Terms of Reference

Value Proposition, Model Building, Pilot Initiation and Advocacy of UDC project for aggregated Apartment Buildings

For IITM

# Project Background

## ****About the Project****

IITM has innovated and developed a system for Uninterrupted DC (UDC) Power supply from Grid. The Power Distribution Innovation aims at i) Enabling homes to not suffer black-outs. Ii) Creating a pull for energy-efficient DC appliances at homes. Iii) Making decentralised solar Power attractive for homes. The system is piloted at 4 feeders with 4 southern states Discoms of Tamilnadu, Andhra Pradesh, Karnataka and Kerala. This pilot requires interventions at Substation level to step-down to low ‘brown-out’ AC voltage, which subsequently is converted to DC, at individual home level. Low wattage DC loading at home level, reduces AC to DC conversion efficiency.

It is being thought, that if consumption loads can be aggregated, such as in a Residential society/apartment-complex with multiple flats, then there can be centralized AC to DC conversion with higher efficiency and cost economics. Also, it may be possible to skip ‘brown-out’ enabling investment required at Sub-station level, and signal AC line cut-off directly inside the apartment-complex. In this way, multi-storied building can get 100W / 400W DC power to each apartments without interruption, and that could make generator redundant.This project is referred here as ‘Apartment UDC’. All other benefits of UDC project shall also apply here, with additional better economics and value proposition.

IITM intends to pursue ‘Apartment UDC’ pilot/project in parallel, to raise further lower cost system and thereby increasing its scalability. This TOR focuses on raising, vetting and advocating the‘Apartment UDC’ business model, through engaging with Builders, Resident Welfare Associations (RWA),Implementors, Discoms, and Regulators. It is expected it yields initiation of pilot(s), and enabling environment.

# Project Scope

Detailed phase wise scope of ‘Apartment UDC’ project is as follows:

## Phase 1: Building concept note, pitch documents and target customer list for ‘Apartment UDC’

* Document first draft of concept note on ‘Apartment UDC’. Supplement the concept by benchmarking with other connected programmatic interventions/schemes like Green Buildings, EE programmatic interventions, Smart homes, Single Point of Contact (or Interim Franchisee) bulk supply models to residential apartments and others.
* Identify and prepare list of target Customers (or ‘users’) like Builders, Real Estate cos., IT Parks, various aggregators to whom ‘Apartment UDC’ concept could be pitched for theirinterest, feedback and pilot take-up
* Visit and pitch to select few users from this list, and collect following further details:
	+ first feedbackon concept ‘Apartment UDC’ – their opinion, preferences, challenges, pilot opportunity, further detailing requirements etc.
	+ costing of as-is infra of their existing/new projects
	+ perceived savings and potential benefits from the project ‘Apartment UDC’
* Refine the concept note with details collected from the field, and further engaging other stakeholders
* Create specific pitch documents for Builders and Discoms on ‘Apartment UDC’

## Phase 2: Pitching to all target customers and influencers and initiating pilot discussions

* Share appropriate pitch document with target customers (i.e. Builders) and influencing Discoms, coordinate discussion and/or meetings, and capture all discussion points and next steps
* Qualify the Leads further from collected inputs to enter into MoU with IITM for initiating pilot discussion and further specific baselining and solution design
* Facilitating signing of MoU between few customers and IITM, to undertake further due-diligence to build specific technical solution and economic advantage
* Support IITM Team and engage relevant service providers in building specific business case for adoption of UDC. This to include appropriate technical solution, brief costing and economic advantage.
* Engage with specific customer, the Discom, and IITM Team to establish value proposition of ‘Apartment UDC’, and enter into pilot Agreement

## Phase 3: Stakeholder Engagement to further advocate the model

* Prepare a report/white paper on use of UDC for multi-storied building to provide 100W / 400W DC power to each apartment without interruption. It should cover:
	+ Technical aspects, equipment
	+ Economics and relative advantage
	+ value proposition to all stakeholders – Builder, Discom, RWA, Regulator etc.
* Get the report reviewed from Experts and incorporate changes
* Organise presentation to Regulators and Nodal agencies to share the model, and request enabling environment, as appropriate
	+ Work out regulatory requirement for multi-storied apartment owner and get the regulator to supply uninterrupted 100 / 125 W per apartment

# Selection Process

## Bid Evaluation Process

Evaluation of bids shall be in followingstages as mentioned below:

