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the Tender process or action can be taken for banning of business dealings/ holiday listing of the Bidder/Contractor as deemed fit by the Principal/ Owner.
3) If the Bidder/Contractor can prove that he has resorted / recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal/Owner may, at its own discretion, revoke the exclusion prematurely.

Article 5: Equal Treatment of all Bidders/Contractors/Subcontractors

1) The Bidder(s)/Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact. The Bidder/Contractor shall be responsible for any violation(s) of the principles laid down in this agreement/Pact by any of its Subcontractors/sub-vendors.
2) The Principal/Owner will enter Into Pacts on identical terms as this one with all Bidders and Contractors.
3) The Principal/Owner will disqualify Bidders, who do not submit, the duly signed Pact between the Principal/Owner and the bidder, along with the Tender or violate its provisions at any stage of the Tender process, from _the Tender process.

Article 6: Duration of the Pact

1) This Pact begins when both the parties have legally signed it. It expires for the Contractor/Vendor 12 months after the completion of work under the contract or till the continuation of defect liability period, whichever is more and for all other bidders, till the Contract has been awarded.
2) If any claim is made/lodged during the time, the same shall be binding and continue to be valid despite the lapse of this Pacts as specified above, unless it is discharged/determined by the Competent Authority, WAPCOS

Article 7: Other Provisions

1) This Pact is subject to Indian Law, place of performance and jurisdiction is the Headquarters of the Principal/Owner, who has floated the Tender.
2) Changes and supplements need to be made in writing. Side agreements have not been made.

Markets India Pvt Ltd

3) If the Contractor is a partnership or a consortium, this Pact must be signed by all the partners or by one or more partner holding power of attorney signed by all partners and consortium members. In case of a Company, the Pact must be signed by a representative duly authorized by board resolution.
4) Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intensions.
5) It is agreed term and condition that any dispute or difference arising between the parties with regard to the terms of this Integrity Agreement / Pact, any action taken by the Owner/Principal in accordance with this Integrity Agreement/ Pact or interpretation thereof shall not be subject to arbitration.

Article 8: LEGAL AND PRIOR RIGHTS

All rights and remedies of the parties hereto shall be in addition to all the other legal rights and remedies belonging to such parties under the Contract and/or law and the same shall be deemed to be cumulative and not alternative to such legal rights and remedies aforesaid. For the sake of brevity, both the Parties agree that this Integrity Pact will have precedence over the Tender/Contact documents with regard any of the provisions covered under this Integrity Pact.

IN WITNESS WHEREOF the parties have signed and executed this Integrity Pact at the place and date first above mentioned in the presence of following witnesses:

(For and on behalf of Principal/Owner)

(For and on behalf of Bidder/Contractor) WITNESSES:

1. ....

(Signature, name and address)

2. ....

(Signature, name and address)

Place: Lucknow

Date: 20th November 2023

Appendix B – Turnover Certificate, Solvency Certificate, Profit/Loss Statement and Annual Audited Accounts.

Mercados Energy Markets India Pvt. Ltd.

TURNOVER CERTIFICATE

M/s ARSJ &ASSOCIATES
CHARTERED ACCOUNTANTS
A-78, Indira Nagar, Lko & 3A, 3RD Floor, Rohit Bhawan, Sapru Marg, Lucknow, UP
Hazari Lal Ka Phatak, Chowk, Fatehpur, UP- 212601
C-2802, Sector-75, The Jewels of Noida Apartments, Noida, UP-201301

Financial Capability of Applicant

Years	2018-19	2019-20	2020-21	2021-22	2022-23	Average
(Rupees in Lakhs)						
Revenue from Advisory Services/ Consultancy Fees	2403.66	2881.14	3459.54	2896.41	2870.24	2902.20
Net worth	808.93	1330.73	1721.56	1902.96	2219.16	1596.67
Profit / Loss	354.54	521.80	397.01	180.98	316.20	354.07

Certificate from Chartered Accountant

This is to certify that **Mercados Energy Markets India Private limited** has recorded the turnover as shown above in the respective financial years on account of Revenue from Advisory Services/ Consultancy fees only.

FOR ARSJ & ASSOCIATES

(Chartered Accountants)

Abhinav Rastogi

(Partner)

M. No. – 539946

UDIN : 23539946BGTVJR2328

Date: 20/11/2023

Mobile: 9616530389, 9889541699, 9648604646
E-mail: acaabhinavrastogi@gmail.com, casarthakjain93@gmail.com, caprakharagarwal93@gmail.com

SOLVENCY CERTIFICATE

बैंक ऑफ़ इंडिया
Bank of India BOI

संदर्भ सं० / Ref. No. LCK/ADV/2023-24/NOV

दिनांक / Date 22.11.2023

TO WHOM SO EVER IT MAY CONCERN

SOLVENCY CERTIFICATE

This is to state that to the best of our knowledge and information **M/S Mercados Energy Markets India Pvt Ltd.,** having its registered address at A 2, Second Floor, Block E, International Trade Tower, Opposite Satyam Cinema, Nehru Place, New Delhi-110019 is our bank's customer since June 2016. The customer is known one and may be regarded as good solvent to a sum of Rs. 15,00,00,000/- (Rs. Fifteen Crore Only). It is clarified that this information is furnished without any risk and responsibility on our part in any respect whatsoever, more particularly either as guarantor or otherwise. This certificate is issued at the specific request of customer.

Vimal Nigam

(Assistant General Manager)

लखनऊ शाखा :
आर.के. प्लाजा, 43/23, नवल किशोर रोड,
हजरतगंज, लखनऊ - 226 001 (यू.पी.)
फोन : (0522) 4082242, 4082241
फैक्स : (0522) 4101202, फोरेक्स : 4101200, (ऋण) 4082243
ई-मेल : LucknowBr.Lucknow@bankofindia.co.in
www.bankofindia.co.in

LUCKNOW BRANCH :
R.K. Plaza, 43/23, Nawal Kishore Road,
Hazratganj, Lucknow - 226 001 (U.P.)
Ph.: (0522) 4082241, 4082242
(Forex) : 4101200, (Adv.) 4082243
Fax : (0522) 4101202
LucknowBr.Lucknow@bankofindia.co.in
www.bankofindia.co.in

MERCADOS ENERGY MARKETS INDIA PRIVATE LIMITED

A2, Second Floor, Block-E,International Trade Tower,Opposite Satyam Cinema,Nehru Place, New Delhi

Balance Sheet as at 31st March, 2019 (Amount in Rs.)

	Particulars	Note No.	Figures as at the end of current reporting period	Figures as at the end of previous reporting period
I.	EQUITY AND LIABILITIES			
1	Shareholders' funds			
	(a) Share capital	2.01	65,02,500	65,02,500
	(b) Reserves and surplus	2.02	7,43,90,093	3,90,70,469
2	Share application money pending allotment		-	-
3	Non-current liabilities			
	(a) Long-term borrowings	2.03	21,50,795	20,52,814
	(b) Deferred tax liabilities			
	(c) Other Long term liabilities		-	-
	(d) Long-term provisions		-	-
4	Current liabilities			
	(a) Short-term borrowings		-	-
	(b) Trade payables	2.04	-	-
	-total outstanding dues of MSME		-	-
	-total outstanding dues of creditors other than MSME		1,80,89,674	1,34,48,709
	(c) Other current liabilities	2.05	1,17,36,679	1,00,11,263
	(d) Short-term provisions	2.06	-	-
	TOTAL		11,28,69,742	7,10,85,755
II.	ASSETS			
1	Non-current assets			
	(a) Property, Plant & Equipment			
	(i) Tangible assets	2.07	95,28,796	1,15,82,109
	(ii) Intangible assets			-
	(iii) Capital work-in-progress		-	-
	(iv) Intangible assets under development		-	-
	(b) Non-current investments		-	-
	(c) Deferred tax assets (net)	2.08	9,80,650	4,23,624
	(d) Long-term loans and advances		-	-
	(e) Other non-current assets	2.09	3,62,69,799	2,36,84,313
2	Current assets			
	(a) Current investments		-	-
	(b) Inventories		-	-
	(c) Trade receivables	2.10	4,59,60,468	1,72,53,303
	(d) Cash and cash equivalents	2.11	56,02,869	29,11,144
	(e) Short-term loans and advances		-	-
	(f) Other current assets	2.12	1,45,27,160	1,52,31,262
	TOTAL		11,28,69,742	7,10,85,755
	Significant Accounting Policies & Notes to Accounts	1& 2		

As per our separate report of even date attached
For SUDEEP KULSRESHTHA & CO.
Chartered Accountants
FRN 005136C
(CA SUDEEP KULSRESHTHA)
Partner
M.No. : 073919
UDIN : 19073919AAAACQ9396
Place : Lucknow
Date: 05.09.2019

For and on Behalf of the Board of Directors
For Mercados Energy Markets India Private Limited
Authorised Signatory/Director

Bhushan Rastogi	Shweta Rastogi
(Director)	(Director)
DIN : 03167070	DIN : 03304858

MERCADOS ENERGY MARKETS INDIA PRIVATE LIMITED

A2, Second Floor, Block-E,International Trade Tower,Opposite Satyam Cinema,Nehru Place, New Delhi

Statement of Profit and loss for the year ended 31ST March 2019

(Amount in Rs.)

	Particulars	Note No.	Figures for the current reporting period	Figures for the previous reporting period
I.	Revenue from operations	2.13	24,40,27,381	15,20,38,508
III.	**Total Revenue (I + II)**		**24,40,27,381**	**15,20,38,508**
IV.	Expenses:			
	Direct Expenses		-	-
	Change in Inventory		-	-
	Employee benefits expense	2.14	7,19,30,724	3,65,37,513
	Finance costs	2.15	9,31,163	4,71,537
	Depreciation and amortization expense	2.07	48,86,700	30,22,254
	Other expenses	2.16	11,72,34,329	9,87,10,203
	Total expenses		**19,49,82,916**	**13,87,41,507**
V.	IV)		4,90,44,466	1,32,97,001
VI.	Exceptional items (Prior Period expenses)		-	-
VII.	**Profit before extraordinary items and tax (V - VI)**		4,90,44,466	1,32,97,001
VIII.	Extraordinary Items		-	-
IX.	**Profit before tax (VII- VIII)**		4,90,44,466	1,32,97,001
X	Tax expense:			
	(1) Current tax	2.18	1,41,67,143	39,51,703
	(2) Deferred tax		(5,57,026)	(2,25,499)
XI	**Profit (Loss) for the period from continuing operations (VII-VIII)**		3,54,34,349	95,70,797
XII	Profit/(loss) from discontinuing operations		-	-
XIII	Tax expense of discontinuing operations		-	-
XIV	Profit/(loss) from Discontinuing operations (after tax) (XII-XIII)		-	-
XV	**Profit (Loss) for the period (XI + XIV)**		3,54,34,349	95,70,797
XVI	Earnings per equity share:	2.2		
	(1) Basic		54.49	14.72
	(2) Diluted		54.49	14.72
	Significant Accounting Policies & Notes to Accounts	1&2		

As per our seperate report of even date attached
For SUDEEP KULSRESHTHA & CO.
Chartered Accountants

(CA SUDEEP KULSRESHTHA)
Partner
M.No. : 073919
UDIN : 19073919AAAACQ9396
Place : Lucknow
Date: 05.09.2019

For and on Behalf of the Board of Directors

For Mercados Energy Markets India Private Limited

Authorised Signatory/Director

Bhushan Rastogi	Shweta Rastogi
(Director)	(Director)
DIN : 03167070	DIN : 03304858

MERCADOS ENERGY MARKETS INDIA PRIVATE LIMITED
A2, SECOND FLOOR BLOCK-E, INTERNATIONAL TRADE TOWER, NEHRU PLACE, NEW DELHI, DELHI-110019
Balance Sheet as at 31st March, 2020
CIN: U74140DL2008PTC175300

(Amount in Rs.)

	Particulars	Note No.	Figures as at the end of current reporting period	Figures as at the end of previous reporting period
I.	**EQUITY AND LIABILITIES**			
1	**Shareholders' funds**			
	(a) Share capital	2.01	6,502,500	6,502,500
	(b) Reserves and surplus	2.02	126,570,146	74,390,093
2	Share application money pending allotment		-	-
3	Non-current liabilities			
	(a) Long-term borrowings	2.03	2,145,472	2,150,795
	(b) Deferred tax liabilities		-	-
	(c) Other Long term liabilities		-	-
	(d) Long-term provisions		-	-
4	Current liabilities			
	(a) Short-term borrowings		-	-
	(b) Trade payables	2.04	-	-
	-Total outstanding dues of MSME		-	-
	-Total outstanding dues of creditors other than MSME		15,083,922	18,089,674
	(c) Other current liabilities	2.05	10,790,503	11,736,679
	(d) Short-term provisions	2.06	-	-
	TOTAL		161,092,544	112,869,742
II.	**ASSETS**			
1	Non-current assets			
	(a) Property, Plant & Equipment	2.07		
	(i) Tangible assets		7,779,464	9,528,796
	(ii) Intangible assets		-	-
	(iii) Capital work-in-progress		-	-
	(iv) Intangible assets under development		-	-
	(b) Non-current investments		-	-
	(c) Deferred tax assets (net)	2.08	1,276,078	980,650
	(d) Long-term loans and advances	2.09	247,185	-
	(e) Other non-current assets	2.10	65,102,285	36,269,799
2	Current assets			
	(a) Current investments		-	-
	(b) Inventories		-	-
	(c) Trade receivables	2.11	56,580,219	45,060,468
	(d) Cash and cash equivalents	2.12	14,909,397	5,602,069
	(e) Short-term loans and advances		-	-
	(f) Other current assets	2.13	15,109,123	14,577,160
	TOTAL		161,092,544	112,869,742
	Significant Accounting Policies & Notes to Accounts	1 & 2		

As per our separate report of even date attached
For SUDEEP KULSRESHTHA & CO.
Chartered Accountants

[CA SUDEEP KULSRESHTHA]
Partner
M.No.: 073919
UDIN: 20073919AAAACH3410

Place: Lucknow
Date: 04.09.2020

For and on behalf of the Board of Directors
For Mercados Energy Markets India Private Limited

Director

Dhushan Rastogi
[Managing Director]
DIN: 03116707

Shweta Rastogi
[Director]
DIN: 03304158

MERCADOS ENERGY MARKETS INDIA PRIVATE LIMITED
A2, SECOND FLOOR BLOCK-E, INTERNATIONAL TRADE TOWER, METRO PLACE, NEW DELHI, DELHI-110019
Statement of Profit and loss for the year ended 31st March 2020
CIN: U74140DL2008PTC175300

(Amount in Rs.)

	Particulars	Note No.	Figures for the current reporting period	Figures for the previous reporting period
I.	Revenue from operations	2.14	293,181,884	244,027,382
III.	**Total Revenue (I + II)**		**293,181,884**	**244,027,382**
IV	Expenses			
	Direct Expenses		-	-
	Change in Inventory		-	-
	Employee benefits expense	2.15	94,059,426	71,930,724
	Finance costs	2.16	683,323	931,163
	Depreciation and amortization expense	2.07	4,124,047	4,886,700
	Other expenses	2.17	122,020,735	117,234,329
	Total expenses		**220,887,531**	**194,982,916**
V.	Profit before exceptional and extraordinary items and tax (III-IV)		72,294,353	49,044,466
VI.	Exceptional items (Prior Period expenses)		-	-
VII.	**Profit before extraordinary items and tax (V - VI)**		72,294,353	49,044,466
VIII	Extraordinary Items		-	-
IX.	**Profit before tax (VII- VIII)**		72,294,353	49,044,466
X	Tax expense:			
	(1) Current tax	2.19	20,410,520	14,167,143
	(2) Deferred tax		(296,220)	(557,026)
XI	Profit (Loss) for the period from continuing operations (VII-VIII)		52,180,053	35,434,349
XII	Profit/(Loss) from discontinuing operations		-	-
XIII	Tax expense of discontinuing operations		-	-
XIV	Profit/(Loss) from Discontinuing operations (after tax) (XII-XIII)		-	-
XV	**Profit (Loss) for the period (XI + XIV)**		52,180,053	35,434,349
XVI	Earnings per equity share:	2.21		
	(1) Basic		80.25	54.49
	(2) Diluted		80.25	54.49
	Significant Accounting Policies & Notes to Accounts	1&2		

As per our seperate report of even date attached
For SUDEEP KULSRESHTHA & CO.
Chartered Accountants

(CA SUDEEP KULSHESHTHA)
Partner
M.No.: 073919
UDIN- 20073919AAAACH3410

Place : Lucknow
Date: 04.09.2020

For and on Behalf of the Board of Directors
For Mercados Energy Markets India Private Limited

Director

Bhushan Rastogi	Shweta Rastogi
(Managing Director)	(Director)
DIN : 03167070	DIN : 03304858

MERCADOS ENERGY MARKETS INDIA PRIVATE LIMITED
A2, SECOND FLOOR BLOCK-E, INTERNATIONAL TRADE TOWER, NEHRU PLACE, NEW DELHI, DELHI-110019
CIN: U74140DL2008PTC175300

BALANCE SHEET AS AT 31ST MARCH, 2021 (Amount in Rs.)

	Particulars	Note No.	Figures as at 31st March, 2021	Figures as at 31st March, 2020
I.	**EQUITY AND LIABILITIES**			
1	**Shareholders' funds**			
	(a) Share capital	2.01	6,502,500	6,502,500
	(b) Reserves and surplus	2.02	165,653,083	126,570,146
2	**Share application money pending allotment**		-	-
3	**Non-current liabilities**			
	(a) Long-term borrowings	2.03	2,144,969	2,145,472
	(b) Deferred tax liabilities			
	(c) Other Long term liabilities		-	-
	(d) Long-term provisions		-	-
4	**Current liabilities**			
	(a) Short-term borrowings	2.04	-	4,869
	(b) Trade payables	2.05	-	-
	-total outstanding dues of MSME		-	-
	-total outstanding dues of creditors other than MSME		17,912,001	15,083,922
	(c) Other current liabilities	2.06	38,401,291	10,785,635
	(d) Short-term provisions	2.07		-
	TOTAL		230,613,844	161,092,544
II.	**ASSETS**			
1	**Non-current assets**			
	(a) Property, Plant & Equipment and Intangible Assets	2.08		
	(i) Property, Plant and Equipment		4,973,846	7,779,464
	(ii) Intangible assets		-	-
	(iii) Capital work-in-progress		-	-
	(iv) Intangible assets under development		-	-
	(b) Non-current investments	2.09	17,500,000	-
	(c) Deferred tax assets (net)	2.10	1,612,570	1,276,070
	(d) Long-term loans and advances	2.11	35,925	247,185
	(e) Other non-current assets	2.12	105,833,765	65,102,285
2	**Current assets**			
	(a) Current investments		-	-
	(b) Inventories		-	-
	(c) Trade receivables	2.13	78,766,832	56,588,219
	(d) Cash and cash equivalents	2.14	8,316,901	14,909,397
	(e) Short-term loans and advances		-	-
	(f) Other current assets	2.15	13,574,205	15,109,124
	TOTAL		230,613,844	161,092,544
	Significant Accounting Policies & Notes to Accounts	1& 2		

As per our separate report of even date attached
Sudeep Kulsreshtha & Co.
Chartered Accountants

Sudeep Kulsreshtha

Sudeep Kulsreshtha & Co. CA FRN 005136C Lucknow Chartered Accountants

CA Sudeep Kulsreshtha
Partner
M.No. : 073919
UDIN: 21073919AAAAIF6767

Place : Lucknow
Date: 27.10.2021

For and on Behalf of the Board of Directors
For Mercados Energy Markets India Private Limited

Director

Bhushan Rastogi	Shalini Rastogi
(Managing Director)	(Director)
DIN : 03167070	DIN : 03304858

MERCADOS ENERGY MARKETS INDIA PRIVATE LIMITED
A2, SECOND FLOOR BLOCK-E, INTERNATIONAL TRADE TOWER, NEHRU PLACE, NEW DELHI, DELHI-110019
CIN: U74140DL2008PTC175300

STATEMENT OF PROFIT AND LOSS FOR THE YEAR ENDED 31ST MARCH 2021 (Amount in Rs.)

	Particulars	Note No.	Figures as at 31st March, 2021	Figures as at 31st March, 2020
I.	Revenue from operations	2.16	351,921,130	293,181,884
III.	**Total Income (I + II)**		351,921,130	293,181,884
IV.	Expenses:			
	Cost of Material Consumed & Purchases		-	-
	Changes in Invetories of Finished stock & Project in progress		-	-
	Employee benefits expense	2.17	89,667,558	94,059,426
	Finance costs	2.18	645,909	683,323
	Depreciation and amortization expense	2.08	3,824,047	4,124,047
	Other expenses	2.19	202,649,717	122,020,735
	Total expenses		296,787,231	220,887,531
V.	**Profit before exceptional and extraordinary items and tax (III-IV)**		55,133,898	72,294,353
VI.	Exceptional items (Prior Period expenses)		-	-
VII.	**Profit before extraordinary items and tax (V - VI)**		55,133,898	72,294,353
VIII.	Extraordinary Items		-	-
IX.	**Profit before tax (VII- VIII)**		55,133,898	72,294,353
X	Tax expense:			
	(1) Current tax	2.21	15,768,870	20,410,520
	(2) Deferred tax		(335,700)	(296,220)
XI	**Profit (Loss) for the period from continuing operations (VII-VIII)**		39,700,728	52,180,053
XII	Profit/(loss) from discontinuing operations		-	-
XIII	Tax expense of discontinuing operations		-	-
XIV	Profit/(loss) from Discontinuing operations (after tax) (XII-XIII)		-	-
XV	**Profit (Loss) for the period (XI + XIV)**		39,700,728	52,180,053
XVI	Earnings per equity share:	2.23		
	(1) Basic		61.05	80.25
	(2) Diluted		61.05	80.25
	Significant Accounting Policies & Notes to Accounts	1&2		

As per our seperate report of even date attached
Sudeep Kulsreshtha & Co.
Chartered Accountants

CA Sudeep Kulsreshtha
Partner
M.No. : 073919
UDIN: 21073919AAAAIF6767

Place : Lucknow
Date: 27.10.2021

For and on behalf of the Board of Directors
For Mercados Energy Markets India Private Limited

Director

Bhushan Rastogi
(Managing Director)
DIN : 03167070

Shweta Rastogi
(Director)
DIN : 03304058

MERCADOS ENERGY MARKETS INDIA PRIVATE LIMITED
A2, SECOND FLOOR BLOCK-E, INTERNATIONAL TRADE TOWER, NEHRU PLACE, NEW DELHI, DELHI-110019
CIN: U74140DL2008PTC175300

BALANCE SHEET AS AT 31ST MARCH, 2022 **(Amount in Rs. in Thousands)**

	Particulars	Note No.	Figures as at 31st March, 2022	Figures as at 31st March, 2021
I.	**EQUITY AND LIABILITIES**			
1	**Shareholders' funds**			
	(a) Share capital	2.01	6,503	6,503
	(b) Reserves and surplus	2.02	183,793	165,653
2	**Share application money pending allotment**		-	-
3	**Non-current liabilities**			
	(a) Long-term borrowings	2.03	-	2,145
	(b) Deferred tax liabilities			
	(c) Other Long term liabilities		-	-
	(d) Long-term provisions		-	-
4	**Current liabilities**			
	(a) Short-term borrowings		-	-
	(b) Trade payables	2.04		-
	-total outstanding dues of MSME		-	-
	-total outstanding dues of creditors other than MSME		20,217	17,912
	(c) Other current liabilities	2.05	18,400	38,401
	(d) Short-term provisions	2.06	-	-
	TOTAL		**228,920**	**230,614**
II.	**ASSETS**			
1	**Non-current assets**			
	(a) Property, Plant & Equipment and Intangible Assets	2.07		
	(i) Property, Plant and Equipment		4,563	4,974
	(ii) Intangible assets		-	-
	(iii) Capital work-in-progress		-	-
	(iv) Intangible assets under development		-	-
	(b) Non-current investments	2.08	17,500	17,500
	(c) Deferred tax assets (net)	2.09	1,789	1,612
	(d) Long-term loans and advances	2.10	-	36
	(e) Other non-current assets	2.11	76,008	105,834
2	**Current assets**			
	(a) Current investments		-	-
	(b) Inventories		-	-
	(c) Trade receivables	2.12	88,543	78,767
	(d) Cash and cash equivalents	2.13	7,743	8,317
	(e) Short-term loans and advances		-	-
	(f) Other current assets	2.14	32,773	13,574
	TOTAL		**228,920**	**230,614**
	Significant Accounting Policies & Notes to Accounts	1 & 2		

As per our separate report of even date attached
Sudeep Kulsreshtha & Co.
Chartered Accountants
FRN 005136C

CA Sudeep Kulsreshtha
Partner
M.No. : 073919
UDIN: 22073919ATFELP9062

Place: Lucknow
Date: 02.09.2022

For and on behalf of the Board of Directors

For Mercados Energy Markets India Private Limited
Director

Bhushan Rastogi
(Managing Director)
DIN : 03167070

For Mercados Energy Markets India Private Limited
Director

Shweta Rastogi
(Director)
DIN : 03304858

MERCADOS ENERGY MARKETS INDIA PRIVATE LIMITED
A2, SECOND FLOOR BLOCK-E, INTERNATIONAL TRADE TOWER, NEHRU PLACE, NEW DELHI, DELHI-110019
CIN: U74140DL2008PTC175300

STATEMENT OF PROFIT AND LOSS FOR THE YEAR ENDED 31ST MARCH 2022

[Amount in Rs. in Thousands]

	Particulars	Note No.	Figures as at 31st March, 2022	Figures as at 31st March, 2021
I.	Revenue from operations	2.15	299,073	351,921
III.	**Total Income (I + II)**		**299,073**	**351,921**
IV.	Expenses:			
	Cost of Material Consumed & Purchases		-	-
	Changes in Inventories of Finished stock & Project in progress		-	-
	Employee benefits expense	2.16	118,138	89,660
	Finance costs	2.17	829	646
	Depreciation and amortization expense	2.07	3,547	3,824
	Other expenses	2.18	152,416	202,650
	Total expenses		**274,931**	**296,787**
V.	**Profit before exceptional and extraordinary items and tax (III-IV)**		24,142	55,134
VI	Exceptional items (Prior Period expenses)		-	-
VII.	**Profit before extraordinary items and tax (V - VI)**		24,142	55,134
VIII.	Extraordinary Items		-	-
IX.	**Profit before tax (VII - VIII)**		24,142	55,134
X	Tax expense:			
	(1) Current tax	2.20	6,221	15,769
	(2) Deferred tax		(177)	(336)
XI	**Profit (Loss) for the period from continuing operations (VII-VIII)**		18,098	39,701
XII	Profit/(loss) from discontinuing operations		-	-
XIII	Tax expense of discontinuing operations		-	-
XIV	Profit/(loss) from Discontinuing operations (after tax) (XII-XIII)		-	-
XV	**Profit (Loss) for the period (XI + XIV)**		18,098	39,701
XVI	Earnings per equity share:	2.22		
	(1) Basic		0.03	0.06
	(2) Diluted		0.03	0.06
	Significant Accounting Policies & Notes to Accounts	1&2		

As per our separate report of even date attached
Sudeep Kulsreshtha & Co.
Chartered Accountants

CA Sudeep Kulsreshtha
Partner
M.No.:073919
UDIN: 22073919ATFELP9062

Place : Lucknow
Date: 02.09.2022

For and on Behalf of the Board of Directors

For Mercados Energy Markets India Private Limited
Director
Bhushan Rastogi
(Managing Director)
DIN : 03167070

For Mercados Energy Markets India Private Limited
Director
Shweta Rastogi
(Director)
DIN : 03304858

MERCADOS ENERGY MARKETS INDIA PRIVATE LIMITED
A2, SECOND FLOOR BLOCK-E, INTERNATIONAL TRADE TOWER, NEHRU PLACE, NEW DELHI, DELHI-110019
CIN: U74140DL2008PTC175300
BALANCE SHEET AS AT 31ST MARCH, 2023 **(Amount in Thousands)**

	Particulars	Note No.	Figures as at 31st March, 2023	Figures as at 31st March, 2022
I.	**EQUITY AND LIABILITIES**			
1	**Shareholders' funds**			
	(a) Share capital	2.01	6,502.50	6,502.50
	(b) Reserves and surplus	2.02	2,15,413.42	1,83,794.11
2	**Share application money pending allotment**		-	-
3	**Non-current liabilities**			
	(a) Long-term borrowings	2.03	-	-
	(b) Deferred tax liabilities			
	(c) Other Long term liabilities		-	-
	(d) Long-term provisions		-	-
4	**Current liabilities**			
	(a) Short-term borrowings		-	-
	(b) Trade payables	2.04		-
	-total outstanding dues of MSME		-	-
	-total outstanding dues of creditors other than MSME		27,118.43	28,217.25
	(c) Other current liabilities	2.05	20,665.82	10,407.60
	(d) Short-term provisions	2.06	-	-
	TOTAL		**2,69,700.17**	**2,28,921.46**
II.	**ASSETS**			
1	**Non-current assets**			
	(a) Property, Plant & Equipment and Intangible Assets	2.07		
	(i) Property, Plant and Equipment		3,576.38	4,562.92
	(ii) Intangible assets		13,950.00	-
	(iii) Capital work-in-progress		-	-
	(iv) Intangible assets under development		-	-
	(b) Non-current investments	2.08	17,500.00	17,500.00
	(c) Deferred tax assets (net)	2.09	1,441.63	1,789.34
	(d) Long-term loans and advances	2.10	-	-
	(e) Other non-current assets	2.11	76,916.20	76,008.12
2	**Current assets**			
	(a) Current investments		-	-
	(b) Inventories		-	-
	(c) Trade receivables	2.12	92,795.71	88,543.26
	(d) Cash and cash equivalents	2.13	25,884.56	7,743.40
	(e) Short-term loans and advances		-	-
	(f) Other current assets	2.14	37,635.70	32,773.42
	TOTAL		**2,69,700.17**	**2,28,921.00**
	Significant Accounting Policies & Notes to Accounts	1& 2		

As per our separate report of even date attached
For ARSJ & Associates
Chartered Accountants

For and on Behalf of the Board of Directors

For Mercados Energy Markets India Private Limited

For Mercados Energy Markets India Private Limited

CA Abhinav Rastogi
Partner
M.No. : 539946
UDIN: 23539946BGTVFR8009
Place : Camp New Delhi
Date: 02/09/2023

MERCADOS ENERGY MARKETS INDIA PRIVATE LIMITED
A2, SECOND FLOOR BLOCK-E, INTERNATIONAL TRADE TOWER, NEHRU PLACE, NEW DELHI, DELHI-110019
CIN: U74140DL2008PTC175300
STATEMENT OF PROFIT AND LOSS FOR THE YEAR ENDED 31ST MARCH 2023 **(Amount in Thousands)**

	Particulars	Note No.	Figures as at 31st March, 2023	Figures as at 31st March, 2022
I.	Revenue from operations	2.15	2,91,389.21	2,99,072.96
III.	**Total Income (I + II)**		**2,91,389.21**	**2,99,072.96**
IV.	Expenses:			
	Cost of Material Consumed & Purchases		-	-
	Changes in Invetories of Finished stock & Project in progress		-	-
	Employee benefits expense	2.16	1,52,868.67	1,18,138.11
	Finance costs	2.17	235.91	829.27
	Depreciation and amortization expense	2.07	3,714.85	3,547.04
	Other expenses	2.18	91,808.26	1,52,416.32
	Total expenses		**2,48,627.70**	**2,74,930.75**
V.	**Profit before exceptional and extraordinary items and tax (III-IV)**		42,761.52	24,142.22
VI.	Exceptional items (Prior Period expenses)		- -	-
VII.	**Profit before extraordinary items and tax (V - VI)**		42,761.52	24,142.22
VIII.	Extraordinary Items		-	-
IX.	**Profit before tax (VII- VIII)**		42,761.52	24,142.22
X	Tax expense:			
	(1) Current tax		10,793.49	6,220.51
	(2) Deferred tax		347.71	(176.77)
XI	**Profit (Loss) for the period from continuing operations (VII-VIII)**		31,620.32	18,098.48
XII	Profit/(loss) from discontinuing operations		-	-
XIII	Tax expense of discontinuing operations		-	-
XIV	Profit/(loss) from Discontinuing operations (after tax) (XII-XIII)		-	-
XV	**Profit (Loss) for the period (XI + XIV)**		31,620.32	18,098.48
XVI	Earnings per equity share:			
	(1) Basic		0.05	27.83
	(2) Diluted		0.05	27.83
	Significant Accounting Policies & Notes to Accounts	1&2		

As per our seperate report of even date attached
For ARSJ & Associates
Chartered Accountants

CA Abhinav Rastogi
Partner
M.No. : 539946
UDIN: 23539946BGTVFR8009
Place : Camp New Delhi
Date: 02/09/2023

For and on Behalf of the Board of Directors

For Mercados Energy Markets India Private Limited
Director
DIN : 03167070

For Mercados Energy Markets India Private Limited
Director
DIN : 03304850

Appendix C – Signed & Stamped Copy of the RFP

Mercados Energy Markets India Pvt. Ltd

Request for Proposal (RFP)

for

RFP for selection of consortium partner for “Consultancy works for RDSS Smart Metering Implementation works component” under various Discoms across India.

(Short Term Open Tender)

वाप्कोस लिमिटेड
WAPCOS LIMITED
(भारत सरकार का उपक्रम)
जल शक्ति मंत्रालय
(A Government of India Undertaking)
Ministry of Jal Shakti
ISO 9001: 2015

Tender reference no.:

WAP/POWER/T&D/RFP/CONS/2023-01

WAPCOS Limited

2nd Floor, Plot No. 57, SKV House, Sector-18

Gurugram-122015, Haryana

Ph.: 0124-2347425
E-mail: manojkumar-electrical@wapcosindia.com;
Website: www.wapcos.gov.in

Mercados Energy Markets India Pvt. Ltd.

