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# DEPLOYING SOLAR PV ROOFTOP ON LOW PAYING CONSUMERS' PREMISES IN JHARKHAND

Final  
Report

April 2021

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# DEPLOYING SOLAR PV ROOFTOP ON LOW PAYING CONSUMERS' PREMISES IN JHARKHAND

## FINAL REPORT

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## ACRONYMS

APEPDCL	Andhra Pradesh Eastern Power Distribution Company Limited
C&I	Commercial and Industrial
DISCOMs	Distribution Companies
EPC	Engineering, Procurement and Construction
GERC	Gujarat Electricity Regulatory Commission
GoI	Government of India
GW	Giga watts
JBVNL	Jharkhand Bijli Vitran Nigam Limited
JSERC	Jharkhand State Electricity Regulatory Commission
KSEB	Kerala State Electricity Board Limited
LED	Light Emitting Diode
NSM	National Solar Mission
PACE-D	Partnership to Advance Clean Energy – Deployment
PPA	Power Purchase Agreement
PPP	Public-Private Partnership
RE	Renewable Energy
RECs	Renewable Energy Certificates
RESCO	Renewable Energy Service Company
RPO	Renewable Power Purchase Obligation
T&D	Transmission and Distribution
TPL	Torrent Power Limited
UJALA	Unnat Jyoti by Affordable LEDs for All

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This report is an output of a comprehensive study carried out by PACE-D 2.0 RE team comprising of experts from Tetra Tech and En-genuity.

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## EXECUTIVE SUMMARY

India is rapidly transforming its coal-based power sector to a renewable energy-based sector. In the last six years, renewable energy capacity has increased 2.5 times while solar capacity has increased 13 times. However, achieving the Solar PV Rooftop (SPVRT) target of 40 GW by 2022 requires acceleration and fundamental changes in the business model. Several interventions from the Ministry of New and Renewable Energy (MNRE), such as subsidizing the residential sector, empowering and providing incentives for distribution companies (DISCOMs), modifying metering regulations, streamlining the demand aggregation process, and mobilizing financial and technical assistance through international partners and Indian public sector banks have not provided the desired results. Challenges include low awareness on solar rooftop systems, DISCOMs' and consumers' fear that SPVRT will lose residential customers money and a lack of public information about the approval process. COVID-19 has further impacted SPVRT deployment.

DISCOMs' financial analyses and SPVRT business models have not considered SPVRT's inherent advantage in reducing aggregate technical and commercial (AT&C) losses—the most burning problem of the Indian power sector in the past several years—by co-locating generation and consumption. This makes SPVRT more attractive in consumer areas where AT&C losses are higher, contrary to the belief that it will worsen DISCOMs' financial position. Customers with high AT&C losses are generally at the tail end of the network; as a result, their cost of supply is much higher than the revenue DISCOMs collect from them. In this report, we refer to such customers as “low-paying consumers.”

JBVNL undercharges several consumer categories, among which Domestic is the largest in terms of electricity consumption. The difference between the tariff and cost of supply for these low paying consumers (LPC) is funded through cross subsidy and state government subsidy. One of the major components of the cost of supply is transmission and distribution losses (T&D). Out of the projected cost of supply of INR 6.39/kWh for these consumers, INR 1.09/kWh can be attributed to T&D loss. Cost increases with an increase in T&D loss. By reducing the T&D loss, JBVNL can reduce cost of supply and subsequently the gap between the consumer tariff and cost of supply for LPC.

Solar PV Rooftop (SPVRT) due to the co-location of generation with consumption, can reduce T&D losses and thus the cost of supply. JBVNL gains the highest when SPVRT is deployed at the tail-ends of the grid where LPC are typically located and where the losses are higher. These consumers do not have any incentive to deploy SPVRT due to the low tariffs they pay and lack of wherewithal, including availability of finance, to deploy SPVRT. Defragmented nature of market and lack of or limited availability of consumer credit history of LPC increases transaction cost and investment risk for developers leading to higher SPVRT tariffs. Higher SPVRT tariffs further disincentives LPC for SPVRT deployment. Under the current mainstream business models i.e., self-investment model or third party or Renewable Energy Service Company (RESCO) model, developers and LPC cannot address these challenges.

In order to benefit from deploying SPVRT for LPC on a large scale, JBVNL would need to play a prominent role in SPVRT deployment by addressing the challenges faced by developers and LPC consumers. The United States Agency for International Development's (USAID) Partnership to Advance Clean Energy-Deployment (PACE-D 2.0 RE) program developed the **Super RESCO Model under Gross Metering** arrangement to accelerate SPVRT deployment for LPC under (the Proposed Model). Under this model

1. Consumer leases roof/premises to RESCO and receives compensation against the same
2. RESCO build-own-operate SPVRT on consumer premises for a fixed period
3. JBVNL purchases entire electricity generated from the SPVRT systems from RESCO through a power purchase agreement (PPA)

Under the Proposed Model, developers will aggregate the roofs/premises from LPC and in turn pay the rent for lease of the premises. JBVNL shall sign the power purchase agreements (PPAs) with RESCOs and procure the solar energy generated from the systems at the tariff determined through competitive bidding. Through tripartite agreements, JBVNL will be a party to the roof lease between RESCOs and consumers improving their confidence on each other and enhancing contract enforcement. Such arrangements can address the challenges and can scale up SPVRT deployment for LPC.

Gain for JBVNL from the deploying 25 MW of SPVRT in the pilot is estimated to be INR 12.2 crore per year without any capital investment by JBVNL. The gains to JBVNL will increase when deployed in areas with T&D loss above the average. JBVNL can also receive achievement - based incentives upto INR 21.5 lakh/MW from MNRE for SPVRT deployment if pilot qualify the criteria set forth for this scheme .

Jharkhand would also gain from SPVRT investment - INR 106 crore mobilized, and 1,25 jobs created - by deploying 25 MW of SPVRT. This will also support Jharkhand in achieving sustainable development goals.

For implementing the Super RESCO model under gross metering arrangement, JBVNL has received the approval from the competent authorities to execute the pilot in the State with support from the PACE-D 2.0 RE Program.

This report lists the activities PACE-D 2.0 RE has already completed in Jharkhand and suggests a path to successfully implement the pilot. Important documents such as the request for proposal, power purchase agreement (PPA), and tripartite agreement among the customer, DISCOM and RESCO that PACE-D 2.0 RE has developed are included in the document enclosed with the report (Annex II).

## INTRODUCTION

The Government of India has set a target of 40 GW of SPVRT deployment by 2022. The target achieved as on January 31, 2021 is only 4.2 GW.<sup>1</sup> Industrial and commercial consumers have been the major contributors to SPVRT deployment so far, with limited participation from domestic consumers. Meeting the SPVRT target will require greater participation from domestic consumers, as they own a large share of the roofs in the country. However, SPVRT deployment for domestic consumers has its own challenges, the major one being SPVRT's poor commercial viability due to low consumer tariffs, initial capital cost and DISCOMs' belief that it will cause them a financial loss. Other challenges include high transactional costs due to the fragmented nature of the market and lower contract sanctity due to a lack of credit records.

PACE-D 2.0 RE develops interventions to address the challenges of SPVRT deployment for low-paying consumers with partner states Assam and Jharkhand.<sup>2</sup> The program studied states' interventions to deploy SPVRT or similar technologies in order to understand the deployment challenges specific to the partner states; innovated a new business model (named as super RESCO under Gross Metering Arrangement) and conducted a financial and economic analysis to determine the gains to key stakeholders at various level of SPVRT deployment. These stakeholders include DISCOMs, consumers, state governments, and engineering, procurement and construction (EPC) businesses.

This report presents findings of the study, recommendations and way forward for deploying SPVRT for LPC<sup>3</sup> in Jharkhand. The study focuses on domestic consumers among the consumers of JBVNL. The recommendations and way forward developed for domestic consumers in this report can also be applied to other categories of low paying consumers such as for agriculture. The report highlights the following sections:

- Section I: Challenges in Deployment of Solar Rooftop for Low Paying Consumers
- Section II: Low Paying Consumers have Higher Cost of Supply
- Section III: Relevance and Applicability of Innovative Business Model Developed by PACE-D 2.0 RE Program
- Section IV: Financial Analysis
- Section V: Economic Analysis
- Section VI: Implementation of Super RESCO Model
- Section VII: Key Recommendations and Way Forward

<sup>1</sup> Ministry of New and Renewable Energy

<sup>2</sup> For details about the PACE-D 2.0 RE program, please see [www.pace-d.com](http://www.pace-d.com).

<sup>3</sup> Low paying consumers are those consumers whose cost to serve is higher than the electricity tariff collected from them.

## SECTION I: CHALLENGES IN DEPLOYING SOLAR ROOFTOP FOR LOW-PAYING CONSUMERS

Jharkhand has achieved 19.99 MW, as of June 20, 2020, against a target of 800 MW (by FY 2021-22) allocated by Ministry of New and Renewable Energy (MNRE) under National Solar Mission (NSM) . Major contributors of the deployed capacity, in Jharkhand, are Industrial consumers, Commercial consumers and Education Institutions. However, participation from domestic consumers has been lackadaisical.