1. The first step of evaluation will be a pre-qualification evaluation stage where only those agencys who qualify the pre-qualification criteria are considered for the second stage.
2. The second stage of evaluation will be technical evaluation stage. The technical proposals shall be evaluated on a total score of 80. The agency would scores a minimum of 50 marks with at least 50% of maximum score under each sub-criterion shall be short-listed and called for a technical presentation.
3. The third stage of the evaluation shall be technical presentation consisting of 20 marks.
4. The aggregate qualifying mark for technical evaluation stage and technical presentation shall be 70. Only the agencys achieving the qualifying mark shall be eligible for being considered for the Financial Bid.
5. The financial proposal with lowest summarized total cost will be given a financial score of 100 and other proposals given financial scores as following:

Financial Score of Firm = 100 x (LP/QP)

Where,LP = Lowest Price and QP = Quoted Price of Firm

1. The total score for aagency, considering its technical and financial bid will be computed as per the following formula:
	* Technical proposal will be given a weight of 60 and financial proposal will be given a weight of 40
	* The total score S shall be, S = 0.6 \* ST + 0.4 \* SF

Where, ST = Technical Score, and SF = Financial Score

1. If two or more agencys achieve the same combined technical and financial score, the agency with highest financial score will be considered as the L-1 agency.

## Technical and Financial Pre-Qualification Requirements

The Agency should fulfil all below qualification requirements for applying for this project:

## Agency should be a registered company, and should be in existence in the business for atleastlast 3 years in India, with an office in India.

## The agency should have strong and relevant domain knowledge, and should have executed min. 5 Industry and Market Research Reports in connected areas of Power Distribution, Bulk Power Supply, Rural Electrification, PPP models in Power distribution, DC devices, Genset, Auxiliary Power Units, Solar etc. The agency should have additional deep experience in customer research, both primary and secondary with focus on utilities and its customers.

## Agency should have strong experience in Technical and Financial modelling and development of power distribution and CleanTech related models and projects.

## Agency should have experience in power policies related to bulk consumption

## Agency should have 3+ years strong experience in organising Stakeholder Engagement activities (min. 5 conferences), pilot planning and monitoring, capacity building and community development

## Agency should have a successful track record of advising on the full scope of activities outlined.

## Agency should have adequate capability to deploy adequate personnel

## The Agency should not have been Blacklisted or involved in any Corrupt & Fraudulent Practices by any Central/ State government ministry/affiliate or Public/ Private sector undertaking

## Technical Proposal Scoring Guideline

Technical scoring guideline has been shown in table below:

|  |  |
| --- | --- |
| Criterion | Maximum Score |
| **Part 1: Evaluation of Technical Proposal for Pre-qualified agencys** |  |
| 1. Approach and methodology for project execution. (This would be judged based on the agencys understanding of the assignment)
 | 20 |
| 1. Agency’s relevant experience (Experience will be judged based on No. of market and customer research projects/reports, relevance to the sector, etc.)
 | 30 |
| 1. Qualifications & experience of personal (based on CV). Experience of the team members should clearly reflect number of years of Customer Research, Business Market Customer strategy experience andsector experience.
 | 30 |
| **TOTAL** | **80** |
|  |  |
| **Part 2: Evaluation of Technical Presentation of Select Agencys** |  |
| **TOTAL** | **20** |
|  |  |
| **GRAND TOTAL on Technical Evaluation** | 1. **+ 20 = 100**
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# Milestones and Deliverables

All the milestones would be agreed with IITM before moving to the next stage of the assignment.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Phase | MILESTONES | DELIVERABLES | Tentative Timeline (in months) | Payment |
| 0 | Advance Payment |  | T0 | 20% of order value |
| 1 | Building concept note, pitch documents and target customer list for ‘Apartment UDC’ | * UDC concept note
* Two pitch documents – one for customer (Builder) and other for Discom
* Target Builder profile for pilot participation
* Target customer list to connect for views and feedback
 | T1 = T0 + 2 | 40% of order value |
| 2 | Pitching to all target customers and influencers and initiating pilot discussions | * 3-4 MoUs with Builders and Discoms to initiate pilot discussion and baselining
* Specific business case for select customers:
	+ Technical proposalfor ‘Apartment UDC’
	+ Excel Financial model with different scenario analysis to study business case for the Builders and Residents to adopt UDC technology
* 1-2 Agreements to initiate pilot implementation
 | T2 = T1 + 3 | 30% of order value |
| 3 | Stakeholder Engagement to further advocate the model | * Report on use of UDC for multi-storied building to provide 100W / 400W DC power to each apartment without interruption
* Presentation to Regulators and Nodal agencies to share the model, and request enabling environment
 | T3 = T2 + 1 | 10% of order value |