Tender Information

Tender Reference No.	**WAP/POWER/T&D/RFP/CONS/2023-01**
Work Item Title/ Description	Selection of consortium partner for "Consultancy works for RDSS Smart Metering Implementation works component" under various Discoms across India.
Mode of Tendering	Open tender (e-Tendering)
Date of Release of Tender	18th November 2023
Last Date for Submission of Bid	23rd November 2023 Up to 17:00 Hours (IST)
Location of Submission/ Opening of Proposals, as Applicable	WAPCOS Limited 2nd Floor, Plot No. 57, SKV House, Sector-18 Gurugram-122015, Haryana
Tender Category	Services
EMD Fee	Nil
Bid Validity days	90 days from last Date of Bid submission
Duration of Assignment	The period of empanelment is for 3 years from the date of Letter of Intent/Award/signing of contract (whichever is earlier) and further extendable for 2 years on mutual agreement. The Rates quoted shall be valid for the entire period including the extended period, if any.
Address for Correspondence/ for Bid Submission:	WAPCOS Limited 2nd Floor, Plot No. 57, SKV House, Sector-18 Gurugram-122015, Haryana Email: manojkumar-electrical@wapcosindia.com

TABLE OF CONTENTS

Mercados Energy Markets India Pvt. Ltd.

WAPCOS intends to engage an eligible consortium partner for the work of "Consultancy works for RDSS Smart Metering Implementation works component" under various Discoms across India. In this connection, E-tenders are being invited by WAPCOS Limited from the Reputed, Resourceful and Experienced Agencies having proven track record for similar projects. Firm should have experience as **project management consultant or implementation of AMI/ Smart metering for Power distribution sector in last 5 years (FY 2018-19 to FY 2022-23) involving installation of a minimum of 5,000 Smart Meters (only completed works along-with integration with MDM to be considered) and experience of PMC/PMA for usage of digital technologies/ tools to manage complex programs in power sector in India/ Globally in last 5 years (FY 2018-19 to FY 2022-23).**

The bid documents shall be uploaded and the bids shall be invited through e-tendering from 18th November 2023 at 10:00 hrs to 23rd November 2023, 17:00 hrs (IST). It is requested that the interested bidders may kindly register at the e-procurement portal to participate in e-tendering.

The bids will be opened on 24th November 2023 at 11:00 hrs at WAPCOS Ltd. 2nd Floor, Plot No. 57, SKV House, Sector-18 Gurugram-122015, Haryana.

PLEASE NOTE THAT IN CASE BIDS ARE RECEIVED WITH ANY CONDITIONALITY AND NOT AS PER AFORESAID TERMS, THE SAME SHALL BE LIABLE FOR REJECTION SUMMARILY.

WAPCOS LIMITED RESERVES THE RIGHT TO ACCEPT OR REJECT THE OFFER WITHOUT ASSIGNING ANY REASON THEREOF.

Mercados Energy Markets India Pvt. Ltd.

1.0 Introduction:

WAPCOS Limited is a MINI RATNA-I Public Sector Enterprise under the aegis of Union Ministry of Jal Shakti, incorporated on June 26, 1969 under the Companies act. This Bidding document is being floated to find consortium partner for “Consultancy works for RDSS Smart Metering Implementation works component” under various Discoms across India. **WAPCOS will be a lead partner in the consortium.**

Bidders are advised to study this document carefully. Submission of bids shall be deemed to have been done after careful study and examination of this document with full understanding of its implications. This Bidding document is not transferable. This document must be read in its entirety. Please ensure that bidder must have a complete copy. Firm shall not submit the tender in association/Consortium or JV with any other companies.

WAPCOS reserves the right to annul the bidding process at any time prior to award of contract including rejection of any or all bids after the same have been received, without assigning any reason and without thereby incurring any liability to the affected bidders or any obligation to inform the affected bidders on the ground of WAPCOS’ action.

Letter of Intent shall be issued to consortium partner only after award of work from concerned Discoms/Authorities to WAPCOS.

All the terms and conditions which are applicable on PMA/PMC shall also be applicable on individual consortium partner.

Mercados Energy Markets India Pvt. Ltd.

2.0 Bid Invitation Letter

Ref: WAP/POWER/T&D/RFP/CONS/2023-01 **Dated: __ November 2023**

To,

The Bidder

Subject: Invitation for E-bids for selection of consortium firm for work of “Consultancy works for RDSS Smart Metering Implementation works component” under various Discoms across the India.

Dear Sir/madam,

WAPCOS Limited is a MINI RATNA-I Public Sector Enterprise under the aegis of Union Ministry of Jal Shakti, incorporated on June 26, 1969 under the Companies act. WAPCOS envisages to enter into agreement with a consortium partner for “Consultancy works for RDSS Smart Metering Implementation works component” under various Discoms across India.

A single stage bidding procedure will be adopted as follow:

The stage involves finding of consortium partner for empanelment of interested parties who submit their Technical Bids in accordance with the provisions of the bidding documents. This stage will consist of a Technical Bid only (without any price bid) along with Bid Forms given from Annexure A to Annexure D. An amendment may be issued if deemed necessary and bidder shall be intimated/updated through E-mail, or WAPCOS website & e-tendering portal.

After evaluation by WAPCOS, bidder with technically responsive bid, meeting the QR (Qualification Requirement) will be considered as consortium partner to bid with WAPCOS in which WAPCOS will be a lead partner. The general Scope of Work PMA/PMC for a project is provided in Section 3.

Technical Bids are to be submitted through e-mail latest by 17:00 Hours (IST) on 23rd November, 2023. The bids will be opened at 11.00 Hours (IST) on 24th November, 2023. No price bids are to be submitted at this Stage.

Empanelment with WAPCOS as consortium confirmation will be send to qualified firm after evaluation by WAPCOS. And Letter of Intent shall be issued to consortium partner only after award of work from concerned Discoms/Authorities to WAPCOS.

Mercados Energy Markets India Pvt. Ltd.

Consortium Partner shall authorize WAPCOS (lead partner) to submit, negotiate and mobilize the team on behalf of the consortium.

Consortium partner needs to submit the Performance Bank Guarantee Proportionate amount on pro-rata basis, if asked by the client at any stage. And for MSME registered firms this is applicable as per the rules and regulations of the Government of India.

Please note that in case bids are received with any conditionality and not as per aforesaid terms, the same shall be liable for rejection summarily.

WAPCOS reserves the right to annul the entire bid process without assigning any reason thereof and also to reject any bid at any time or stage without any liability, without assigning any reason thereof. Moreover, WAPCOS reserves the right to modify any terms & condition of the bid process as it may deem necessary, without assigning any reason thereof.

Yours sincerely,

(M. Manoj Kumar)
Chief Engineer (T&D)
WAPCOS Ltd.

3.0 Qualification Criteria:

The Bidder shall furnish following documents/details with its Technical bid:

- Company Profile, Documentary evidence/certificates for Registration/ Incorporation along with copy of PAN card & GSTN Registration
- Undertaking that the Firm by any Government or any Government agencies including PSUs as on the date of submission of proposal
- Submission of Solvency Certificate
- Documentary evidence/certificates as a proof of meeting the QR as per Bid Forms.
    - Audited Annual Balance sheet and Profit & Loss statement, also provide Auditor Certificate confirming Net worth (Certificate from Statutory Auditor if Audited Annual Accounts for latest FY not available)
    - Details of past experience and documentary proof of the same

The Bidders have to meet the following eligibility criteria for empanelment as consortium partner and have to submit relevant documents in support of the same as below:

S. No.	Particulars	Document(s) to be submitted
a)	Must be in operation for at least last 05 financial years and The Consultant should not have incurred any loss in more than 2 years in last five financial years.	Attested by independent Chartered Accountant. (Turnover & profit/loss certificate/form must carry UDIN)
b)	Firm should have been in operation for last 5 years ending on 31st March 2023 with average financial turnover of at least Rs. 17.5 Crore.	Annual Audited accounts of last 5 years. # All the documents should carry UDIN (Unique Document Identification Number)
c)	Firm should have experience as project management consultant or implementation of AMI/ Smart metering for Power distribution sector in last 5 years (FY 2018-19 to FY 2022-23) involving installation of a minimum of 5,000 Smart Meters (only completed works along-with integration with MDM to be considered).	Work Order /completion certificate from the respective organizations and CA certificate as proof of having provided or providing services for projects

Mercados Energy Markets India Pvt. Ltd.

d)	Experience of PMC/PMA for usage of digital technologies/ tools to manage complex programs in power sector in India/ Globally in last 5 years (FY 2018-19 to FY 2022-23).	Work Order /completion certificate from the respective organizations and CA certificate as proof of having provided or providing services for projects
e)	Key experts for the Assignment a) Team Leader [1 no.] b) Smart Metering Expert [1 no.] c) System Integration Expert [1 no.] d) MDMS Expert [1 no.] e) HES Expert [1 no.] f) Cloud Infrastructure Expert [1 no.] g) Cyber Security Expert [1 no.]	Details given below

Key Experts Qualification and Experience:

S.No	Key Expert	Evaluation Criteria Requirement
1	Team Leader [1 No.]	**Qualifications:** Degree in engineering from a recognized university. Post-graduate qualifications in management / engineering will be an added advantage. **Experience**: - Over 10 years of experience in advising power distribution utilities in areas of project management, loss reduction, technology implementation, and commercial processes. - Experience in areas of ICT system design or implementation especially for deploying revenue management systems such as metering / billing / collection / CRM systems. Expert with more experience will be given extra weightage. - Proven project management, Contract Management, and Reporting skills.
2	Smart Metering Expert [1 no.]	**Qualifications:** Degree in engineering from a recognized university. **Experience:** - Over 7 years of experience in the power distribution sector - Experience in areas of metering in DDUGJY/R-APDRP/ IPDS/AMR/ AMI/SmartMetering projects for consumers /DT / feeders. - Experience in handling system metering and energy accounting - Experience in handling field quality issues, third party inspection of projects in area of metering, assisting in material inspection of meters - Experience in handling technical specifications compliance issues of material used in metering projects. - Knowledge of AMI based metering will be an added advantage.

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S.No	Key Expert	Evaluation Criteria Requirement
3	System Integration Expert-[1 no.]	**Qualification** - Degree in engineering / IT/ Computer Applications from a recognized university. **Experience** - Over 7 years of experience in the power distribution sector - Experience in supervising / implementation of various power sector IT / OT works under DDUGJY/R-APDRP/ IPDS or other schemes - Experience of supervising / implementation / integration support for various IT applications e.g. billing solution / CIS /CRM / ERP / SCADA / MDMS / MDAS etc. - Knowledge of AMI based integration will be an added advantage.
4	MDMS Expert – [1 no.]	**Qualification** - Degree in engineering/IT/Computer Applications from a recognized university. **Experience** - Over 5 years of experience in the power distribution sector - Experience in supervising / implementation of MDMS including solution design and architecture, process design, creation of HLD / LLD - Knowledge of AMI based integration will be an added advantage.
5	HES Expert – [1 No.]	**Qualification** - Degree in engineering/IT/Computer Applications from a recognized university. **Experience** - Over 5 years of experience in the power distribution sector - Experience in supervising / implementation of HES including solution design and architecture, process design, creation of HLD / LLD - Knowledge of AMI based integration will be an added advantage.
6	Cloud Expert – [1 no.]	**Qualification** - Degree in engineering/IT/Computer Applications from a recognized university. **Experience** - Over 5 years of experience - Experience in supporting design and implementation support for deployment of IT hardware and supporting hosting services on cloud for standard software OR Experience in security audits & risk mitigation of IT systems, designing and implementing Cyber Securitysolutions. - Knowledge of AMI based integration will be an added advantage.
7	Cyber Security Expert –[1 no.]	**Qualification** - Degree in engineering/IT/Computer Applications from a recognized university. **Experience** - Over 5 years of experience Experience in security audits and risk mitigation of IT systems, carrying out VAPT, designing and implementing Cyber Security policy and solutions. - Knowledge of AMI based integration will be an added advantage.

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Scope of services: The functions of the PMA include the following:

A) Preparation of the smart metering implementation works as per the scheme Guidelines and instructions that may be issued by the Ministry of Power/Nodal Agency from time to time and based on the data/inputs to be provided by the DISCOM;
B) Provide assistance and support for key enabling activities across smart metering implementation like:
   (a) Project Management
   (b) Works mentioned in the Guidelines of the scheme
   (c) Any other works related to the project as assigned from time to time.

Project Management:

Consultant will provide assistance and support for the various activities like project management and monitoring across smart metering project implementation:

a. Finalization of Technical specifications of the hardware/software components of smart metering related infrastructure works (If required).
b. Quality Assurance
c. Co-ordination with System integrator, implementing agency/turnkey contractors and other project stakeholders and DISCOM to monitor the supply chain of materials.
d. Developing and maintaining MIS related to the project, progress reports and details required for Results Evaluation Framework.
e. Identification of anticipated bottlenecks in project implementation & preparation of remedial action plan.
f. Coordination and reporting to various stakeholders including MoP and Nodal agencies.
g. Fund flow management and recommend the claim of DISCOM for fund release.
h. Implement a digital tool hosted on cloud to manage/ monitor the rollout of smart meters – sub-division/ division wise. It should include standard project management features and should be able to integrate with the HES/ SMOC, for monitoring progress of commissioning of smart meters as well as their operational status. The cost of the tool including the cloud hosting charges for the contract period would be borne by the Consultant.

Deliverables: The following are the deliverables of the Consultant:

a. Monthly MIS reports including physical and financial progress reports and issues etc;
b. Quarterly reports of the activities undertaken.

.0 Evaluation Criteria:

S. No.	Particulars
a)	Must be in operation for at least last 05 financial years and The Contractor should not have incurred any loss in more than 2 years in last five financial years.
b)	Firm should have been in operation for last 5 years ending on 31st March 2023 with average financial turnover of at least Rs. 17.5 Crore.

c)	i. Firm should have experience as project management consultant or implementation of AMI/ Smart metering for Power distribution sector in last 5 years (FY 2018-19 to FY 2022-23) involving installation of a minimum of 5,000 Smart Meters (only completed works along-with integration with MDM to be considered). ii. Experience of PMC/PMA for usage of digital technologies/ tools to manage complex programs in power sector in India/ Globally in last 5 years (FY 2018-19 to FY 2022-23). iii. Key experts for the Assignment a) Team Leader [1 no.] b) Smart Metering Expert [1 no.] c) System Integration Expert [1 no.] d) MDMS Expert [1 no.] e) HES Expert [1 no.] f) Cloud Infrastructure Expert [1 no.] g) Cyber Security Expert [1 no.]

5.0 Tenure of Engagement

The period of empanelment is for 3 years from the date of Letter of Intent/Award/signing of contract (whichever is earlier) and further extendable for 2 years on mutual agreement. The Rates quoted shall be valid for the entire period including the extended period, if any.

6.0 Standard of Performance and Secrecy

a) The firm and their affiliates shall always act, in respect of any matter relating to this contract or to the services, as faithful and prudent advisor to the WAPCOS Limited, and shall at all the times support and safeguard the WAPCOS's legitimate interests in any dealing with the project owners or third parties and shall ensure abidance of all the applicable standards in the industry.

b) Firm agrees to maintain a strict secrecy of the facts and figures revealed/ obtained in the course of his subjected review in regard of either the project or their promoters or of WAPCOS Limited and shall not share with third party or use elsewhere in any manner except as expected in this contract. He shall furnish an undertaking in this regard in the manner and form satisfactory to the WAPCOS Limited.

c) The firm agrees to exercise reasonable skill, care and diligence in the performance of this contract and to ensure that no direct or indirect loss/ damage/ injury occur to the property, manpower or business of the project/ company/ subsidiary/ promoters either by the firm or their affiliates. If any such loss/ damage/ injury and/or expenses other than contractual one are caused due to the act, negligence, misconduct or omission of the PMA and their affiliates, to either of project, promoters or WAPCOS Limited, the same shall be indemnified to all the times.

d) In the event if WAPCOS is not satisfied with the services as expected out of this contract, the firm shall promptly redo the deficiencies pointed out to the satisfaction of WAPCOS Limited. No additional fee will be paid by WAPCOS for redoing the work. In the event of failure on the part for redoing the same, firm agrees to the WAPCOS's right to engage any other insurance agent firms for the desired job at the cost and risk of the firms.

7.0 Declarations and Conflict of Interest

a) The firm also agree to declare the facts appropriately, in the present or in the previous three years, in any direct or indirect manner, of being a stake holder in project/ company/ subsidiary/ promoters nor has been in receipt of any commission, fee or payments of any nature collectively exceeding 10% of the aforesaid fee. If there exist any such reportable case at the time of assigning the review of subjected project, the same shall be brought to the notice of WAPCOS Limited before taking-up such assignment and any future developments in this regard shall be brought immediately to the notice of WAPCOS Limited and abstain from taking-up further the subjected assignment till further instruction from WAPCOS.

8.0 Termination of Contract

a) Either party to this contract may, by giving a written notice at least 15 days in advance, terminate this contract on being satisfied of existence of any material breach by the other party in fulfilling its obligations pursuant to this contract.

b) Notwithstanding to such termination/ expiry of contract, no party to this contract shall be absolved of its financial obligations under this contract at any time and same shall be honored within due time.

c) Notwithstanding to such termination/ expiry of existing contract, the selected PMA shall submit its last report and surrender all the documents obtained in the course of their review without any delay.

9.0 Liquidated Damages

For delay in providing the services of Experts including replacement of Experts and additional Experts respectively, the Consultant shall be liable to pay liquidated damages at the rate of 1 % of man-month rate of the Expert for each day of delay of providing the services of the Expert for all whose services are provided with delay. Maximum liquidated damages shall be limited to 10% of total project value.

10.0 Indemnity

The selected PMA shall indemnify, defend and hold DISCOM/ WAPCOS harmless from against any claim, loss, liability, cost and expenses (including attorney fee) for damage to Project Owner's property arising from the loss of equipment/software/data regardless of their accounts.

11.0 Modification

Modification of the terms and conditions of this contract, including any modification of scope of services; may only be made by written agreement between the parties. If applicable the same shall not be effective until the consent of the WAPCOS has been obtained.

12.0 Force Majeure

a) "Force majeure" means an event beyond the reasonable control of a party and which makes a party's performance of its obligations hereunder impossible or so impractical as reasonably to be considered impossible in the circumstances and includes but not limited to acts of the party in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, riot, civil disorder, earthquakes, explosion or other adverse weather conditions, strikes, lockouts or other industrial action (except where such strikes, lockouts or other industrial action are within the power of the party invoking Force Majeure to prevent), confiscation or any other action by government agencies.

b) Force Majeure shall not include (i) any event which is caused by the negligence or intentional action of a party or such Party's employees, nor (ii) any event which a diligent party could reasonably have been expected to both take into account at the time of the conclusion of this contract and avoid or overcome in the carrying out of its obligations hereunder.

c) Force Majeure shall not include insufficiency of funds or failure to make any payments hereunder.

13.0 Arbitration

In the event of any question, dispute or difference arising out of or in connection with the WORK under this agreement, whether during the progress of the work or after its completion, abandonment or breach of Contract, the parties agree to promptly negotiate a reasonable settlement thereof amicably. Unless otherwise specified, in all cases of disputes which cannot be settled by mutual negotiations, the matter shall be referred for Arbitration. The appointing authority of Sole Arbitrator is CMD, WAPCOS Limited, whose decision shall be final and binding on both the parties. Any dispute, controversy or claims arising out of or relating to the work or the breach, termination or invalidity thereof, shall be settled through following mechanism:

a) Firstly, the aggrieved party shall write a letter to the other party detailing its grievances and calling upon the other party to amicably resolve the dispute by convening a joint meeting. Accordingly, the parties as per their convenience shall jointly convene the said meeting(s), wherein minutes of the said meeting(s) shall be prepared and countersigned by all the parties. It is mandatory to prepare minutes of meeting(s) and to be countersigned by all the parties, irrespective of the outcome of the said meeting(s).

b) In the event the parties are unable to reach on any settlement in the said meeting(s), then the aggrieved party shall mandatorily resort to pre-litigation mediation mechanism with Delhi High Court Mediation Cell, New Delhi.

c) It is only upon failure of the pre-litigation mediation mechanism with Delhi High Court Mediation Cell, then the aggrieved party shall resort to resolution of disputes through arbitration of a Sole Arbitrator. The appointing authority of Sole Arbitrator is CMD, WAPCOS Limited, to which neither of the parties have any objection nor they shall ever object.

d) Subject to the parties agreeing otherwise, the Arbitration proceedings shall be conducted in accordance with the provisions of the Indian Arbitration and Conciliation Act, 1996 (amended as on date).

e) It is also acknowledged and accepted that WAPCOS is only working as intermediary between the Associate/Sub-Consultant/Sub-Agency and the Principal Employer/Client, thus in the event, any dispute arises under the present agreement and referred to Arbitration for adjudication, then subject to corresponding clause in the Contract/Agreement/Work Order/Arrangement between Principal Employer/Client & WAPCOS, Principal Employer/Client shall also be made party to the said Arbitration proceedings. Also, the award including costs if any passed against WAPCOS and costs incurred in the proceedings shall be the sole responsibility of Principal Employer/Client. The said clause if found inapplicable, even then the other terms of the Arbitration Clause shall survive and shall be acted upon.

f) The place/seat of arbitration shall be Delhi and any award whether interim or final, shall be made, and shall be deemed for all purposes between the parties to be made, in Delhi. The arbitral procedure shall be conducted in English language and any award or awards shall be rendered in English. The procedural law of the arbitration shall be Indian Law. The award of the arbitrator shall be final and conclusive and binding upon the Parties.

g) The Contract and any dispute or claim arising out of or in connection with it or its subject matter or formation (including non-contractual disputes or claims) shall be governed by and construed in accordance with the laws of India and the Parties submit to sole & exclusive jurisdiction of courts at Delhi."

Settlement of Disputes

Any dispute, difference or disagreement arising out of this contract shall be referred to the Managing Director, WAPCOS Limited whose decision shall be final and binding on the parties. Unless the Contract has already been repudiated or terminated or frustrated the Contractor shall in every case, continue to proceed with the works with all due diligence and the Contractor and WAPCOS shall give effect forthwith to every decision of the Project Leader or his nominee unless and until the same shall be revised, as hereinafter provided, by the Conciliator. If the disputes are still not settled aggrieved party shall approach court for settlement of disputes. Courts in Thiruvananthapuram alone shall have jurisdiction in this matter.

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14.0 Governing Law and Jurisdiction

This assignment shall be governed by Indian Laws and Courts at New Delhi shall have the exclusive jurisdiction of the subject matter.

15.0 Payment Terms.

The Associate/ Sub-consultant /Consortium Partner acknowledges that under the present Contract/Agreement/Work Order/Arrangement, WAPCOS is only working as intermediary/lead partner between Discom/Authority being Principal Employer/Client and Associate/ Sub-consultant /Consortium Partner. Thus the Associate/Consortium partner unconditionally acknowledges that the payments under the present Contract/Agreement/Work Order/Arrangement shall be made proportionately by WAPCOS only on back to back basis i.e., after 21 days subject to receipt of payment from Discom/Authority being Principal Employer/Client. The Associate/Consortium Partner also unconditionally agree that in the event the payment or part thereof, under the present Contract/Agreement/Work Order/Arrangement is not received from Discom/Authority (Principal Employer/Client) then WAPCOS &/or any of its Employee/Officer shall not be responsible to pay any amount to Associate/Sub- consultant/Consortium Partner. The said condition shall supersede any and all other conditions of Contract/Agreement/Work Order/Arrangement between the parties.

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ANNEXURE - A

VENDOR PROFILE FORM

1	Name & Legal Status of the Bidder			
2	Organization Registration Details (Incorporation or Commencement of Business/ Other Statutory Registrations etc.)		Date of Incorporation/ Registration:	
3	GST Number:		PAN Number:	
4	Registered/ Corporate office Address of Bidder			
	Address & Contact Details (E-Mail, Ph. Nos. etc.) of Proprietor/ Directors of the Bidders	1)		
		2)		
		3)		
	Delhi (NCR) Office Address if any & Contact Details:			
	Names and Designations of the persons authorized for single point interaction with RECL/WAPCOS			
	Mobile Numbers of Contact persons:		E-mail of Contact persons:	
5	a) MSME Registration:	(Yes/No)	**If Yes,** Regd. No.:	
			Date:	
			Category:	
			Range of Supply/ Services:	
	b) GeM (Government e-Marketplace) Registration:	(Yes/No)	**If Yes,** mention **GeM Seller**	
			Date:	
			Category:	
			Range of Supply/ Services:	
			If No, *then provide the date by which you will be registered on GeM portal:*	Dt.:
	c) TReDS (Trade Receivables Discounting System) Registration:	(Yes/No)	**If Yes,** Regd. No:	
			Date:	
			Category:	
			Range of Supply/ Services:	
			If No, *then provide the date by which you will be registered on TReDS portal:*	
	d) Whether SC/ST/OBC Entrepreneur:	(Yes/No)	(If Yes, Please provide Supporting Documents)	
	e) Whether Women Entrepreneur:	(Yes/No)	(If Yes, Please provide Supporting Documents)	

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ANNEXURE -B

UNDERTAKING FOR NO CONFLICT OF INTEREST

(To be submitted on the letterhead of the Bidder)

To,
WAPCOS Limited
2nd Floor, Plot No. 57,
SKV House, Sector-18
Gurugram-122015
Haryana

Dear Sir/Madam,

1. We hereby certify that we have not been suspended or banned or de-listed or black-listed by any Government or Quasi-Government agencies or PSU's including WAPCOS or any of its subsidiaries.

2. The bidder shall not engage, and shall cause their Personnel not to engage, either directly or indirectly, in any business or professional activities which would conflict with the activities assigned to them under this Contract.

3. If the bidder is found to be involved in a conflict of interest situation with regard to the present assignment, the WAPCOS may choose to terminate this contract. In case of any change in the status of the above, any time hereinafter, we will immediately inform WAPCOS of the same.

Signature of the Bidder with seal:

Dated this __day of _____of 2023

Name of the bidder:

Designation: -

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ANNEXURE –C-I

FORMAT FOR INTEGRITY PACT

[To be submitted on Bidder's **Original** Letter Head]

To,
WAPCOS Limited,
2nd Floor, Plot No. 57,
SKV House, Sector-18
Gurugram-122015,
Haryana

Sub: Integrity Pact for-------------------- (Name of Work/ Project)

Dear Sir,
I/We acknowledge that WAPCOS and Its consortium partners are committed to follow the principles thereof as enumerated in the Integrity Agreement enclosed with the tender/bid document at **Enclosure-I**

I/We agree that the Notice Inviting Tender {NIT) is an invitation to offer made on the condition that I/We will sign the enclosed integrity Agreement, which is an integral part of tender documents, failing which I/We will stand disqualified from the tendering process. I/We acknowledge that THE MAKING OF THE BID SHALL BE REGARDED AS AN UNCONDITIONAL AND ABSOLUTE ACCEPTANCE of this condition of the NIT.

I/We confirm acceptance and compliance with the Integrity Agreement in letter and spirit and further agree that execution of the said Integrity Agreement shall be separate and distinct from the main contract, which will come into existence when tender/bid is finally accepted by WAPCOS. I/We acknowledge and accept the duration of the Integrity Agreement, which shall be in the line with Article 1 of the enclosed Integrity Agreement.

I/We acknowledge that in the event of my/our failure to sign and accept the Integrity Agreement, while submitting the tender/bid, WAPCOS shall *have* unqualified, absolute and unfettered right to disqualify the tenderer/bidder and reject the tender/bid is accordance with terms and conditions of the tender/bid.

Yours faithfully,

Mercados Energy Markets India Pvt. Ltd.

Date:

{Signature, name and designation
of the Authorized signatory)

Place:

Name and seal of Bidder

ANNEXURE –C-II

Enclosure-I

INTEGRITY AGREEMENT

[To be submitted on Stamp paper of At least Rs.100]

This Integrity Agreement is made at .... on this........... Day of........... 20......

BETWEEN

WAPCOS Limited, Gurgaon {Hereinafter referred as the **'Principal/Owner',** which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

AND

(Name and Address of the Individual/firm/Company)

through..

{Details of duly authorized signatory)

Hereinafter referred to as the

"Bidder/Contractor" and which expression shall unless repugnant to the meaning or context hereof include its successors and permitted assigns)

Preamble

WHEREAS the Principal / Owner has floated the Tender {NIT No..................................) {Hereinafter referred to as "Tender/Bid") and intends to award, under laid down organizational procedure, contract for.. {Name of work} hereinafter referred to as the "Contract".

AND WHEREAS the Principal/Owner values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fairness/transparency in its relation with its Bidder{s} and Contractor(s).

AND WHEREAS to meet the purpose aforesaid both the parties have agreed to enter into this Integrity Agreement (hereinafter referred to as "Integrity Pact" or "Pact"), the terms and conditions of which shall also be read as integral part and parcel of the Tender/Bid documents and Contract between the parties.

NOW, THEREFORE, in consideration of mutual covenants contained in this Pact, the parties hereby agree as follows and this Pact witnesses as under:-

Article 1: Commitment of the Principal/Owner

(1) The Principal/Owner commits itself to take all measures necessary to prevent corruption and to observe the following principles:

(a) No employee of the Principal/Owner, personally or through any of his/her family members, will in connection with the Tender, or the execution of the Contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

(b) The Principal/Owner will, during the Tender process, treat all Bidder(s) with equity and reason. The Principal/Owner will, in particular, before and during the Tender process, provide to all Bidder(s) the same information and will not provide to any-Bidder(s} confidential / additional information through which the Bidder(s} could obtain an advantage in relation to the Tender process or the Contract execution.

(c) The Principal/Owner shall endeavor to exclude from the _Tender process any person, whose conduct in the past has been of biased nature.

(2) If the Principal/Owner obtains information on the conduct of any of its employees which is a criminal offence under the Indian Penal code (IPC}/Prevention of Corruption Act, 1988 (PC Act) or is in violation of the principles herein mentioned or if there be a substantive suspicion in this regard, the Principal/Owner will inform the Chief Vigilance Officer and in addition can also initiate disciplinary actions as per its internal laid down policies and procedures.

Article 2: Commitment of the Bidder(s)/Contractor(s)

(1) It is required that each Bidder/Contractor (including their respective officers, employees and agents) adhere to the highest ethical standards, and report to the WAPCOS all suspected acts of fraud or corruption or Coercion or Collusion of which it has knowledge or becomes *aware,* during the tendering process and throughout the negotiation or award of a contract.

(2) The Bidder(s)/Contractor(s) commits himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the Tender process and during the Contract execution:

(a) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm, offer, promise or give to any of the Principal/Owner's employees involved in the Tender process or execution of the Contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the Tender process or during the execution of the Contract.

(b) The Bidder(s)/Contractor(s) will not enter with other Bidder(s) into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to cartelize in the bidding process.

(c) The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act. Further the Bidder(s)/ Contract(s) will not use improperly, (for the purpose of competition or personal gain), or pass on to others, any information or documents provided by the Principal/Owner as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

(d) The Bidder(s)/Contractor(s) of foreign origin shall disclose the names and addresses of agents/ representatives in India, if any. Similarly Bidder(s)/Contractor(s) of Indian Nationality shall disclose names and addresses of foreign agents/representatives, if any. Either the Indian agent on behalf of the foreign principal or the foreign principal directly could bid in a tender but not both. Further, in cases where an agent participate in a tender-on behalf of one manufacturer, he shall not be allowed to quote on behalf of another manufacturer along with the first manufacturer in a subsequent/parallel tender for the same item.

(e) The Bidder(s)/Contractor(s) will, when presenting his bid, disclose any and all payments he has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the Contract.

(3) The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

(4) The Bidder{s}/Contractor(s) will not, directly or through any other person or firm indulge in fraudulent practice means a willful misrepresentation or omission of facts or submission of fake/forged documents in order to induce public official to act in reliance thereof, with the purpose of obtaining unjust advantage by or causing damage to justified interest of others and/or to influence the procurement process to the detriment of the WAPCOS interests.

(5) The Bidder(s)/Contractor(s) will not, directly or through any other person or firm use Coercive Practices (means the act of obtaining something, compelling an action or influencing a decision through intimidation, threat or the use of force directly or indirectly, where potential or actual injury may befall upon a person, his/her reputation or property to influence their participation in the tendering process).

Article 3: Consequences of Breach

(1) Without prejudice to any rights that may be available to the Principal/Owner under law or the Contract or its established policies and laid down procedures, the Principal/Owner shall have the following rights in case of breach of this Integrity Pact by the Bidder(s)/Contractor(s) and the Bidder/ Contractor accepts and undertakes to respect and uphold the Principal/Owner's absolute right :

(2) If the Bidder(s)/Contractor(s), either before award or during execution of Contract has committed a transgression through a violation of Article 2 above or in any other form, such as to put his reliability or credibility in question, the Principal/Owner after giving 14 days' notice to the contractor shall have powers to disqualify the Bidder(s)/Contractor(s) from the Tender process or terminate/determine the Contract, if already executed or exclude the Bidder/Contractor from future contract award processes. The imposition and duration of the exclusion will be determined by the severity of transgression and determined by the Principal/Owner. Such exclusion may be forever or for a limited period as decided by the Principal/Owner.

(3) Forfeiture of Performance Guarantee/Security Deposit: If the Principal/Owner has disqualified the Bidder(s) from the Tender process prior to the award of the Contract or terminated/determined the Contract or has accrued the right to terminate/determine the Contract according to Article 3(1), the Principal/Owner apart from exercising any legal rights that may have accrued to the Principal/Owner, may in its considered opinion forfeit the entire amount of Earnest Money Deposit, Performance Guarantee and Security Deposit of the Bidder/Contractor.

(4) Criminal Liability: If the Principal/Owner obtains knowledge of conduct of a Bidder or Contractor, or of an employee or a representative or an associate of a Bidder or Contractor which constitutes corruption within the meaning of IPC Act, or if the Principal/Owner has substantive suspicion in this regard, the Principal/Owner will inform the same to law enforcing agencies for further investigation.

Article 4: Previous Transgression

(1) The Bidder declares that no previous transgressions occurred in the last 5 years with any other Company in any country confirming to the anticorruption approach or with Central Government or State Government or any other Central/State Public Sector Enterprises in India that could justify his exclusion from the Tender process.

(2) If the Bidder makes incorrect statement on this subject, he can be disqualified from the Tender process or action can be taken for banning of business dealings/ holiday listing of the Bidder/Contractor as deemed fit by the Principal/ Owner.

(3) If the Bidder/Contractor can prove that he has resorted / recouped the damage caused by him and has installed a suitable corruption prevention system, the Principal/Owner may, at its own discretion, revoke the exclusion prematurely.

Article 5: Equal Treatment of all Bidders/Contractors/Subcontractors

(1) The Bidder(s)/Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact. The Bidder/Contractor shall be responsible for any violation(s) of the principles laid down in this agreement/Pact by any of its Subcontractors/sub-vendors.

(2} The Principal/Owner will enter Into Pacts on identical terms as this one with all Bidders and Contractors.