Domestic consumers, in Jharkhand, contribute to over 50% of the total sales of JBVNL. For FY 2020-21, projected sales to domestic consumers by JBVNL was around 5,886 million kWh . Domestic is the largest consumer category projected to contribute 59% of total sale of JBVNL for FY 2020-21 . Due to limited participation from this principal consumer category, Jharkhand has been unable to achieve its target. Major reasons for the limited participation from domestic consumers are listed below:

1. **Low consumer tariffs** – As mentioned above, JBVNL’s sale to domestic consumers around 60% of their total energy sales. Tariffs for a large part of these consumers are lower than the cost of supply of JBVNL. The difference in tariff and cost of supply is funded through cross subsidies by JBVNL and subsidies from the State Government. This is the main reason why these low paying consumers have stayed away from solar PV rooftop. For FY 2020-21, the tariff applicable to domestic consumers (LT consumers) is INR 6.25/kWh and has a subsidy of INR 3.47/kWh from Government of Jharkhand. JSERC has fixed the tariff for procurement of solar energy at the cost of INR 4.16/kWh under gross metering. With capital subsidy of 40% of project cost from MNRE , the cost of energy can reduce to INR 3.5/kWh. Savings from SPVRT i.e., INR 0.66/kWh is not attractive enough to motivate this consumer category. The payback period on investment is longer and may require about 6 years for a 1 kW installation. In addition, there is poor awareness on availing MNRE subsidy.
2. **Limited capacity to invest** – SPVRT is capital intensive technology, requiring an upfront investment of about INR 42,000 to 50,000 per kW which discourages large number of domestic consumers to invest in the technology. The availability of credit to consumers from bank is a cumbersome process and customer feel it is not worth the savings from SPVRT.
3. **Hurdles for third party developers** – Though costs of solar rooftop have come down, these solutions are capital intensive in nature for LT consumers and many of them cannot afford to make the capital investment (CAPEX) in such solutions by themselves. LT consumers are predominantly residential, small commercial and agricultural consumers. This has resulted in the development of third party-based business models like the Renewable Energy Service Companies (RESCO) business models. Third party developers run the SPVRT plants under build-own-operate model. However, RESCOs have witnessed limited success due to myriad issues like high transaction costs, fragmented nature of the DPV sector, and difficulties in consumer acquisition, aggregation of demand to achieve economies of scale and contract sanctity. Also, development of the RESCO market has lagged in the less developed states.
4. **Consumer’s acquisition and payments securities:** Consumer acquisition and payment security is the bottleneck for rooftop solar deployment. Currently RESCO and CAPEX are the key available models for solar rooftop. Many RESCO based projects are facing the payment default issue while the CAPEX projects facing the higher upfront cost of the projects. Finding domestic consumers in urban and suburban and rural areas require huge campaign and consumer’s consultation meets which is out of the budgetary scope of the localized developers.
5. **Lack of institutional priorities and process:** Earlier the state renewable energy development agencies were responsible for rooftop solar and respective DISCOMs of the area for meter sealing and reading. It is hard truth that due to non-coordinating approach between agencies many of

projects has been lying without grid connectivity for months and years, this reluctant behavior of agencies has impacted the solar installation among consumers of all the major cities of country and Jharkhand has also witnessed the same. MNRE has now mandated DISCOMs as the implementing agencies for solar rooftop, duly taking care of their operational and administrative costs and revenue loss on account of introduction of solar rooftop. This revised institutional mechanism would go a long way in giving requisite thrust to the solar rooftop program.

6. **Viable business model for DISCOMs, RESCOs and Consumers:** plain vanilla RESCO and CAPEX models are not enough to boost the pace of solar rooftop. With DISCOMs becoming the implementing agencies, a model herein called as the Super RESCO model in which they play a central role needs to be adopted to address the above-mentioned challenges being faced by consumers and developers.

SPVRT systems located on LPC can bring about a win-win proposition for JBVNL, consumers and developers. The State can achieve its SPVRT target while at the same time generating benefits/ savings JBVNL, consumers and the industry, through deployment of SPVRT at the premises of LPC.

## SECTION II: LOW-PAYING CONSUMERS HAVE A HIGHER COST OF SUPPLY

### WHO IS A LOW-PAYING CONSUMER (LPC)?

Small scale consumers that are provided electricity to meet basic needs and offered low electricity rates (because of their limited affordability) even though the economic cost of electricity supplied is high are termed as low paying consumers. In case of Jharkhand and Assam following low tension (LT) consumer categories are designated as low paying.

- Kutir Jyoti DS I(a) & DS I(b) consumer category – Consumers whose consumption is in slab of 0-100 & 0-200 kWh per month respectively are applicable for supply of power to any premises exclusively for the purpose of own requirements.
- Domestic consumer category (DS II)- Consumers whose consumption is in slab of 201 and above kWh per month applicable for supply of power to consumers having connected load below 5 kW for residential premises, exclusively for domestic purposes only.

### TARIFF FOR LOW-PAYING CONSUMERS

Jharkhand State Electricity Regulatory commission (JSERC) notified following tariff schedule applicable for Low Paying consumers vide order dated 1<sup>st</sup> October 2020.

Table 1: Schedule of Tariff with effect from 1st April 2020

Consumer Category	Fixed Charges			Energy Charges		
	Base Rate	Govt Subsidy	Effective Rate	Base Rate	Govt Subsidy	Effective Rate
LT Consumer Category	(Rs/connection/month)			(Rs. per kWh)		
Kutir Jyoti	20	-		4.40	-	0
Domestic Rural – below 5 kW	20	-		5.75	-	
Domestic Urban– below 5 kW	75	-		6.25	-	

Domestic DS I and DS II is the largest consumer category projected to contribute 59% of total sale of JBVNL for FY 2020-21<sup>4</sup>. As the pilot is designed for low paying consumers the reports focus on domestic consumers category only.

### COST OF SUPPLY FOR LOW PAYING CONSUMERS

<sup>4</sup> Source: Tariff Order for FY 2020-21 for JBVNL passed by JSERC on October 1, 2020

Important indicator of the financial viability of distribution utility (DISCOM) operations is the gap between the **average billing rate (ABR)** and the **average cost of supply (ACS)** per unit of energy supplied. Utility Operations will be **profitable if its ABR exceeds the ACS** each year of operation, that is, revenue from sale of power to different consumer categories should meet the cost of service and allows a positive margin for the DISCOM.

Table 2: Average Billing Rate and Average Cost of Supply

Indicators	Unit	Remarks
<i>Average Billing Rate</i>		
<b>Average Billing Rate</b>	Rs/kWh	It is the total revenue earned by charging consumers at specified tariffs for the energy supplied and subsidy (if any) received by the utility divided by the total sales.  $ABR = \frac{\text{Revenue from sale of power} + \text{subsidy received}}{\text{Total Sales (MU)}}$
<i>Average Cost of Supply</i>		
<b>Average Cost of Supply</b>	Rs/kWh	It is the cost of purchasing power from various generators (conventional, non-conventional, power exchanges, etc.), cost of operating and maintaining the distribution network (such as service lines and distribution transformers), employee cost, depreciation, and finance cost—divided by the total sales to consumers.  $ACS = \frac{\text{Power purchase cost} + O\&M + \text{Depreciation} + \text{Finance cost}}{\text{Total Sales (MU)}}$
<i>When Average Billing Rate ≥ Average Cost of Supply</i>		
It means DISCOM is in good financial position and can recover its cost of operation through sale of power to consumers. Also, it signifies utility can invest in augmentation/upgradation of its network in future years.		

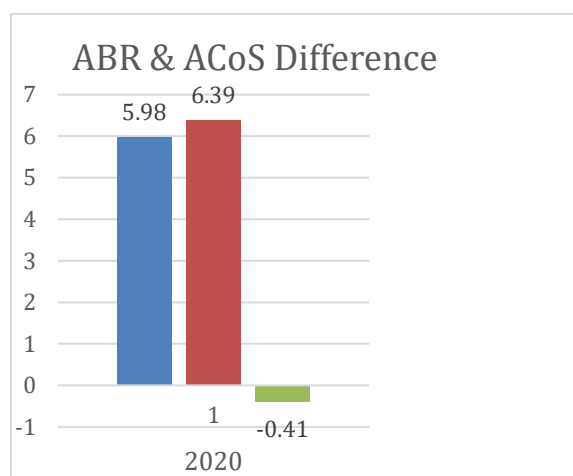
In the case of Jharkhand, JBVNL has estimated the Average Billing Rate for each consumer category and computed Average Cost of Supply for all consumers. The commission has rationalized the fixed charges of different categories so that it could be uniform with other distribution licensees. Commission has also kept in mind that there is no increase/decrease in Average Billing Rate. The same were provided to JSERC in their petition for revised ARR and Tariff for year 2020-21.

Table 3: Cost of Supply for Domestic Consumers in Jharkhand

Indicators for Jharkhand (JBVNL)	Unit	Value
Average Billing Rate for Domestic A Consumers (P)	Rs/kWh	5.98
Average Cost of Supply (Q)	Rs/kWh	6.39
Difference (P-Q)	Rs/kWh	- (0.41)

For JBVNL Average Billing Rate  $\leq$  Average Cost of Supply

It means DISCOM is unable to recover its cost of operation through sale of power to Domestic A consumers.