(3) The Principal/Owner will disqualify Bidders, who do not submit, the duly signed Pact between the Principal/Owner and the bidder, along with the Tender or violate its provisions at any stage of the Tender process, from _the Tender process.

Article 6: Duration of the Pact

(1) This Pact begins when both the parties have legally signed it. It expires for the Contractor/Vendor 12 months after the completion of work under the contract or till the continuation of defect liability period, whichever is more and for all other bidders, tlll the Contract has been awarded.

(2) If any claim is made/lodged during the time, the same shall be binding and continue to be valid despite the lapse of this Pacts as specified above, unless it is discharged/determined by the Competent Authority, WAPCOS

Article 7: Other Provisions

(1) This Pact is subject to Indian Law, place of performance and jurisdiction is the Headquarters of the Principal/Owner, who has floated the Tender.

(2) Changes and supplements need to be made in writing. Side agreements have not been made.

(3) If the Contractor is a partnership or a consortium, this Pact must be signed by all the partners or by one or more partner holding power of attorney signed by all partners and consortium members. In case of a Company, the Pact must be signed by a representative duly authorized by board resolution.

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(4) Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact remains valid. In this case, the parties will strive to come to an agreement to their original intensions.

(5) It is agreed term and condition that any dispute or difference arising between the parties with regard to the terms of this Integrity Agreement / Pact, any action taken by the Owner/Principal in accordance with this Integrity Agreement/ Pact or interpretation thereof shall not be subject to arbitration.

Article 8: LEGAL AND PRIOR RIGHTS

All rights and remedies of the parties hereto shall be in addition to all the other legal rights and remedies belonging to such parties under the Contract and/or law and the same shall be deemed to be cumulative and not alternative to such legal rights and remedies aforesaid. For the sake of brevity, both the Parties agree that this Integrity Pact will have precedence over the Tender/Contact documents with regard any of the provisions covered under this Integrity Pact.

IN WITNESS WHEREOF the parties have signed and executed this Integrity Pact at the place and date first above mentioned in the presence of following witnesses:

(For and on behalf of Principal/Owner)

(For and on behalf of Bidder/Contractor)

WITNESSES:

1 ....
(Signature, name and address)

2 ....
(Signature, name and address)

Place:

Date:

ANNEXURE –D

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*.., AND *M/s*. .... for bidding for (Project Name--------) (hereinafter referred to as the "Tender").

This Consortium Agreement ("Agreement") is executed on this ...... day of ...., 20** by and between

1. M/s...............:........, ("Lead Member"), a Company incorporated under the laws of ....having it's Registered Office at .... (hereinafter called the "Member I" & "Lead Member", which expression shall include its successors, executors and permitted assigns);

   And;

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

for the purpose of submitting the Bid in response to the Tender as mentioned above and in the event of selection as Selected Bidder to comply with the requirements as specified in the Tender and ensure execution of the Tender's Scope of Work as may be required to be entered into with Discom/Authority.

(Each Member individually shall be referred to as the 'Member" and all the Members shall be collectively referred to as the "Members" or "Members" in this Agreement).

WHEREAS, Discom/Authority has issued Tender No... (hereinafter 'The Tender") for "Tender Name____" and invited bids for this purpose.

AND WHEREAS, the Tender stipulates that the Members may enter into a Consortium Agreement with to fulfill all the Eligibility Criteria stipulated Tender and name one company in the Consortium as Lead Member, which fulfills Consultancy Turnover Criteria.

WHEREAS the Tender 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 Tender, whereby each Consortium Member undertakes to be liable for its Roles and Responsibilities, WHEREAS any capitalized term in this Agreement shall have the meaning ascribed to such term in the Tender document.

NOW THEREFORE, THIS AGREEMENT WITNESSTH AS UNDER:

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

1. We, the Members of the Consortium and Members to the Consortium Agreement do hereby unequivocally agree that M/s.. [Insert name of the Lead Member], shall act as the Lead Member for self and agent for and on behalf of 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 to bind the Consortium and receive instructions for and on behalf of all Members. The obligations of all other members shall be given as Annexure I to this Agreement, defining respective rights, duties, obligations, liabilities, etc. of all the Members for the pe1formance of the obligations as per the Tender.
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 obligations envisaged in this Agreement. Each Consortium Member further undertakes to be individually liable for the performance of its part of obligations without in any way limiting the scope of collective liability envisaged in this Agreement in order to meet the requirements and obligations of the Bidding Document.
4. In case of any breach of any of the commitment as specified under this Agreement by any of the Consortium Members, the Lead Member of the Consortium shall be liable to meet the obligations under the Bidding Document.
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 Delhi/NCR alone shall have the exclusive jurisdiction in all matters relating thereto and arising there under.
7. It is hereby further agreed that in case of being shortlisted, the Members do hereby agree that they shall abide by the terms & conditions of the Bidding Document.
8. It is further expressly agreed that this Agreement shall be irrevocable and shall form an integral part of the Financial Bids submitted to Discom/Authority for selection as PMA and shall remain in full force up to 03 years from initial empanelment or till completion of assignment whichever is later, unless there is Termination of empanelment at any time;
9. 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 Tender for the purposes of the Bid.
10. It is expressly understood and agreed between the Members of the Consortium 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 Assignment, when selected as selected Bidder in Stage 2, as envisaged in the Bidding Documents.

11. It is .hereby expressly agreed between the Members to this Consortium Agreement that neither Member shall assign or delegate or subcontract its rights, duties or obligations under this Agreement except with prior written consent of Discom/Authority.

12. This Consortium Agreement:

I. has been duly executed and delivered on behalf of each Member hereto and constitutes the legal, valid, binding and enforceable obligation of each such Member;

IL sets forth the entire understanding of the Members hereto with respect to the subject matter hereof; and

III. may not be amended or modified except in writing signed by each of the Members and with prior written consent of Discom/Authority.

13. Consequences of Termination/ expiry

I. Each Member shall handover all information, documents, materials, Confidential Information of the other Member as may be provided by such other Member in accordance with the terms of this Consortium Agreement within 15 (fifteen) days of termination of this Consortium Agreement.

II. The Consortium Members shall maintain all data, all necessary and required records, registers and accounts in respect of the services provided and shall furnish the same to Lead member on request.

14. Each Member to this Consortium Agreement shall bear its respective costs, expenses and liabilities as a result of its obligations and efforts under this Agreement. Neither Member shall have any right to any reimbursement, payment or compensation of any kind from each other during the period prior to the award of the Contract by Discom/Authority executed in consequence of this Consortium Agreement.

15. If at any time any dispute, differences or question arises between the Members concerning the meaning, construction. interpretation, effect and scope of this Consortium Agreement regarding the respective rights and liabilities of the Members under this Consortium Agreement, then such disputes, differences or question shall be amicably resolved through mutual discussions and negotiations; if the Members fail to resolve such dispute within 30 days of commencement of amicable settlement process such dispute shall be referred to and finally resolved by arbitration in accordance with the Arbitration and Conciliation Act, 1996 (as amended from time to time). The Arbitration procedure shall be conducted in English language at Delhi/NCR. The arbitration award passed by the sole arbitrator (mutually appointed by the Members) shall be final and binding on the Members.

16. Legal Relationship

Relationship between the Members is on principal to principal basis. This Consortium Agreement does not in any respect make a Member an agent or a partner of the Lead Member nor does it establish any joint venture between the Members or authorize the Consortium Member to transact any business in the name of the Lead Member or to incur any obligation or liability for or on behalf of the Lead Member except as otherwise specifically set forth herein or as may be agreed upon specifically in writing.

Each Member confirms it is acting on its own behalf and not for the benefit of any other Member.

17. Indemnity

I. Each Member (the Indemnifying Member) shall indemnify, defend and hold harmless the other Member (the Indemnified Member) from any and all direct costs, losses, liabilities or expenses (including reasonable attorneys' fees) incurred by the Indemnified Member to the extent arising from the breach by the Indemnifying Member of any of its obligations under this Consortium Agreement.

II. Each Member acknowledges that monetary damages would not be a sufficient remedy for any breach of this Consortium Agreement by such Member and that the other Member would· suffer irreparable harm as a result of any such breach. Accordingly, each Member will be entitled to equitable remedies, including but not limited to injunctive relief and specific performance for any breach or threatened breach of this Consortium Agreement by the other Member, in addition to any other rights or remedies available to such Member.

18. Limitation of Liability

No Member shall be liable towards the other Member for consequential, indirect, incidental, or special (including multiple or punitive) damages of any kind, including, but not limited to, lost orders, sales or profits.

19. Assignment

Neither Member shall have the right to assign or otherwise transfer, in whole or in part, any of its rights or obligations under this Consortium Agreement.

20. Severable Terms

The provisions of this Consortium Agreement are severable. If any provision is determined by a court of competent jurisdiction to be invalid, void or unenforceable under the existing law, that provision shall be modified to the extent necessary to make it enforceable. The remaining provisions of this Consortium Agreement or validity of this Consortium Agreement shall not be affected or impaired thereby.

21. Waiver and Amendment

No provision of this Consortium Agreement shall be modified or waived, without prior approval of Discom/Authority.

22. Entire Agreement

This Consortium Agreement sets forth the entire understanding and agreement of the Members with respect to the subject matter hereof and supersedes all other oral or written representations, arrangements and understanding.

23. Counterparts

This Agreement shall be executed in two/three counterparts that together shall constitute one and the same instrument. Each Member shall retain one counterpart.

IN WITNESS \VHEREOF, the Members to the Consortium Agreement have, through Discom/Authority, executed these presents and affixed common seals of their respective companies on the Day, Month and Year first mentioned above.

1. For *M/s*.. (Member 1)

[Signature of Authorized Representative]

[Name of Authorized Representative] [Designation of Authorized Representative] Witness 1:

[Signature of Witness I]

Name: ....Designation......................

Witness 2:

[Signature of Witness 2]

Name: ....Designation ....

2. For M/s..(Member 2)

[Signature of Authorized Representative]

[Name of Authorized Representative] [Designation of Authorized Representative] Witness 1:

[Signature of Witness I]

Name: ....Designation: ....

Witness 2:

[Signature of Witness 2]

Name: ....Designation ....

Annexure to the Consortium Agreement

Role and Responsibility of each Member of the Consortium:

1. Roles and Responsibilities of the Member I (Lead Member):
2. Roles and Responsibilities of the Member 2

Appendix D –CA Certificate towards Eligibility Criteria, Copy of LoI / Work Orders / Performance / Completion Certificate etc.

Mercados Energy Markets India Pvt. Ltd.

PRAKHAR & ASSOCIATES

CHARTERED ACCOUNTANTS

To Whomsoever It May concern

This is to certify that M/s Mercados Energy Markets India Private Limited having registered office at Unit A2, Second Floor, Block-E, International Trade Tower, Opposite Satyam Cinema, Nehru Place, New Delhi - 110019 has been engaged in below mentioned Power Distribution Consultancy projects which has been completed or are under progress. Payment details of the same executed as on date are mentioned below:

#	Name of project	Client	W.O No.	Total Contract value (in INR)	Value of work completed (Rs.)								
					FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2012-23	Balance
1	Hiring an agency for Project Management (PMC) of Distribution and Awareness activities carried out Domestic Lighting Programme (DEPL) across various cities in the State of Uttar Pradesh	PTC India Limited	LOI no C/PTC/BD/EESL - DELP/UP/12892 dated 20-11-2015	[illegible]	29,83,347	6,05,418							
2	Preparation and Operational and Financial Turnaround plan for UPPCL and Discoms under UDAY	UP Power Corporation Limited	819/CGM(FM)/F-1/UDAY/2016 dated 08-02-2016	[illegible]		15,00,000							
3	Order for providing services in respect of preparation of Business Plan, MYT petitions and True-up Petitions of MVVNL, PVVNL, PuVVNL and DVVNL	UP Power Corporation Limited	3124/CE/RAU/tariff Consultancy dated 25-10-2016	[illegible]		35,00,000							
4	Order for hiring of advisory services for the conducting benchmarking Study as per regulation 4.2.1 of the UPERC(Multi Year Distribution Tariff) regulations, 2014	Paschimanchal Vidyut Vitran Nigam Limited	6309/MD/PVVNL/MT/Comm/benchmarking Study (MYT) dated 10-11-2016	[illegible]			15,93,000						
5	Preparation of business plan and Multiyear tariff petition including assistance in regulatory process till issue of orders by JSERC	Bokaro Steel Plant	W. No. 4565027668	[illegible]			6,07,699	6,07,699					
6	Order for hiring of advisory services for the conducting benchmarking Study as per regulation 4.2.1 of the UPERC(Multi Year Distribution Tariff) regulations, 2014	Purvanchal Vidyut Vitran Nigam Limited	220/MD/PuVVNL(V)/MM/Benchmarking daetd 21-01-2017	[illegible]			15,93,000						
7	Framing the competitive bidding document for procurement of Bagasse Based Power	UP Power Corporation Limited	931/CE/PPA daetd 16-02-2017	[illegible]			4,13,000	5,50,000	1,77,000				

OFFICE : 224/24, Subhash Marg, Punjabi Tola, Raja Bazar, (near Moti Mahal), Lucknow - 226003
Mob. : 09648460740, 09235555881 **Mail :** caprakharrastogi@gmail.com

#	Name of project	Client	W.O No.	Total Contract value (in INR)	Value of work completed (Rs.)								
					FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	Balance
8	Project Management Consultant to Review and Monitor the Progress of Action Plan under UDAY in the five Discoms	UP Power Corporation Limited	LOA No 574/RAPDRP-A/UPPCL dated 08.09.2017, supplementary order No.206/RAPDRP-A/UPPCL dated 26.02.2018, order no. 431/RAPDRP-A/UPPCL dated 04.05.2018, order No. 699/SEAC/UPPCL dated 31.12.2019, further extended vide order No 701/SEAC/UPPCL/2019 dated 09.10.2019, order No. 234/SEAC/UPPCL/2020 dated 23.03.2020, order No 502/SEAC/UPPCL/2021 dated 15.09.2020 and order No. 600/SEAC/UPPCL/2021 dated 22.09.2021	24,00,00,000		35,74,666	4,41,19,638	7,69,80,689	7,67,34,478	5,76,23,365	2,21,11,253		
9	Advisory Assistance/ Consultancy Service in respect of Conducting the Competitive Bidding Process for Procurement of Power from Biomass through bidding route	U P Power Corporation Limited (PPA)	1085/CE/PPA dated 22-11-2017	5,90,000			59,000	3,83,500	1,47,500				
10	Appointment of consultant for filing Tariff Petition for FY 2018-19, FY 2019-20 & FY 2020-21 in DERC	New Delhi Municipal Council	317695/2018/EE(Power)/2017-18 dated 10-01-2018	24,78,000			2,41,666	8,06,333	9,67,600	4,83,167			
11	Appointment of Consultant to carry out Impact Assessment Study and Evaluation of Project Implementation for the RAPDRP schemes	Power Finance Corporation Limited	R-APDRP/2018/Impact Assessment/LOA/North/56080 Dt:23.04.2018	1,05,00,000				1,10,65,107					
12	Load/Demand Forecasting, Procurement of Power Purchase Cost Optimization Service and Energy Portfolio Management Services	UP Power Corporation Ltd	928-Plg/UPPP/Load Forecaste/LOA dt 14-5-2018, 282/PMC/Mercados/RTH/TAM dt 30-6-2020,	16,82,20,000				1,57,73,913	1,76,24,040	4,34,88,822	4,15,40,342		5,03,66,873
13	Appointment as TPCEA under IPDS for Group-5 (Kerala) State as per RFP No. 02:10:IPDS:I:2017:TPCEA	Power Finance Corporation Limited	02:10:IPDS:I:2017:TPCEA/LOA/Group-5/KSEBL/059855 dated 31.10.2018	3,10,70,040			62,54,000	86,80,000	1,01,35,720	62,54,000	6,46,754		-
14	REC Quality Monitoring works for Decentralized Distribution Generation (DDG) projects under Quality Assurance Mechanism	REC Limited	REC/PCH/DDG/AQM/2018-19/26/LOA/274 dt 24.03.19	55,74,000					17,89,500	23,98,940	2,25,410		
15	Letter Of Award for appointment of Consultant on retainer- Ship Basis for providing Consultancy service to Renewable Energy & Power Purchase Section.	Maharashtra State Electricity Distribution Co.LTD	CE/RE/CONSULTANT/ No. 034149	42,48,000					7,08,000	35,40,000			
16	Appointment of consultant on retainer ship basis for providing consultancy services to MADC Ltd for filing of MYT Petition as per MERC regulation 2019 for FY 2020-21 to FY 2024-25 including past true up of FY2014-15 to FY 2015-16 and provisional true up of FY 2016-17 to FY 2018-19 and Annual performance review of FY2019-20 and Preparation of Detailed Project Report of T&D System at MIHAN SEZ, Nagpur, Capex approval application cost benefit Analysis of T&D system at MIHAN SEZ, Nagpur	Maharashtra Airport Development Company Ltd	MADC/MYT/LETTER OF AWARD/MERCADOS/1908	25,75,000						23,34,050	3,41,150		

#	Name of project	Client	W.O No.	Total Contract value (In INR)	Value of work completed (Rs.)								
					FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	Balance
17	Carrying out work of survey to identify casues of poor rural turn-up in Non-RAPDRP area	MVVNL	2379/S.E. (Comm)/MVVNL /MEDCO/2454/ 2019 date 04.08.2020	[illegible]						58,70,593			
18	Letter of Awards (LOA) for preparation of RFQ, RFP, PPA and bid process management for supply of power under Case-IV route, flexibility in utilization of coal.	UP Power Corporation Limited	739/CE/PPA dated 03-07-2020	9,50,000									
19	Letter of Intent (LOI) for Appointment of third party Independent Evaluation Agency (TPIEA) to carry out Third Party Evaluation of Meter Shifting Works carried out in Non- APDRP areas of punjab under 18 nos T&D Loss Reduction Schemes (Phase-II) as per Tender Specification No. 56/EIC/RE & APDRP /2019-20	Punjab State Power Corporation Limited	1. Work Order Cum Contract Agreement No.105/Non-APDRP/RC2-636/CE/RE&RA PDRP/2019-20 dated Aug 17, 2020	[illegible]						4,03,316	29,09,034	8,46,630	13,93,829.56
20	Appointing Project Management Consultant (PMC) for Construction Supervision &Monitoring of works with Quality and Quantity Assurance, Quality Inspection of materials, Verification & certification of bills, Assessment of progress of works and Pre & Post analysis of the proposed work of Conversion of 11kV/LT overhead line into UG/AB cable & laying of Optic Fibre Cable (OFC) along with UG cable and other CAPEX works in R. R. NAGAR DIVISION, BESCOM, Bangalore-	Bangalore Electricity Supply Company Limited	DWA no. BESCOM/CGM(Pro)/DGM-3/AGM/BC-14/20-21/2995-04 date Sep 10, 2020	[illegible]						22,65,877	61,24,411	64,06,826	32,04,885.56
21	LOA for the work of "Preparation of DPR with estimate including SCADA system for convertion of HT (33KV & 11KV)LT over head line to undergrounding, erection of distribution transformer and electrical connection of consumer from over head to underground with GPS and other associated construction work for existing and proposed system of different area of Ayodhya city Nagar Nigam limits under Madhyanchal Vidyut Vitran Nigam Ltd"	National Power Training Institute	NPTI/CO/BDD/Ayodhya DPR-Mercados LOI/20/2890 dated 16-10-2020	[illegible]							30,63,280		
22	Appointment of consultant for preparation of APR/ARR, Tariff Petition & True - up before the state Commission as per prevailing Tariff Regulation	Sail	4565039914	23,01,000						16,07,309			6,93,691
23	Service of Consultancy Firms/ Institutions to assistance in Tariff Orders for FY 2021-22	Gujarat Electricity Regulatory Commission	GERC/TARIFF/S 120/NO.0106	10,38,400						1,03,840	9,34,560		-
24	Award of Consultancy for preparing Bidding Documents for purchase of Power through Tariff Based Competitive Bidding process for utilizing the coal allocated to Gujarat State DISCOMs under SHAKTI Scheme	Gujarat Urja Vikas Nigam Limited	GUVNL: GM(Comm.):89 dated 22-01-2021	8,85,000						88,500	2,65,500	1,77,000	3,54,000
25	Letter of Engagement for "Providing Technical Assistants for MIDC area Power supply aspect in regards day to day matters on retainership basis - 2 resources"	Maharashtra Industrial Development Corporation	SE(E&M)A-77139/of 2021 dated 04.03.2021	49,35,600							49,35,600		-
26	Letter of Award for providing Consultancy services for Energy Portfolio Management of MP Power Management Company Limited	/Madhya Pradesh Power Management Company Limited. (PTC	PTC/BD/MP-EPM/MEMI dated 07-04-2021	5,72,26,000							2,27,54,505	2,32,69,200	1,12,02,285.50

#	Name of project	Client	W.O No.	Total Contract value (in INR)	Value of work completed (Rs.)								
					FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	Balance
		India Limited)											
27	Letter of Award(LOA) for the work of "Providing Regulatory Support Services to UPPCL, MVVNL, DVVNL, PVVNL, PuVVNL, & KESCO" against NIT No. 01/CE RAU/2021	U.P Power Corporation Limited	LoA No. 155/RAU/Regulatory Consultant Tender dated 17-04-2021	8,09,38,000					1,35,93,600	2,37,60,800	3,73,27,400	2,23,02,000	34,92,800
28	Carrying out services for Bid Process for appointment of Project Management Agency (PMA) under Revamped Reforms Based Results-Linked Distribution Sector (RRBRLDS) Scheme	Maharashtra State Electricity Distribution Co. Ltd	CE(Dist.)/M-I/Conslt PMA-RRBRLDS/15230 dated 05-07-2021	8,13,590							11,48,730		
29	Appointment of Consultant on retainer-ship basis for providing Consultancy services to Tariff Regulatory Cell, Renewable Energy, Commercial Section and Power Purchase Department	Maharashtra State Electricity Distribution Co. Ltd	SE/TRC/T-83-F/016054	2,80,81,200							83,56,400	1,25,31,400	41,77,200
30	Providing Technical Man-power services for preparation of Action Plan and DPR for RDSS Project	Chamundeshwari Electricity Supply Corporation Ltd.	CESC/GM/Proj/DGM-1/AGM-3/2021-22/9532 dated 09-09-2021	4,87,860							5,87,592		
31	Engaging Consultant to utilize expert services on Retainer - ship basis to Distribution section for various matters with 2 resources for 3 months	Maharashtra State Electricity Distribution Co. Ltd.	CE(Dist.)/M-I/Engagement Mercados/25673 dated 18-10-2021	17,34,600							20,46,828		
32	Empanelment of Consultant for consultancy assistance in the Regulatory and other related matters to Electric Supply Branch of BEST Undertaking	Brihan Mumbai Electric Supply & Transport Undertaking (BEST)	NA	Empanelment									
33	Appointment of Consultant for the proposed issue of private placement Bonds of Rs. 6000 Crore in one or more tranches	U P Power Corporation Limited	LoA No. 638/ED/F-1/Bonds/UPPCL/606 dated 01-02-2022 & Extension LoA No. 716/ED(F&A)/F-1/Bonds/UPPCL/606 dated 04-03-2022	10,62,030							10,62,030		-
34	Petition filed by Adani SEEPZ Ltd. for taking on record its deemed Distribution Licensee status for SEEPZ SEZ area and another Petition filed by Adani Electricity Mumbai Ltd. seeking transfer of its existing Distribution assets in SEEPZ area to Adani SEEPZ Ltd".	Maharashtra Electricity Regulatory Commission	MERC/A&F/Mercados/2021-22/06 dated 14-03-2022	4,93,181								4,47,862	45,319
35	Awarding Assignment for preparation and filing of BEST'S Mid -Term Review Petition for 4th MYT Control Period as per MERC (MYT) Regulations, 2019	Brihan Mumbai Electric Supply & Transport Undertaking (BEST)	DCER/M-12/129/2022 dated 08-06-2022	17,31,060								11,25,189	6,05,871
36	Appeal is to be filed by RVPN before APTEL against order dt 24-5-22 passed by RERC Petition No RERC/1988/2022	Rajasthan Rajya Vidyut Prasaran Nigam Limited		12,39,000									12,39,000
37	Appeal is to be filed by RVPN before APTEL against order dt 24-5-22 passed by RERC Petition No 1972/2021	Rajasthan Rajya Vidyut Prasaran Nigam Limited		12,39,000									12,39,000
38	Bid for appointment of consultant for assistance in determination of tariff and formulation of regulations and other related issues	Jharkhand State Electricity Regulatory Commission		1,65,19,941									1,65,19,941

PRAKHAR & ASSOCIATES LUCKNOW CHARTERED ACCOUNTANTS

#	Name of project	Client	W.O No.	Total Contract value (in INR)	Value of work completed (Rs.)								
					FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	Balance
39	Engaging consultant to utilize expert services on Retainer- ship basis to distribution section for various matters with 1 resource for 6 months.	Maharashtra State Electricity Distribution Co. Ltd	CE(Dist.)/M-I/Engagement Mercados/No. 24117 dated 27-09-2022	58,76,200								58,76,200	-
40	Load/Demand Forecasting, Procurement of Power Purchase Cost Optimization Solution for Energy Portfolio Management Services	Uttar Pradesh Power Corporation	915/PMC/Tender 13/2022-23/LoA dated 21-12-2022	10,40,09,805								1,43,99,206	8,96,10,599
	Total			78,91,43,404	20,01,347	1,43,70,094	5,48,81,229	11,48,67,320	11,98,77,543	14,59,80,480	13,53,63,751	6,21,81,714	18,65,04,491

This has been certified as per the request of Mercados by verifying the work orders issued by the client.

For Prakhar & Associates
Chartered Accountants

CA Mukta Rastogi
Mem No. 416611
FRN: 016465C
UDIN: 23416611BGXPHN8864
Date: 03rd July 2023

Exhibit 1

Uttar Pradesh Power Corporation Ltd.

14-Ashok Marg, Shakti Bhawan,
Lucknow.

No. :- 256 /SEAC/PCL/2023 Date: 17.04.2023

TO WHOMSOEVER IT MAY CONCERN

This is to certify that M/s Mercados Energy Markets India Private Limited (Mercados) in Consortium with AF Mercados EMI SA was awarded the work for "Project Management Consultancy to Review and Monitor the Progress of Action Plan under UDAY in 5 Discoms DVVNL, PVVNL, MVVNL, PuVVNL and KESCO in Uttar Pradesh" as per the LoI No. 574/RAPDRP-A/UPPCL dated 8th September 2017, which was further extended vide Letter No. 701/SEAC/UPPCL/2019 dated 9th October 2019, Letter No. 234/SEAC/UPPCL/2020 dated 23rd March 2020, Letter No. 502/SEAC/UPPCL/2021 dated 15th September 2020 and Letter No. 600/SEAC/UPPCL/2021 dated 22nd September 2021. The overall value of the PMC work was Rs. 24.08 crore.

As a part of the above contract and extensions thereof, Mercados has also assisted UPPCL in monitoring of smart meter project in Uttar Pradesh, with approximately 11 lakh smart meters installed and integrated with MDM in the state till December 2021 of project cost approximately Rs. 6,000 crore.

Mercados has successfully completed the works as per the scope of work in the above mention LoI (s) and extension of the same and has also submitted all the reports and related documents as per the LoI.

17.04.23

Superintending Engineer
(Energy Audit Cell)

Mercados Energy Markets India Pvt Ltd

Exhibit 2

उत्तर प्रदेश पावर कारपोरेशन लिमिटेड

(उ0 प्र0 सरकार का उपक्रम)

U.P. POWER CORPORATION LIMITED

(Govt. of Uttar Pradesh Undertaking)

CIN No. U32201UP1999SGC024928

Power Management Cell
Uttar Pradesh Power Corporation Ltd.
SLDC Campus, Vibhuti Khand-II,
Gomti Nagar, Lucknow
E mail : cepmcuppcl@gmail.com
cepmc@uppcl.org

पावर मैनेजमेन्ट सेल,
उत्तर प्रदेश पावर कारपोरेशन लिमिटेड
एस0एल0डी0सी0 परिसर, विभूति खण्ड– II,
गोमती नगर, लखनऊ
ई–मेल : cepmcuppcl@gmail.com
cepmc@uppcl.org

TO WHOMSOEVER IT MAY CONCERN

This is to certify that:

1. M/s Mercados Energy Markets India Private Ltd. (Mercados) in consortium with M/s Regent Climate Connect Knowledge Solution Pvt. Ltd. was awarded the work for "Load/ Demand Forecasting, Procurement of Power Purchase Cost Optimization Service and Energy Portfolio Management Services" vide LOA No. 928-Plg/UMPP/Load Forecaste/Letter of Award dated 14.05.2018 and M/s Mercados and M/s Regent Climate Connect Knowledge Solution Pvt. Ltd. have successfully completed work as per the scope and responsibility mentioned in the LoA dated 14.05.2018 and its extensions thereof as mentioned above

2. The Average MAPE for Day-Ahead Load Forecastingfrom Nov-21 to Apr-22 is 3.03%

(Sanjiv Shukla)
Chief Engineer (PMC)

No. 560 /PMC/Mercados(10) Date : 13/6/23

Copy forwarded to following for their kind information :-

1. Director (Corporate Planning), UPPCL, Shakti Bhawan, Lucknow
2. M/s Mercados Energy Markets India Private Ltd. (Mercados) in reference to the request of their mail dated 13-06-2023 regarding issuance of certificate.

(Himanshu Sahu)
Executive Engineer (PMC)

PMC/SP

Mercados Energy Markets India Pvt Ltd

Mercados Energy Markets India Pvt Ltd

उत्तर प्रदेश पावर कारपोरेशन लिमिटेड

(उ०प्र० सरकारका उपक्रम)

U.P. POWER CORPORATION LIMITED

(Govt. of Uttar Pradesh Undertaking)

CIN No. U32201UP1999SGC024928

Power Management Cell
Uttar Pradesh Power Corporation Ltd.
SLDC Campus, VibhutiKhand-II,
Gomti Nagar, Lucknow
e- mail : cepmcuppcl@gmail.com
cepmc@uppcl.org

पावर मैनेजमेन्ट सेल
उत्तर प्रदेश पावर कारपोरेशन लिमिटेड
एस०एल०डी०सी० परिसर, विभूति खण्ड–II,
गोमतीनगर, लखनऊ
ई–मेल : cepmcuppcl@gmail.com
cepmc@uppcl.org

No. 40 /PMC/Mercados Date: 11/01/2023

TO WHOMSOEVER IT MAY CONCERN

This is to certify that:

1. M/s Mercados Energy Markets India Private Ltd. (Lead Bidder) in consortium with M/s Regent Climate Connect Knowledge Solution Pvt. Ltd. (Consortium Partner) was awarded the work for "Load/ Demand Forecasting, Procurement of Power Purchase Cost Optimization Service and Energy Portfolio Management Services" vide LOA No. 928-Plg/UMPP/Load Forecast/Letter of Award dated 14.05.2018.
2. Further vide addendum LoA No. 282/PMC/Mercados/RTM /TAM Dated 30.06.2020 M/s Mercados Energy Markets India Private Ltd. was awarded the work of "Development and Upgradation of Software and Deployment of Resource for assisting UPPCL in operating 24x7 Real Time Market (RTM) and Term Ahead Market (TAM) desk".
3. As a part of contract, following extension were given to above order and addendum: -
   (i) LoI No. 534/PMC/Mercados Dt. 26.11.2021 (for 3 Months)
   (ii) LoI No. 103/PMC/Mercados Dt. 21.02.2022 (for 6 Months)
   (iii) LoI No. 477/PMC/Mercados Dt. 11.07.2022 (for 3 Months)
   (iv) LoI No. 789/PMC/Mercados Dt. 22.11.2022 (for 1 Months)
4. The overall value of the work orders, addendums or extensions is Rs. 14,01,30,323/- as mentioned below:

Order / LoI No.	Order/LoI Date	Period	Contract Value (Rs.)
928-Plg/UMPP/Load Forecaste/LoA	14-May-18	14-05-2018 to 21-11-2021	6,64,72,250
282/PMC/Mercados/RTM/TAM	30-Jun-20	1-07-2020 to 21-11-2022	3,25,86,000
534/PMC/Mercados	26-Nov-21	22-11-2021 to 21-02-2022	95,23,863
103/PMC/Mercados	21-Feb-22	22-02-2022 to 21-08-2022	1,88,85,726
477/PMC/Mercados	11-Jul-22	22-08-2022 to 21-11-2022	95,23,863
789/PMC/Mercados	22-Nov-22	22-11-2022 to 21-12-2022	31,38,621
Total			14,01,30,323/-

5. In the said assignment, the consortium of M/s Mercados Energy Markets India Private Ltd. and M/s Regent Climate Connect Knowledge Solution Pvt. Ltd. have implemented the "demand forecast" part of the project through Artificial Intelligence / Machine Learning technology.
6. The contract period for the aforesaid agreements with M/s Mercados and M/s Regent Climate Connect Knowledge Solution Pvt. Ltd. was from 14-05-2018 to 21-12-2022 including the extensions contracts. The work has been done as per the scope and responsibility mentioned in the LoA dated 14.05.2018 and its extensions thereof as mentioned above.

(Sanjiv Shukla)
Chief Engineer (PMC)

520/MAU

उत्तर प्रदेश पावर कारपोरेशन लिमिटेड

(उ० प्र० सरकार का उपक्रम)

U.P. POWER CORPORATION LIMITED

(Govt. of Uttar Pradesh Undertaking)

CIN No. U32201UP1999SGC024928

Power Management Cell
Uttar Pradesh Power Corporation Ltd.
SLDC Office, VibhutiKhand,
Gomti Nagar, Lucknow
e- mail : cepmcuppcl@gmail.com

पावर मैनेजमेन्ट सेल
उत्तर प्रदेश पावर कारपोरेशन लिमिटेड
एस०एल०डी०सी० परिसर, विभूति खण्ड,
गोमतीनगर, लखनऊ
ई–मेल : cepmcuppcl@gmail.com

No. 464/PMC/Mercados

Date: 07 Dec, 2018

Sub- Regarding UAT testing and performance parameters for EPM services

Project Manager
M/s Mercados Energy Markets India Pvt. Ltd.,
SLDC Compound,
Gomti Nagar,
Lucknow

Dear Sir,

Kindly refer to your letter dated 22.11.2018 vide which you have intimated that in pursuance of clause no. 7 of the contract agreement, User Acceptance Test for seven day control period was successfully carried from15.11.2018 to 21.11.2018.

In above reference, it is to mention that as per the relevant clause of contract/agreement following parameters are required to be met for successful UAT.

(i) Day ahead forecast and optimum scheduling--------- is within 4 % MAPE

(ii) Intra-day forecast error---- is within 1.5%.

Both the above parameters were examined during the UAT control period and it was observed that Day ahead forecast and Intra-day forecast error worked out to be 3.15% and 1.41% which were within the prescribed limits.

In view of above UAT is declared successful as per terms and conditions of contract. You are given confirmation of UAT 'sign off' and allowed to proceed to make necessary arrangements for 'Go-Live'.

(Ashutosh Kumar)
Executive Director

CC:

1. PS to MD, UPPCL, 7th Floor, Shakti Bhawan, Lucknow.
2. Director (CP), UPPCL, Shakti Bhawan, Lucknow.
3. CE(Planning),UPPCL, 3rd Floor,Shakti Bhawan Extn,Lucknow.
4. CE(PPA)-I/II,UPPCL,Shakti Bhawan Extn,Lucknow
5. SE,Import Export &Payment Circle,UPPCL,11th Floor, Shakti Bhawan Extn,Lucknow
6. SE,SPATC,UPPCL, 10th Floor,Shakti Bhawan Extn,Lucknow

Mercados Energy Markets India Pvt Ltd

Mercados Energy Markets India Pvt. Ltd

उत्तर प्रदेश पावर कारपोरेशन लिमिटेड

(उ० प्र० सरकार का उपक्रम)

U.P. POWER CORPORATION LIMITED

(Govt. of Uttar Pradesh Undertaking)

Planning Wing
3rd Floor, Shakti Bhawan Extension,
14-Ashok Marg, Lucknow 226001.
Phone: (0522) 2218297
Fax : (0522) 2288484/2287343
E mail : cgm2plg@yahoo.co.in
CIN NO: U32201UP1999SGC024928

नियोजन स्कन्ध
तृतीय तल, शक्ति भवन विस्तार,
14–अशोक मार्ग, लखनऊ 226001
दूरभाष : (0522) 2218297
फैक्स : (0522) 2288484/2287343
ई–मेल : cgm2plg@yahoo.co.in
CIN NO: U32201UP1999SGC024928

No - 928 -Plg/UMPP/ Load Forecaste/ Letter of Award Dated : 14, May, 2018

M/s. Mercados Energy Markets India Pvt. Ltd.
A-1/74, Ground Floor,
Panchsheel Enclave
New Delhi - 110017
Email: bhushan@mercadosemi.in

M/s. Regent Climate Connect
Knowledge Solutions Pvt. Ltd
No.42, Sector 13
Pocket B10, Dwarka,
South West Delhi
New Delhi 110078

'LETTER OF AWARD' (LoA)

Subject: Appointment of Consortium of Mercados Energy Markets India Private Limited and Regent Climate Connect Knowledge Solutions Pvt. Ltd for Load / Demand Forecasting, Procurement of Power Purchase Cost Optimization Service and Energy Portfolio Management Services.

Reference

1. Tender No.- 01/UPPCL/PLANNING/UMPP/2018 dated 12-01-2018
2. Corrigendum dated 20th February, 2018 against tender No.-01 / UPPCL / PLANNING / UMPP / 2018 dated 12-01-2018
3. Corrigendum dated 15th March, 2018 against tender No.-01/UPPCL/PLANNING/UMPP/2018 dated 12-01-2018
4. Technical & Financial Bid submitted by Mercados Energy Markets India Private Limited in consortium with Climate Connect
5. Letter dated 1st April 2018 submitted by Mercados Energy Markets India Pvt. Ltd. in response to UPPCL letter no. 592-Plg/UMPP/Load Forecast dated 28.3.2018.
6. Letter dated 12th May 2018 submitted by Mercados Energy Markets India Private Limited after negotiation.

Dear Sir,

In reference to your proposal, UPPCL is pleased to place an order upon the consortium M/s. Mercados Energy Markets India Pvt. Ltd New Delhi - 110017 and M/s. Regent Climate Connect Knowledge Solutions Pvt. Ltd., New Delhi 110078 for Load / Demand Forecasting, Procurement of Power Purchase Cost Optimization Service and Energy Portfolio Management Services. The broad objectives of this assignment, prices, terms & conditions of the order are mentioned hereunder:

Mercados Energy Markets India Pvt Ltd

Mercados Energy Markets India Pvt Ltd

1.1 SCOPE OF WORK:

The scope of work shall be as per the Section 2 titled "Scope of Work" of the RFP no. No.-01/UPPCL/PLANNING/UMPP/2018 to be read along with Corrigendum's dated 20th February, 2018 & 15th March, 2018 as referred above.

1.2 Resource Deployment

As per the terms of the tender document and referred corrigendum's, following resources have to be deployed at UPPCL:

S No	Description	Man Days per year			
		Year 1	Year 2	Year 3	Year 4 (3 Months)
1	Team Leader	36	36	36	9
2	Domain Expert - 1 for Energy Portfolio Management	365	365	365	92
3	Domain Expert for Demand / Supply Forecasting, Energy Planning and Optimization	180	180	180	45
4	Service Provider for Energy Portfolio Management Services	365	365	365	92
5	Service Provider for Demand/Supply Forecasting, Energy Planning and Optimisation	365	365	365	92

1.3 PERIOD OF CONTRACT

The Period of Contract shall be 3 1/2 (Three and half) years including six months for Project Planning and Implementation, One-year warranty phase and Two Years for Post Commissioning. Energy Portfolio Management Service (including shift operations) has to be done over the entire three and half year contract period. The contract is extendable for a period of One year (beyond initial three and half year contract period) on the same terms and conditions at which the initial contract is finalized.

S No	Period of Contract	Work
1	Zero to six months	Implementation
2	Six months to One and half year	Warranty phase
3	One and half year to Three and half year	Project period

1.4 SCHEDULE OF PRICES

The Consultancy fees shall be payable as following:

Sl. No	Particulars	Monthly Rate	Amount in INR
1	Cost of Design development & implementation of software and tools for Load / Demand Forecasting, Procurement of Cost Optimization Service and Energy Portfolio Management Services" including mobile application. (excl GST) inclusive of licensing cost	NA	72,46,000/-
2	Manpower Cost (all inclusive expenses for the contract period- excluding GST)	15,18,621/-	5,92,26,250/-
	Total cost excluding taxes		**6,64,72,250/-**

The Total contract value is **Rs. 6,64,72,250/- (Rupees Six Crore Sixty Four Lakh Seventy Two Thousand Two Hundred Fifty Only)** excluding 18% GST and other applicable taxes, if any.

Above prices shall remain firm for the full period of contract and are exclusive of applicable GST and any other applicable levies which shall be paid by UPPCL as per actual.

iii. Penalty shall be imposed on the service provider on their payments receivables under clause 1.5 (5) (Operational Support and maintenance for 3 years (Three years)) of this LOA in case of failure to achieve the desired accuracy in the forecasts as per the following:

S. No	Variation in the projected and Actual Day-ahead Demand for the month	Penalty in % of total Monthly payments under clause 5.1 point 5
1	Upto 4.0 %	No penalty
2	Upto 4.2 %	2%
3	Upto 4.4 %	4%
4	Upto 4.6 %	6%
5	Upto 4.8 %	8%
6	Upto 5.0 %	10%
7	Upto 5.2 %	12%
8	Upto 5.4 %	14%
9	Upto 5.6 %	16%
10	Upto 5.8 %	18%
11	Upto 6.0 %	20%

Beyond 6.0% no payment will be made to the service provider for corresponding month. In addition to above, if the service provider is not able to maintain the error margin at 6% MAPE or below , for a consecutive period of 3 months during the tenure of the contract ,the UPPCL shall hold the right to terminate the existing contract as per its discretion.

Note :-

1. Penalty would be applicable after the completion of UAT
2. MAPE stands for Mean Absolute %Error. It would be calculate as following :
   . Absolute %error (APE) of the forecasts would be calculated block to block i.e. for all 96 blocks .
   . The average of the APE for all block in the day would be averaged to obtain the MAPE for the day.
3. The MAPEs for all days would be netted (averaged)to obtain the Variation in the projected and Actual Day ahead Demand for month for application of penalty.
   Penalty will be out rightly deducted from the monthly payments under clause 5.1(5)

   After successful of UAT service provider has to reduce actual average power purchase cost as below:-

   (i) 2.5 % in 1st year in comparison to the actual average power purchase cost of year 2017-18

   (ii) Additional 2% in 2nd year in comparison to the actual average power purchase cost of year 2017-18

   (iii) Additional 1.5% in 3rd year in comparison to the actual average power purchase cost of year 2017-18

Mercados Energy Markets India Pvt Ltd

Mercados Energy Markets India Pvt Ltd

1.5 PAYMENT TERMS

Payment terms as following:

S No	Description of Task	Payment	
		Item A	Item B
1	UAT Sign-off		30% of Cost for Software for Forecasting and Optimisation
2	Go Live		
3	Stabilization Acceptance		
4	After Warranty phase		
5	Operational Support and maintenance for 3 1/2 years (Three and half years) but payment will be made for 39 months (after 3 months from the date of start) with the conditions that if service provider fails to achieved UAT then performance bank guarantee will be forfeited	Monthly	Payment shall be made on monthly basis in 36 equal instalments for the 70% cost of software for forecasting and optimization long with monthly charges for providing service.
6	On successful completion of Operational support and maintenance for $3^{1/2}$ years		

a) Proof of completion report should be attached along with the Invoice raised as per the work contract and certification by the UPPCL.

b) All payments will be made in Indian rupees only

c) No payment will be made by UPPCL towards travel and logistic required for the execution of the work under the scope of this project.

d) GST at per actual rates would be payable in addition by UPPCL. Present rate of GST is 18%.

e) No other out of pocket or incidental expenses would be payable by UPPCL.

f) The service provider has to submit its bills to Chief Engineer, Power Management Cell, SLDC Campus, UPPCL

g) As per consortium M/s Mercados Energy Markets India Private Limited, New Delhi will raise all invoices under the said contract on the behalf of consortium including raising GST and providing its tax identification number for deduction of tax at source by the UPPCL. All payments under the said contact have to be made to M/s Mercados Energy Markets India Private Limited as lead partner.

1.6 USER ACCEPTANCE TEST (UAT)

1. **UAT will be considered successful when**

   i. Day ahead forecast and optimum scheduling....is within 04% MAPE.

   ii. Intra-day forecast error -- is within 1.5% from actual on block wise.

   Note: Time duration- control period for the UAT would be minimum 7 day time-period, in the 06th month of the implementation period, if UAT is not successful in meeting the parameters specified above, after repeated attempts within the 06th month, it will be considered failed and then performance bank guarantee will be forfeited.

2. **After acceptance of UAT.**

   In current scenario service provider has to deliver as below-

   i. Day ahead forecast and optimum scheduling....must be within 04% MAPE.

   ii. Intra-day forecast error .... must be within 1.5% from actual on block wise.

Mercados Energy Markets India Pvt Ltd

Mercados Energy Markets India Pvt Ltd

Thus in 3 years service provider has to reduce minimum 6 % actual average power purchase cost from the base year 2017-18 subject to any uncontrollable factors such as increase in taxes, increase in coal price, increase in freight, any change in law, force majeure condition etc.

If the service provider is able to reduce the actual average power purchase cost from the base year 2017-18 by more than 6 % by the end of the 3rd year, then the service provider will receive an incentive equivalent to the 1 % of the actual deduction achieved in actual average power purchase cost beyond 6 % subject to the sealing of the 50% of value at which the work has been awarded.

1.7 PERFORMANCE SECURITY

a) The Contractor shall after notification of Contract (LoA) award, submit a Performance Security for the performance of their Contract, in shape of a Bank Guarantee issued by a Bank in prescribed format in the office of Chief Engineer, Power Management Cell, SLDC Campus, UPPCL valid for a period of 3 ½ Half year excluding claim period of 6 months.

b) The amount of performance Bank Guarantee to be submitted shall be equal to 10% of total Contract Value. The performance Bank Guarantee has to be submitted within fourteen (14) days of the issue of this LOA provided by Chief Engineer (Planning), UPPCL. Service Provider has to submit the Performance Guarantee in the form of Bank Guarantee on the enclosed format from any Nationalized/Scheduled Banks in favour of *'Accounts Officer, Central Payment Cell, U.P. Power Corporation Ltd. Shakti Bhawan Extension, Lucknow-226001* payable at Lucknow.

1.8 OTHER TERMS & CONDITIONS

a) The Nodal Officer for all future correspondences and work supervision from the date of issue of this LOA, would be Chief Engineer, Power Management Cell, SLDC Campus, UPPCL, Vibhuti Khand -2, Gomti Nagar, Lucknow.

b) UPPCL reserves the right to ask the Service Provider to replace any resource on the ground of competence, integrity, behaviour and availability.

c) Penalties shall be applicable as per UPPCL rules and regulations.

d) Non Disclosure agreement and access to information/data will not be provided in any manner/processed or used for the own use of contractor itself and in the interest of a third party. Any violation will be considered breach of Contract.

e) Bar of Jurisdiction: The Courts situated within the city of Lucknow alone shall have the jurisdiction to decide all disputes and claims that may arise between the parties. The venue of Arbitration shall be at Lucknow and the language of Arbitration shall be English.

f) All other Terms and Conditions as mentioned in the LoA, RFP document and Corrigendum's dated 20th February, 2018 & 15th March, 2018 shall be applicable to this Contract.

You are request to send your acceptance of this LOA within 7 days from the date of issue of this letter.

You are requested to present yourself in office of Chief Engineer (Power Management Cell), UPPCL for signing the contract agreement on non-judicial stamp paper of appropriate value within one month (30 days) from the issue of this letter. It is further informed that the contract agreement would be executed between Chief Engineer (Power Management Cell), UPPCL and consortium of M/s Mercados Energy Markets India Private Limited and M/s. Regent Climate Connect Knowledge Solutions Pvt. Ltd.

Thanking you

Yours faithfully,

(A.H. Khan)
Chief Engineer &
Executive Director (Planning)

Mercados Energy Markets India Pvt Ltd

Mercados Energy Markets India Pvt Ltd

भारतीय गैर न्यायिक

एक सौ रुपये Rs. 100

रु. 100 ONE HUNDRED RUPEES

सत्यमेव जयते

भारत INDIA

INDIA NON JUDICIAL

उत्तर प्रदेश UTTAR PRADESH

DV 903552

0 5 SEP 2017

Agreement between U.P. Power Corporation Limited and the consortium of Mercados EMI Pvt Ltd and Regent Climate Connect Knowledge Solutions Pvt Ltd for Load / Demand Forecasting, Procurement of Power Purchase Cost Optimization Service and Energy Portfolio Management Services.

This agreement (herein called the "Agreement/Contract") executed at Lucknow on the 9th day, month of ~~June~~ July, 2018 between U.P. Power Corporation Limited (UPPCL), having its office at SLDC Campus, U.P. Power Corporation Limited, Vibhuti Khand-2, Gomti Nagar, Lucknow acting through its authorized signatory Mr. Anurag Agarwal, Superintending Engineer, Power Management Cell, hereinafter called "UPPCL or Utility" (which terms include its successors, assigns and nominees) on one part, Mercados Energy Markets India Private Limited (Mercados EMI Pvt Ltd.), having its office at A-1/74, Ground Floor, Panchsheel Enclave, New Delhi - 110017, acting through its authorized signatory Mr.Victor Vanya Bandlamudi, Senior Manager, (which term include its successors, assigns and nominees) and Regent Climate Connect Knowledge Solutions Pvt Ltd, No.42, Sector 13, Pocket B10, Dwarka, South West Delhi, New Delhi 110078 on the other part acting through its authorized signatory Mr. Saurabh Kumar Srivastava, Director, (which term include its successors, assigns and nominees)

(Anurag Agarwal)

Mercados Energy Markets India Pvt. Ltd.	Regent Climate Connect Knowledge Solutions Pvt. Ltd.	U.P. Power Corporation Ltd.

WHEREAS,

a) UPPCL has undertaken a bidding process through Tender Specification No. 01/UPPCL/PLANNING/UMPP/2018 dated 12-01-2018 for Load / Demand Forecasting, Procurement of Power Purchase Cost Optimization Service and Energy Portfolio Management Services.

b) UPPCL, after evaluation of bids, decided to engage the consortium of Mercados EMI Pvt. Ltd. and Regent Climate Connect Knowledge Solutions Pvt. Ltd. A letter of award was placed on the Service Provider on 14th May 2018 vide LOA Reference No. 928-Plg/UMPP/Load Forecast/Letter of Award.

c) The said Service Provider has agreed to take up the above said assignment and has entered into the instant Contract Agreement for undertaking the said assignment.

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

In this Agreement, the words and expressions shall have the same meaning as are respectively assigned to them in the Contract Documents described hereunder.

1. **Contract Documents**

The following documents (collectively referred to as "Contract Documents" shall be deemed to form and be read and construed as part of this Agreement, viz.

a. RFP No. - 01/UPPCL/PLANNING/UMPP/2018 dated 12-01-2018.
b. Corrigendum dated 20th February 2018 against tender No. 01/UPPCL/PLANNING/UMPP/2018 dated 12-01-2018
c. Corrigendum dated 15th March 2018 against tender No. 01/UPPCL/PLANNING/UMPP/2018 dated 12-01-2018
d. Technical & Financial Bid submitted by Mercados Energy Markets India Private Limited in consortium with Regent Climate Connect Knowledge Solutions Pvt. Ltd.
e. Letter dated 1st April 2018 submitted by Mercados Energy Markets India Pvt. Ltd. in response to UPPCL letter no. 592-Plg/UMPP/Load Forecast dated 28.3.2018.
f. Letter dated 12th May 2018 submitted by Mercados Energy Markets India Pvt Limited after negotiation.
g. LOA Reference No. 928-Plg/UMPP/Load Forecast/Letter of Award dated 14th May 2018.

In event of any discrepancy or inconsistency within the listed Contract Documents, the Order of precedence of various Contract Documents shall be as follows:

(Anurag Agarwal)

Energy Markets India Pvt. Ltd.	Regent Climate Connect Knowledge Solutions Pvt. Ltd.	U.P. Power Corporation Ltd.

a. The Contract entered between the Service Provider and UPPCL shall be given the highest precedence, and shall prevail over all other documents and communications.

b. Second in order of precedence shall be accorded to the Proposal (including technical proposal, financial proposal / price bid, and any other documents submitted by the Service Provider) submitted by the Service Provider to UPPCL in response to the RFP process.

c. Third and final precedence shall be accorded to the RFP and all its addendum, corrigendum, and clarifications issued by UPPCL.

2. Scope of Works

The scope of work shall be as per the Section 2 titled "Scope of Work" of the RFP No. 01/UPPCL/PLANNING/UMPP/2018 to be read along with Corrigendum's dated 20th February 2018 & 15th March 2018 as referred above.

3. Resource Deployment:

As per the terms of the Tender document and referred corrigendum's, following resources have to be deployed at UPPCL:

S No	Description	Man Days per year			
		Year 1	Year 2	Year 3	Year 4 (3 Months)
1	Team Leader	36	36	36	9
2	Domain Expert - 1 for Energy Portfolio Management	365	365	365	92
3	Domain Expert for Demand / Supply Forecasting, Energy Planning and Optimization	180	180	180	45
4	Service Provider for Energy Portfolio Management Services	365	365	365	92
5	Service Provider for Demand/Supply Forecasting, Energy Planning and Optimisation	365	365	365	92

4. Period of Contract:

The Period of Contract shall be 3.5 (Three and half) years including six months for Project Planning and Implementation, One-Year Warranty phase and Two Years for Post Commissioning. Energy Portfolio Management Service (including shift operations) has to be done over the entire three and

(Anurag Agarwal)
Superintending Engineer
Power Management Cell
U.P. Power Corporation Ltd.

Mercados Energy Markets India Pvt. Ltd.	Regent Climate Connect Knowledge Solutions Pvt. Ltd.	U.P. Power Corporation Ltd.

half year contract period. The contract is extendable for a period of One year (beyond initial three and half year contract period) at the same terms and conditions at which the initial contract is finalized.

S No	Period of Contract	Work
1	0 to six months	Implementation
2	Six months to One and half year	Warranty phase
3	One and half year to Three and half year	Project period

5. Schedule of Prices:

The consultancy fees shall be payable as following:

S No	Particulars	Monthly Rate	Amount in INR
1	Cost of Design, Development & Implementation of software and tools for Load / Demand Forecasting, Procurement of Cost Optimization Service and Energy Portfolio Management Services" including mobile application. (excl GST) inclusive of licensing cost	NA	72,46,000/-
2	Manpower Cost (all-inclusive expenses for the contract period- excluding GST)	15,18,621/-	5,92,26,250/-
	Total cost excluding taxes	**6,64,72,250/-**	

Detailed Manpower Costs Breakup:

S. No.	Description	Man Days per Year				Man Day Rate (Rs.)	Total Base Price			
		Year 1	Year 2	Year 3	Year 4 (3 months)		Year 1	Year 2	Year 3	Year 4 (3 months)
1	Team Leader	36	36	36	9	20,250	7,29,000	7,29,000	7,29,000	1,82,250
2	Domain Expert - 1 for Energy Portfolio Management	365	365	365	92	14,000	51,10,000	51,10,000	51,10,000	12,88,000
3	Domain Expert for Demand / Supply Forecasting, Energy Planning and Optimization	180	180	180	45	14,000	25,20,000	25,20,000	25,20,000	6,30,000
4	Service Provider for Energy Portfolio Management Services	365	365	365	92	13,500	49,27,500	49,27,500	49,27,500	12,42,000
5	Service Provider for Demand/Supply Forecasting, Energy Planning and Optimisation	365	365	365	92	13,500	49,27,500	49,27,500	49,27,500	12,42,000
	Total Manpower Costs (excl. GST) (A)						**1,82,14,000**	**1,82,14,000**	**1,82,14,000**	**45,84,250**
	Total						**5,92,26,250/-**			

The total Contract Value is Rs. 6,64,72,250/- (Rupees Six Crore Sixty Four Lakh Seventy Two Thousand Two Hundred Fifty Only) excluding GST and other applicable taxes, if any.

(Anurag Agarwal)
Superintending Engineer

Mercados Energy Markets India Pvt. Ltd.	Regent Climate Connect Knowledge Solutions Pvt. Ltd.	U.P. Power Corporation Ltd.

Above prices shall remain firm for the full period of contract and are exclusive of applicable GST and any other applicable levies which shall be paid by UPPCL as per actual.

6. Payments Terms:

Payment terms as following:

S No	Description of Task	Payment	
		Item A	Item B
1	UAT Sign-off		30% of Cost for Software: Rs. 21,73,800/- (Rupees Twenty One Lakh Seventy Three Thousand Eight Hundred Only) for Forecasting and Optimisation
2	Go Live	Monthly for Rs. 15,18,621/- (Rupees Fifteen Lakh Eighteen Thousand Six Hundred & Twenty One Only) per month	Rs. 1,40,894/- (Rupees One Lakh Forty Thousand Eight Hundred Ninety Four Only) shall be paid on monthly basis for 36 months in equal instalments for the 70% cost of software for Forecasting and Optimization along with monthly charges for providing service
3	Stabilization Acceptance		
4	After Warranty phase		
5	Operational Support and maintenance for 3 1/2 years (Three and half years) but payment will be made for 39 months (after 3 months from the date of start) with the conditions that if service provider fails to achieve UAT then performance bank guarantee will be forfeited		
6	On successful completion of Operational support and maintenance for 3½ years		

a) Proof of completion report should be attached along with the Invoice raised as per the work contract and certification by the UPPCL.

b) All payments will be made in Indian rupees only

c) No payment will be made by UPPCL towards travel and logistic required for the execution of the work under the scope of this project.

d) GST & other applicable taxes would be payable in addition by UPPCL.

e) No other out of pocket or incidental expenses would be payable by UPPCL.

7. User Acceptance Test (UAT)

a. UAT will be considered successful when

i. Day ahead forecast and optimum scheduling------is within 04% MAPE.

ii. Intra-day forecast error – is within 1.5% from actual on block wise.

Note: Time duration- control period for the UAT would be minimum 7 day time-period, in the 06th month of the implementation and if UAT is not successful in meeting the parameters

Mercados Energy Markets India Pvt. Ltd.	Regent Climate Connect Knowledge Solutions Pvt. Ltd.	U.P. Power Corporation Ltd.

specified above, after repeated attempts within the 06th month, it will be considered failed and then performance bank guarantee will be forfeited.

b. **After acceptance of UAT.**

In current scenario, service provider has to deliver as below

i. Day ahead forecast and optimum scheduling------must be within 04% MAPE.

ii. Intra-day forecast error --- must be within 1.5% from actual on block wise.

iii. Penalty shall be imposed on the service provider on their payments receivables under clause 6 (5) (Operational Support and maintenance for 3 years (Three years)) of this LOA in case of failure to achieve the desired accuracy in the forecasts as per the following:

S. No	Variation in the projected and Actual Day-ahead Demand for the month	Penalty in % of total Monthly payments under clause 5.1 point 5
1	Upto 4.0 %	No penalty
2	Upto 4.2 %	2%
3	Upto 4.4 %	4%
4	Upto 4.6 %	6%
5	Upto 4.8 %	8%
6	Upto 5.0 %	10%
7	Upto 5.2 %	12%
8	Upto 5.4 %	14%
9	Upto 5.6 %	16%
10	Upto 5.8 %	18%
11	Upto 6.0 %	20%

Beyond 6.0% no payment will be made to the service provider for corresponding month. In addition to above, if the service provider is not able to maintain the error margin at 6% MAPE or below, for a consecutive period of 3 months during the tenure of the contract, the UPPCL shall hold the right to terminate the existing contract as per its discretion.

Note:-

1. Penalty would be applicable after the completion of UAT
2. MAPE stands for Mean Absolute % Error. It would be calculated as following:
   - Absolute % error (APE) of the forecasts would be calculated block to block i.e. for all 96 blocks
   - The average of the APE for all block in the day would be averaged to obtain the MAPE for the day.

(Anurag Agarwal)
Superintending Engineer
U.P. Power Corporation Ltd.

Mercados Energy Markets India Pvt. Ltd.	Regent Climate Connect Knowledge Solutions Pvt. Ltd.	U.P. Power Corporation Ltd.

3. The MAPEs for all days would be netted (averaged) to obtain the Variation in the projected and Actual Day ahead Demand for month for application of penalty. Penalty will be out rightly deducted from monthly payments.

After successful UAT, the service provider has to reduce actual average power purchase cost as below:

(i) 2.5% in 1st year in comparison to the actual power purchase cost of year 2017-18.

(ii) Additional 2% in 2nd year in comparison to the actual average power purchase cost of year 2017-18.

(iii) Additional 1.5% in 3rd year in comparison to the actual average power purchase cost of year 2017-18.

Thus in 3 years, service provider has to reduce minimum 6% actual average power purchase cost from the base year 2017-18 subject to any uncontrollable factors such as increase in taxes, increase in coal prices, increase in freight, any change in law, force majeure conditions, etc.

If the service provider is able to reduce the actual average power purchase cost form the base year 2017-18 by more than 6% by the end of the 3rd year, then the service provider will receive an incentive equivalent to the 1% of the actual reduction achieved in actual average power purchase cost beyond 6% subject to the sealing of the 50% of value at which the work has been awarded.

8. Performance Bank Guarantee:

i. The LOA provided that the Service Provider shall after notification of Contract award, submit a Performance Security for due performance of their Contract, in shape of a bank guarantee (BG) issued by a scheduled bank in prescribed format.

ii. The amount of performance security BG to be submitted shall be equal to 10% of respective contract values in favour of 'Account Officer, Central Payment Cell, UPPCL, Shakti Bhawan Extension, Lucknow 226001 payable at Lucknow' and valid for the full period of Contract from the date of its issue, with an extended claim period of six (6) months.

iii. Accordingly, Mercados EMI Pvt. Ltd have submitted a Bank Guarantee No. 6800IPEBG180034 issued by Bank of India of Rs. 66,47,225/- (Rupees Sixty Six Lakh Forty Seven Thousand Two Hundred Twenty Five Only) dated 25.05.2018 which is valid up to 24.11.2021 and claim expiry period is up to 24.11.2022.

iv. The Performance Bank Guarantee shall be released after successful contractual obligation, and it will not carry any interest.

Mercados Energy Markets India Pvt. Ltd.	Regent Climate Connect Knowledge Solutions Pvt. Ltd.	(Anurag Agarwal) Superintending Engineer U.P. Power Corporation Ltd.

9. Breach of Agreement

The failure of a party to fulfill any of its obligations hereunder shall not be considered to be a breach of or default under this Agreement in so far as such liability arises from an event of Force Majeure, provided that the party affected by such an event has taken all reasonable precautions, due and reasonable alternative measures, all with the objective of carrying out the terms and conditions of this Agreement.

UPPCL may at its sole discretion invoke the Performance Security and appropriate the amount secured there under, in the event that the Service Provider commits any delay or default in the implementation of the Contract during the contract period or commits any other breach of the terms and conditions of the Contract.

10. Non-Disclosure Agreement

In consideration of the disclosure of "Proprietary Information" by the State 'Utility' / 'Utilities', the parties hereby agree on:

i. To hold the Proprietary Information in strict confidence and to take all reasonable precautions to protect such Proprietary Information.

ii. Not to disclose any such Proprietary Information or any information derived there from to any third person / party without permission of the 'Utility'.

iii. Not to make any use whatsoever at any time of such Proprietary Information except to prepare reports for submission to the 'Utility'.

iv. Not to make any use whatsoever at any time of such Proprietary Information for comparison purpose with any utility / organization / individual, preparing reports or presentations for use in any organization / public or private forums without the Utility's permission.

v. Not to copy or reverse engineer any such Proprietary Information.

vi. Any violation of above shall come under breach of Contract.

11. Other Terms & Conditions

a) UPPCL reserves the right to ask the Service Provider to replace any resource on the ground of competence, integrity, behavior and availability.

b) Penalties shall be applicable as per UPPCL rules and regulations.

(Anurag Agarwal)

Mercados Energy Markets India Pvt. Ltd.	Regent Climate Connect Knowledge Solutions Pvt. Ltd.	U.P. Power Corporation Ltd.

c) Non-Disclosure agreement and access to information/data will not be provided in any manner/processed or used for the own use of Service Provider itself and in the interest of a third party. Any violation will be considered breach of Contract.

d) Bar of Jurisdiction: The Courts situated within the city of Lucknow alone shall have the jurisdiction to decide all disputes and claims that may arise between the parties. The venue of Arbitration shall be at Lucknow and the language of Arbitration shall be English.

e) All other Terms and Conditions as mentioned in the LoA, RFP document and Corrigendum's dated 20th February 2018 & 15th March 2018 shall be applicable to this contract.

In WITNESS WHEREOF, the parties hereto have caused this Agreement to be signed in their respective names as of the day month and year above written.

For and on behalf of
U.P. Power Corporation Limited

Name: Anurag Agarwal
Designation: Superintending Engineer

Signature with seal

(Anurag Agarwal)
Superintending Engineer
Power Management Cell
U.P. Power Corporation Ltd.
SLDC Compound, Gomti Nagar, Lucknow

For and on behalf of
Mercados Energy Markets India Private Limited

Name: Victor Vanya Bandlamudi
Designation: Senior Manager

Mercados Energy Markets India Private Limited

For and on behalf of
Regent Climate Connect Knowledge Solutions Private Limited

Name: Saurabh Kumar Srivastava
Designation: Director

Signature with seal

Regent Climate Connect Knowledge Solutions Pvt. Ltd.

Mercados Energy Markets India Pvt. Ltd.	Regent Climate Connect Knowledge Solutions Pvt. Ltd.	U.P. Power Corporation Ltd.

Witness:
For Mercados
(1) Aashiman Gadia
AASHIMAN GAGIA
(2)
SOORAJ NARAYAN

For UPPCL
(1) Amalvot
(Alok Malhotra)
EE PMC
(2) M.S. Ar...
EE (PMC)

उत्तर प्रदेश पावर कारपोरेशन लिमिटेड

(उ०प्र० सरकार उपक्रम)

U.P. POWER CORPORATION LIMITED

(Govt. of Uttar Pradesh Undertaking)
CIN No. U32201UP1999SGC024928

Power Management Cell
Uttar Pradesh Power Corporation Ltd.
SLDC Campus, Vibhuti Khand-II,
Gomti Nagar, Lucknow
e- mail : cepmcuppcl@gmail.com

पावर मैनेजमेन्ट सैल
उत्तर प्रदेश पावर कारपोरेशन लिमिटेड
एस०एल०डी०सी० परिसर, विभूति खण्ड-II,
गोमती नगर, लखनऊ
ई-मेल : cepmcuppcl@gmail.com

No. 616 /PMC/Mercados Date: 22/12/2020

Sub:-Regarding User Acceptance Test (UAT).

Ref:- Work Order No. 282/PMC/Mercados/RTM/TAM dated 30.06.2020.

Project Manager
M/s Mercados EMI Pvt. Ltd.,
SLDC Compound,
Gomti Nagar,
Lucknow.

Dear Sir,

Kindly refer to your letter dated 15.12.2020 vide which you have intimated that in pursuance to the Clause No 3.4 of the agreement dated 24-07-2020, demonstration of the modified dashboard was done on 09.12.20 and 10.12.2020 for User Acceptance Test.

In pursuance to the above reference, it is to mention that as per the deliverables of the agreement (Annexure-1), testing of the Dashboard was carried out during the period 15.10.2020 to 19.10.2020 and again from 14.12.2020 to 15.12.2020.

The Dashboard features were tested for identification of Bugs/Unexpected behaviour. There were no bugs/unexpected behaviour observed during the testing phase.

In view of above, UAT is declared successful as per the terms and conditions of the contract. You are given confirmation of UAT 'sign off' and allowed to proceed to make necessary arrangements for 'Go-Live'.

(J.P.S. Gangwar)
Chief Engineer

CC:-
Director (Corporate Planning), UPPCL, Shakti Bhawan, Lucknow.

Mercados Energy Markets India Pvt Ltd

Mercados Energy Markets India Pvt Ltd

उत्तर प्रदेश पावर कारपोरेशन लिमिटेड
(उ०प्र० सरकारका उपक्रम)
U.P. POWER CORPORATION LIMITED
(Govt. of Uttar Pradesh Undertaking)
CIN No. U32201UP1999SGC024928

Power Management Cell
Uttar Pradesh Power Corporation Ltd.
SLDC Campus, Vibhuti Khand-II,
Gomti Nagar, Lucknow
e- mail : cepmcuppcl@gmail.com

पावर मैनेजमेन्ट सेल
उत्तर प्रदेश पावर कारपोरेशन लिमिटेड
एस०एल०डी०सी० परिसर, विभूति खण्ड–II,
गोमतीनगर, लखनऊ
ई–मेल : cepmcuppcl@gmail.com

No. 48 /PMC

Date: 30/01/2021

Sub: Regarding the Go-Live Acceptance Test.