As indicated in Table 3, the average billing rate (ABR) projected by JBVNL for FY 2020-21, which includes all fixed and variable charges for Domestic consumers is about INR 5.98/kWh. However, average cost of supply (ACoS) projected for the same period is about INR 6.39/kWh for domestic consumers. JBVNL projected to undercharge domestic consumers by INR 0.49/kWh, refer Figure 1. The gap between ABR and ACoS is funded by cross subsidy by JBVNL and subsidy by Government of Jharkhand.

Figure 1: Difference between ACoS and ABR for Domestic Consumers

### IMPACT OF TRANSMISSION AND DISTRIBUTION (T&D) LOSSES ON COST OF SUPPLY FOR LOW-PAYING CONSUMERS

One important element that gets embedded in the cost of supply are transmission and distribution losses that occur during the process of supplying electricity to consumers. In case of JBVNL, while significant efforts were made to reduce distribution losses to 15% as set by JSERC, in FY 2018-19 and subsequent FY the distribution losses have been beyond the stipulated target of 15%. Refer Figure 2.

JBVNL submitted that such increase in losses has been due to non-achievement of metering connectivity to the unmetered consumers of metering massive increase in domestic LT consumers without adequate HT backbone. The increase in LT:HT consumer ratio and rural electrification (under SAUBHAGYA scheme) had further stressed focus of utility towards identifying ways to lessen supply side loss reduction. The electricity transmission losses remain at 2.23%.



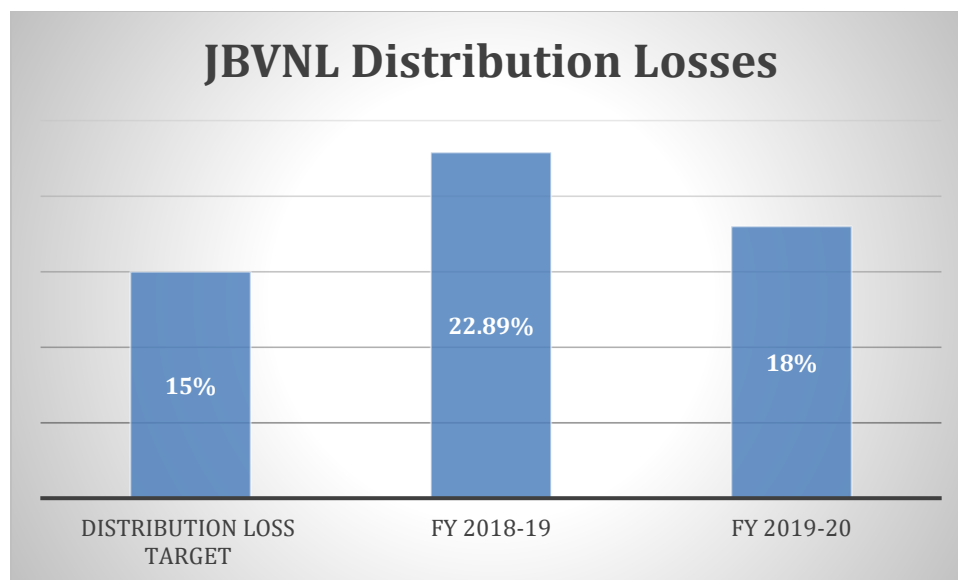


Figure 2: JBVNL Distribution Losses

Distribution losses if gets significantly reduced or eliminated can reduce cost of supply and lead to significant savings to DISCOMs and state which often pays for subsidies to meet the livelihood needs of low paying consumers. The 25 MW pilot capacity is expected to mitigate the losses on account of AT&C losses while serving the low paying consumers to a certain extent. Deployment of SPVRT at a large scale by JBVNL, co-located at consumer premises is one such intervention that has potential to not only reduce the impact of technical distribution losses but also improve commercial inefficiencies (i.e. AT&C losses).

The table below indicates the overall cost of electricity at low paying consumer doorstep after including the impact of transmission and distribution losses. It can be noted that transmission and distribution losses contribute to INR 1.21/kWh to the cost of electricity supply.

Table 4: Contribution of losses to cost of electricity of LPC

S No.	Overall cost of electricity at low paying consumer doorstep	Value
1	Average purchase cost of electricity at state periphery	INR 4.69/kWh
2	Transmission loss	2.23%
3	Distribution loss for LT	17% <sup>5</sup>

<sup>5</sup> Tariff order for FY 2020-21 allows aggregated distribution loss of 15% for JBVNL. However, voltage wise losses are not mentioned in the tariff order. So, distribution loss of 17% is assumed for LT consumers

4	Total loss <sup>6</sup>	18.85%
5	Cost of electricity supplied at consumer doorstep <sup>7</sup>	INR 5.78/kWh
6	Contribution of losses (5-1)	INR 1.09/kWh

It should be noted here that the cost of electricity supplied should not be confused with average cost of supply indicated in section 1.3. The average cost of supply includes infrastructure maintenance cost, employee cost, depreciation, finance cost and other overheads which is not included in the above calculation. The premise is to understand the contribution of losses in the overall cost of electricity.

<sup>6</sup> Total loss =  $1 - (1 - \text{transmission loss}) \times (1 - \text{distribution loss})$

<sup>7</sup> Cost of energy at consumer doorstep =  $\text{Average purchase cost at state periphery} / (1 - \text{Total loss})$

## SECTION III: RELEVANCE AND APPLICABILITY OF THE INNOVATIVE BUSINESS MODEL DEVELOPED BY PACE-D 2.0 RE

Deployment of solar rooftop on low paying consumers hinges on the design of an appropriate business model which addresses all the challenges that come with deployment on consumers who pay very little for grid-based electricity, have limited to no credit history and very often have also not seen a solar rooftop system. The business model adopted would have to ensure that no upfront investments are required from either the DISCOMs or the low paying consumers, while also ensuring that the RESCOs returns are protected through appropriate long-term contract arrangements.

Solar PV rooftop installations on low paying consumers can be deployed using a variety of models. These can range from the simple net or gross metering models to RESCO based models using both gross and net metering. Other DISCOM anchored models like on-bill financing, aggregator etc. could also be used to achieve this objective. However, all the aforementioned models suffer from several challenges (which were identified during stakeholder interactions held by the Program in Jharkhand). Some of these are highlighted below:

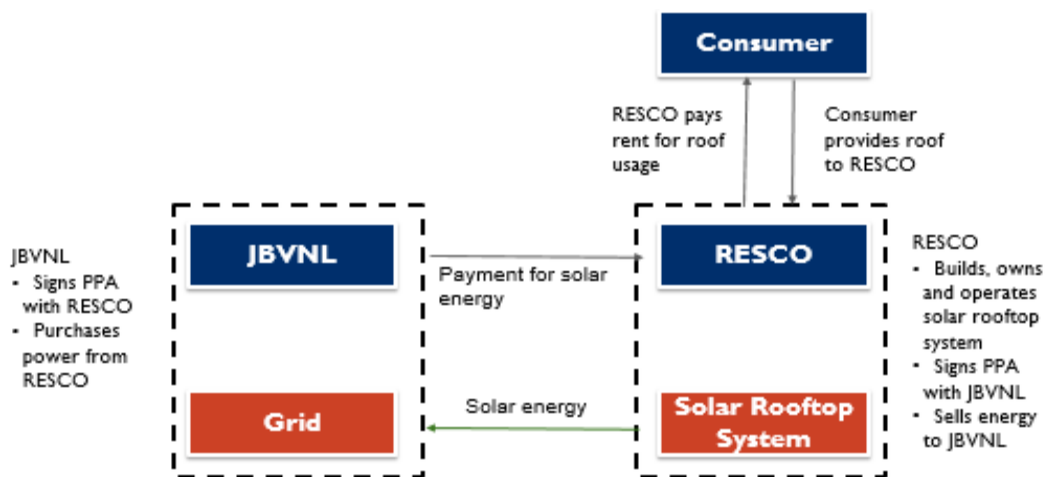
1. The consumers, especially low paying consumers, had no bandwidth to make any investments in these systems. This effectively ruled out the **plain vanilla gross and net metering models**.
2. RESCO's rated low paying consumers very low in terms of long-term contract security. This issue along with the relatively high cost of solar PV rooftop power (vis a vis the subsidized power that these low paying consumers receive) makes the **RESCO models** a non-starter.
3. The final option was to go for a **DISCOM anchored model**. However, JBVNL did not want to invest in the systems and bill financing and aggregation would not work due to lack of adequate arbitrage for the consumers (in terms of savings).

To address these critical issues related to implementation of the Pilot, a new business model was needed, which has advantages over the other models. Based on the analysis of the requirements and the process of elimination, JBVNL and the USAID PACE-D 2.0 RE Program felt that the **Super RESCO based Gross Metering Model** (also referred to in the Report as '**Proposed Model**') is the best and decided to execute the Pilot through Super RESCO based Gross Metering Model. To realize the **Super RESCO Model**, JBVNL is in the process of publishing a tender for 25 MWp solar rooftop power project to be developed on the premises of its low paying consumers.

This model would leverage the market for financing, ensure investor returns through a gross metering tariff and also incentivize consumer participation through roof rent compensation. JBVNL due to its large consumer base shall be helpful for developer identifying the low paying consumers so that the tendered capacity could be achieved in accordance with terms and condition set forth in tender. Since JBVNL is working as a facilitator it shall maintain the contract sanctity between consumer and developer for lease of premises. At the same time, developers will be comfortable signing power purchase agreements (PPAs) with JBVNL due to the credit worthiness of JBVNL.

Under this model (refer Figure 5 below), JBVNL shall select RESCOs through competitive bidding process for the deployment of solar PV rooftop installations on the roofs of low paying consumers. This allows aggregation of capacity which in-turn allows larger procurement leading to economies of scale

which in turn allows reduction in prices and lower cost of power purchase to the DISCOM. JBVNL will facilitate deployment of these systems by the RESCOs of solar PV rooftop systems on low paying consumers' premises and from those systems buy the entire solar power generated at the discovered PPA tariff. DISCOMs have the technical know-how and capability to monitor the quality and timely execution of projects which will improve the deployment in the sector.



Key stakeholders in this model are JBVNL, the consumers and RESCO. Their role and responsibilities are outlined in Table 6 below:

Table 5: Responsibilities of key stakeholders in the pilot

JBVNL	RESCO	Consumer
<ul style="list-style-type: none"> <li>• Get regulatory and legal approvals for the pilot</li> <li>• Sign PPA with RESCO and Tripartite Agreement with RESCO &amp; Consumer</li> <li>• Facilitate interconnection for RESCO</li> <li>• Maintain high reliability of the sub-station and downstream lines</li> <li>• Timely payment against monthly bills to RESCO</li> <li>• Testing, sealing, installation, reading and maintenance of meters</li> <li>• Issuance of Lol to successful bidders</li> <li>• Sharing of consumer data</li> </ul>	<ul style="list-style-type: none"> <li>• Build, own, operate &amp; maintain the solar PV rooftop systems for 25 years</li> <li>• Tie up with consumers for roofs</li> <li>• Make any necessary improvements to roofs</li> <li>• Obtain all necessary clearances for developing solar PV rooftop systems</li> <li>• PBG submission, sign PPA with JBVNL and lease agreement with consumers</li> <li>• Raise monthly invoice to JBVNL</li> <li>• Payment of roof rent to consumer</li> </ul>	<ul style="list-style-type: none"> <li>• Provide round the clock access to roof to RESCO</li> <li>• Make necessary (minor) changes in the roof and internal circuit</li> <li>• Sign tripartite agreement with JBVNL and RESCO</li> </ul>

To successfully implement the pilot, JBVNL, with support from PACE-D 2.0 RE program team, will carry out the following activities to strengthen the implementation.

- Identification of RESCOs
  - Verify the technical and financial competence of the bidders in each category as per the eligibility criteria mentioned in the RFP
  - Identify the lowest bidder through LI matching for each of the category
- Project Execution
  - Facilitate RESCOs in accessing roof and support from LPC
  - Monitoring the project commissioning schedule indicated as per RFP T&C
  - Carryout commissioning tests for SPVRT
  - Meter testing, sealing and Interconnection of SPVRT to the grid
- Technical & Administrative Support
  - Provide stable grid for smooth operation of SPVRT systems
  - Meter reading through RMS as well as joint meter reading onsite (in case if required)
  - Carryout billing and invoice processing for solar generation on regular basis vis a vis verifying the compensation paid to roof owner
  - Monitor the performance of the RESCOs
- Ensure Regulatory Support
  - Acquired regulatory approvals for the Proposed Model including compensation scheme for commencement of the project
  - Acquired regulatory approvals for the PPA tariffs discovered through tariff based competitive bidding

### HOW DOES THE PROPOSED MODEL ADDRESS THE CHALLENGES?

Consumers and developers cannot overcome challenges highlighted in Section I by themselves. Intervention of a larger state government organizations is required to address these challenges. The success of Super RESCO model in Jharkhand has the potential to accelerate the DPV deployment in the state without any financial burden on JBVNL. This will lead to help in achieving the state’s target given under NSM. Most importantly, the proposed model will enable LPC to participate in SPVRT deployment as consumers across the JBVNL distribution network will receive the roof rent for longer term without any investment. Possibly a fair contract and timely lease payment shall motivate many of the consumers to lease their roof and earn money. Table below highlights the role of Super RESCO in mitigating challenges for deployment of SPVRT for LPC in Jharkhand.

*Table 6: Addressal of Challenges for SPVRT Deployment by LPC by Super RESCO Model under Gross metering Mechanism*

S.No.	Challenge for deploying SPVRT for LPC	Addressal by the Proposed Model
I	Low consumer tariffs	Low consumer tariffs discourage domestic consumers from investing in SPVRT due to longer payback period. Under the proposed model, RESCOs install systems on

		the premises of the LPC and sell entire solar generation to JBVNL. Hence, LPC are not compelled to buy solar power and would also receive compensation for leasing out their premises.
2	Limited Capacity to Invest	No investment from LPC is required as RESCOs invest in SPVRT under the proposed model.
3	Hurdles for RESCOs	A major hurdle faced by RESCOs for LPC is defragmented nature of the market increasing the transaction costs. Consumer acquisition, availability of reliable transmission and distribution network are also big barriers.
4	Lack of Suitable Roofs	JBVNL due to their reach to every electricity consumer in the state and presence all over the state, has an advantage over developers in identifying LPC with suitable roofs and approach them for developing SPVRT.
5	Lack of support from JBVNL	Since JBVNL will purchase 100% of solar power generated from SPVRT systems, JBVNL will not loss any revenue. Local surplus which might be created by the SPVRT systems can be consumed within immediate vicinity i.e., same distribution transformer or feeder. Moreover, sites can be selected to be consumed within immediate vicinity.

The Implemented Model by JBVNL offers benefits to all stakeholders, as mentioned below:

1. For consumer – Allow LPC to participate in environment - friendly infrastructure development at no cost. Moreover, they can also earn under the proposed model.
2. For JBVNL -
  - a. No capital investment from the JBVNL
  - b. Avoid burden of management of solar PV rooftop systems
  - c. Achieving the solar RPO target and minimizing REC procurement.
  - d. By the virtue of its technical and legal capabilities JBVNL can ensure high quality generating assets supporting their grid
  - e. The Proposed Model allows JBVNL to focus on the area with infrastructure congestion, identify the potential area where SPVRT can reduce the AT&C losses for SPVRT deployment to maximize the benefits
  - f. Capacity aggregation and competition can lead to low tariffs under tariff-based bidding process
3. For RESCO –

- a. DISCOMs, trusted entities, allow high contract sanctity and low payment risks
- b. Power Purchase Agreement (PPA) with DISCOMs allow competitive terms on financing from mainstream investors
- c. Aggregation and standardization allow bulk procurement of components
- d. High volume of projects, due to aggregation, allows RESCOs to plan and implement better

Super RESCO is more attractive compared to other business models as they generate specific benefits to each stakeholder. In the subsequent sections, the financial (cost and benefit) and economic effectiveness of the recommended model are discussed.

## SECTION IV: FINANCIAL ANALYSIS

As highlighted earlier, SPVRT will help JBVNL in reducing the T&D losses which will in turn reduce the cost of supply to LPC. This can reduce the need for cross subsidy and state government subsidy benefitting both JBVNL and the state. This section presents the monetary estimates of the benefits of deploying 25 MW pilot capacity in the state. It is based on the inferences derived from field visits, the strategy and operations of JBVNL, recommendations proposed by PACE -D 2.0 RE for JBVNL, and globally recognized assumptions for solar rooftop PV systems.

Secondary data from Tariff and Aggregate Revenue Requirement (ARR) Orders, Petitions, and published reports were collected and collated for both National and State level assessments. Tariff orders and other regulatory documents were studied to understand the key parameters like energy sales, quantity of power purchase and cost, transmission and distribution losses, fixed and variable charges, aggregate revenue requirement, revenue gap and subsidy, cross-subsidy, tariff details, etc. Based on these parameters, a financial model was developed for the estimation of DISCOM's savings and total systematic benefits through the implementation of solar rooftop.

Solar rooftop business models have evolved overtime based on the ownership of systems and external stakeholder participation. In DISCOM based business models, the role of the DISCOM can vary from being a facilitator to a mediator to an investor. As one of the objectives of this study was to design a business model that will help DISCOMs reduce their AT&C losses, specifically for LPCs, the following business models capturing the various roles being played by DISCOMs were also reviewed (the models are described in detail in Annexure I: Study of SPVRT Business Models Implemented in India):

**5 MW Gandhinagar Rooftop Solar Program deployed in Gujarat** by Torrent Power under Gross metering for Government buildings and residential buildings. Here the DISCOM acted as a facilitator.

**Grid connected rooftop/ground mounted solar PV plants under SOURA scheme in Kerala** by Kerala State Electricity Board Ltd (KSEB). Here KSEB acts as investors in the scheme. Solar rooftop plants are deployed on all types of buildings.

**Andhra Pradesh's Pilot** for low income, low consumption consumers by Andhra Pradesh East Power Distribution Company Ltd. In this initiative the DISCOM acts as a mediator for loans financed by Andhra Bank to consumers.

**UJALA Program for Energy Efficient and Affordable Lighting to All** implemented by several DISCOMs across many states. In this case, the DISCOM acts as an investor in these programs.

Based on analysis of the data collected, benefits and savings from his model, that can accrue to each stakeholder group were quantified and then collated into a total system gain.