Ref: Work Order No. 282/PMC/Mercados/RTM/TAM dated 30.06.2020

Project Manager
M/s Mercados EMI Pvt. Ltd.,
SLDC Compound,
Gomti Nagar,
Lucknow

Dear Sir,

Please refer your letter dated 28.01.2021 regarding Go-Live Acceptance Test of RTM Dashboard. As you have been granted the user acceptance test certificate vide our office letter no. 616/PMC/Mercados dated 22.12.2020 and allowed to make necessary arrangements for Go-Live Acceptance Test.

It is to mention that as per the deliverables of the agreement, testing of the Dashboard and Go-Live Operations. During the period from 01.01.2021 to 28.01.2021 various parameters had been checked and rectified for requisite changes demanded by the UPPCL RTM team.

The Dashboard features were tested for identification of Bugs/Unexpected behaviour. Now the agility of the software is restricted due to unavailability of API access from NRLDC and EASS and once the required API is available the software system shall be tuned accordingly. There were no bugs/unexpected behaviour observed during the testing phase.

In view of above, Go-Live is declared successful as per the terms and condition of the contract. You are given confirmation of Go-Live 'sign off' and allowed to continue with real-time operations of the RTM Trade System.

30/01/2021

(Krishna Kumar Singh)
Chief Engineer

CC:
Chief Engineer L-1 (CP), UPPCL, Shakti Bhawan, Lucknow.

Mercados Energy Markets India Pvt. Ltd.

Mercados Energy Markets India Pvt. Ltd.

उत्तर प्रदेश पावर कारपोरेशन लिमिटेड

(उ०प्र० सरकार का उपक्रम)

U.P. POWER CORPORATION LIMITED

(Govt. of Uttar Pradesh Undertaking)

CIN No. U32201UP1999SGC024928

Power Management Cell
Uttar Pradesh Power Corporation Ltd.
SLDC Campus, Vibhuti Khand-II,
Gomti Nagar, Lucknow
e- mail : cepmcuppcl@gmail.com

पावर मैनेजमेन्ट सेल
उत्तर प्रदेश पावर कारपोरेशन लिमिटेड
एस०एल०डी०सी० परिसर, विभूति खण्ड–II,
गोमतीनगर, लखनऊ
ई–मेल : cepmcuppcl@gmail.com

No. 282 /PMC/Mercados/RTM/TAM Date: 30.06.2020

Sub: Addendum to LOI No. 928-Plg/UMPP/Load Forecast/letter of Award dated 14.05.2018 for Development and Upgradation of Software and Deployment of Resources for assisting UPPCL in operating 24x7 Real Time Market (RTM) and Term Ahead Market (TAM) desk.

M/s Mercados Energy Markets India Pvt Ltd,
A2 Second Floor, Block-E,
International Trade Tower,
Opposite Satyam Cinema, Nehru Place,
New Delhi-11019

Ref: SOP vide OM No. 203/Dir (CP)/PMC/Power Exchange dated 18.05.2020

Dear Sir,

In reference to your offer dated 27.05.2020 for Development and Upgradation of Software and Deployment of additional resources for assisting UPPCL in operating 24x7 Real Time Market (RTM) and Term Ahead Market (TAM) desk and thereafter negotiation held on 18.06.2020, I hereby place an addendum order upon you for the subject assignment in extension to the original Letter of Award dated 14th May 2018. The terms & conditions of the order are as mentioned hereunder:

1. SCOPE OF WORK AND DELIVERABLES:

The scope of work and deliverables are mentioned below:

1.1. The overall scope shall incorporate assisting UPPCL in setting up and the operations of 24x7 power trading desk by providing qualified and experienced manpower to assist Power Management Cell, UPPCL in undertaking the trades(sale/purchase) on Real Time Market (RTM) and Term Ahead Market (TAM) after assessment of demand and supply gap on a continuous basis.

1.2. The shift operations shall be conducted on a continuous basis across three (3) shifts in a day for all the days of the year including public holidays and festivals.

1.3. The primary responsibilities of the shift operator shall include:

- i. Monitoring of the demand-supply gap and UI/DSM
- ii. Monitoring of the Markets (DAM/TAM/RTM) volumes and price data
- iii. Preparation of RTM/TAM market bids
- iv. Preparation of RTM/TAM shift reports
- v. Coordinate with UPPCL for bid approvals, uploads and finalization of schedules

1.4. Significant upgrade of the existing dashboard shall be done to accommodate the RTM trade desk management and higher frequency of the deliverables. Additionally, integration and automation of scheduling and trading process shall be done to process the data for better decision making and avoid human errors.

Mercados Energy Markets India Pvt Ltd

1

1.5. The dashboard for RTM trade desk operations shall include the following features:

i. Demand and Supply Gap Assessment Module – This module shall provide quantum for bidding in RTM.

ii. DSM Module - The DSM module shall keep track of the UI in real time and shall assist in decision making for trading module.

iii. Trading module – This module shall analyse the quantum to be scheduled under LTA, MTOA, STOA, DAM, TAM and RTM. It will be integrated with following sub modules.

a. Market Integrator – This module shall integrate RTM, DAM and TAM prices and volumes

b. Price Forecast – This module shall assist in price forecasting.

1.6. Exploring opportunities for taking units under Reserve Shut-Down (RSD) period and replacing it with cheaper power from DAM/TAM/RTM.

1.7. The software module/dashboard must reflect the schedule of RTM/TAM power after execution of each trade subjected to availability of API from power exchange(s).

1.8. The software solution shall also incorporate the automation of approval process for bids and maintaining of audit trail to ensure transparency in the bidding process.

1.9. The web and mobile based application shall be developed with full functionality and compliance as per Standard Operating Procedure (SOP) finalised vide OM No. 203/Dir.(CP)/PMC/Power Exchange dated 18.5.2020.

1.10. The detailed list of deliverables under the current scope and under the new market scenario is presented at Annexure-I and the details of software upgradation & development upon it.

1.11. Any Changes adopted in the Standard Operating Procedure (SOP) issued vide OM No. 203/Dir.(CP)/PMC/ Power Exchange dated 18.05.2020 or in any of its addendum or amendments, the same will be incorporated as a part of this contract, subject to mutual agreement between both parties.

1.12. Exploring tender opportunities through DEEP portal for sale of power during lean time blocks/ periods/ months and analysis of viability of floated tenders that shall be optimizing UPPCL's overall power procurement cost and maximizing revenue for UPPCL.

1.13. Trainings shall be provided to the concerned personnel of UPPCL, for managing 24x7 RTM & TAM desk, during the course of the contract.

1.14. The ownership of the software developed for the purpose of the contract shall be transferred to UPPCL after the end of the contract period.

2. RESOURCE DEPLOYMENT

2.1. M/s Mercados shall deploy suitable number of qualified and experienced manpower for performing the prescribed scope of work. In no case, M/s Mercados shall deploy not less than four (4) no. of manpower.

2.2. The personnel deployed by M/s Mercados must possess the knowledge of Power Trading Operations and shall be familiar with the Indian energy market.

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3. DEPLOYMENT SCHEDULE FOR THE SOFTWARE SOLUTION

3.1. The deployment schedule for the software solution shall be as per the following:

S. No.	Milestone	Timeline ("T" – Zero date for this contract)
1	Completion of Module Development	T + 80 days
2	Completion of User Acceptance Testing (UAT)	T + 90 days
3	Go-Live of the Software Solution (System Go-Live)	T + 120 days

3.2. User Acceptance Test (UAT): the purpose of this task is to validate that the delivered system meets all requirements and functions. Primarily, UPPCL will perform acceptance testing with assistance from M/s Mercados. The acceptance test will be a complete beginning-to-end test of the functionality delivered to UPPCL. The testing type and method for UAT testing shall be:

i. Testing Type- Manual Testing. In this type the tester takes over the role of an end user and test the dashboard to identify any un-expected behavior or bug.

ii. Testing Method- Black-box Testing. The tester will perform a black box test, the tester will interact with the dashboard's user interface by examining output reports and dashboards.

3.3. The UAT testing process shall be as per the following:

i. M/s Mercados shall share the UAT plan to UPPCL.

ii. UPPCL shall be requested to nominate 3-5 officials for the UAT i.e. the UAT testers or users.

iii. The UAT testers shall be given a format including the deliverables list available in the dashboard as per the table presented above. This format shall include checkboxes against each of deliverables and remarks column to issue any bugs/ un-expected behavior in the dashboard.

iv. The UAT testers shall test the dashboard features as per the given formats daily for a period of 3 days i.e. First UAT Attempt.

v. The UAT testers/users shall consolidate all the observations/ bugs and share it with M/s Mercados for resolutions. If no bugs/ unexpected behavior is observed by the UAT testers, then the UAT process shall stop and UAT shall be considered successful.

vi. The bugs/ unexpected behavior reported by the UAT testers shall be resolved by M/s Mercados during the First UAT Attempt within the next 5 days. M/s Mercados shall share the resolution summary with UPPCL and propose the period of Next UAT Attempt.

vii. In the Next UAT Attempt, the UAT testers shall test the features that were reported during the First UAT Attempt and assess resolution as per the format shared by the project team.

viii. The process shall be repeated in case the UAT is not achieved successfully in First UAT Attempt. A maximum of four (4) UAT Attempts shall be allowed, otherwise the UAT shall be considered as unsuccessful.

3.4. Post successful completion of the UAT, UPPCL shall issue the UAT certificate to M/s Mercados and go-ahead for the system go-live of the software solution within 5 days of the completion of the UAT.

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3.5. System Go-Live (Commissioning): after the issue of the UAT Certificate, the software solution shall be rolled out for production (system go-live) in accordance with the timelines specified. UPPCL shall provide the operating and technical personnel and all materials and information reasonably required to enable the Go-Live Process.

3.6. After the successful go-live of the software solution, M/s Mercados shall submit a report for system go-live with detailed operating manuals on the software dashboards. UPPCL shall issue the go-live certificate for the software solution within 5 days after the receipt of the system go-live report.

4. PERIOD OF CONTRACT

4.1. The Zero date of this Contract shall be 01st July 2020 ("T") and the Period of Contract shall be till 21st Nov 2021 in lines with the Original Letter of Award dated 14th May 2018. The same is extendable by UPPCL for a further period as mutually agreed by both the parties at the same terms and conditions at which the initial contract is finalized.

5. SCHEDULE OF PRICES

5.1. The Consultancy fees for engagement of resources shall be payable at the rate of Rs. 13,500/- man-day for deployed Service Provider The one-time cost of software development and up-gradation shall be paid upon UAT. The schedule of prices is given in the table below:

S.No	Particulars	Amount
1	One time Software development and up-gradation required for Real Time Markets payable upon UAT	Rs. 51,00,000/-
2	Engagement of Resources (4 Nos.) for Managing Shift Operations for managing Term Ahead Market and Real Time Market Operations for the period from 1st July 2020 to 21st Nov 2021, payable on quarterly basis.	Rs. 2,74,86,000/-
	Total Cost excluding GST	**Rs. 3,25,86,000/-**

5.2. The total contract value is **Rs 3,25,86,000 (Rupees Three Crore Twenty Five Lakh Eighty Six Thousand Only)** excluding GST and other applicable taxes, if any.

5.3. Above prices shall remain firm for the full period of contract and are exclusive of applicable GST and any other applicable levies which shall be paid additionally by UPPCL as per actual. TDS as per applicable rules shall be deducted by the UPPCL.

6. PAYMENT TERMS

6.1. M/s Mercados shall be required to achieve minimum five times saving over the Contract Value herein (five times of Rs. 3,25,86,000/-). The savings shall be computed based on the following: i) gains from sale of power in TAM/RTM over the energy charges of marginal plants; ii) gains from Reserve Shut Down (RSD) of units through purchase of alternate power from TAM (different products)/RTM; iii) gains from utilizing arbitrage opportunities such as buying cheaper power from TAM/RTM and backing down costlier generation; any other saving mechanism mutually agreed by the parties

6.2. **Payment on rolling quarterly basis:** Under this approach, the payment shall be made on quarterly basis (i.e., July-September, October-December, January-March, April-June cycle or part thereof in case of terminal month of the contract). If at the end of the first quarter, the savings are more than or equal to 5 times of the contract price billed to UPPCL for such quarter, then the quarterly fee shall be payable to the consultant. After payment of the billed fee for the quarter under review, M/s. Mercados will be required to submit an Additional

Bank-Guarantee (BG) equivalent to the quantum of quarterly fee paid to them. If at the end of the quarter, the savings are not more than or equal to 5 times of the contract price billable to UPPCL for such quarter, then the billable payment for the quarter will be withheld till next review is conducted.

6.3. If by the end of the next review period(s) (i.e next quarter(s)), the cumulative quarterly savings on account of TAM and RTM operations accrued are more than 5 times of the contract price billable to UPPCL for such quarters (i.e. quarter 1 and quarter 2 and so on), then M/s. Mercados shall become eligible for payment of fees for unpaid previous quarters (quarter 1 and quarter 2 and so on). After payment of the billed fee for the quarter(s) under review, M/s. Mercados shall be required to submit an Additional Bank-Guarantee (BG) equivalent to the quantum of total fees paid against the billed amount for such quarter(s).

6.4. If by the end of the next review period(s) (i.e. next quarter(s)), the savings on account of TAM and RTM operations accrued are less than 5 times the contract price billable to UPPCL for the period under review (quarter 1 and quarter 2 and so on), then the billable payment for the quarter(s) shall be withheld till next review is conducted.

6.5. However, if by the end of Quarter-4 (i.e. One year from date of award of contract) the savings on account of TAM and RTM operations accrued are less than 5 times the contract price billable to UPPCL for the period of one year, then in that case UPPCL may review for the termination of contract and the Additional BG submitted by the consultant for 3 quarters, if any, along with CPG may be forfeited.

6.6. Notwithstanding the above, if cumulative savings by the end of any quarter(s) under review on account of TAM and RTM operations are equal to or more than 5 times of the total supplementary contract values of the addendum contract, then Mercados will not be required to submit any additional bank guarantee for the quarter under review and thereon. It also entails that the additional BG deposited, if any, for any previous quarter(s) shall be released upon achieving savings equal to or more than 5 times of the total supplementary contract value. However, in case of subsequent quarterly reviews, if it is found that the total cumulative gains achieved upto that quarter are less than 5 times of the total addendum contract value, then the Consultant will be required to submit the additional BG's equivalent to the value of payment made to the consultant till that date, as per the mechanism detailed above, and will continue to do the same for subsequent quarters, till 5 times gains of the addendum contract value is achieved.

6.7. The above quarterly review cycle will be repeated and shall be applicable for the balance quarters(s) and extended (if any) period of the contract.

6.8. A monthly statement of the gains accrued to UPPCL on account of assignment through TAM/RTM operations shall be submitted by M/s Mercados, which shall be verified by PMC within a week from the date of submission after considering desired inputs from Mercados. The verified gains statement will be presented before the Trading Committee pursuant to SOP dated 18.5.2020.

6.9. The additional bank guarantees (if required), have to be submitted within 15 days from the date of release of billable payment by UPPCL for such quarter(s).

7. CONTRACT PERFORMANCE BANK GUARANTEE

7.1. M/s Mercados shall deposit 10% of Contract Value herein as Contract Performance Bank Guarantee ("CPG") within fourteen (14) days of the issuance of Contract award. M/s Mercados has to pay/ submit the CPG in the form of Bank Guarantee or Demand Draft/Banker cheque from any Nationalized/Scheduled Banks payable at Lucknow in favour of '*Accounts Officer, Central Payment Cell, U.P.P.C.L*".

7.2. The CPG shall be valid for the full period of the contract with an extended claim period of 6 months.

7.3. Payments will be made to M/s Mercados only after receipt of the CPG.

Mercados Energy Markets India Pvt. Ltd

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7.4. UPPCL may at its sole discretion invoke the CPG and appropriate the amount secured thereunder, in the event that M/s Mercados commits any delay or default in the implementation of the Contract during the contract period or commits any other breach of the terms and conditions of the Contract.

7.5. The CPG shall be refunded/released after successful contractual obligation, and it will not carry any interest.

8. **OTHER TERMS AND CONDITIONS**

8.1. Regarding faithful execution of this contract all future correspondence will be done with Chief Engineer, Power Management Cell, SLDC Campus, UPPCL, Vibhuti Khand – II, Gomti Nagar, Lucknow

8.2. The provision of Clause 7 b of the Contract dated 9.7.2018 shall not be applicable for payment of contract value herein towards development and up-gradation of software and engagement of resources for TAM/RTM operations. Subject to the above, all other terms and conditions as provided in LOI dated 14.05.2018 and contract dated 9.7.2018 shall remain unchanged.

8.3. UPPCL reserves the right back to ask M/s Mercados to replace any resource on the ground of competence, integrity, behavior and availability. In case of absence of any resource from shift duty, M/s Mercados will arrange for a replacement of the same

8.4. Penalties shall be applicable as per Form A/B of UPPCL rules and regulations.

8.5. Court of Jurisdiction: The Courts situated within the city of Lucknow shall have the only jurisdiction to decide all disputes and claims that may arise between the parties. The venue of Arbitration shall be at Lucknow and the language of Arbitration shall be English.

You are requested to deploy the resources from 1st July, 2020 for operating TAM/RTM desk and acknowledge the receipt of this order.

You are requested to send your authorized personnel in the office of Chief Engineer, Power Management Cell, UPPCL for signing the contract agreement on non-judicial stamp paper of appropriate value within one month (30 days) from the issue of this letter.

Thanking you.

Yours faithfully

(K.K. Singh)
Chief Engineer (PMC)

No. 282 /PMC/Mercados/RTM/TAM Dated:-

Copy forwarded to the following for information and necessary action:

1. Director (Corporate Planning), UPPCL, Shakti Bhawan, Lucknow.
2. Chief Engineer (PPA-II), UPPCL, Shakti Bhawan Extension, Lucknow.
3. Chief Engineer (C&S), UPSLDC, Vibhuti Khand-II, Gomti Nagar, Lucknow.
4. Dy. Chief Accounts Officer, Central Payment Cell, UPPCL, Shakti Bhawan Extension, Lucknow.

Mercados Energy Markets India Pvt. Ltd.

(K.K. Singh)
Chief Engineer (PMC)

Mercados Energy Markets India Pvt. Ltd.

Annexure-I

Del. No.	Name of the report	Description	Nature of the Report	Frequency
1	Intra-Day Forecast	Load forecast in MW for all 96 blocks. (To be updated every 30 minutes)	Daily	<= 48 on a rolling basis
2	Intraday Availability mapping	In MW across all 96 blocks (Availability estimates across all sources including intrastate generation & available allocation from ISGS)	Daily	<= 48 on a rolling basis
3	Intra-Day/RTM bid preparation	Optimal bid for the 30-minute delivery period for Real-Time Market based on Intra-day/Real-time Deficit/Surplus positions and DSM Drawls	Daily	<= 48 for each 30-minute delivery period for RTM
4	Market Integrator Dashboard	Dashboard which will integrate all Markets (DAM, TAM, RTM, URS etc.) with all the relevant data on bid/traded volumes, prices at one place such that net schedules from markets can be communicated for Generation Dispatch	Daily	<= 48 for each 30-minute delivery period for RTM
5	Price Forecast	Report shall include tabular representation consisting of Upper and Lower bands of forecasted DAM MCP (Market Clearing Price) range for the region for each block (96) of the day-ahead	Daily	1
6	DSM Dashboard	DSM dashboard shall include 15-minute block-wise (96) graphical representation of the following: • Energy Scheduled by the State in MW • Actual Drawl by State in MW (as per SCADA data)	Daily	<= 48 on a rolling basis
7	Intra-day Dispatch Schedule	• Requisition of power surplus/surrender from all power portfolio for cost optimization • Dispatch schedule Generation based on economic merit order despatch • Back down and surrender request based on forecast for blocks going forward on a rolling basis	Daily	<= 48 on a rolling basis
8	Shift Report-RTM	Details of power traded across the shift in respective delivery period in the form of quantum traded and unit price of each trading block	Daily	3 reports,1 for each shift
9	Daily Markets Report	Daily trading information constituting all shift wise summary for the day.	Daily	1
10	Weekly Markets Report	Summary of day wise weekly trading information	Weekly	1
11	Monthly Markets Report	Monthly summary of each trading operations carried out in the month along with the financial implications as per the obligation report obtained from different markets	Monthly	1
12	Non-scheduled Power Cut (Intra - Day)	For deficit blocks, in case of non-availability, • generate load power cut schedule across blocks	Intra-Day	<= 48 on a rolling basis

Del. No.	Name of the report	Description	Nature of the Report	Frequency
13	Generation Report	• 15-min demand with source wise availability • Unit wise/Station monthly/yearly generation and PLF/PAF of each thermal unit of SGS, CPPs and IPPs and from RES • Details of station wise daily/monthly/ yearly generation of hydel/ISGS/IPPS units. The report shall also contain the reservoir level of the hydel station with last year for same day and energy available at that level. • 15-min block-wise station-wise generation of all SGS/IPP/ISGS/RES generators	Daily	<= 48 on a rolling basis
14	Generation Outage Report	The Outage, back down particulars (block wise MW, MU) in Unit / Station wise	Daily	<= 48 on a rolling basis

(K.K. Singh)
Chief Engineer (PMC)

उत्तरप्रदेशपावरकारपोरेशनलिमिटेड
(उ0 प्र0 सरकारका उपक्रम)
U.P. POWER CORPORATION LIMITED
(Govt. of Uttar Pradesh Undertaking)
CIN No. U32201UP1999SGC024928

Power Management Cell
Uttar Pradesh Power Corporation Ltd.
SLDC Office, VibhutiKhand,
Gomti Nagar, Lucknow
e- mail : cepmcuppcl@gmail.com

पावरमेनेजमेन्टसेल
उत्तरप्रदेशपावरकारपोरेशनलिमिटेड
एस0एल0डी0सी0 परिसर, विभूति खण्ड,
गोमतीनगर, लखनऊ
ई–मेल : cepmcuppcl@gmail.com

No. 534 /PMC/Mercados Date: 26-11-2021

M/s Mercados Energy Markets India Pvt. Ltd.,
SLDC Campus,
GomtiNagar,
Lucknow

Sub- Extension of the contract as per LOA and its Addendum.

Ref: 1. **Original LOA no.928/Plg/UMPP/Load Forecast/ Letter of Award dated 14th May, 2018.**
2. **Addendum to LOA No. 928-Plg/ UMPP/Load Forecast/ Letter of Award dated 14.05.2018 for Development and Upgradation of Software and Development of Resources for assising UPPCL in operation 24x7 Real Time Market (RTM) and Term Ahead Market (TAM) desk dated 30th June, 2020**

Dear Sir,

With reference to the LOA no.928/Plg/UMPP/Load Forecast/ Letter of Award dated 14th May,2018 and further Addendum to LOA for Development and Upgradation of software & Development of Resources for Assisting UPPCL in operating 24x7 Real Time Market (RTM) and Term Ahead Market (TAM) desk dated 30th June-2020, I am hereby directed to intimate that the above mentioned contract and its Addendum is further extended for a period of three months.

All other terms and conditions of the aforementioned LOA and its Addendum shall remain same.

(Sanjiv Shukla)
Chief Engineer
Power Management Cell

CC:

1. P.S to Chairman (UPPCL), Shakti Bhawan, Lucknow.
2. P.S to MD (UPPCL), Shakti Bhawan, Lucknow.
3. Director (CP), UPPCL, Shakti Bhawan, Lucknow.
4. Director (P&A), UPPCL, Shakti Bhawan, Lucknow.
5. Director (Finace), UPPCL, Shakti Bhawan, Lucknow
6. CE (Planning), UPPCL, 3rd Floor,Shakti Bhawan Extn,Lucknow.
7. Er. Ashish Sinha, E.E (Maintanence Unit), Shakti Bhawan Extn, Lucknow.

Mercados Energy Markets India Pvt. Ltd.

Mercados Energy Markets India Pvt. Ltd.

उत्तर प्रदेश पावर कारपोरेशन लिमिटेड
(उ० प्र० सरकारका उपक्रम)

U.P. POWER CORPORATION LIMITED

(Govt. of Uttar Pradesh Undertaking)
CIN No. U32201UP1999SGC024928

Power Management Cell
Uttar Pradesh Power Corporation Ltd.
SLDC Office, Vibhuti Khand-II,
Gomti Nagar, Lucknow
e- mail : cepmcuppcl@gmail.com

पावर मैनेजमेन्ट सेल
उत्तर प्रदेश पावर कारपोरेशन लिमिटेड
एस०एल०डी०सी० परिसर, विभूति खण्ड-II,
गोमतीनगर, लखनऊ
ई–मेल : cepmcuppcl@gmail.com

No. 103 /PMC/Mercados

Date: 21/02/2022

M/s Mercados Energy Markets India Pvt. Ltd.,
SLDC Campus,
Gomti Nagar,
Lucknow

Sub- Extension of the contract as per LOA and its Addendum.

Ref: 1. Original LOA no.928/Plg/UMPP/Load Forecast/ Letter of Award dated 14th May, 2018.
2. Addendum to LOA No. 928-Plg/ UMPP/Load Forecast/ Letter of Award dated 14.05.2018 for Development and Upgradation of Software and Development of Resources for assising UPPCL in operation 24x7 Real Time Market (RTM) and Term Ahead Market (TAM) desk dated 30th June, 2020

Dear Sir,

Please refer to this office letter no. 534/PMC/Mercados dated 26.11.2021 vide which the above contract and its addendum was extended by three months.

In this context I am hereby directed to intimate that the above mentioned contract and its Addendum is further extended for a period of six months.

All other terms and conditions of the aforementioned LOA and its Addendum shall remain same.

(Sanjiv Shukla)
Chief Engineer
Power Management Cell

CC:
1. P.S to MD (UPPCL), Shakti Bhawan, Lucknow.
2. Director (CP), UPPCL, Shakti Bhawan, Lucknow.
3. Er. Ashish Sinha, E.E (Maintenance Unit), Shakti Bhawan Extn., Lucknow.

Mercados Energy Markets India Pvt. Ltd

Mercados Energy Markets India Pvt. Ltd

उत्तर प्रदेश पावर कारपोरेशन लिमिटेड
(उ0 प्र0 सरकारका उपक्रम)
U.P. POWER CORPORATION LIMITED
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CIN No. U32201UP1999SGC024928

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e- mail : cepmcuppcl@gmail.com

पावर मैनेजमेन्ट सेल
उत्तर प्रदेश पावर कारपोरेशन लिमिटेड
एस0एल0डी0सी0 परिसर, विभूति खण्ड-II,
गोमतीनगर, लखनऊ
ई-मेल : cepmcuppcl@gmail.com

No. 477/PMC/Mercados   Date: 11.07.2022

M/s Mercados Energy Markets India Pvt. Ltd.,
SLDC Campus,
Gomti Nagar,
Lucknow

Sub- Extension of the contract as per LOA and its Addendum.

Ref: 1. Original LOA no. 928/Plg/UMPP/Load Forecast/ Letter of Award dated 14th May, 2018.

2. Addendum to LOA No. 928-Plg/ UMPP/Load Forecast/ Letter of Award dated 14.05.2018 for Development and Upgradation of Software and Development of Resources for assising UPPCL in operation 24x7 Real Time Market (RTM) and Term Ahead Market (TAM) desk dated 30th June, 2020

Dear Sir,

In continuation to this office letter no. 103/PMC/Mercados dated 21.02.2022, I am hereby directed to intimate that the above mentioned contract and its Addendum is further extended for a period of three months.

All other terms and conditions of the aforementioned LOA and its Addendum shall remain same.

(Sanjiv Shukla)
Chief Engineer
Power Management Cell

CC:
1. P.S to Chairman, UPPCL, Shakti Bhawan, Lucknow.
2. MD, UPPCL, Shakti Bhawan, Lucknow.
3. Director (CP), UPPCL, Shakti Bhawan, Lucknow.
4. Director (Fin), UPPCL, Shakti Bhawan, Lucknow
5. Er. Ashish Sinha, E.E (Maintenance Unit), Shakti Bhawan Extn., Lucknow.

Mercados Energy Markets India Pvt. Ltd.

Mercados Energy Markets India Pvt. Ltd.

उत्तर प्रदेश पावर कारपोरेशन लिमिटेड

(उ0प्र0 सरकार का उपक्रम)

REQUEST FOR PROPOSAL (TENDER)

Tender No.- 01/UPPCL/PLANNING/UMPP/2018 dated 12-01-2018

"Tender For Load / Demand Forecasting, Procurement of Power Purchase Cost Optimization Service and Energy Portfolio Management Services"

CHIEF ENGINEER (PLANNING)
UTTAR PRADESH POWER CORPORATION LIMITED
3RD FLOOR, SHAKTI BHAWAN EXTENSION,
14-ASHOK MARG, LUCKNOW-226001
PHONE NO. 0522-2218297/2288484/ 2287343
E-MAIL: cgm2plg@yahoo.co.in
cgm2plg@gmail.com

Last Date of Submission: 21-02-2018 at 17:00 Hrs

Cost of Bid Document : Rs. 5,000.00 + 18% GST (Non-refundable)

Bid Security(EMD): INR 1.50 Lakh only

SECTION – 2

SCOPE OF WORK

2.1 BRIEF SCOPE OF WORK

2.1.1 Load Forecasting System – Short, Medium and Long Term

Short-term Load Forecast Model

Model should have the ability to generate forecast at 15-minute blocks from day-ahead to three months ahead. The forecast should be generated at various level of aggregation across dimensions based on geography and consumer category, by taking into consideration various influencing parameters for respective horizons of forecast(s). Further, if Regulation changes to 5 minutes block, then it should be capable upto that level). The Tool should have the ability to analyse Load Sensitivity (ΔP/ΔT)

Deviation Settlement Analysis and Dashboard

- The system should be able to highlight the key reasons for deviation from schedule such as Technical/operational reasons that result in sudden demand loss, sudden generation loss, change in load profile due to change in weather, Change in generation profile due to change in fuel supply, fuel quality based on available data available provided by the utility and the actual data received from various third party data providers
- The system shall be able to provide indicators of inadequate planning for short-term procurement and sale of power by integrating over-drawal / under-drawal by DISCOMs, under injection / over injection by generators
- The system shall be able to maintain the UI / Deviation Rate price curve and the grid frequency data to calculate the total deviation penalty and incentive.
- The system shall be able to send alerts based on the inter-state and intra-state deviations volumetric band for under-drawal/over-drawal by buyers and under-injection/over-injection by sellers
- The system shall provide indicators of deviations due to transmission constraints between grids

Intra-Day Load Forecast- The Service Provider would provide Short-Term Intra-day forecast for 'The Utility' on a Time Block Interval basis. This forecast will be for a **rolling period** of next 72 hours. Eg – Forecast on 02nd Feb, 2018 at 00.00 hrs, will forecast load values for next consecutive 288 time-blocks ***(i.e. till 24.00 hrs of 5th Feb, 2018).***

7

Data for unrestricted demand (URD) of the utility (the latest that is available with the utility) shall be required to deliver Intra-Day Load Forecast. The Service Provider will provide a console to upload excel files, where the utility team can upload the latest URD as and when available to generate forecast on a rolling basis. The new Intra-day forecast Values (incorporating the latest URD) shall come into effect from the next time block till the URD has been uploaded. eg: If the URD has been uploaded for a period 00:00 hrs to 06:00 hrs, then a forecast will be generated for a period 06:15 hrs to 24:00 hrs of same day and 00:00 hrs to 22:00 hrs of next day (total 288 variable time blocks ahead). Service Provider will take care of generation parameter as variable and simulation tool readily available.

The Tool shall have grid frequency historical catch incorporating features of DSM link to maximize Gain of utility in next Intra Day for 03 hrs forecast alongwith frequency forecast.

The Tool shall have the ability to evaluate DSM Charge (15 min time block) for current as well as for next day.

Medium and Long-term Load Forecast Model –

The module should include a forecast model customized based on local conditions of UP and should be capable of generating the following:

- Monthly Load profile (Hourly) for typical normal day and special days (like weekends and holidays) for coming 2-12 months
- Monthly and Annual Load Duration curves for upto 5 years ahead

Above forecast(s) to be based on planning/growth dynamics of the state, with generation of specific scenario based forecasts

2.1.2 Demand Supply Position Map

- The module should be able to consider forecasted demand and available sources of power to create surplus/deficit positions, with a reService of 15 minute/hourly for upto one year ahead
- Module should also be able to consider risk-based scenarios for power availability to generate the position map.
- Module should include assessment reports for short, medium & long term (upto 5 years ahead) scenarios for both demand & supply
- Despatch modelling and scenarios should be generated for a horizon of upto five years, so as to assist in identifying optimal generation sources and also to develop/plan load management schemes for cost minimization/optimization. Dispatch optimization tool(s) should be deployed in the module for dispatch centric procurement planning.
- Module should include scenario based position maps across multiple parameters, horizon and market risks

2.1.3 Procurement Planning/Optimization

This module should provide holistic risk-based market strategy and advisory support to the procurement cell, so as to plan and execute procurement at least cost by taking into consideration market risks involved.

Spot Market Participation Strategy:

- The module should include market participation strategy, especially for participation in Day Ahead Market (DAM) of Power Exchanges, by advising on price and volume risk-mitigation strategies for market participation by the utility. This includes generation of price forecast and preparation of market participation strategy accordingly.
- For DAM strategy support, the support should include devising risk mitigation strategies for minimising total cost of procurement and also complementing daily despatch of other available generation sources of the utility

Short-term/ Medium-term Market Participation Strategy:

- The module should include risk-based assistance in procurement strategy through short term market, so as to manage price and volume risk associated with procurement in the market, by taking into consideration ongoing and foreseeable market conditions.
- Strategy support module includes price forecast of DAM, and assessment of market conditions and risks, for a horizon of upto one year ahead.

2.1.4 Scheduling and Dispatch Optimization

- The module should assist the utility/system operator in optimising daily despatch and unit commitment issues, so as to enable to meet a given demand for a day at least cost, taking into consideration all relevant costs and constraints influencing the same.
- Scheduling Optimizer should seamlessly be able to consider all kinds of generation units namely Thermal (Gas, Coal, Nuclear), Hydro (Reservoir & Run-of-the-river) & Renewable (Solar, Wind), by taking into consideration technical and cost parameters of respective generation sources
- The module should have the ability to generate day-ahead and Intraday position map(s) considering forecasted demand & power availability from all tied-up sources like Long Term, Medium Term , Short Term OTC (Bilateral and Banking), and Exchange traded DAM/ Spot market in order to be able to meet the required demand at minimal cost and risk.

2.1.5 Enterprise Visualization

- A comprehensive and scalable reporting dashboard should be made available to end users from various departments of UPPCL, which covers all key parameters of EPM operation/modules. This should be a dynamic and integrated part monitoring tool pertaining to operational/performance parameters of EPM.

2.1.6 Training

- The Service Provider shall be responsible to provide handover training to relevant user group (Maximum 20 representatives) of UPPCL. For the same, the Service Providers shall draw a training schedule (For a period of maximum 10 days) which shall be submitted to the UPPCL at the time of award of contract.
  Service Provider should provide training to UPPCL staff, on key implementation aspects of EPM
- Operational support and Maintenance of the Service(s)
- Considering the fact that demand forecast is not an off-the-shelf module, the Service Provider should develop and constantly refine the module by taking into consideration the changing socio-economic and policy/panning factors influencing demand. As such demand forecast module shall be maintained by the Service Provider for the duration of contract period/ three years. Similar condition(s) applies for price-forecast module.
- The Service Provider shall be responsible for maintenance of the Service (s)/model(s) for the period of two years from the date from which the s Service (s)/model(s) becomes fully functional.

2.2 DETAILED SCOPE OF WORK

2.2.1 (A) LOAD FORECASTING

Functional Requirements

Proposed customized Service should produce a demand forecast performance for planning horizons that range from short-term to long-term.

a) **Short Term Load Forecast** (in MU as well as MW)

- Grid Frequency for future 3 Hours
- Intra-day- block/ hourly
- Day ahead block/ hourly
- 24Hrs Forecast to Week Ahead forecast at 15 min Interval
- Weekly, Monthly & season ahead load forecast for upto three months ahead
- forecast should be generated at various level of aggregation across dimensions based on geography and consumer category
- In addition to historical trend, the model should consider parameters like weather, new demand etc for a look-ahead forecast

b) **Medium Term and Long Term Load Forecast (in MU as well as MW)**

The module should include a forecast model customised based on local conditions of UP and should be capable of generating the following:

- Demand Forecast for next five years for UPPCL overall
- Generic Monthly Load profile(hourly) for a typical day , for each Fortnightly/Month, for coming 2-12 months
- Monthly and Annual Load Duration curves for upto 5 years ahead
- Above forecast(s) to be based on planning/growth dynamics of the state, with generation of specific scenario based forecasts

EXTERNAL PARAMETERS: Impacting Demand Forecast

The Service should consider all factors affecting demand on short, medium and long term basis. Illustrative factors are as below:

- Historical & forecasted weather parameters such as temperature, humidity, rainfall & wind speed etc.
- Demand side management activities by Utility
- Econometric parameters such as GDP, growth rate, real estate growth, industrial growth, etc
- Population Growth,
- Government & Regulatory Policies
- New connections/ Electrification
- Any other factors which will affect demand or consumption.

2.2.1 (B) SCHEDULING AND DESPATCH OPTIMIZATION

Day-ahead Dispatch Model/Schedule Optimizer

A Day-ahead Dispatch Model should be seamlessly able to consider all types of generation sources namely - Thermal (gas, coal, nuclear), Hydro (reservoir & run of the river) & Renewable (Solar, Wind, etc.) along-with the forecasted demand; all costs and constraints, to generate most optimal schedule for day-ahead dispatch so as to meet the demand at least cost given available resources. The model should consider the following while generating optimal dispatch:

- Policy constraints such as notified supply hours, must-run renewable, emissions, etc.
- Technical constraints such as ramp-up, ramp-down, technical minimum etc.
- Transmission constrains considering:
- Import and export capacity of each region
- ATC, TTC and TRM of each Inter-State corridors
- Short term margin available for each Inter-State corridors
- Availability forecast of the corridor under short, medium and long term sale/purchase of power
- Regulatory constraints such as over-drawl limits, DSM charges, etc.
- Existing ST,MT and LT PPA contracts and their costs
- Existing generation availability (schedule outages, forced outages)
- Existing generation costs (O&M charges, Cap-Ex and Fuel costs)
- Fuel constraints
- Short-term Demand forecasts
- Short-term market electricity price forecast (day-ahead, bilateral, term ahead)
- RES intermittency

The optimization model should be based on Mixed Integer Linear Programming (MILP) method to estimate most optimal dispatch schedule while considering all costs and constraints.

The module should have the ability to generate day-ahead and Intraday position map(s) considering forecasted demand & power availability from all tied-up sources like Long Term, Medium Term , Short Term OTC (Bilateral and Banking), and Exchange traded DAM/ Spot market in order to be able to meet the required demand at minimal cost and risk

2.2.2 (A) DEMAND SUPPLY POSITION MAP

Long Term Requirements

Based on the long term forecast generated , and the current/future supply contracts defined in the system, the Service Provider should evaluate the options to select Quantum on yearly basis for a period of upto 5 Years ahead

- Base Load Purchase / Sale Quantum
- Additional RTC (Round the clock) Purchase / Sale Quantum
- LDC (Load duration Curve –Surplus Shortfall position)
- Shortfall/Surplus Analysis
- PLF Maintainability of the Quantum if it is contracted -
Basket Rate w.r.t projected rate
- Penalty / Compensation

Medium Term Contract Requirements

Based on the Medium term forecast generated by the system, and the current contracts, the Service Provider should be able to evaluate the options to select Quantum for a period of upto 12 months ahead for Peak / Off Peak Purchase / Sale Quantum

- Additional RTC (Round the clock) Purchase / Sale Quantum
- LDC (Load duration Curve–Surplus Shortfall position)
- Shortfall/Surplus Analysis
- PLF Maintainability of the Quantum if it is contracted
- Rate at which it has to be contracted
- Basket Rate w.r.t projected rate
- Penalty / Compensation

Short Term Contract Requirements

Based on the Short term forecast generated by the system, and the current contracts, the Service Provider **should be able to evaluate the options to select Quantum for a period up to three months ahead**

- Monthly RTC Purchase / Sale Quantum
- Monthly Slot wise Purchase / Sale Quantum
- Peak/off-peak load Purchase / Sale Quantum
- LDC (Load duration Curve–Surplus Shortfall position)
- Shortfall/Surplus analysis
- PLF Maintainability if it is contracted
- Hourly schedule of power w.r.t weekdays / Sundays

Day-Ahead Contract Requirements

Based on the day-ahead forecast generated by the system, and the current contracts, the Service Provider should be able to evaluate the options to select quantum for day ahead or same day

- 15 min Purchase / Sale Quantum
- Shortfall/Surplus analysis
- PLF Maintainability if it is contracted
- Schedule of other contracts

The above Shortfall / Surplus Quantum options evaluated is to be based on the following,

- Projection of Market Rate
- Availability of Power
- Target Rate
- Target Surplus / Shortfall

Any other factors which may be required to be included into the system Optimum Quantum to be selected based on

- Minimum Basket Price
- Minimum Shortfall / Surplus
- Minimum Risk associated with Quantum to be contracted

2.2.2 (B) PROCUREMENT PLANNING/ OPTIMISATION/ENERGY PORTFOLIO MANAGEMENT.

This module should provide holistic risk-based market strategy and advisory support to the procurement cell, so as to plan and execute procurement at least cost by taking into consideration relevant market risks involved.

Spot Market Participation Strategy:

The module should include market participation strategy, especially for participation in Day Ahead Market (DAM) of Power Exchanges, by advising on price and volume risk-mitigation strategies for market participation by the utility. Activities in this module includes:-

- Generation of price forecast for DAM and preparation of market participation strategy by taking into consideration gap analysis of next-day
- For DAM participation, the module includes devising risk mitigation strategies for minimising total cost of procurement and also complementing daily despatch of other available generation sources of the utility
- Market participation strategy so as to minimise price and volume risk in DAM

Short-term/ Medium-term Market Participation Strategy:-

The module should include risk-based assistance in procurement strategy through short term market, so as to manage price and volume risk associated with procurement in the market. This module includes:

- Strategy support, which includes price forecast of DAM, with reService equivalent to Short-term/Medium-Term bilateral contract period) and assessment of market conditions and risks, for a horizon of upto one year ahead.
- Price and volume risk assessment, by taking into consideration ongoing and foreseeable market conditions.
- Penalty and Compensation, Contract Obligation
- Surplus / Shortfall Optimization if the Quantum is to be absorbed
- Technical & Commercial constraints of contracted power
- Pool Availability

2.2.3 ENTERPRISE VISUALIZATION

A comprehensive and scalable reporting dashboard should be made available to end users from various departments of UPPCL, which covers all key parameters of EPM operation/modules. This should be a dynamic and integrated part monitoring tool pertaining to operational/performance parameters of EPM. As an indicative, the dashboard should include:

- Demand forecast, Supply scheduled and Demand met on a daily basis
- Total cost to meet demand on a given day
- Market wise procurement cost
- Supply-Demand position map

2.2.4 TRAINING

After successful commissioning of the project (6 months from date of award), the Service Provider should provide handholding support for a further period of 36 months. This would include the following:

- Handholding support to UPPCL for 6 months during implementation phase + 36 months after project commissioning including 12 month warranty phase and-
  - Day-ahead, Intra-day and Long-term demand forecasting
  - Day-ahead and Intraday dispatch scheduling
  - AMC support for a period of 2 years including free software updates
  - Capacity building program for using the models for UP-PMC and UPPCL staff over the entire 31/2 year contract period on need basis, with at least one every quarter

Considering the fact that demand forecast is not an off-the-shelf module, the Service Provider should develop and constantly refine the module by taking into consideration the changing socio-economic and policy/panning factors influencing demand. As such demand forecast module shall be maintained by the Service Provider for the duration of contract period/ three years. Similar condition(s) applies for price-forecast module.

2.2.5 OPERATIONAL SUPPORT AND MAINTENANCE OF THE SERVICE

The Service Provider shall be responsible for maintenance of the Service for the period of three years (inclusive of one year warranty phase) from the date from which the Service becomes fully functional. The Service Provider shall be responsible for providing the warranty of all software and associated accessories during the three-year operational support and maintenance period.

Supply and implementation of required equipment, software etc. to ensure above is under scope of Service Provider.

PTC India

Exhibit 3

PTC/EPM/

10th Feb 2023

Work Experience Certificate

This is to certify that PTC India Ltd has appointed Mercados Energy Markets India Private Limited (Mercados) for providing its Consultancy Services for Energy Portfolio Management of BSPHCL vide Letter of Award dated May 27, 2019. The scope of work includes providing software support in the areas of Demand Forecasting, Gap Assessment, Scheduling and Dispatch Planning, Price Forecasting, Network Monitoring, Transmission Corridor Availability, Dashboard Management.

The contract was awarded for a period of three years from 1st June 2019. Subsequently, the contract has been extended and is presently under operation.

for **PTC India Limited**

(Bikram Singh)
Executive Vice President

Mercados Energy Markets India Pvt. Ltd

Mercados Energy Markets India Pvt. Ltd

PTC India Limited
(Formerly known as Power Trading Corporation of India Limited)
CIN: L40105DL1999PLC099328
2nd Floor, NBCC Tower, 15 Bhikaji Cama Place New Delhi - 110 066 Tel: 011-41659500, 41595100, 46484200 (D). Fax: 011-41659144
E-mail: info@ptcindia.com Website: www.ptcindia.com

PTC India

PTC/BD/MEMI/6663 03rd Dec' 2020

To,
Sh. Ajay Rawat,
Associate Director,
Mercados Energy Markets India Private Limited,
Unit:- A2, Second Floor, Block-E, International Trade Tower,
Opposite Satyam Cinema, Nehru Place,
New Delhi - 110,

Subject: Consultancy Services for providing assistance to PTC India Limited in Energy Portfolio Management (EPM) of the state of Bihar: User Acceptance Test Certificate

Reference: PTC's LOA to Mercados EMI having reference no. PTC/BD/MEMI/950 dated 27th May 2019

Dear Sir,

With reference to the subject assignment, this is to intimate that the User Acceptance Test (UAT) for the EPM Dashboard was carried out by Bihar State Power Holding Company Limited (BSPHCL) during the period 06.11.19 to 14.11.19. BSPHCL has confirmed that all specifications of the EPM Bihar dashboard were checked and found to be in line with the Letter of Award (LoA) issued. BSPHCL has further confirmed that the EPM Dashboard is functioning as per the contract mentioned in the LOA.

Subsequently, BSPHCL has issued the UAT Completion Certificate vide their letter No. 164/Patna/H.I.S.cell-EPM-1122/2018 dated 06th July 2020 (copy enclosed as Annexure-A) and in line with the same, PFCCL vide its letter no. PFCCL/A126/EPM/19/Bihar dated 01st December 2020, issued the UAT Completion Certificate to PTC India Limited (copy enclosed as Annexure-B).

In view of the above, this letter is being issued to M/s Mercados EMI to confirm the successful completion of User Acceptance Test for the subject assigned.

Thanking you,

Yours' Faithfully
***For* PTC India Limited**

Manoj Kumar Sabat
Vice President (Marketing)

Mercados Energy Markets India Pvt. Ltd

PTC India

Dated: May 27, 2019

To,
Mercados Energy Markets India Pvt. Ltd.
A-1/74, Ground Floor,
Panchsheel Enclave
New Delhi-110017
Telephone: 011 - 41085840
Mobile No. : +91 - 98390 95980
Email Id: bhushan@mercadosemi.in

Kind Attention: Mr. Bhushan Rastogi, Managing Director

Subject: - Letter of Award for providing Consultancy Services for Energy Portfolio Management of Bihar

Dear Sir,

With reference to the above for the "Consultancy Services for Energy Portfolio Management of Bihar", herein after referred to as the "Assignment/Project", PTC India Limited (PTC) is pleased to issue Letter of Award (LoA) to Mercados Energy Markets India Pvt. Ltd. (MERCADOS or Consultant) for carrying out various activities complete in all respect as per the scope of works and Deliverables mentioned in this Letter of Award.

Details of the following main items of the Assignment are given below:

1. SCOPE OF WORK

The below scope of work is the detailed list of services to be provided by Mercados to PTC for onward delivery to PFCCL/BSPHCL. PTC would be primarily responsible for the activities mentioned under clause 1.2, 1.5, 1.6.2, 1.6.4 and 1.6.5. Mercados shall have the prime responsibility of delivery of scope of work given under clause 1.1, 1.3, 1.4, 1.6.1, 1.6.3, 1.6.4, 1.7 and 1.8. Both Mercados and PTC will work in full coordination to ensure successful implementation of the assignment.

1.1 Demand Forecasting and Gap Assessment

1.1.1 Demand/ Load Forecasting

i. Short Term Load Forecast

MERCADOS would generate demand/ load forecast across varying horizon from Day Ahead to up to 7 day ahead at 15 minute intervals. The short-tern, forecast module would generate forecast for individual blocks (96 blocks of 15 minutes each) at the following level of granularity:

a. Intra Day Load Forecast: Intraday load forecast on rolling basis (in line with the prevailing practices of utility)
b. Day Ahead Load Forecast
c. Week Ahead Load Forecast

Parameters for ST Load Forecast: Considering the present demand mix scenario of Bihar, where residential and agricultural demand dominates, MERCADOS would include parameters like weather (temperature, humidity, rainfall, wind speed etc.), agricultural cycle, special events etc. in its load forecasting system.

ii. Medium Term Load Forecast

For medium term forecast, apart from the load curve MERCADOS would also generate the load duration curve in order to analyze the duration for which the load tend to persist.

The Medium Term forecast model shall be customized based on the local conditions of Bihar and will be capable of generating the following:

a. Season Ahead Load Forecast: Generic Monthly Load profile (hourly) for a typical day, for each Fortnightly/Month, for coming 2-12 months
b. Year Ahead Load Forecast: Demand Forecast for upto next five years for Bihar overall with Monthly and Annual Load Duration curves

Above forecast(s) shall be based on planning/growth dynamics of the state, with generation of specific scenario based forecasts

Parameters for Medium Term Load Forecast: The indicative factors to be considered by MERCADOS for undertaking the said forecast are as below:

a. Historical & forecasted weather parameters
b. Demand side management activities by Utility
c. Econometric parameters such as GDP, growth rate, real estate growth, industrial
d. growth, sale of white goods in load centers etc
e. Population Growth
f. Government Programs & Regulatory Policies
g. New connections/ Electrification
h. Any other factors which will affect demand or consumption

1.1.2 Supply Availability assessment

i. Under this module, MERCADOS shall be aggregating all available sources of power in the name of PPAs, Banking, Bilateral etc. available with Bihar.

ii. Based upon the demand forecast undertaken in previous module and the supply availability, MERCADOS would provide deficit / surplus report across horizon. Such report(s) would be available both in tabular as well as in the form of visual display.

iii. Following considerations shall be taken while generating demand supply position map:

a. The system should be able to consider forecasted demand and available sources of power to create surplus/deficit positions.
b. System should also be able to consider risk-based scenarios for power availability to generate risk based position map along with risk associated under all such defined scenarios.
c. System should be able to generate short term and medium term scenarios for both demand & supply.

1.1.3 Integration of RE forecast in Supply availability

MERCADOS shall make sure that its solution is capable of including the forecast of renewable generation and/or integrate the RE forecast(s) of the existing and upcoming RE PPA in the above *Supply Availability Assessment* scenario, along with other sources of power procurement.

MERCADOS shall coordinate with SLDC and the RE developers to get the necessary forecasted inputs to get the overall aggregated supply availability for the state from all sources including RE.

Any real time changes in the RE supply forecast shall also be taken into consideration by the proposed System.

1.2 Power Procurement/ Sale Planning

Under this module, Mercados shall provide a holistic market strategy and advisory support to Bihar's Power Management cell, so as to plan and execute procurement at the least cost by taking into consideration relevant market scenarios and also take advantage of any daily surplus by selling in spot market.

1.2.1 Spot Market Participation Strategy:

This module would include market participation strategy, especially for participation in Day Ahead Market (DAM) of Power Exchanges, by advising on price and volume risk-mitigation strategies for market participation by the utility. Activities in this module include:

i. Generation of price forecast for DAM and preparation of market participation strategy by taking into consideration gap analysis of next-day.
ii. For DAM participation, the module includes devising risk mitigation strategies for minimising total cost of procurement and also complementing daily despatch of other available generation sources of the utility.
iii. Market participation strategy so as to minimise price and volume risk in DAM.

1.2.2 Bilateral Market Participation Strategy:

This module would include assistance in procurement through bilateral market, so as to manage price and volume risk associated with procurement in the market. This module includes:

i. Assessment of market conditions and risks, for a horizon of upto one year ahead.
ii. Price and volume risk assessment, by taking into consideration ongoing and foreseeable market conditions.
iii. Assessment of existing PPA terms like Penalty and Compensation, Contract Obligation
iv. Surplus / Shortfall Optimization if the quantum is to be absorbed
v. Technical & Commercial constraints of contracted power
vi. Pool Availability

1.3 Scheduling and Dispatch Planning

1.3.1 Day-ahead Dispatch Model/Schedule Optimizer:

Under this module, MERCADOS would prepare the final dispatch schedule on Day Ahead basis, based upon the forecasted demand. All costs, constraints, etc shall be considered by MERCADOS to generate most optimal schedule for day-ahead dispatch so as to meet the demand at the least-cost given available resources and risks.

Some of the considerations while preparing the optimal schedule shall include:

i. Policy constraints such as notified supply hours, must-run renewables, emissions, etc.
ii. Technical constraints such as ramp-up, ramp-down, technical minimum etc.
iii. Transmission constrains considering:
   1) Import and export capacity of each region
   2) ATC, TIC and TRM of each Inter-State corridors
   3) Short term margin available for each Inter-State corridors
   4) Availability of the corridor under short, medium and long term sale/purchase of power
   5) Regulatory constraints such as over-drawl limits, DSM charges, etc.
iv. Existing ST,MT and LT PPA contracts and their costs (MERIT Order)
v. Existing generation availability (schedule outages, forced outages)
vi. Short-term Demand forecasts
vii. RES intermittency

The module would have the ability to generate day-ahead and Intraday position map(s) considering forecasted demand & power availability from all tied-up sources like Long Term, Medium Term, Short Term OTC (Bilateral and Banking), and Exchange traded DAM/ Spot market in order to be able to meet the required demand at minimal cost and risk.

1.4 Price Forecasting

i. Mercados would provide the MCP & MCV for Day Ahead Market (DAM) with a capability to store 365 days information and if required increase storage further. The forecasted MCP & MCV for DAM shall be provided based upon variables like:
   a) Historical MCP & MCV data:
   b) Day Ahead and Term Ahead availability of transmission lines
   c) Shortage and surplus of power region wise.
   d) Generation data region wise.
ii. These forecasted MCP shall be further used to prepare the merit order dispatch having said that system compares the forecasted MCP with the variable cost of generators (SGS & ISGS) considering the must run status of generators and bilateral prices.
iii. A dashboard shall be provided for comparing Variable Cost of ISGS generator with forecasted Exchange price (Day Ahead).
iv. Forecasted MCP would be provided with an upper band and lower band for each block.
v. The forecast generated by the Mercados for DAM shall be used in bidding strategy and shall be disclosed with PTC.

1.5 Energy accounting/ Scheduling

i. Energy calculations of all the contracts would be done to cater to the different needs of the Bihar like knowing their total energy consumption on a particular date, verification for compensation applicability while downward revision of their schedule, etc.

Accounting of Open Access charges (OAC) for OA users, generators, etc in accordance with BERC and CERC Regulations and subsequent amendments thereof shall also be taken care.

iii. Verify the respective REAs considering the DISCOM's energy account as the reference.

1.6 Network Management

1.6.1 Network Monitoring

i. All the online feeder data including data of energy meters through SCADA/SAMAST will be integrated with MERCADOS solution for Bihar. Subsequently as and when additional line feeders gets online, the provision for the upload of the same will also be integrated into the system.

ii. MERCADOS shall endeavour to integrate the data communication of SLDC and ERLDC.

a. In the interim period until such time these data are available online, a separate provision should be made to upload the data. The mechanism for the same is to be devised in consultation with the DISCOMs (SBPDCL and NBPDCL).

1.6.2 Wide Area Monitoring

i. Mercados shall intimate message (email and SMS based) to all GSS regarding feeder wise load control as and when required, depending on power availability and likely load.

ii. Feeder wise scheduling and monitoring to ensure discipline in the network.

1.6.3 Database Management

i. MERCADOS will develop a database to store all relevant information pertaining to Generators, OA consumers, Traders etc. Proper integration shall be ascertained w.r.t. IT system of Bihar.

ii. The database will store all the static and dynamic parameters of Generators (ISGS, SGS, captives, IPPs and any other category).

iii. The maintaining of outages information based on inputs from SLDC on the level of 11 kV, 33 kV and 132/220/400 kV shall also be included in the database.

1.6.4 Transmission Corridor Availability

i. MERCADOS's solution will provide the following key information related to transmission corridor

a. Capture each revision from NLDC.
b. Capture import and export capacity of each region.
c. Capture ATC, TTC and TRM of each Inter-State corridors.
d. Capture short term margin available for each Inter-Slate corridors.

MERCADOS would also endeavour to take into consideration the availability of the corridor under short, medium and long term sale/purchase of power.

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1.6.5 Unscheduled Interchange (UI)

Module should have support services to hedge against demand and supply risks in the unscheduled interchange (UI)/DSM.

1.7 Management Dashboard

1.7.1 User interface

i. A comprehensive and scalable reporting dashboard (along with Android based Mobile Applications) will be made available to end users from various departments of BSPHCL (and DISCOMs i.e. SBPDCL & NBPDCL), which covers all key parameters of EPM operation/modules. This would be a dynamic and integrated part monitoring tool pertaining to operational/performance parameters of EPM.

ii. Reports will be dynamically configurable based on the User Access.

iii. The system would provide web based reporting tool which can be used for creating custom reports as required by different types of users.

iv. Reports would be exportable to various formats like xls, csv, pdf and xml. Standard report templates should be provided along with the application package.

v. Reports would be graphical or tabular or both with images and logos of customer.

vi. The authenticated users in the web should be able to generate reports based on date range, utility etc. Reports should be both in graphical and tabular formats.

vii. The daily report should mainly consist (but not limited to) the following: -

a) Highlights of the Day Morning / Evening peak demand/Unrestricted demand of DISCOM (NSPDCL and SBPDCL).

b) Details of energy supply of DISCOM (SBPDCL & NBPDCL) with source wise availability. The data for last year should also be displayed.

c) Station wise daily/ monthly/yearly generation and PLF/PAF of each station of the thermal unit of CGS, SGS, CPPs and IPPs with last year comparison and from Renewable Energy Sources.

d) Details of station wise daily /monthly/yearly generation of hydel / ISGS / IPPs units with comparison to last year.

e) 15 minute time block wise station wise generation of all SGS / IPP / ISGS / RES (Renewable Energy Source) generators,

f) Details of 15 minute time block wise comparison of Entitlement and Schedule Drawl of DISCOM.

g) Details of energy purchased / banking / sale by DISCOM (SBPDCL & NBPDCL) through bilateral / collective (LTOA/MTOA/STOA).

h) Details of District wise supply hours to various categories as per SLDC requirement.

i) The Outage, back down particulars (block wise MW, MU) in Unit wise / Station wise.

j) Reports related to Deviation Settlement Mechanism to be published based on SCADA (for daily use) and SEM.

k) System should be able to capture each revision from NLDC and/or any RLDCs as per the case may be.

l) System should capture import and export capacity of each region.

m) System should capture ATC, TTC and TRM of each Inter-State corridors.

n) System should also be able to capture short term margins available for each Inter- State corridors.

o) System should be able capture the availability of the corridor under short, medium and long term sale/purchase of power.

p) System shall be able to capture short term contract from RLDC website.

q) User Interface should be created to enter the LTOA, STOA and MTOA contract from PPA provided by BSHPCL (SBPDCL & NBPDCL).

r) The system shall be able to capture all parameters (including volume and price) mentioned in the PPA.

s) The system shall have the facility to capture the Renewable contracts.

1.8 Training

i. Mercados shall provide requisite Training and Experience sharing to PTC and DISCOMs (SBPDCL & NBPDCL) Engineers/staff posted in the Power Management Cell / SLDC Engineers in different sessions as per convenience of PTC and DISCOMs (SBPDCL & NBPDCL). Such training sessions shall be limited to 4 (four) per year.

   a. The training provided will be exhaustive and should include case studies and examples on systems and procedures relevant to the functions of various wings of EPM to be carried out by Mercados as per "Scope of Work".

ii. In order to understand international best practices in the area of Energy Portfolio Management, officials (key operational staff and policy makers) shall be provided training in European/US Electricity Markets plus one (1) official to be nominated by PTC (for coordination) within the budget as indicated in 'Item 7' below i.e. 'Consultancy Fee' under the head 'Training and Seminar' during the Year 1.

2. MILESTONES

Following milestones will be followed for proposed services:-

S. No.	Milestones (T - Effective Date of Contract)
1	**Project Planning, Development and Go-live phase**
1 (a)	Requirement Specification Signoff (<= T + 20days)
1 (b)	Completion of UAT (User Accepting Testing) (<= T+160days)
1 (c)	Project Go-Live (<= T+ 180days)
1 (d)	Completion of Training (<= T+200days)

The Effective Date of Contract shall be subject to the final confirmation by BSPHCL.

3. PENALTY AND INCENTIVE

3.1 Penalty

The performance criteria and associated penalty for the purpose of Load Forecasting shall be as below

i. To ensure that the Deviation in Accuracy rate of Average load forecasting doesn't exceeds by more than +/- 4% as detailed below.

ii. No penalty will be applicable on MERCADOS for T+180 days where T is the effective date of contract.

iii. Mercados shall be liable for any penalty of matching value which may be imposed by PFCCL on PTC.

iv. The monthly payment schedule for the period after "Project Go-live" milestone (as mentioned under clause 8 – Payment Terms), will be segregated as per below:

   a. For initial 6 months after 'Project Go-live' (after T+180 days), into fortnightly amount in proportion to the quantum of power handled during each fortnight.

   b. For subsequent 6 months, into weekly amount in proportion to the quantum of power handled during each week.

   c. After 1 year from 'Project Go-live', the deviation calculation period shall be mutually decided which may be less than a week.

v. The above payment schedule will be subjected to penalty as depicted below:

   1. For each 0.2% change in average accuracy rate of demand schedule forecasting, there will be incremental deduction of additional 2% upto maximum 20% as mentioned in the following table:

S. No.	Particulars	% Deduction during the Project Execution Phase (R)
A	**Deviation level in Average Demand schedule forecasting accuracy level**	
	upto +/- 4.0%	0%
	More than +/-4% upto +/-4.2%	2%
	More than +/-4.2% upto +/-4.4%	4%
	More than +/-4.4% upto +/-4.6%	6%
	More than +/-4.6% upto +/-4.8%	8%
	More than +/-4.8% upto +/-5%	10%
	More than +/-5% upto +/-5.2%	12%
	More than +/-5.2% upto +/-5.4%	14%
	More than +/-5.4% upto +/-5.6%	16%
	More than +/-5.6% upto +/-5.8%	18%
	More than +/-5.8%	20%

vi. For deviation level in accuracy of demand schedule forecasting exceeding 6% shall attract issuance of a show cause notice by PTC and continuous deviations observed for more than four consecutive weeks might lead to the termination of contract, which would solely be on the discretion of PTC.

vii. Further, the Penalty clause shall not be applicable in case of applicability of any condition under Force Majeure (Act of God, Direct or indirect Political/ non-political events, civil war, etc.).

3.2 INCENTIVE

The amount of incentive received by PTC shall be shared in the ratio of Manpower Cost Sharing between PTC and Mercados.

4. MANPOWER DETAILS

The following manpower will be deployed at Patna. Overall supervision and monitoring will be done from MERCADOS, New Delhi office.

S.No.	Position	Count	Minimum Qualification	Minimum Work Experience
1	Forecasting Expert	1	B.E./B. Tech + MBA/PG	5-7 years of experience with minimum 5 years in power trading / power operations /power scheduling
2	Weather Scientist	1	B.E./B. Tech	1-3 years of experience in suitable field
3	Scheduling Analyst	1	B.E./B. Tech	3 years of minimum experience in power operations/power scheduling
TOTAL		3		

PTC India Limited
(Formerly known as Power Trading Corporation of India Limited)
CIN: L40105DL1999PLC099328
2nd Floor, NBCC Tower, 15 Bhikaji Cama Place New Delhi - 110 066 Tel: 011-41659500, 41595100, 46484200 (D). Fax: 011-41659144
E-mail: info@ptcindia.com; Website: www.ptcindia.com

PTC India

Note: In case PTC desires to engage additional manpower, then the existing blended man-month rate shall be applicable for each new resource.

5. DELIVERABLES

MERCADOS will share various required report templates with PTC for their approval before customizing the system to meet the reporting requirements of BSPHCL (SBPDCL & NBPDCL).

6. SCHEDULE OF COMPLETION

The schedule of completion of the assignment shall be 36 months from date of Letter of Award (LoA) placed by PTC or date of commencement of contract as allowed by PFCCL/BSPHCL. However, based on the requirement, PTC and MERCADOS may mutually extend or amend the timelines.

7. CONSULTANCY FEE

The Consultancy fee against the assignment shall be as below: -

Costing	Year 1 April 2019 to March 2020	Year 2 April 2020 to March 2021	Year 3 April 2021 to April 2022
Manpower	1,29,60,000	1,29,60,000	1,29,60,000
Training and Seminar	37,34,280	5,46,480	5,46,480
Software and related	1,44,00,000	8,60,000	8,60,000
Total	**3,10,94,280**	**1,43,66,480**	**1,43,66,480**

PTC will raise the applicable invoice(s) (with applicable taxes) to PFCCL on receipt of respective invoice from Mercados as and when they become due as per the applicable heads (manpower, training & seminar, software & related etc).

One coordinator from PTC would be part of the training and seminar programme and the cost of the same shall be subsumed in the budget. Training shall be to the scope of Mercados within the budget as specified above under Training and Seminar. However, any profit under same shall be shared between PTC and Mercados on 50% basis. In case the estimated cost of the training exceeds the budget allocated to Mercados then both parties would jointly review the cost to bring it within the budgeted amount.

Additional to the above fee, GST tax and cess at applicable rates on date(s) of payment(s) (currently 18%) and any other applicable taxes, duties etc., as may be applicable.

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8. PAYMENT TERMS

The fee shall be payable on the following stages of the assignment: -

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Description of Task	Manpower Cost (Item A)	Software License and related Cost (Item B)	Training and Seminar Cost (Item C)
(A) Project Planning, Development and Go-live phase			
Requirement Specification Signoff (<= T + 20 days)		50% of Cost for Software and related items	
User Acceptability Test (UAT) Sign-off (T+160 days)		25% of Cost for Software and related items	50 % of Cost for Training and Seminar
Project Go Live (T+180 days)	Monthly payment in equal instalments for manpower deployed	25% of Cost for Software and related items	50 % of Cost for Training and Seminar
Completion of training (T+200 days)			
(B) Project Execution Phase			
Project Execution Phase for first year from Project Go Live			
Project Execution Phase for second year from Completion of first year			
Project Execution Phase for third year from Completion of second year			

A performance Bank Guarantee (PBG) of 10 % of the Rs. 5,98,27,240 (Rupees Five Crores, Ninety Eight Lacs Twenty Seven Thousand Two Hundred and Forty Only) is to be submitted by MERCADOS valid up to 6 Months from the date of end of contract/assignment.

MERCADOS shall raise invoices to PTC as per the schedule. PTC would pay to MERCODOS within 7 days after receipt of corresponding payments from PFCCL.

9. DROP DEAD FEE

If due to any reason or decision of BSPHCL/PFCCL, the assignment is dropped or PTC is directed to discontinue work, the "Drop Dead Fee" would be the payments to be received by Mercados, will be the share amount released by PFCCL to PTC, against all liabilities and expenditure incurred, if any, relating to the assignment, till the point of calling off the assignment.