It is estimated that by deploying 25 MW of SPVRT, JBVNL can save about **INR 8.5 crore** from reduced cost of supply. JBVNL can also save if they achieve 8% of their total sales from solar for FY 2021-22 and avoid purchasing renewable energy certificates (RECs) to meet the solar renewable energy purchase



obligations (RPO). Overall, deploying SPVRT of 25 MW, JBVNL can save about INR 12.2 crore. Refer Table 8 for the assumption and calculations of the savings estimate.

Table 7: Assumptions and Savings from 25 MW SPVRT

Sl. no.		
	<b>SPVRT Generation</b>	
1	Generation from 1 MWp SPVRT	1.5 MUs
2	Generation from 25 MWp SPVRT (1)	37.5 MUs
	<b>Savings from reduced T&amp;D</b>	
3	Average purchase cost of electricity at state periphery	INR 4.69/kWh
4	Transmission loss	2.23% <sup>8</sup>
5	Distribution loss for LT	17% <sup>9</sup>
6	Total loss <sup>10</sup>	18.85%
7	Cost of energy supplied at consumer doorstep <sup>11</sup>	INR 5.78/kWh
8	Cost of electricity from SPVRT	INR 4.25/kWh
9	Assumed cost of electricity from SPVRT after capital subsidy of 40%	INR 3.50/kWh
10	Savings from the SPVRT (Difference of S. nos 7 and 9)	INR 2.28/kWh
11	<b>Savings from reduced T&amp;D (Multiple of S. nos 2 and 10)</b>	<b>INR 8.5 crore</b>
	<b>Savings from avoiding RECs</b>	
12	Avoided cost of RECs	INR 1,000/REC i.e., INR 1/kWh <sup>12</sup>
13	<b>Savings from avoiding RECs (Multiple of S. nos 2 and 12)</b>	<b>INR 3.7 crore</b>
14	<b>Total reduction in cost of supply (Sum of S. nos 11 and 13)</b>	<b>INR 12.2. crore</b>

<sup>8</sup> Transmission loss of 2.23% is considered

<sup>9</sup> Tariff order for FY 2019-20 allows aggregated distribution loss of 15% for JBVNL. However, voltage wise losses are not mentioned in the tariff order. So, distribution loss of 17% is assumed for LT consumers

<sup>10</sup> Total loss = 1 - (1 - transmission loss) X (1 - distribution loss)

<sup>11</sup> Cost of energy at consumer doorstep = Average purchase cost at state periphery/(1 - Total loss)

<sup>12</sup> 1 REC is issued for 1 MWh i.e., 1,000 kWh. Floor price for REC is set at INR 1,000.

Fully operationalize pilot capacity will lead to the overall savings of INR 12.2 crore that can be used to reduce the cross subsidy and state government subsidy benefitting JBVNL and State Government. Cost of supply is highly sensitive to the T&D losses.

In addition to the abovesaid benefits, MNRE provides performance - based incentives to DISCOMs, of at least 5% of the capital cost to them for achieving capacity addition of 10% and above, over the installed capacity of previous financial year. For capacity addition between 10% and 15% of previous financial year installed capacity, an incentive of 5% is available. For the capacity addition over and above 15%, an additional incentive of 10% is available. This translates into an incentive of INR 21.25 lakh/MW of SPVRT deployed.

## SECTION V: ECONOMIC ANALYSIS

SPVRT is also perceived to support Jharkhand meet their sustainable development goals through three key growth factors - employment generation, investment mobilization and reduction in carbon emission.

- **Mobilizing Investments:** Estimated capital cost of solar rooftop systems is about INR 42,500/kWp, which amounts to INR 4.25 crore per MW. JBVNL has invited tender for 25 MWp. Considering this, deployment of SPVRT of 25 MWp capacity can mobilize an investment of INR 106 crore to Jharkhand.
- **Job Creation:** It is estimated that each MW of SPVRT can create 5 jobs for its operations and maintenance. As of 2019, around 38,640 workers were directly employed for 3.8 GW of total cumulative installed solar PV rooftop capacity which is about 10 jobs/MW according to estimates by Council on Energy, Environment and Water (CEEW) and the Natural Resources Defense Council (NRDC). In this context, deployment of SPVRT of 25 MW will create 250 new jobs in Jharkhand.
- **Reduction in Carbon Emissions:** SPVRT can help Jharkhand reduce their purchases from thermal power plants which has high emissions. Each kWh generated by SPVRT can lead to reduction of 0.932 kg of carbon emissions. Thus, 25 MW of SPVRT can reduce carbon emission by 35 million tones / year for Jharkhand.

## SECTION VI: IMPLEMENTING THE SUPER RESCO MODEL

The **Super RESCO model** is an innovation and is piloted in Jharkhand. In addition, implementing this model specifically targeting low paying consumers is novel and a lot of learnings will be generated that can be utilized in fine tuning the model before statewide scale-up. The full tender capacity shall be developed in three phases and completion of execution is expected within 1.5 years of issuance of LoI to the successful bidders. The execution of the project shall generate enough experience for JBVNL as well as developers at several levels, including but not limited to grid connectivity, grid balancing, metering, invoicing, etc, that can be utilized during state-wide replication of this model. Considering the situation in Jharkhand, PACE-D 2.0 RE team recommends the following:

1. Execution of the full capacity i.e. 25 MWp, understand the implementation challenges and analysis of the financial benefits that the DPV deployment at the premises of LPC is expected to add on
2. Relaxation in Regulatory Provisions for system sizing as well as utility-based compensation mechanism for roof owner

### PILOT DESIGN

Through this pilot, JBVNL will be able to assess the large - scale deployment potential and identify the various challenges that are linked to the implementation of this business model for solar PV rooftop projects, such as:

- Changes in the power supply situation
- Reduction in T&D losses, thereby reducing power purchase costs
- Understanding challenges in a wider roll-out and develop solutions

The pilot project has a few key design features, such as:

- **Capacity of the pilot:** The full capacity of the pilot is 25 MWp. However, the bids are invited for two categories. Category Part A for development of solar power project in the range of 1 kWp - 3 kWp and Category Part B for development of solar power project in the range of above 3 kWp - 500 kWp. The total capacity available for allocation under the two bidding categories are as follows
  - Category Part A (1 kWp - 3kWp) = 15 MWp
  - Category Part B (Above 3kWp - 500kWp) = 10 MWp
- Bidders can submit their bid in either of the two categories or for both the categories. The available capacity shall be developed across the JBVNL distribution area. To motivate the state-based startups 10% of the available capacity under both the categories is kept reserved. The minimum capacity available for bidding is 0.5 MWp and maximum is 3 MWp.
- **Selection of RESCOs:** RESCOs will be selected through a competitive bidding process based on the lowest tariff quoted by them. Ability of RESCO to execute the projects will be ensured by enforcing strict qualifying criteria. All the bidders who qualifying under technical evaluation will be termed as technically qualified bidders and the financial bid of only technically qualified bidders will be opened. The financial evaluation of both the category (i.e. category Part A & category Part B) shall be carried independently and separately for identification of successful bidders. In other

words, all the financial bids received under Category Part A shall be evaluated simultaneously and together for the identification of LI bid under Category Part A and all the financial bids received under Category Part B shall be evaluated simultaneously for the identification of LI bid under category Part B.

- **Location of Pilot:** The pilot should be rolled out across the substations of JBVNL distribution area in the state
- **Power Purchase Agreement:** JBVNL will procure entire electricity generated from rooftop solar systems developed for the capacities allocated under this tender for a period of 25 years from the Commercial Operation Date (COD) at the Interconnection Point and in accordance with the terms of the Power Purchase Agreement (PPA) that will be signed between individual selected bidder and JBVNL
- **Tripartite Agreement:** Each selected RESCO will sign a tripartite agreement with individual consumers and JBVNL for use and access of the consumers' roofs for installation of systems. The document lays down obligations for each party during the project period. The important clauses covered under the tripartite agreement for the parties will be: (a) scope of work, (b) responsibilities, (c) security of solar PV rooftop systems, (d) conditions of entry and access, (e) conditions of default, (f) penalties and (g) compensations against defaults, etc

The approach that has been set out in procurement document will help in achieving the desired objectives. The implementation approach of this pilot provides the details of the project boundary, roles and responsibilities of various stakeholders, as outlined in Section III. Earlier it was advised to execute the pilot within controlled boundaries to understand a thorough study of reduction in power supply from the upstream of the sub-station, reduction in T&D losses and changes in quality of power. Now since the pilot is going to implement across all the substation a huge analytical methodology shall be required to understand the overall impact of the pilot on AT&C losses, consumer behavior and local employment generation.

## CHALLENGES AND RISKS

Being the first of its kind, the proposed pilot may face some challenges and risks. These along with their mitigation measures are captured below:

**Contract sanctity:** A large number of low paying consumers with no available credit track record will be involved in the proposed pilot. This increases the risks of the RESCO and JBVNL. A tripartite agreement is thus proposed among the consumer, RESCO and JBVNL. Such tripartite agreement will allow JBVNL to enforce the obligations on consumers and take appropriate action against them in case of defaults in meetings responsibilities. Consumers are more likely to honor the agreement with JBVNL as a party due to their ongoing relationship.