10. EXECUTION OF WORK:

The project work shall be supervised by official nominated by PTC

11. OTHER TERMS & CONDITIONS

i. PTC and Mercados shall coordinate with PFCCL, BSPHCL, South Bihar Power Distribution Company Limited (SBPDCL) & North Bihar Power Distribution Company Limited (NBPDCL) to arrange for free of cost information/data, or arrange for such information as may be required to provide the services for the subject assignment, so as not to delay the services.

ii. In order to ensure smooth operations, PTC would appoint a Nodal Officer and other officials for the assignment who will provide various inputs etc. throughout the execution of the assignment.

iii. MERCADOS will not be obliged to hold or participate in any interaction with Unions, Associations etc. related to any aspect of this assignment or otherwise. All the interactions related to data will be done with the Nodal Officer.

iv. PTC's services shall be purely advisory in nature including all documents and recommendations and PTC shall in no way be responsible or hold any liability for any disputes, lawsuits and or consequential loss, damages to either PFCCL or any other party in any manner whatsoever.

However, in case any liability arises due to any dispute, lawsuit and or consequential loss, damages to PTC, the same shall be fully borne by Mercados.

v. MERCADOS will not use the documents/information and other data received from PTC/PFCCL/BSPHCL for any other purpose and the same will not be disclosed to any other person except to the extent required and utmost secrecy will be maintained.

vi. Wherever relevant Data/input required for the assignment, is not available from PTC, suitable assumptions would be made by MERCADOS under intimation to PTC.

vii. On all matters referred to Mercados by PTC, PFCCL, BSPHCL, SBPDCL & NBPDCL, Mercados will address the issue within 15 calendar days. If the anticipated information/ facility/ decision is delayed from PFCCL/BSPHCL, and the nature of inputs from PFCCL/BSPHCL is such that it is essential for the continuation of the Assignment, PTC and Mercados shall agree on how the affected part of the services shall be carried out.

viii. PTC's and Mercados's advice/recommendations shall be based on the quality and correctness of data/information provided by PFCCL, BSPHCL, SBPDCL & NBPDCL.

ix. If PTC decides to ignore the advice of Mercados, it shall on its own take a view. Further, if required Mercados shall revisit the advice due to any change in views of PTC, Mercados shall revisit the advice to the satisfaction of PTC.

x. MERCADOS would follow its own procedures/systems for all the activities relating to the assignment including appointment of Sub-Consultants, engaging other agencies for any purpose/activities related to the assignment under intimation to PTC.

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xi. MERCADOS would not participate in any discussion/make presentations/offer justification with any other consulting agency/lender etc. apart from PTC, PFCCL, BSPHCL, SBPDCL & NBPDCL or any other organization like RLDCs/SLDC/ALDC etc related to the assignment under intimation to PTC.

xii. In case of the assignment being delayed beyond the stated completion period due to reasons not attributable to MERCADOS, MERCADOS would be entitled to charge compensation on the mutually agreed terms.

xiii. **Software, Licenses and Associated Hardware**

a. Mercados shall provide the license to PTC for the respective software at the end-client location i.e. BSPHCL's premises during the contract period. The license will be applicable for the exclusive use of this project and end-client i.e. BSPHCL, SBPDCL, NBPDCL only.

b. MERCADOS shall at all times, within the contract period, also be responsible for all required software up-gradation and its integration with respective data sources.

xiv. **Data, Software And Associated Hardware's Redundancy**

a. MERCADOS shall maintain the redundancy of the software and its associated hardware along with all necessary data during the contract period with at least one redundancy.

b. However, the hardware shall be suitable for data storage etc for five years with one redundancy.

c. The data shall be provided to PTC on Quarterly basis in a usable / compatible format and the data in no way shall be provided in encrypted format.

xv. **Disclaimer**

The services rendered by MERCADOS to PTC would be a part of manpower supply and support services assignment and in no way prohibit MERCADOS in rendering their core functions or allied services to Bihar. However, for portfolio related services in Bihar, Mercados shall work exclusively with PTC during the contract period.

xvi. **Data Security**

MERCADOS shall at all times be responsible for the security of data under following circumstances (but not limited to):

a. Change in Power Scenario due to blackouts (pertaining to load shedding), environmental conditions, unscheduled outages, etc.

b. Disaster management

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xvii. The payment would be on back to back basis. All payments would be made by PTC within 7 days from receiving the same from BSPHCL/PFCCL.

xviii. Both the Parties agree to amend/ modify the said terms of engagement, as may be required in the event any additional term and condition is added by PFCCL in the agreement being entered into between PTC and PFCCL.

12. GOVERNING LAWS AND JURISDICTION

The Contract shall be governed by and interpreted in accordance with the Indian laws for the time being in force and the Delhi Courts alone shall have exclusive jurisdiction in all matters arising under the Contract.

13. DISPUTE RESOLUTION

In the event of any dispute arising between the Parties in connection with any matter or thing herein contained or the operation or construction thereof or any matter or thing in any way connected with this Agreement, including any question regarding its existence, interpretation, validity or termination, the Parties shall first endeavor to reach an amicable settlement through mutual consultations and negotiations by the senior officials of the Parties. In case of such failure, the dispute shall be referred to Sole Arbitrator be appointed with mutual consent of both the parties. In the event the parties are unable to mutually agree on the sole arbitrator, in the manner specified above, the dispute shall be referred to Arbitration by a tribunal consisting of three arbitrators, one arbitrator be appointed by each party, two arbitrator so appointed shall mutually appoint the presiding arbitrator The Arbitration proceedings shall be governed by the Arbitration and Conciliation Act, 1996 and seat of Arbitration at Delhi. The language of Arbitration shall be English.

This LoA is being issued to you in duplicate. We request you to return the duplicate copy of this Letter of Award duly signed and stamped on each page by the authorized signatory of your company as a proof of your acknowledgment and confirmation.

Thanking You,

Yours' Faithfully
***For* PTC India Limited**

27/5/19

Charanjeet Singh
Exec. Vice President (BD)

Mercados Energy Markets India Pvt. Ltd

Mercados Energy Markets India Pvt. Ltd

PTC India Limited
(Formerly known as Power Trading Corporation of India Limited)
CIN: L40105DL1999PLC099328
2nd Floor, NBCC Tower, 15 Bhikaji Cama Place New Delhi - 110 066 Tel: 011-41659500, 41595100, 46484200 (D). Fax: 011-41659144
E-mail: info@ptcindia.com; Website: www.ptcindia.com

PTC India

Exhibit 4

PTC/EPM/

10th Feb 2023

Work Experience Certificate

This is to certify that PTC India Ltd has appointed Mercados Energy Markets India Private Limited (Mercados) for providing Consultancy Services for Energy Portfolio Management of MP Power Management Company Limited vide Letter of Award dated April 07, 2021. The scope of work includes providing software support in the areas of Demand Forecasting, Gap Assessment, Real Time Market Participation Strategy, Scheduling and Dispatch Planning, Price Forecasting, Network Monitoring, Dashboard Management.

The average MAPE for the project during the period 1st April 2021 to 31st March 2022 is around 3.60%.

The duration of the contract is for a period of 3 years which commenced w.e.f April 15, 2021. The project is currently under operation.

for **PTC India Limited**

(Bikram Singh)
Executive Vice President

Mercados Energy Markets India Pvt Ltd

Mercados Energy Markets India Pvt Ltd

PTC India Limited
(Formerly known as Power Trading Corporation of India Limited)
CIN: L40105DL1999PLC099328
2nd Floor, NBCC Tower, 15 Bhikaji Cama Place New Delhi - 110 066 Tel: 011-41659500, 41595100, 46484200 (D). Fax: 011-41659144
E-mail: info@ptcindia... Website: www.ptcindia.com

PTC India

PTC/MARKETING-ST/EPM/1938 **August 18, 2022**

Sh. Bhusan Rastogi
Mecados Energy Markets India Pvt. Ltd,
Unit-A2, Second Floor, Block-E,
International Trade Tower, Opposite Satyam Cinema,
Nehru Place,New Delhi-110019

Subject: Consultancy services for providing assistance to PTC India Ltd in Energy Portfolio Management (EPM) of MP Power Management Company Limited (MPPMCL): User Acceptance Test Certificate regarding.

Sir,

With reference to the subject assignment, This is to intimate that User Acceptance Test (UAT) for the EPM Dashboard was carried out by MP Power Management Company Limited (MPPMCL) during the period 6th June'2022 to 17th June'2022. MPPMCL has confirmed that all specifications of the EPM Dashboard were checked and found to be satisfactory in line with Scope of work in the letter of Award(LoA) issued to PFCCL and subsequently to PTC along with additional features as suggested by MPPMCL. MPPMCL has further confirmed that EPM Dashboard is functioning as per the contract mentioned in the LoA.

MPPMCL has further suggested to link the Dashboard with websites of WRLDC and SLDC through APIs to enhance the data input iterations of the software solution at the earliest. Subsequently, MPPMCL vide letter no. MPPMCL/PM/261 dated 1.7.2022 (copy enclosed at Annexure-A) has issued the UAT completion certificate. Further, PFCCL vide letter no. PFCCL/A1550/EPM/21/MP dated August 17th 2022 (copy enclosed at Annexure-B) has issued the letter confirming the successful completion of UAT.

In view of the above, this letter is being issued to M/S Mercados EMI Pvt Ltd to confirm the successful completion of User Acceptance Test (UAT) for the subject assignment.

Thanking you,

Yours Sincerely

(Arun Kumar)

Head – IT and STM

Mercados Energy Markets India Pvt Ltd

Mercados Energy Markets India Pvt Ltd

PTC India Limited
(Formerly known as Power Trading Corporation of India Limited)
CIN : L40105DL1999PLC099328
2nd Floor, NBCC Tower, 15 Bhikaji Cama Place New Delhi - 110 066 Tel: 011- 41659500,41595100, 46484200, Fax: 011-41659144
E-mail: info@ptcindia.com Website: www.ptcindia.com

PTC India

Ref: PTC/BD/MP-EPM/MEMI Dated: April 07, 2021

To,
Mercados Energy Markets India Pvt. Ltd
Unit: A2, Second Floor, Block-E,
International Trade Tower, Opposite Satyam Cinema,
Nehru Place,
New Delhi - 110019
Telephone: 011 - 41085840
Mobile No: +91-9839095980
Email ID: bhushan@mercadosemi.in

Kind Attention: Mr. Bhushan Rastogi, Managing Director

Subject: - Letter of Award for providing Consultancy Services for Energy Portfolio Management of MP Power Management Company Limited

Dear Sir,

With reference to the above for the "Consultancy Services for Energy Portfolio Management of MP Power Management Company Limited ", herein after referred to as the "Assignment/Project", PTC India Limited (PTC) is pleased to issue this Letter of Award (LoA) to Mercados Energy Markets India Pvt. Ltd. (MEMI or Consultant) for carrying out various activities complete in all respect as per the scope of works and deliverables mentioned in this Letter of Award.

The following sections outline the proposed Scope of Work, Timelines, Professional Fees and other conditions for execution of the proposed scope of work. It may be noted that all activities under this assignment shall be governed by the provisions of principal LOA issued by MPPMCL to PFCCL (hereby referred as "MP-LOA") unless clarified below.

1. SCOPE OF WORK

Scope of work is the detailed list of services to be provided by MEMI to PTC for onward delivery to PFCCL/MPPMCL as envisaged in MP-LOA. PTC would be primarily responsible for the activities mentioned under MP-LOA's clause 1.2.1, 1.2.2, 1.5, 1.6.2 and 1.6.5. Similarly, MEMI shall have the prime responsibility of delivery of scope of work given under MP-LOA's clause 1.1, 1.2.3, 1.3, 1.4, 1.6.1, 1.6.3, 1.7 and 1.8 along with other related activities for successful execution of the project and as advised by PTC. MP-LOA's Clause 1.6.4 shall be joint responsibility of PTC and MEMI. Both MEMI and PTC will work in full coordination to ensure successful implementation of the assignment. Subject to the provisions hereby contained, and subject to the continuance of this LOA, both PTC and MEMI shall carry out their respective works, as detailed in the MP-LOA (Attached as Annexure – 1).

2. MILESTONES

All milestones shall be in line with the clause 2 of MP-LOA.

3. PENALTY AND INCENTIVE

3.1. Penalty

Subject to the provisions contained in this LOA, MEMI shall be solely liable for any penalty whatsoever which may be imposed by MPPMCL on PFCCL and/or PFCCL on PTC in the terms

Mercados Energy Markets India Pvt. Ltd

of the LOA received from MPPMCL, and MEMI shall keep PTC fully indemnified in this regard from and against any losses, damages, costs, expenses etc. subject to the condition that same is attributable to MEMI.

3.2. INCENTIVE

The amount of incentive will be mutually decided between PFCCL and PTC on achievement of performance standards (as per clause 3.2 of MP-LOA) and the incentive received by PTC shall be shared in the ratio of Manpower Cost Sharing between PTC and MEMI.

4. MANPOWER QUALIFICATION & EXPERIENCE

The following Manpower will be deployed at Jabalpur. Overall supervision and monitoring shall be done from MEMI, New Delhi Office.

S. No	Position	Count	Educational Qualification	Minimum work experience
1	Power Market Expert	1	Preferably B.E./B.Tech + MBA/PG	5 years of experience in Power Portfolio Management/ contract management / power sale – purchase strategy
2	Scheduling Analyst	2	Preferably B.E./B.Tech	3 years of experience in power operations/power scheduling
TOTAL		3		

Note: In case PTC desires to engage additional manpower, then the existing rates applicable to the required position shall be applicable for each respective new resource.

5. DELIVERABLES

The deliverables will be as per the LOA received from MPPMCL (Attached as Annexure – 1). MEMI will share various required report templates with PTC for their approval before customizing the system to meet the reporting requirements of MPPMCL.

6. SCHEDULE OF COMPLETION

The schedule of completion of the assignment shall be 36 months from the effective date of contract. However, based on the requirement, PTC and MEMI may mutually extend or amend the timelines.

7. CONSULTANCY FEE

The Consultancy fee against the assignment shall be as below: -

Costing	Year 1	Year 2	Year 3
Manpower	1,23,96,522	1,23,96,522	1,23,96,522

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Costing	Year 1	Year 2	Year 3
Training and Seminar	35,71,920	5,22,720	5,22,720
Software and related	1,37,73,913	8,22,609	8,22,609
Total	**2,97,42,355**	**1,37,41,850**	**1,37,41,850**

Additional to the above fees, GST tax and cess at applicable rates on date(s) of payment(s) (currently 18%) and any other applicable taxes, duties etc., as may be applicable.

PTC will raise the applicable invoices(s) (with applicable taxes) to PFCCL on receipt of respective invoice from MEMI as and when they become due as per the applicable heads (manpower, training & seminar, software & related etc).

One coordinator from PTC would be part of training and seminar programme and the cost of the same shall be subsumed in the budget. Training shall be to the scope of MEMI within the budget as specified above under Training and Seminar. However, any profit under same shall be shared between PTC and MEMI on 50% basis. In case the estimated cost of the training exceeds the budget allocated to MEMI then both parties would jointly review the cost to bring it within the budgeted amount..

8. PAYMENT TERMS

The fee shall be payable on the following stages of the assignment: -

S. No.	Cost Head	Schedule of invoices	Remarks
1	Manpower Cost	Monthly invoices	• Applicable from 'T': Date of commencement of Contract
2	Training and Seminar	Bi-Annual invoices	• 50% of the total annual amount envisaged under the head of Training and Seminar for the 1st year shall be raised on or after T+ 160 days. • Balance 50% of the total annual amount envisaged under the head of 'Training and Seminar' for the 1st year shall be raised on or after completion of the scheduled training for respective years. • 50% of the total annual amount envisaged under the head of Training and Seminar for the 2nd and subsequent years shall be raised every year i.e. T+ 365 days, T+730 days and so on. • Balance 50% of the total annual amount envisaged under the head of 'Training and Seminar' for the 2nd and subsequent years shall be raised on or after completion of the scheduled training for respective years

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3	Software and Maintenance	**For Year 1:**	
		Bi-Annual invoices	• 50% of the total amount envisaged under the head of 'Software and Maintenance' for Year 1, shall be raised on or after T+160 days • 50% of the balance amount envisaged under the Head 'Software and Maintenance' for Year 1, shall be raised on or after T+360 days
		For Year 2 and Year 3:	
		Monthly invoices	The respective amount for Years 2 and 3 under table of Clause 7 shall be divided into equal monthly amount and raised through monthly invoice.

A performance Bank Guarantee (PBG) of 10 % of the Rs. 5,72,26,056 (Rupees Five Crores Seventy Two Lacs Twenty Six Thousand and Fifty Six Only) is to be submitted by MEMI valid up to 6 Months beyond the date of end of contract/assignment.

MEMI shall raise invoices to PTC as per the schedule. PTC would pay to MEMI within 7 days after receipt of corresponding payments from PFCCL.

9. DROP DEAD FEE

If due to any reason or decision of PFCCL, the Assignment is dropped or PTC is directed to discontinue work under the LoA, the "Drop Dead Fee" would be the payments to be received by MEMI and will be the MEMI's share of the amount released by PFCCL against all liabilities and expenditure incurred, if any, relating to the Assignment, till the termination of the Assignment, provided that, if the assignment is dropped due to defaults/decision made by MEMI, PTC shall not be liable for any claims made by MEMI whatsoever may it be and performance guarantee shall be invoked by PTC.

10. OTHER TERMS & CONDITIONS

i. MEMI shall deploy and execute the project at MPPMCL, Jabalpur in close coordination with PTC for the purpose of requirement of infrastructure, data, or any other requirement as the case may be from time to time.

ii. PTC and MEMI shall coordinate with PFCCL and MPPMCL to arrange for free of cost information/data, or arrange for such information as may be required to provide the services for the subject assignment, so as not to delay the services.

iii. In order to ensure smooth operations, PTC would appoint a Nodal Officer and other officials for the assignment who will provide various inputs etc. throughout the execution of the assignment.

In order to evaluate financial benefits accruing to MPPMCL, due to additional realization or savings in Cap Deviation Charges/ Additional Deviation Charges / Violation Charges and additional revenue realization on account of increased sale of surplus power in volume and in increased rates during the month as compared to the same month during the previous year,

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relevant data / analysis shall be considered and shared by MEMI with PTC. The data regarding the past period shall be endeavored to be made available to MEMI by PTC though PFCCL/MPPMCL at the time of commencement of this agreement.

v. MEMI will avoid participating in any interaction with Unions, Associations etc. related to any aspect of this assignment or otherwise. All the interactions related to data will be done with the Nodal Officer of MPPMCL.

vi. MEMI's services under this assignment shall be purely advisory in nature including all documents and recommendations and MEMI shall in no way be responsible or hold any liability for any disputes, lawsuits and or consequential loss, damages to either PTC or any other party in any manner whatsoever. However, in case any liability arises due to any dispute, lawsuit and or consequential loss, damages to PTC, the same shall be fully borne by MEMI.

vii. MEMI will not use the documents/information and other data received from PTC/PFCCL/MPPMCL for any other purpose and the same will not be disclosed to any other person except to the extent required and utmost secrecy will be maintained.

viii. Wherever relevant Data/input required for the assignment, is not available from PTC, suitable assumptions would be made by MEMI under intimation to PTC.

ix. On all matters referred to MEMI by PTC, PFCCL and MPPMCL, MEMI will address the issue within 15 calendar days. If the anticipated information/ facility/ decision is delayed from PFCCL/MPPMCL, and the nature of inputs from PFCCL/MPPMCL is such that it is essential for the continuation of the Assignment, PTC and MEMI shall agree on how the affected part of the services shall be carried out.

x. PTC's and MEMI's advice/recommendations shall be based on the quality and correctness of data/information provided by PFCCL and MPPMCL.

xi. If PTC decides to ignore the advice of MEMI, it shall on its own take a view. Further, if required MEMI shall revisit the advice due to any change in views of PTC, MEMI shall revisit the advice to the satisfaction of PTC.

xii. MEMI would follow its own procedures/systems for all the activities relating to the assignment including appointment of Sub-Consultants, engaging other agencies for any purpose/activities related to the assignment under intimation to PTC.

xiii. MEMI would not participate in any discussion/make presentations/offer justification with any other consulting agency/lender etc. apart from PTC, PFCCL & MPPMCL or any other organization like RLDCs/SLDC/ALDC etc. related to the assignment under intimation to PTC.

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Software, Licenses and Associated Hardware

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a. MEMI shall provide the license to PTC for the respective software at the end- client location i.e. MPPMCL's premises during the contract period. The license will be applicable for the exclusive use of this project and end-client i.e. MPPMCL only.
b. MEMI shall at all times, within the contract period, also be responsible for all required software up-gradation and its integration with respective data sources.
c. A detailed presentation shall also be given by MEMI to PTC on the software modules, internal algorithms etc.

xv. **Data, Software and Associated Hardware's Redundancy**

a. MEMI shall maintain the redundancy of the software and its associated hardware along with all necessary data during the contract period with at least one redundancy.
b. However, the hardware shall be suitable for data storage etc. for contract duration with one redundancy.
c. The data shall be provided to PTC on Quarterly basis in a usable / compatible format and the data in no way shall be provided in encrypted format.

xvi. For portfolio related services in Madhya Pradesh, MEMI shall work exclusively with PTC during the contract period.

xvii. **Data Security**

MEMI shall at all times be responsible for the security of data under following circumstances (but not limited to):

a. Change in Power Scenario due to blackouts (pertaining to load shedding), environmental conditions, unscheduled outages, etc.
b. Disaster management

xviii. The work would be undertaken in Jabalpur/Bhopal and New Delhi only.

xix. MEMI reserves the right to appoint sub consultant(s) for the assignment for which no charges shall be levied to PTC and the responsibility for the assignment will continue to be that of MEMI.

xx. MEMI would normally require prior notice of at least two working days for attending any meeting/discussion/hearing etc.

xxi. The payment would be on back to back basis. All payments would be made by PTC within 7 days from receiving the same from MPPMCL/PFCCL.

xxii. Both the Parties agree to amend/ modify the said terms of engagement, as may be required in the event any additional term and condition is added by PFCCL in the agreement being entered into between PTC and PFCCL.

11. GOVERNING LAWS AND JURISDICTION

The Contract shall be governed by and interpreted in accordance with the Indian laws for the time being in force and the Delhi Courts alone shall have exclusive jurisdiction in all matters arising under the Contract.

PTC India

12. DISPUTE RESOLUTION

In the event of any dispute arising between the Parties in connection with any matter or thing herein contained or the operation or construction thereof or any matter or thing in any way connected with this Agreement, including any question regarding its existence, interpretation, validity or termination, the Parties shall first endeavor to reach an amicable settlement through mutual consultations and negotiations by the senior officials of the Parties. In case of such failure, the dispute shall be referred to Sole Arbitrator be appointed with mutual consent of both the Parties. The Arbitration proceedings shall be governed by the Arbitration and Conciliation Act, 1996 and seat of Arbitration will be at New Delhi. The language of Arbitration shall be English.

This LoA is being issued to you in duplicate. We request you to return the duplicate copy of this Letter of Award duly signed and stamped on each page by the authorized signatory of your company as a proof of your acknowledgment and confirmation.

Thanking You,

Yours' Faithfully
***For* PTC India Limited**

Harish Saran
Executive Director

Mercados Energy Markets India Pvt. Ltd.

Mercados Energy Markets India Pvt. Ltd.

M.P. POWER MANAGEMENT COMPANY LIMITED
CIN: U40109MP2006SGC018637 (A Government of M.P. Undertaking)
CHIEF GENERAL MANAGER (PM)
"Prakash Parisar" E-4, Arera Colony, Opposite Bhojpur Club Bhopal.
Tel.: 0755&2423044 Fax – 2423046 Email: rejeev.keskar@mppmcl.com

05-01/PM/PFCCL/LOA/ 714 **Bhopal** **dated 30 September 2020**

To,

M/s PFC CONSULTING LIMITED
9th Floor (A Wing), Statesman House Building,
Barakhamba Road, Connaught Place,
New Delhi-110001

Kind Attention Shri P C Hembram, CGM, PFCCL

Subject: - Letter of Award-PFC Consulting Limited for providing Consultancy Services for Energy Portfolio Management of MP Power Management Company Limited (MPPMCL).

Dear Sir,

This has reference to your letter No. 03/Proposal/MPPMCL/19-20/EPM dated 30 Jan 2020 vide which a proposal for Energy Portfolio Management Services for the State of Madhya Pradesh has been submitted.

The proposal was submitted by PFCCL in line with the services being provided for the State of Bihar but for the State of MP, some customization in the proposal was necessary. As such, revised draft proposal was exchanged with authorised persons of PFCCL through E-mails and consensus was reached finally on 31.08.2020 regarding revised terms and conditions.

The MP Power Management Company Limited (hereinafter referred to as "MPPMCL") is pleased to issue Letter of Award (LoA) to M/s PFC Consulting Limited (Consultant) (herein after referred to as "PFCCL") for carrying out various activities complete in all respect as per the Scope of Works and Deliverables respectively and other items as stipulated in this letter of award. This offer is based on your proposal, your acceptance of the same, financial offer and subsequent correspondences/ discussions. Details of the following main items of the Assignment are given below:

I. SCOPE OF WORK

PFCCL would provide a holistic solution to MPPMCL for managing the overall power portfolio for the State in the most optimal manner. PFCCL shall also take domain expertise from PTC India Limited (PFCCL's MoU partner) who also possesses experience in power portfolio management, scheduling, power market analysis etc. for providing advisory to MPPMCL.

1.1 Demand Forecasting and Gap Assessment

1.1.1 Demand/ Load Forecasting

i. Short Term Load Forecast

PFCCL would generate Discom-wise demand/ load forecast across varying horizon from Day Ahead to up to 7 day ahead at 15 minute intervals. The short-term forecast module would generate Discom-wise forecast for individual blocks (96 blocks of 15 minutes each) at the following level of granularity:

a. Intra Day Load Forecast: Intraday load forecast on Hourly rolling basis
b. Day Ahead Load Forecast
c. Week Ahead Load Forecast

Parameters for ST Load Forecast: Considering the present demand mix scenario of Madhya Pradesh, PFCCL would include parameters like weather (temperature, humidity, rainfall, wind speed etc.), agricultural cycle, special events, notified supply hours etc. in its load forecasting system.

ii. Medium Term Load Forecast

For medium term forecast, apart from the load curve PFCCL would also generate the load duration curve in order to analyse the duration for which the load trend to persist.

The Medium Term forecast model shall be customised based on the local conditions of Madhya Pradesh and will be capable of generating the following:

a. Season Ahead Discom-wise Load Forecast: Generic Monthly Load profile (hourly) for a typical day, for each Fortnightly/Month, for coming 2-12 months
b. Year Ahead Discom-wise Load Forecast: Demand Forecast for up to next five years for Madhya Pradesh overall with Monthly and Annual Load Duration curves

Above forecast(s) shall be based on planning/growth dynamics of the state, with generation of specific scenario based forecasts

Parameters for Medium Term Discom-wise Load Forecast: The indicative factors to be considered by PFCCL for undertaking the said forecast are as below:

a. Historical & forecasted weather parameters
b. Demand side management activities by Utility
c. Econometric parameters such as GDP, growth rate, real estate growth, industrial growth, sale of white goods in load centres etc.
d. Population Growth
e. Government Programs & Regulatory Policies
f. New connections/ Electrification
g. Any other factors which will affect demand or consumption

1.1.2 Supply Availability assessment

i. Under this module, PFCCL shall be aggregating all available sources of power in the name of PPAs, Banking, and Bilateral duly available with Madhya Pradesh.

ii. Based upon the demand forecast undertaken in previous module and the supply availability, PFCCL would provide deficit / surplus report across horizon. Such report(s) would be available both in tabular as well as in the form of visual display.

iii. Following considerations shall be taken while generating demand supply position map:

a. The system should be able to consider forecasted demand and available sources of power to create surplus/deficit positions.

b. System should also be able to consider risk-based scenarios for power availability to generate risk based position map along with risk associated under all such defined scenarios.

c. System should be able to generate short term and medium term scenarios for both demand & supply.

1.1.3 Integration of RE forecast in Supply availability

a. PFCCL shall make sure that its solution is capable of including the forecast of renewable generation and/or integrate the RE forecast(s) of the existing and upcoming RE PPA in the above Supply Availability Assessment Scenario, along with other sources of power procurement.

b. PFCCL shall coordinate with SLDC and the RE developers to get the necessary forecasted inputs to get the overall aggregated supply availability for the state from all sources including RE.

c. Any real time changes in the RE supply forecast shall also be taken into consideration by the proposed System.

1.2 Power Procurement/ Sale Planning

Under this module, PFCCL shall provide a holistic market strategy and advisory support to Madhya Pradesh's Power Management Department, so as to plan and execute procurement at the least cost by taking into consideration relevant market scenarios and also take advantage of any daily surplus by selling in spot market on cost plus basis.

1.2.1 Spot Market Participation Strategy:

This module would include market participation strategy, especially for participation in Day Ahead Market (DAM)/ Term ahead Market (TAM) of Power Exchanges, by advising on price and volume risk-mitigation strategies for market participation by the utility. Activities in this module include:

a. Generation of price forecast for DAM/TAM and preparation of market participation strategy by taking into consideration gap analysis of next-day.

b. For DAM/TAM participation, the module includes devising risk mitigation strategies for minimising total cost of procurement and also complementing daily despatch of other available generation sources of the utility.

c. Market participation strategy so as to minimise price and volume risk in DAM/TAM.

1.2.2 Bilateral Market Participation Strategy:

This module would include assistance in Procurement/Sale through bilateral market, so as to manage price and volume risk associated with Procurement/ Sale in the market. This module includes:

i. Assessment of market conditions and risks, for a horizon of up to one year.
ii. Price and volume risk assessment, by taking into consideration ongoing and foreseeable market conditions.
iii. Assessment of existing PPA terms like Penalty and Compensation, Contract Obligation.
iv. Surplus / Shortfall Optimization if the quantum is to be absorbed
v. Technical & Commercial constraints of contracted power
vi. Pool Availability

1.2.3 Real Time Market Participation Strategy:

This module would include assistance in procurement/sale through Real Time Market by advising on the prices and volumes for buy/sell in the RTM market which includes price forecast and demand- supply assessment for buy/sell quantum for each RTM session. The PFCCL is agreed to provide help of available resources under this contract to MPPMCL as and when required for RTM participation.

1.3 Scheduling and Dispatch Planning

1.3.1 Day-ahead Dispatch Model/Schedule Optimizer:

Under this module, PFCCL would prepare the final dispatch schedule on Day Ahead basis, based upon the forecasted demand. All costs, constraints, etc shall be considered by PFCCL to generate most optimal schedule for day-ahead dispatch so as to meet the demand at the least-cost given available resources and risks.

Some of the considerations while preparing the optimal schedule shall include:

i. Policy constraints such as ~~notified supply hours~~, must-run renewables, emissions, etc.
ii. Technical constraints such as ramp-up, ramp-down, technical minimum etc.
iii. Transmission constrains considering:
    a. Import and export capacity of each region
    b. ATC, TTC and TRM of each Inter-State corridors
    c. Short term margin available for each Inter-State corridors
    d. Availability of the corridor under short, medium and long term sale/purchase of power

e. Regulatory constraints such as over-drawl limits, DSM charges, provision of mandatory sign changes etc.
f. Existing ST,MT and LT PPA contracts and their costs (MERIT Order)
g. Existing generation availability (schedule outages, forced outages)
h. Short-term Demand forecasts
i. RES intermittency

The module would have the ability to generate day-ahead and Intraday position map(s) considering forecasted demand & power availability from all tied-up sources like Long Term, Medium Term , Short Term OTC (Bilateral and Banking), and Exchange traded DAM/ Spot market.

1.4 Price Forecasting

i. PFCCL would provide the MCP & MCV for Day Ahead Market (DAM) with a capability to store 365 days information and if required increase storage further. The forecasted MCP & MCV for DAM shall be provided based upon variables like:

a) Historical MCP & MCV data;
b) Day Ahead and Term Ahead availability of transmission lines
c) Shortage and surplus of power region wise.
d) Generation data region wise.

ii. These forecasted MCP shall be further used to prepare the merit order dispatch having said that system compares the forecasted MCP with the variable cost of generators (SGS & ISGS) considering the must run status of generators and bilateral prices.
iii. A dashboard shall be provided for comparing Variable Cost of ISGS generator with forecasted Exchange price (Day Ahead).
iv. Forecasted MCP would be provided with an upper band and lower band for each block.
v. The forecast generated by the PFCCL for DAM shall be used in bidding strategy and shall be disclosed with MPPMCL.

1.5 Energy accounting/ Scheduling

i. Energy calculations of all the contracts would be done to cater to the different needs of the MPPMCL like knowing their total energy consumption on a particular date, verification for compensation applicability while downward revision of their schedule, etc.

ii. Accounting of Open Access charges (OAC) for OA users, generators, etc. in accordance with MPERC and CERC Regulations and subsequent amendments thereof shall also be taken care.

iii. Verify the respective REA/SEAs considering the MPPMCL's energy account as the reference.

1.6 Network Management

(This module is an optional module for MPPMCL and will be provided under this assignment subject to availability of necessary data, integration etc.)

1.6.1 Network Monitoring

i. All the online feeder data including data of energy meters through SCADA/SAMAST will be integrated with PFCCL solution for Madhya Pradesh. Subsequently as and when additional line feeders gets online, the provision for the upload of the same will also be integrated into the system.

ii. PFCCL shall endeavour to integrate the data communication of SLDC and WRLDC.

iii. In the interim period until such time these data are available online, a separate provision should be made to upload the data. The mechanism for the same is to be devised in consultation with MPPMCL.

1.6.2 Wide Area Monitoring

i. PFCCL shall intimate message (email and SMS based) to all GSS regarding feeder wise load control as and when required, depending on power availability and likely load.

ii. Feeder wise scheduling and monitoring to ensure discipline in the network.

1.6.3 Database Management

i. PFCCL will develop a database to store all relevant information pertaining to Generators, OA consumers, Traders etc. Proper integration shall be ascertained w.r.t. IT system of MPPMCL.

ii. The database will store all the static and dynamic parameters of Generators (ISGS, SGS, captives, IPPs and any other category).

iii. The maintaining of outages information based on inputs from SLDC on the level of 11 kV, 33 kV and 132/220/400 kV shall also be included in the database.

1.6.4 Transmission Corridor Availability

i. PFCCL's solution will provide the following key information related to transmission corridor

   a. Capture each revision from NLDC.
   b. Capture import and export capacity of each region.
   c. Capture ATC, TTC and TRM of each Inter-State corridor.
   d. Capture short term margin available for each Inter-State corridors.

ii. PFCCL would also endeavour to take into consideration the availability of the corridor under short, medium and long term sale/purchase of power.