**Lack or limited power availability at consumer's premises:** Consumers of JBVNL face power outages due to lack of upstream supply or technical faults in the grid. During these outages, solar rooftop systems, stop generation due to absence of reference voltage. This will lead to loss for RESCO for no fault of theirs. To compensate the RESCOs for power outages, deemed generation is proposed in the PPA. As per the deemed generation clause in PPA, if the number of hours during which the grid is unavailable

exceeds 600 hours in a year then the developer shall be liable to receive deemed generation compensation from JBVNL. No generation compensation will, however, be payable due to unavailability of grid due to transmission constraints, force majeure conditions or due to backing down as per the instruction of SLDC, in accordance with the Grid Code and applicable laws. Such instructions shall be in writing.

**Consumer acquisition:** Acquiring many low paying consumers will be a challenge for the RESCO. This challenge will be mitigated through support of JBVNL in acquiring consumers by providing the list of domestic consumers, CA Nos, address etc. to the developer and providing incentives in the form of roof rent by developer to participating consumers. The incentive shall be monthly lease rent (as part of the tripartite agreement by the RESCO).

**Payment security to RESCO:** As a power procurer, JBVNL has a good track record of paying their generators. Moreover, JBVNL has provided a Letter of Credit (LC) to the RESCOs.

**Capacity Building of the field Staff of JBVNL:** Till date, JBVNL's staff and management have had experience with the conventional model of selling electricity over a power network, but awareness of solar rooftop among its staff is minimal. There is a need for training and capacity building as their roles expand to include additional services made possible by greater penetration of solar rooftop energy. JBVNL will need to provide the technical training to its staff for smooth implementation of this pilot.

## **PACE-D 2.0 RE ACTIVITIES IN JHARKHAND**

USAID PACE – D 2.0 RE Program, with the support of MNRE and the Government of Jharkhand, organized the kick-off workshop on **August 19, 2019 in Ranchi**. This workshop, hosted by JBVNL, saw participation of Mr. KK Verma, ED JBVNL & CMD JUSNL, Member Technical JSERC, and other senior officials from these organizations. Here, PACE-D 2.0 RE Program introduced the concept of utilizing distributed solar photovoltaic for LPC.

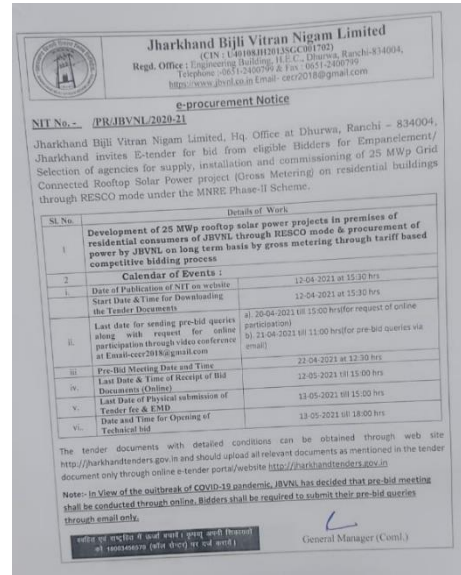
The team developed the concept of Super RESCO model to be implemented under Gross Metering mechanism to deploy SPVRT for LPC, and the same was presented to Mr. Rishi Nandan, GM (C&R), Mrs. Anita Prasad ESE and other officials, in January 2020. The team has also explained the need for pilot during the meeting and requested JBVNL to identify one or two sub-stations to carry out a brief survey and understand the feasibility of carrying out a pilot. PACE – D 2.0 RE also presented the concept to JSERC and received their feedback.

In January 2020, PACE – D 2.0 RE surveyed substations at Tupudana, Saraikela Kharsawan and other substations of Ranchi and adjoining districts for understanding the feasibility of SPVRT. In addition, the Program organized a consultation with SPVRT developers on February 4, 2020 on the proposed model. The roles and responsibilities of the developers, along with highlights on the vendor selection process for this task, were also highlighted. Developers found merit in the proposed model and expressed their willingness to participate in pilot.

Based on the feedback, PACE – D 2.0 RE developed and submitted a concept note to JBVNL on the proposed model with the benefits, regulatory requirements and need for pilot along with design of the pilot. Thereafter, the Program organized a meeting with officials of JBVNL to discuss the proposed

model on July 21, 2020. The meeting was chaired by Mr. Rishi Nandan (GM C&R) and was attended by other officials of JBVNL.

Based on the feedback from JBVNL, PACE – D 2.0 RE prepared the tender documents for procurement of power from the SPVRT plants to be developed under the pilot. After several rounds of discussion, the contract documents have been finalized and ready for publication by JBVNL. The Program has also prepared and submitted various documents that includes the comparative analysis of various RFPs and PPAs that have been published by other state governments/DISCOMs for development of rooftop solar power projects under RESCO mode, approval letter to MNRE for capacity reallocation etc. PACE – D 2.0 RE has also offered to extend support to JBVNL during pre-bid meeting and evaluation of bidders (if required and requested) by JBVNL for successful implementation of the pilot.



The tender documents have been finalized in the last quarter of 2020-21 and on April 12, 2021 JBVNL has floated the same for bidding. According to the Notice Inviting Tender (NIT), the timelines are as follows:

Date of publication of NIT on website:	April 12, 2021
Date & time of Pre-bid meeting	April 22, 2021
Last date for receipt of online bids	May 12, 2021
Submission of physical Tender fee & EMD	May 13, 2021
Technical Bid Opening Date	May 13, 2021
Opening of Financial bids	May 20, 2021
Issue of letter of Intent	May 27, 2021
Submission of PBG	June 1, 2021
Execution of PPA	June 4, 2021

Refer to Annexure IV for the list of meetings and communications.

## SECTION VII: KEY RECOMMENDATIONS AND WAY FORWARD

Installation of 40 GW of SPRVT by 2022 is important goal for Government to India to achieve the target of 100 GW solar by 2022. It has become challenging (Ref Section I) both for GOI and State Governments due to low consumer tariff and limited capacity to invest of the residential consumers who holds the large amount of roof<sup>13</sup>. Previous sections of this report highlight how these challenges can be grappled by adopting Super-RESCO model and deployment of SPRVT can be accelerated even in the low paying consumer category.

Section IV of the report provides financial and economic analysis by the deployment of SPRVT. The financial analysis suggests that due to deployment of 25 MW of pilot capacity JBVNL will be able to save annually INR 8.5 crore by reduced cost of supply and INR 3.7 crore by avoiding purchase of REC (Ref. Table 2) if the capacity is deployed in areas where AT&C losses are 17%.

The economic gains are directly dependent and more sensitive to the capacity of deployment. The deployment of full pilot capacity i.e. 25 MW SPRVT will result into the investment of INR 106 crore, generation of 250 new jobs and reduction of 35 million tons of carbon emission annually to Jharkhand. The execution of the pilot will also boost the economy of the low paying consumers as they receive the roof rent each of the month for next 25 years are till the contract whichever is earlier. Thus, deployment of SPRVT provides DISCOM, financial gains, to state economic gains and to consumer increased quality and reliability supply and gainful utilization of roof.

JBVNL has currently surplus power in the day. It should not deter JBVNL for not promoting SPRVT due to high financial and economic gains and AT&C loss reduction in areas where JBVNL is struggling to reduce losses. These low-cost high generation opportunities should help JBVNL for increasing demand<sup>14</sup>, increasing its business and contributing to the economy of the State. The fundamental rule of any business is to increase demand.

Since JBVNL is on the verge of publishing the tender and roll out the pilot, PACE-D 2.0 RE recommend following steps to JBVNL for successful implementation of the pilot:

1. The capacity building of the field officers of the JBVNL to educate about the metering and grid connectivity issues, commissioning of projects, also about the program and how should they encourage consumers to participate in this program.
2. Wide circulation of the program in daily news for mass participation of the low paying consumers.
3. The procedure for participation of consumer should be simple and with limited paper requirement.
4. Planned commissioning of each systems to achieve the project mile stone.

<sup>13</sup> As per 2001 census, out of 187 million households in India 38 million house holds have concrete roofs.

<sup>14</sup> Ref. Note on Optimal and Market Based utilization of Electricity Supply Resources of Assam developed by PACE-D 2.0 RE team, available at [www.pace-d.com](http://www.pace-d.com).





## ANNEX I: SPVRT BUSINESS MODELS IMPLEMENTED IN INDIA

### 5 MW GANDHINAGAR ROOFTOP SOLAR PROGRAM

**About the Program** – The Government of Gujarat launched the Gandhinagar solar PV rooftop program in 2010. It was the first pilot demonstration of the public-private partnership model, wherein the government engaged with RESCOs to implement SPVRT projects over government and residential buildings in Gandhinagar. Being the first of its kind, the project faced many challenges, such as owners' acceptance of solar PV installations on rooftops in residential and commercial sectors, owners' ability to execute the installations, lack of readiness to invest and own the installations, funding arrangements, sale of power and the revenue model, permissions and approvals, operations and maintenance, and appropriate system architecture.

**Business model** – The Gandhinagar program had a total size of 5 MW and was implemented through a RESCO model. Azure Power and Sun Edison were selected through tariff-based competitive bidding and were allotted 2.5 MW each. The program used a gross metering mechanism with Gandhinagar DISCOM Torrent Power Limited as the buyer for the solar power. Roof owners receive a “green incentive” of INR 3/kWh instead of a flat roof rent from RESCOs in order to motivate the rooftop owner to actively engage in the program.

### SOURA SCHEME: GRID-CONNECTED ROOFTOP/GROUND-MOUNTED SOLAR PV PLANTS

**About the Program** – Under the Urja Kerala Mission, the Government of Kerala launched a project called SOURA to add 1,000 MW of solar power capacity to the KSEB grid. Out of that 1,000 MW, the state aims to set up 500 MW in SPVRT projects. As the program facilitator, KSEB released a 200 MW tender under the SOURA program in 2019 and has identified 70,000 roofs that are feasible for SPVRT. KSEB will engage with consumers to acquire roofs and will provide them to developers (selected in a bidding process) for SPVRT installation. A total capacity of 200 MWp will be installed under SOURA.

**Business model** – KSEB has suggested both engineering, procurement and construction (EPC) and RESCO-based implementation models. Model 1 is RESCO-based: KSEB uses interested consumers' roofs, engages with RESCOs to develop SPVRT projects, and procures all solar generation. Roof owners receive energy credits for 10 percent of the solar power generated on their roofs. Models 2 and 3 are EPC-based. In Model 2, the energy generated is sold to the owners of the respective roofs at a fixed tariff that includes the cost of generation plus a margin. In Model 3, KSEB installs the rooftop system through an EPC developer and transfers it to the consumer.

### ANDHRA PRADESH'S PILOT FOR LOW-INCOME, LOW-CONSUMPTION CONSUMERS

**About the Program** – Realizing the potential savings from low-electricity-consumption consumers (also cross-subsidized consumers), Andhra Pradesh Eastern Power Distribution Company Ltd (APEPDCL) has facilitated a DISCOM-driven solar rooftop pilot for residential consumers requiring less than 200 units of power per month. It was implemented at two locations (Muralinagar and Madhurawada) in the city of Visakhapatnam to demonstrate the concept.

**Business Model** – The pilot includes both EPC and RESCO models. Model 1 is a customer-owned SPVRT program using a net metering arrangement. The capacity of systems will be 1 kW to 1.5 kW. Financing for system installation is available through a combination of (a) a capital subsidy extended by the Government of India and the Government of Andhra Pradesh, (b) loans to consumers at preferential terms, and (c) an upfront equity contribution from consumer. As part of the pilot, Andhra Bank extends loans to consumers at preferential terms. Participating customers pay monthly installments on their loans via electricity bills from APEPDCL, which passes the payments on to the bank. Installments are designed not to exceed the power bill in any given month.

Model 2 is RESCO-oriented and uses gross metering. Under this model, a RESCO is selected through competitive bidding to supply power to APEPDCL for 25 years using the roofs of participating consumers. APEPDCL compensates the consumers at a rate of INR 0.5/kWh for electricity generated.

### UNNAT JYOTI BY AFFORDABLE LED FOR ALL (UJALA) PROGRAM

The UJALA Program does not deploy SPVRT, but its business model can apply to SPVRT deployment.

**About the Program** – In India, lighting accounts for about 20 percent of total electricity consumption. Conventional incandescent bulbs consume more power and thus increase overall energy demand. In 2015, the Government of India established the nationwide UJALA Program to reduce energy demand in the lighting sector, promoting efficient lighting products such as light emitting diode (LED) bulbs and tube lights.

**Business Model** – Energy Efficiency Services Limited (EESL), a public sector enterprise, is the implementer. Energy-efficient appliances, especially LED bulbs, tube lights and fans, lower electricity bills for consumers and reduce the peak load for DISCOMs. EESL's business model is a benefit-sharing approach under which EESL pays the upfront costs of energy-efficient appliances to reduce the burden on customers and DISCOMs, then recovers part of the cost from each party over time. EESL can provide consumers LED bulbs and tube lights at below-market costs: INR 70 and INR 290 respectively. It recovers its upfront investment in two ways:

*DISCOM:* LEDs and tube lights reduce the DISCOM's load. EESL estimates the savings to the DISCOM based on its peak procurement cost and uses them to calculate an annuity. The DISCOM pays back its portion of the cost through the annuity over a period of three to ten years.

*Consumers:* Consumers pay back their portion of the cost through eight to 12 monthly installments. DISCOMs collect these installments through electricity bills and pass them on to EESL.

Under the UJALA Program, over 360 million LED bulbs had been distributed by January 2020. This has helped avoid peak demand by 9,000 MW and reduced greenhouse gas emissions by 38 million tons annually.

### LESSONS LEARNED FROM THE CASE STUDIES

Each case study is unique in its objective and execution, and each demonstrates the efforts made by state governments, DISCOMs and implementing partners to develop SPVRT projects in their respective states. Key lessons are presented in Table 8:

Table 8: Key lessons from other states

S.No	State/ Program	Key Learnings
1	Gujarat	<ul style="list-style-type: none"> <li>It is the first pilot in Gujarat for solar PV rooftop projects. The projects were implemented in RESCO mode and the entire power was procured by Torrent Power Limited. About 4.6 MW solar power is implemented under the pilot. Based on the pilot, the scheme was repeated for other districts of Gujarat.</li> <li>Different agreements were prepared under the pilot, such as PPA, power supply agreement, lease agreement, etc.</li> <li>Consumers were provided with green incentives.</li> </ul> <p><i>PACE D 2.0 RE Program suggests a similar model for the state with the gross metering approach. This model also showcases a mechanism for compensation to the consumers for their roof i.e., based on the generation of the solar PV rooftop system. The program also suggests relevant documentation that will provide contract sanctity amongst, consumers, RESCOs and JBVNL.</i></p>
2	Kerala	<p>The Government of Kerala launched the SOURA scheme to proliferate solar PV rooftop implementation in the state. Under the scheme, both EPC and RESCO are promoted. Under the RESCO mode projects, KSEB will procure entire power generated from the projects. The consumers will get incentive in terms of energy rebate.</p> <p><i>SOURA scheme showcases a compensation model through energy credits for the participating consumers. This incentives mechanism allows consumers to gain more as it allows higher savings on energy bills the consumer tariffs increases. PACE-D 2.0 RE Program suggests to consider this potential compensation model for the proposed pilot.</i></p>
3	Andhra Pradesh	<p>Though Model 1, APEPDCL has taken the novel step of providing finance to the consumers who are interested in implementing solar PV rooftop projects. Andhra bank has supported the scheme to provide the consumers loan and repayment on EMI basis. The target consumers under the scheme are low paying consumers of the state who have electricity consumption of less than 200 kWh per month.</p> <p>Through Model 2, APEPDCL compensates the consumers for their roofs directly. This pilot demonstrates on selecting low paying consumers and developing a scheme for them.</p> <p><i>PACE-D 2.0 RE Program suggests adoption of consumer selection criteria used for APEPDCL pilots for the proposed pilot. Program also suggests to adopt a compensation model i.e., consumers compensated for the roof by DISCOM as per the generation of the solar PV rooftop systems.</i></p>

S.No	State/ Program	Key Learnings
4	UJALA Program	<p>UJALA Program introduced and successfully implemented distribution of energy efficient appliances through a cost sharing approach. UJALA Program has demonstrated the high cost of energy efficiency appliances can be funded by both consumers and DISCOMs through their respective savings.</p> <p><i>UJALA Program demonstrates the benefit sharing approach where the benefits are shared between DISCOMs and Consumers while making it attractive for both. PACE-D 2.0 RE Program recommends that the pilot to be implemented for should follow a similar approach.</i></p>

**ANNEX II: PROCUREMENT DOCUMENTS DEVELOPED FOR JBVNL**

REQUEST FOR PROPOSAL  
FOR  
EMPANELMENT / SELECTION OF AGENCIES FOR THE DEVELOPMENT  
OF 25 MW<sub>p</sub> ROOFTOP SOLAR POWER PROJECTS UNDER RESCO MODE



NIT NO: PR/JBVNL/2020-21

DUE ON: 12/05/2021

*At*

JHARKHAND BIJLI VITRAN NIGAM LTD. (JBVNL)

(CIN: U40108JH2013SGC001702)

Engineering Building, HEC, Dhurwa, Ranchi-834004

Email: [cecr2018@gmail.com](mailto:cecr2018@gmail.com) Phone: +91 651 2400760

Fax: 0651-2446055

TENDER NO: PR/JBVNL/2020-21

**DEVELOPMENT OF 25 MW<sub>p</sub> ROOFTOP SOLAR POWER PROJECTS IN  
PREMISES OF RESIDENTIAL CONSUMERS OF JBVNL THROUGH RESCO  
MODE & PROCUREMENT OF POWER BY JBVNL ON LONG TERM BASIS BY  
GROSS METERING THROUGH TARIFF BASED COMPETITIVE BIDDING  
PROCESS**

**EXECUTIVE DIRECTOR (C&R)  
JHARKHAND BIJLI VITRAN NIGAM LTD. (JBVNL)  
(CIN: U40108JH2013SGC001702)  
Engineering Building, HEC, Dhurwa, Ranchi-834004  
Email: cecr2018@gmail.com  
Phone: +91 651 2400760  
Fax: 0651-2446055  
Website-www.jbvn1.co.in**



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## DEVELOPMENT OF 25MW ROOFTOP SOLAR POWER PROJECTS

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# DEVELOPMENT OF 25MW ROOFTOP SOLAR POWER PROJECTS

Govt. of Jharkhand

Energy Department

**Jharkhand Bijli Vitran Nigam Limited (JBVNL)**

Engineer's Building, HEC, Dhurwa, Ranchi - 834001.