1.6.5 Unscheduled Interchange (UI)

Module should have support services to hedge against demand and supply risks in the unscheduled interchange (UI)/DSM.

1.7 Management Dashboard

1.7.1 User interface

i. A comprehensive and scalable reporting dashboard (along with Android based Mobile Applications) will be made available to end users from various departments of MPPMCL, which covers all key parameters of EPM operation/modules. This would be a dynamic and integrated part monitoring tool pertaining to operational/performance parameters of EPM.

ii. Reports will be dynamically configurable based on the User Access.

iii. The system would provide web based reporting tool which can be used for creating custom reports as required by different types of users.

iv. Reports would be exportable to various formats like xls, csv, pdf and xml. Standard report templates should be provided by MPPMCL.

v. Reports would be graphical or tabular or both with images and logos of customer.

vi. The authenticated users in the web should be able to generate reports based on date range, utility etc. Reports should be both in graphical and tabular formats.

vii. The daily report should mainly consist (but not limited to) the following: -

a. Highlights of the Day Morning / Evening peak demand/Unrestricted demand of MPPMCL.

b. Details of energy supply of MPPMCL with source wise availability. The data for last year should also be displayed.

c. Station wise daily/ monthly/yearly generation and PLF/PAF of each station of the thermal unit of CGS, SGS, CPPs and IPPs with last year comparison and from Renewable Energy Sources.

d. Details of station wise daily /monthly/yearly generation of hydel / ISGS / IPPs units with comparison to last year.

e. 15 minute time block wise station wise generation of all SGS / IPP / ISGS / RES (Renewable Energy Source) generators.

f. Details of 15 minute time block wise comparison of Entitlement and Schedule Drawl of Madhya Pradesh.

g. Details of energy purchased / banking / sale by MPPMCL through bilateral / collective (LTOA/MTOA/STOA).

h. Details of District wise supply hours to various categories as per SLDC requirement.

i. The Outage, back down particulars (block wise MW, MU) in Unit wise / Station wise.

j. Reports related to Deviation Settlement Mechanism to be published based on SCADA (for daily use) and SEM.

k. System should be able to capture each revision from NLDC and/or any RLDCs as per the case may be.

l. System should capture import and export capacity of each region.

m. System should capture ATC, TTC and TRM of each Inter-State corridors.

n. System should also be able to capture short term margins available for each Inter-State corridors.

o. System should be able capture the availability of the corridor under short, medium and long term sale/purchase of power.

p. System shall be able to capture short term contract from RLDC website.

q. User Interface should be created to enter the LTOA, STOA and MTOA contract from PPA provided by MPPMCL.

r. The system shall be able to capture all parameters (including volume and price) mentioned in the SPA.

s. The system shall have the facility to capture the Renewable contracts.

1.8 Training

1.8.1 Training

i. PFCCL shall provide requisite Training and Experience sharing to MPPMCL's Engineers/staff posted in the Power Management Cell / SLDC Engineers in various sessions as per convenience of MPPMCL at Jabalpur. Such training sessions shall be limited to 4 (four) per year.

ii. The training provided will be exhaustive and should include case studies and examples on systems and procedures relevant to the functions of various wings of EPM to be carried out by PFCCL as per "Scope of Work".

iii. In order to understand international best practices in the area of Energy Portfolio Management, officials (key operational staff and policy makers) shall be provided training in European/US Electricity Markets plus one (1) official from PFCCL (for coordination) within the budget as indicated in " Consultancy Fee" in Para 7 under the head Training & Seminar during year 1.

2. MILESTONES

Following milestones will be followed for proposed services:-

S. No.	Milestones with reference to T(Effective Date of Contract)
1	Project Planning , Development and Go-live Phase
1(a)	Requirement Specification Signoff (<=T+20 days)
1(b)	Completion of UAT (User Accepting Testing) (<=T+160 days)
1(c)	Project Go-Live (<=T+180 days)
1(d)	Completion of Training International Training (<=T+200 days) Domestic Training (Quarterly basis or as mutually agreed)

3. PENALTY AND INCENTIVE

3.1 Penalty

The performance criteria and associated penalty for the purpose of Load Forecasting (State) shall be as below:-

i. To ensure that the Deviation in Accuracy rate of load forecasting doesn't exceeds by more than 4% for day-ahead forecast and / or more than 1.5% for intra-day forecast.

ii. The monthly payment schedule will be subjected to penalty as depicted below.

iii. No penalty will be applicable on PFCCL for T+160 days where T is the effective date of contract.

iv. Penalty shall be applicable on the software component (As indicated in table under Clause 9) cost equated in equal monthly instalments for a period of 36 months. Accordingly, the deduction shall be applicable as per below provisions of the specific month and deducted from the monthly invoice of PFCCL.

v. PFCCL has to simultaneously meet the performance criteria for both the Day-Ahead as well as Intra-Day forecasts in order to avoid deductions i.e. less than 4% deviation for day-ahead forecast and less than 1.5% deviation for intra-day forecast.

vi. For the purpose of deviation calculations, the following reports shall be considered:

a. The Day-Ahead forecast report for the next day-ahead "D" shall be shared on or before 1030 Hrs. of the previous day "D-1".

b. The Intra-Day forecast reports would be provided every two hours for the balance blocks in a day "D". Thus a total of 12 Intra-Day forecasts reports would be generated for the day "D". *For example, the first Intra-Day forecast report would be generated at 2200 Hrs. of the previous day "D-1" containing the block-wise forecast for 0000-2400 Hrs. of day "D", the second Intra-Day forecast report would be generated at 0000 Hrs. of day "D" containing the block-wise forecasts for 0200-2400 Hrs. of day "D" and so on.*

c. From each Intra-Day forecast report, the forecasts for first 8 time-blocks (2 hours) would be considered for deviations calculations. *For example, from the first Intra-Day forecast report, the forecast for 8 time-blocks between 0000-0200 Hrs. would be considered for deviations calculation. Similarly, from the second Intra-Day forecast report, the forecast for 8 time-blocks between 0200-0400 Hrs. would be considered for deviations calculations. If PFCCL does not provide the Intraday Forecast within time mentioned above due to whatsoever may be the reason, then Day ahead forecast will be considered as Intraday Forecast.*

vii. The deviation metric for Day-Ahead and Intra-Day forecast error would be as per the following:

<u>Day-Ahead forecast Error:</u>

a. The performance metric for day-ahead deviation calculations would be Mean Absolute Percentage Error (MAPE).

b. At the end of day "D", the Absolute % Error (APE) for each block would be calculated by taking the absolute value of deviation divided by the actual demand of the block.

c. The MAPEs for all days would be netted to obtain the weekly, fortnightly and monthly MAPEs for the application of penalties.

Formula for calculating Intra-Day Forecast Error-

$$\frac{100\%}{n} \sum_{1}^{n} \frac{1}{96} \left(\sum_{i=1}^{96} \frac{abs|(A_i - F_i)|}{A_i}\right)$$

Where, Ai = Actual Demand for the time-block 'i' in MW
Fi = Forecasted Demand for the time-block 'i' in MW
N = no. of days- 14 for fortnightly calculations, 7 for weekly calculations; no. of days in the months for that particular month
i = 15-minute time-block number

Intra-Day forecast Error:

a. The performance metric for Intra-Day deviation calculations would be Mean Percentage Error (MPE).
b. At the end of day "D", the % Error for each block would be calculated by taking the value of deviation divided by the actual demand of the block.
c. The average of the % Errors for all block for day "D" would be netted to obtain the MPE for the day "D".
d. The daily MPEs would be taken for netting to obtain the weekly, fortnightly and monthly MPEs for the application of penalties.

Formula for calculating Intra-Day Forecast Error-

$$\frac{100\%}{n} \sum_{1}^{n} \frac{1}{96} \left(\sum_{i=1}^{96} \frac{(A_i - F_i)}{A_i}\right)$$

Where, Ai = Actual Demand for the time-block 'i' in MW
Fi = Forecasted Demand for the time-block 'i' in MW
N = no. of days- 14 for fortnightly calculations, 7 for weekly calculations; no. of days in the months for that particular month
i = 15-minute time-block number

viii. In case either of the performance criteria is not satisfied, deductions would be applicable. For deductions calculation purpose, initially the deductions for day-ahead and Intra-day forecast would be calculated separately as per the following:

a. In case of Day-ahead Demand Forecast, for each 0.2% change in average accuracy rate of demand forecasting, there will be incremental deduction of additional 2% up to maximum 20% as mentioned in the following table:

Table 1: Day-Ahead Forecast Deduction Calculation

S. No.	Particulars	% Deduction during the Project Execution Phase (R)
A	**Deviation level in Demand forecasting accuracy level**	
	upto 4.0%	0%
	More than 4% upto 4.2%	2%
	More than 4.2% upto 4.4%	4%
	More than 4.4% upto 4.6%	6%
	More than 4.6% upto 4.8%	8%
	More than 4.8% upto 5.0%	10%
	More than 5.0% upto 5.2%	12%
	More than 5.2% upto 5.4%	14%
	More than 5.4% upto 5.6%	16%
	More than 5.6% upto 5.8%	18%
	More than 5.8%	20%

b. In case of Intra-Day Demand Forecast, for each 0.1% change in average accuracy rate of demand forecasting, there will be incremental deduction of additional 4% upto maximum 20% as mentioned in the following table:

Table 2: Intra-Day Forecast Deduction Calculation

S. No.	Particulars	% Deduction during the Project Execution Phase (R)
A	**Deviation level in Demand forecasting accuracy level**	
	upto 1.5%	0%
	More than 1.5% upto 1.6%	4%
	More than 1.6% upto 1.7%	8%
	More than 1.7% upto 1.8%	12%
	More than 1.8% upto 1.9%	16%

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S. No.	Particulars	% Deduction during the Project Execution Phase (R)
	More than 1.9%	20%

ix. The applicable deduction would be the maximum of either of the two deductions calculated as per Table 1 and Table 2. *For example, for a month where the Day-Ahead forecast error and Intra-Day forecast error are estimated as 4.9% and 1.85% respectively, the deduction calculation for Day-ahead and Intra-day forecast would be 10% and 16% respectively as per Table 1 and Table 2. Therefore, in this case, the applicable deduction for the relevant month would be the maximum of the two i.e. 16%.*

x. Notwithstanding the above, the PFCCL would ensure that the Intra-Day forecast is within 1.5% for at-least 70% of the blocks during the billing month in the project execution phase. If this condition is not met, maximum deduction of 20% would be applicable for the billing month.

xi. The PFCCL would ensure that the block-wise Day-ahead forecast is maintained as per the following:

Table 3: Block-wise Day-Ahead Forecast Performance

Year	Block-wise Accuracy level to be achieved	Accuracy to be achieved for Minimum no of blocks in a day
Year 1	4.0%	50% of the blocks in a day
Year 2	3.5%	50% of the blocks in a day
Year 3	3.0%	50% of the blocks in a day

xii. The above mentioned deductions (if any) at different milestones shall be made on monthly basis.

xiii. For deviation level in accuracy of demand forecasting exceeding 6% for the Day-ahead and 2% for the Intra-Day Forecast shall attract issuance of a show cause notice by MPPMCL and continuous deviations observed for more than four consecutive weeks might lead to the termination of contract, which would solely be on the discretion of MPPMCL.

xiv. Further, the Penalty clause shall not be applicable in case of applicability of any condition under Force Majeure (Act of God, Direct or indirect Political/ non-political events, civil war, pandemic, epidemic etc.), unplanned outages, feeder tripping etc.

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3.2 INCENTIVE

PFCCL and MPPMCL will mutually decide the amount of incentive on achievement of performance standards.

4. MANPOWER DETAILS

The following manpower will be deployed at MPPMCL's office. Overall supervision and monitoring will be done from PFCCL, New Delhi office.

S. No.	Position	Count	Educational Qualification	Minimum Work Experience
1	Team Leader (Four Man-Days Visit per Month)	1	Preferably B.E./B. Tech + MBA	10 years of experience with minimum 5 years in Power Portfolio Management / contract management / power sale-purchase strategy.
2	Power Market Expert	2	Preferably B.E./B. Tech + MBA/PG	5 years of experience in Power Portfolio Management / contract management / power sale-purchase strategy
5	Scheduling Analyst	4	Preferably B.E./B. Tech	3 years of experience in power operations/power scheduling
TOTAL		7		

Note: In case MPPMCL desires to engage additional manpower, then the existing rates applicable to the required position shall be applicable for each respective new resource.

5. DELIVERABLES

PFCCL will share various required report templates with MPPMCL for their approval before customizing the system to meet the reporting requirements of MPPMCL.

6. SCHEDULE OF COMPLETION

The schedule of completion of the assignment shall be 36 months from the Effect Date of Contract. However, based on the requirement, MPPMCL and PFCCL may mutually extend or amend the timelines.

7. CONSULTANCY FEE

Costing	Year 1	Year 2	Year 3
Manpower	2,67,30,000	2,67,30,000	2,67,30,000
Training and Seminar	40,59,000	5,94,000	5,94,000
Software and related	1,86,49,950	11,26,950	11,26,950
Total	***4,94,38,950***	***2,84,50,950***	***2,84,50,950***

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Additional to the above fee, GST tax and cess at applicable rates on date(s) of payment(s) (currently 18%) and any other applicable taxes, duties etc., as may be applicable.

8. PAYMENT TERMS

The fee shall be payable on the following stages of the assignment:-

S. No.	Cost Head	Schedule of invoices	Remarks
1	Manpower Cost	Monthly invoices	• Applicable from 'T': Effective Date of Contract
2	Training and Seminar	Bi-Annual invoices	• 50% of the total annual amount envisaged under the head of Training and Seminar for the 1st year shall be raised on or after T+ 160 days. • Balance 50% of the total annual amount envisaged under the head of 'Training and Seminar' for the 1st year shall be raised on or after completion of the scheduled training for respective years • 50% of the total annual amount envisaged under the head of Training and Seminar for the 2nd and subsequent years shall be raised on or after start of every year i.e. T+365 days, T+730 days and so on. • Balance 50% of the total annual amount envisaged under the head of 'Training and Seminar' for the 2nd and subsequent years shall be raised on or after completion of the scheduled training for respective years.
3	Software and Maintenance	**For Year 1:**	
		Bi-Annual invoices	• 50% of the total amount envisaged under the head of 'Software and Maintenance' for Year 1, shall be raised on or after T+160 days • 50% of the balance amount envisaged under the Head 'Software and Maintenance' for Year 1, shall be raised on or after T+360 days

		For Year 2 and Year 3:	
		Monthly invoices	• The respective amount for Years 2 and 3 under table of Clause 7 shall be divided into equal monthly amount and raised through monthly invoice.

9. DROP DEAD FEE

If due to any reason or decision of MPPMCL/the Govt./Regulator, the assignment is dropped or PFCCL is directed to discontinue work, the "Drop Dead Fee" would be the payments received by PFCCL and the claims already raised to MPPMCL plus the sum of all liabilities and expenditure incurred, if any, relating to the assignment, till the point of calling off the assignment or as mutually agreed provided that , if the assignment is dropped due to defaults / decision made by PFCCL, MPPMCL shall not be liable for any claims made by PFCCL whatsoever may it be.

10. OTHER TERMS & CONDITIONS

i. The MPPMCL shall, so as not to delay the services and within a reasonable time, provide to PFCCL free of cost information/data, or arrange for such information as may be required to provide the services for the subject assignment.

ii. In order to ensure smooth operations, MPPMCL would appoint a Nodal Officer and other officials for the assignment who will provide various inputs etc. throughout the execution of the assignment.

iii. In order to evaluate financial benefits accruing to MPPMCL, due to additional realization or savings in Cap Deviation Charges/ Additional Deviation Charges / Violation Charges and additional revenue realization on account of increased sale of surplus power in volume and or increased rates during the month as compared to the same month during the previous year, relevant data / analysis shall be considered and shared by PFCCL with MPPMCL. The data regarding the past period shall be made available to PFCCL by MPPMCL at the time of commencement of this agreement.

iv. PFCCL will not be obliged to hold or participate in any interaction with Unions, Associations etc. related to any aspect of this assignment or otherwise. All the interactions related to data will be done with the Nodal Officer.

v. PFCCL's services shall be purely advisory in nature including all documents and recommendations and PFCCL shall in no way be responsible or hold any liability for any disputes, lawsuits and or consequential loss, damages to either MPPMCL or any other party in any manner whatsoever.

vi. PFCCL will not use the documents/information and other data received from MPPMCL for any other purpose and the same will not be disclosed to any other person and utmost secrecy will be maintained.

vii. Wherever relevant Data/input required for the assignment, is not available from MPPMCL, suitable assumptions would be made by PFCCL under intimation to MPPMCL.

viii. On all matters referred to MPPMCL by PFCCL, if no suggestions/ comments/decision is forthcoming within 15 calendar days from MPPMCL, the proposal / recommendations of PFCCL shall be taken to have been accepted by MPPMCL and PFCCL would proceed ahead for the next set of activities to be performed for the logical conclusion of the assignment. If the anticipated information/facility/ decision is delayed from MPPMCL, and the nature of inputs from MPPMCL is such that it is essential for the continuation of the assignment, MPPMCL and PFCCL shall agree on how the affected part of the services shall be carried out.

ix. PFCCL's advice/recommendations shall be based on the quality and correctness of data/information provided by MPPMCL.

x. Once the advice/recommendations of PFCCL are accepted by MPPMCL or MPPMCL decides to ignore the advice and if required to revisit due to any change in views of MPPMCL or Govt. of Madhya Pradesh, it shall be undertaken to the satisfaction of MPPMCL.

xi. MPPMCL shall bear all statutory charges like the fee to be paid along with the applications/ petitions to be filed before the regulator, as also any expenditure towards any law suits etc., if any, and PFCCL shall in no way be responsible to bear either the charges or put in any extra effort in order to assist MPPMCL in such activities relating to such law suits.

xii. PFCCL would follow its own procedures/systems for all the activities relating to the assignment including appointment of Sub-Consultants, engaging other agencies for any purpose/activities related to the assignment.

xiii. PFCCL would not participate in any discussion/make presentations/offer justification with any other consulting agency/lender etc. apart from MPPMCL.

xiv. In case of the assignment being delayed beyond the stated completion period due to reasons not attributable to PFCCL, PFCCL would be entitled to charge compensation on the mutually agreed terms. Similarly, in case, assignment being delayed beyond the stated completion due to the reasons not attributable to MPPMCL, MPPMCL would be entitled to charge compensation on mutually agreed terms.

xv. **Software, Licenses And Associated Hardware**

a. PFCCL shall provide the license to MPPMCL for the respective software during the contract period.

b. PFCCL shall at all times, within the contract period, also be responsible for all required software up-gradation and its integration with respective data sources.

xv. **Data, Software And Associated Hardware's Redundancy**

a. PFCCL shall maintain the redundancy of the software and its associated hardware along with all necessary data during the contract period with at least one redundancy.

b. However, the hardware shall be suitable for data storage etc for contract duration with one redundancy.

c. The data shall be provided to the MPPMCL on Quarterly basis in a usable / compatible format and the data in no way shall be provided in encrypted format.

xvi. **Coordination with RLDCS, SLDC, ALDC**

PFCCL shall coordinate with respective RLDCs / SLDC / ALDC for taking the consents / approvals / clearances for successfully implementing this project. However, MPPMCL shall provide necessary authorization and also extend its facilitation to the service provider for taking such consents / approvals / clearances.

xvii. **Disclaimer**

The services rendered by PFCCL/PTC to MPPMCL would be a part of manpower supply and support services assignment and in no way prohibit PFCCL/PTC in rendering their core function of power trading or allied services to MPPMCL.

xviii. **Data Security**

PFCCL shall at all times be responsible for the security of data under following circumstances (but not limited to):

a. Change in Power Scenario due to blackouts (pertaining to load shedding), environmental conditions, unscheduled outages, etc.
b. Disaster management

xix. In case of addition to the agreed scope of work or the assignment being delayed beyond the stated completion period due to reasons not directly attributable to PFCCL, PFCCL would be charging, in addition to the above mentioned Consultancy fee, efforts put in by PFCCL manpower as per the mutually agreed rates between MPPMCL and PFCCL and out-of-pocket expenses (i.e. cost of Travel, stay, DA, Local conveyance etc. as per PFCCL's entitlements) incurred in connection with the assignment on actuals, as certified by PFCCL.

xx. The work would be undertaken in Jabalpur and New Delhi only. Any visits outside these places would be payable by MPPMCL to PFCCL on actual, as per the entitlement of PFCCL officials for journey fare, accommodation, DA, local conveyance etc.

xxi. PFCCL would require 1 months as mobilization time after the award of the assignment.

xxii. PFCCL reserves the right to appoint sub consultant(s) for the assignment for which no charges shall be levied to MPPMCL and the responsibility for the assignment will continue to be that of PFCCL.

xxiii. PFCCL would normally require a prior notice of at least two working days for attending any meeting/discussion/hearing etc.

xxiv. All payments would be made by MPPMCL within 30 days from PFCCL claiming the same.

11. GOVERNING LAWS AND JURISDICTION

The Contract shall be governed by and interpreted in accordance with the Indian laws for the time being in force and the Delhi Courts alone shall have exclusive jurisdiction in all matters arising under the Contract.

12. DISPUTE RESOLUTION

In the event of any dispute arising between the Parties in connection with any matter or thing herein contained or the operation or construction thereof or any matter or thing in any way connected with this Agreement, including any question regarding its existence, " interpretation, validity or termination, the Parties shall first endeavor to reach an amicable settlement through mutual consultations and negotiations by the senior officials of the Parties. In case of such failure, the dispute shall be referred to Sole Arbitrator be appointed with mutual consent of both the parties. In the event the parties I are unable to mutually agree on the sole arbitrator, in the manner specified above, the dispute shall be referred to Arbitration by a tribunal consisting of three arbitrators, one: arbitrator be appointed by each party, two arbitrator so appointed shall mutually appoint the presiding arbitrator The Arbitration proceedings shall be governed by the Arbitration and Conciliation Act, 1996 with head quarter of arbitration at Jabalpur. The language of Arbitration shall be English.

13. This LoA is being issued to you in duplicate. We request you to return the duplicate copy of this Letter of Award duly signed and stamped on each page by the authorized signatory of your company as a proof of your acknowledgment and confirmation.

Thanking You,

Yours faithfully

(Rajeev Keskar)
Chief General Manager (PM)

Exhibit 4

उत्तर प्रदेश पावर कारपोरेशन लिमिटेड

(उ० प्र० सरकार का उपक्रम)

U.P. POWER CORPORATION LIMITED

(Govt. of Uttar Pradesh Undertaking)
CIN No. U32201UP1999SGC024928

Power Management Cell
Uttar Pradesh Power Corporation Ltd.
SLDC Campus, Vibhuti Khand-II,
Gomti Nagar, Lucknow
e-mail : cepmcuppcl@gmail.com

पावर मैनेजमेन्ट सैल
उत्तर प्रदेश पावर कारपोरेशन लिमिटेड
एस०एल०डी०सी० परिसर, विभूति खण्ड-II,
गोमती नगर, लखनऊ
ई-मेल : cepmcuppcl@gmail.com

No. 915 PMC/Tender 13/ 2022-23/LoA Dated: 21/12/2022

M/s Mercados Energy Markets India Pvt. Ltd.,
A2, Second Floor, Block-E,
International Trade Tower,
Opposite Satyam Cinema,
Nehru Place,
New Delhi-110019
Email : amiy@mercadosemi.in

LETTER OF AWARD'(LOA)

Subject :Appointment of M/s Mercados Energy Markets India Pvt. Ltd. for Tender no. 13/UPPCL/PMC/2022 Dated 09.09.2022 (Load/Demand Forecasting, Procurement of Power Purchase Cost Optimization Solution and Energy Portfolio Management Services).

Reference:

1. Tender no. 13/UPPCL/PMC/2022 Dated 09.09.2022.
2. Corrigendum 01 dated 28.09.2022 against Tender no. 13/UPPCL/PMC/2022 Dated 09.09.2022.
3. Letter no. 700/PMC/Tender 13 Dated 17.10.2022.
4. Technical and Financial Bid submitted by M/s Mercados Energy Markets India Pvt.
5. Letter Dated 29.11.2022 submitted by M/s Mercados Energy Markets India Pvt. after negotiation.

Dear Sir,

In reference to your proposal, UPPCL is pleased to place an order to M/s Mercados Energy Markets India Pvt. New Delhi for **"Load/Demand Forecasting, Procurement of Power Purchase Cost Optimization Solution and Energy Portfolio Management Services."** The broad objectives of this assignment, prices, terms & conditions of the order are as mentioned hereunder:

1.1 SCOPE OF WORK:

The Scope of work shall be as per the section 2.1 titled "Scope of work" of the RFP No. 13/UPPCL/PMC/2022 to be read along with corrigendum 01 dated 28.09.2022.

1.2 Resource Deployment

As per the terms of the tender document and referred corrigendum following resource have to be deployed at UPPCL:

Sr. No.	Description	Man Days Per Year	
		Year 1	Year 2
1	Domain Expert-1 for Energy Portfolio Management	365	365
2	Domain Expert for Demand/ Supply Forecasting, Energy Planning and Optimization	365	365
3	Technical Analyst-Energy Demand Forecasting, Portfolio Management services (1 No.)	180	180
4	Financial Analyst- Price Forecasting, Financial Analysis, Demand/Supply Planning and Cost Optimization (1 No.)	365	365
5	RTM Managers-4 No. Shift Basis bid making for purchase and sale in Real Time Market	365	365

1.3 PERIOD OF CONTRACT

The Period of Contract shall be 2 (Two) years, the Energy Portfolio Management Service (including shift operations) has to be done over the entire two-year contract period. The contract is extendable for a period of One year (beyond initial two year contract period) at the same the terms and conditions at which the initial contract is finalized.

1.4 PAYMENT TERMS (As per RFP Clause no. 5.11)

Payment terms as following:

Sl no.	Description of Task	Milestone	Frequency
1.	Operational Support for 2 years (for the team deployment as per serial no. 1 to 5 of Form-7, Part-II: Price bid schedule of section-8)	Payment will be released on monthly basis in 24 equal installments after acceptance of monthly progress report.	Monthly
2.	Operational Support for 2 years (for the team deployment as per serial no. 6 of Form-7, Part-II: Price bid schedule of section-8)	Payment will be released on quarterly basis in 8 equal installments after acceptance of quarterly progress report.	Quarterly
3.	Cost of modification/Upgradation and maintenance of developed software and tools for Load/demand forecasting, real time market dashboard and procurement of power purchase cost optimization service and energy portfolio management services including mobile Application Development (excl. GST) inclusive of licensing cost.	Payment will be released on monthly basis in 24 equal installments after acceptance of monthly progress report.	Monthly

All payments will be made in Indian rupees only.

No payment will be made by UPPCL towards travel and logistic required for the execution of the work under the scope of this project.

c. Payment will be restricted if there is any increase beyond 5% in the variable Power Purchase Cost (i.e. excluding fixed cost, transmission charges) subject to any uncontrollable Factors including Increase in Taxes, Increase in Coal Prices, Increase in Coal Transportation Cost, Force Majeure Conditions, etc.

d. GST at the applicable rates would be payable in addition by UPPCL.

e. No other out of pocket or incidental expenses would be payable by UPPCL.

f. Payment as specified on RFP clause no. 5.11 (S.No. 2) would be as follows.

(i) Service Provider shall be required to achieve minimum seven times saving over the Contract Value equivalent to fees quoted for clause 5.11 (S.No. 2) over a period of 2 years. The savings shall be computed based on the following: i) gains from sale of power in TAM/RTM over the energy charges of marginal plants; ii) gains from Reserve Shut Down (RSD) of units through purchase of alternate power from TAM (different products)/RTM; iii) gains from utilizing arbitrage opportunities such as buying cheaper power from TAM/RTM and backing down costlier generation; any other saving mechanism mutually agreed by the parties.

(ii) **Payment on rolling quarterly basis:** Under this approach, the payment shall be made on quarterly basis (i.e., July-September, October-December, January-March, April-June cycle or part thereof in case of terminal month of the contract). If at the end of the first quarter, the savings are more than or equal to 7 times of the contract price billed to UPPCL for such quarter, then the quarterly fee shall be payable to the Service Provider. If at the end of the quarter, the savings are not more than or equal to 7 times of the contract price billable to UPPCL for such quarter, then the billable payment for the quarter will be withheld till next review is conducted.

1.5 SCHEDULE OF PRICES

The Consultancy fees shall be payable as following:

Sr. No.	Particulars	Monthly Rate	Quarterly Rate	Amount in INR (for 2 years contract period)
1	Cost of Modification/ Upgradation of Developed Software and tools for Load/demand forecasting, real time market dashboard and procurement of power purchase cost optimization service and energy portfolio management services including mobile application Development (Excl. GST) Inclusive of Licensing cost.	N/A	N/A	96,00,000.00
2	Operational Support for 2 years (for the team deployment as per serial no. 1 to 4 of Form-7, Part-II: Price bid schedule of section-8 of RFP)	14,67,129.17	N/A	3,52,11,100.00
3	Operational Support for 2 years (for the team deployment as per serial no. 5 of Form-7, Part-II: Price bid schedule of section-8 of RFP)	N/A	54,16,600.00	4,33,32,800.00
	Total cost excluding Tax			**8,81,43,900.00**

Mercados Energy Markets India Pvt Ltd

The Total contract value is Rs. 8,81,43,900/-(Rupees Eight Crore Eighty One Lakhs Forty Three Thousand Nine Hundred Only) including GST and other applicable taxes, if any.

Above prices shall remain firm for the full period of contract and are exclusive of applicable GST and any other applicable levies which shall be paid by UPPCL as per actual.

1.6 Penalty (As per RFP clause 5.11 (S.No. 1))

(a) Service Provider has to deliver as below

i. Day ahead forecast and optimum scheduling------must be within 04% MAPE.

ii. Intra-day forecast error --- must be within 1.5% from actual on block wise.

iii. Penalty shall be imposed on the service provider on their payments receivables under (Sr. No.-1) (Operational Support and maintenance for 2 years (Two years)) in case of failure to achieve the desired accuracy in the forecasts as per the following:

S.No.	Variation in the projected and Actual Day-ahead Demand for the month	Penalty in % of total Monthly payments under RFP clause 5.11 (Sr. No.-1)
1.	Upto 4.0 %	No Penalty
2.	Upto 4.2 %	2%
3.	Upto 4.4 %	4%
4.	Upto 4.6 %	6%
5.	Upto 4.8 %	8%
6.	Upto 5.0 %	10%
7.	Upto 5.2 %	12%
8.	Upto 5.4 %	14%
9.	Upto 5.6 %	16%
10.	Upto 5.8 %	18%
11.	Upto 6.0 %	20%

Beyond 6.0% no payment will be made to the service provider for corresponding month. In addition to above, if the service provider is not able to maintain the error margin at 6% MAPE or below, for a consecutive period of 3 months during the tenure of the contract ,the UPPCL shall hold the right to terminate the existing contract as per its discretion.

Note:

1. MAPE stands for Mean Absolute % Error. It would be calculate as following:

- Absolute % error (APE) of the forecasts would be calculated block to block i.e. for all 96 blocks
- The average of the APE for all block in the day would be averaged to obtain the MAPE for the day.

6. The MAPEs for all days would be netted (averaged) to obtain the variation in the projected and Actual Day-ahead Demand for the month for application of penalty.

Penalty will be out rightly deducted from the monthly payments under RFP clause 5.11 (S.No. 1)

1.7 Performance Security (As per RFP Clause No. 5.16)

Performance Security Deposit: 10% of total contract value.

The successful Service Provider(s) has to deposit 10% of total Contract Value as performance Security Deposit within fourteen (14) days of the notifications of Contract award provided by Chief Engineer (PMC), UPPCL. Service Provider has to pay/ submit the Performance Security in the form of Bank Guarantee on the enclosed format/Demand Draft/Banker cheque from any Nationalized/Scheduled Banks payable at Lucknow in favor of 'Accounts Officer, Kendriya Bhugtan Prakosth, U.P. Power Corporation Ltd., Shakti Bhawan Extension, Lucknow-226010 payable at Lucknow.

b) The Performance Security shall be valid for the full period of the contract with an extended claim period of 6 months.

c) Payments will be made to the Service Provider only after receipt of the Performance Security Deposit.

d) UPPCL may at its sole discretion invoke the Performance Security and appropriate the amount secured there under, in the event that the Service Provider commits any delay or default in the implementation of the Contract during the contract period or commits any other breach of the terms and conditions of the Contract.

e) The Security Deposit shall be refunded/ released after successful contractual obligation, and it will not carry any interest.

1.8 OTHER TERMS & CONDITIONS

a) The Nodal Officer for all future correspondences and work supervision from the date of issue of this LOA, would be Chief Engineer, Power Management Cell, SLDC Campus, UPPCL, Vibhuti Khand-2, Gomti Nagar, Lucknow.

b) UPPCL reserves the right to ask the Service Provider to replace any resource on the ground of competence, integrity, behaviour and availability.

c) Penalties shall be applicable as per UPPCL RULES AND REGULATIONS.

d) Non Disclosure agreement and access to information/data will not be provided in any manner/processed or used for the own use of contractor itself and in the interest of a third party. Any violation will be considered breach of Contract.

e) Bar of Jurisdiction: The Courts situated within the city of Lucknow alone shall have the jurisdiction to decide all disputes and claims that may arise between the parties. The venue of Arbitration shall be at Lucknow and the language of Arbitration shall be English.

f) All other Terms and conditions as mentioned in the LoA, RFP document and Corrigendum '01' dated 28th September, 2022 shall be applicable to this Contract.

You are request to send your acceptance of this LOA as the earliest from the date of issue of this letter.

You are requested to present yourself in office of Chief Engineer (PMC), UPPCL for signing the contract agreement on non-judicial stamp paper of appropriate value within one month (30 days) from the issue of this letter. It is further informed that the contract agreement would be executed between Chief Engineer (PMC), UPPCL and M/s Mercados Energy Markets India Private Limited.

Thanking you

Yours faithfully,

(Sanjiv Shukla)
Chief Engineer

No. PMC/Tender 13/ 2022-23/LoA Dated:

Copy forwarded to –

1. Director (CP), UPPCL, Shakti Bhawan, Lucknow.

Mercados Energy Markets India Pvt. Ltd.

Signature Not Verified
Digitally signed by KOMAL BHARDWAJ
Date: 2023.12.22 09:56:39 IST
Location: eProcurement System for Central PSUs