Ph.: 1800 345 6570

E-mail: [cecr2018@gmail.com](mailto:cecr2018@gmail.com) Website: [www.JBVNL.co.in](http://www.JBVNL.co.in)

## e-Notice

**Tender reference no.:**

**Dated: 12.04.2021**

1.	Name of the work	Development of 25 MWp rooftop solar power projects in premises of residential consumers of JBVNL through RESCO mode & procurement of power by JBVNL on long term basis under gross metering through tariff based competitive bidding process
2.	Scheduled Commercial Operation Date	Within 15 (Fifteen) months from Effective date
3.	Date of publication of NIT on website:	<b>12.04.2021</b>
4.	Date & time of Pre-bid meeting	<b>22.04.2021 (Day) at 12.30 hrs</b> Venue: Online Please send your request for participation by 15.00 hrs on 20.04.2021 Please send your pre-bid queries by 11.00 hrs on 21.04.2021 to <a href="mailto:cecr2018@gmail.com">cecr2018@gmail.com</a>
5.	Last date & time for receipt of online bids (online)	<b>12.05.2021</b> up to 15.00 hrs
6.	Submission of physical Tender fee & EMD	<b>13.05.2021</b> up to 15.00 hrs
7.	Technical Bid Opening Date	<b>13.05.2021</b> at 18:00 hrs

## DEVELOPMENT OF 25MW ROOFTOP SOLAR POWER PROJECTS

8.	Name & address of office inviting tender	Executive Director (C&R) , Jharkhand Bijli Vitran Nigam Limited (JBVNL), Engineer's Building, Dhurwa, Ranchi - 834001.  Ph.: 1800 345 6570  E-mail: <a href="mailto:cecr2018@gmail.com">cecr2018@gmail.com</a>
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Any change(s) made to this document or to this RFP related issues shall be notified on website: <http://jharkhandtenders.gov.in> & [www.JBVNL.com](http://www.JBVNL.com)

**Sd/-**  
**Executive Director**  
**JBVNL, Ranchi**

**Abbreviation**

<b>Abbreviation</b>	<b>Full Form</b>
JBVNL	Jharkhand Bijli Vitran Nigam Limited
DSC	Digital Signature Certificate
AC	Alternating Current
ACDB	Alternating Current Distribution Board
BIS	Bureau of Indian Standards
CEA	Central Electricity Authority
CEI	Chief Electrical Inspector
CUF	Capacity Utilisation Factor
DC	Direct Current
DCDB	DC Distribution Board
DISCOM	Distribution Company
ED (C&R)	Executive Director (Commercial & Revenue)
EMD	Earnest Money Deposit
FF	Fill Factor
GST	Goods and Services Tax
Hz	Hertz
IEC	International Electro technical Commission
IEEE	Institute of Electrical and Electronics Engineers
Imp	Peak Power Current
INR	Indian Rupees
IP	Ingress Protection

IS	Indian Standard
Isc	Short Circuit Current
ISI	Indian Standards Institute
ISO	International Standards Organization
JB	Junction Box
JSERC	Jharkhand State Electricity Regulatory Commission
kVA	kilo-volt-ampere
kWp	Kilowatt peak
LOI	Letter of Intent
MNRE	Ministry of New and Renewable Energy
MMS	Module Mounting Structure
MOSFET	Metal-Oxide Semiconductor Field-Effect Transistor
MOV	Metal Oxide Varistor
MPPT	Maximum Power Point Tracker
MSME	Micro, Small and Medium Enterprises
MWp	Mega Watt Peak
NIT	Notice Inviting Tender
NOC	No Objection Certificate
O&M	Operations and Maintenance
PAN	Permanent Account Number
PBG	Performance Bank Guarantee
PCU	Power Conditioning Unit
PR	Performance Ratio

PV	Photovoltaic
RFID	Radio Frequency Identification
RFP	Request for Proposal
SNA	State Nodal Agency
SPD	Surge Protection Device
SPV	Solar Photo Voltaic
SSI	Small Scale Industry
STC	Standard Testing Condition
TAC	Tariff Advisory Committee
THD	Total Harmonic Distortion
TIN	Taxpayer Identification Number
UV	Ultraviolet
V	Volt
VA	Volt Ampere
Vmp	Peak Power Voltage
Voc	Open Circuit Voltage
W	Watt
XLPE	Cross-linked polyethylene
XLPO	Cross-linked Polyolefin

**SECTION - 1**

**DISCLAIMER, NIT,  
DEFINITIONS  
AND  
INTERPRETATIONS**



# 1 Disclaimer, NIT, Definitions and Interpretations

## 1.1 Disclaimer

- 1.1.1 The information contained in this RFP or subsequently provided to Bidder(s), whether verbally or in documentary or in any other form by or on behalf of JBVNL, or the Government of Jharkhand (GoJ) or any of their employees or advisors, is provided to Bidder(s) on the terms and conditions set out in this RFP and such other terms and conditions subject to which such information is provided.
- 1.1.2 This RFP is not an agreement and is neither an offer nor invitation to the prospective Bidders or any other party. The purpose of this RFP is to provide interested parties with information that may be useful to them in making their Bid. This RFP includes statements, which reflect various assumptions and assessments arrived in relation to the Project. Such assumptions, assessments and statements do not purport to contain all the information that each Bidder may require. This RFP may not be appropriate for all persons, and it is not possible for the Authority, their employees, or advisors to consider the investment objectives, financial situation and particular needs of each party who reads or uses this RFP. The assumptions, assessments, statements and information contained in this RFP may not be complete, accurate, adequate or correct. Each Bidder should, therefore, conduct its own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments, statements and information contained in this RFP and obtain independent advice from appropriate sources.
- 1.1.3 Information provided in this RFP to the Bidder(s) is on a wide range of matters, some of which depends upon interpretation of law. The information given is not an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. JBVNL accepts no responsibility for the accuracy or otherwise for any interpretation or opinion on law expressed herein.
- 1.1.4 The Authority, its employees and advisors make no representation or warranty and shall have no liability to any person including any Bidder under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this RFP or otherwise including the accuracy, adequacy, correctness, completeness or reliability of the RFP and any assessment, assumption, statement or information contained therein or deemed to form part of this RFP or arising in any way in this Bid stage.
- 1.1.5 JBVNL also accepts no liability of any nature whether resulting from negligence or otherwise how so ever caused arising from reliance of any Bidder upon the statements contained in this RFP.
- 1.1.6 JBVNL may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information, assessment or assumptions contained in this RFP.
- 1.1.7 The issue of this RFP does not imply that JBVNL is bound to select a Bidder or to appoint a sponsor or concessionaire, as the case may be, for the Project and JBVNL reserves the right to reject all or any of the Bidders or Bids or discontinue or cancel the bidding process without assigning any reason whatsoever.

- 1.1.8 The Bidder shall bear all its costs associated with or relating to the preparation and submission of its Bid including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by JBVNL or any other costs incurred in connection with or relating to its Bid. All such costs and expenses will remain with the Bidder and JBVNL shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by a Bidder in preparation or submission of the Bid, regardless of the conduct or outcome of the Bidding Process.

## 1.2 Notice Inviting Tender

Tender No: PR/JBVNL/2020-21

Date: Apr 12, 2021

1.2.1 ED JBVNL (C&R) invites interested companies and/or Bidding Consortium and/or any Consortium Member thereof (“Bidders”) to participate in the bidding process for the selection of bidders for development of rooftop solar systems aggregating to capacity of 25 MWp at premises of domestic consumers in JBVNL distribution area for procurement of Power by JBVNL, hereinafter referred to as “Procurer”. Power generated by such systems shall be procured by Procurer for 25 years at tariffs determined through a competitive bidding process carried out under this RFP. The responsibility of **each** of the Selected Bidder(s) would be to develop distributed rooftop solar systems, generate power and supply the same to Procurer as per the terms and conditions of the RFP Documents.

The bids are being invited for two categories namely

- a. Category Part A for development of solar power project in the range of 1kWp-3 kWp
- b. Category Part B for development of solar power project in the range of above 3 kWp-500 kWp
  - The total capacity available for allocation under the two bidding categories are as follows
    - a. Category Part A (1 kWp-3kWp) = 15 MWp
    - b. Category Part B (Above 3kWp-500kWp) = 10 MWp
  - Bidders can submit their bid in either of the two categories or for both the categories. If the bidder chooses to submit the bid in single category part the bidder needs to submit only one EMD. However, if the bidder submit its bid for both the category parts their bids must be accompanied with two EMDs i.e. 1 EMD for each of category part under which bid is being made.
  - Whether the bidder submits its bid under either of the two category parts or under the both category parts, the developer needs to provide only one single tender fee.
  - For Start-ups 10 % of the available capacity under both the category part shall be kept reserved i.e. 1.5 MWp under category Part A and 1 MWp under category Part B. However, during evaluation if it is found that the cumulative capacity of bids received by Start-ups is less than the available capacity for start-ups under that category, the capacity lying unutilised can be allocated to general bidder/ MSME/ SSIs.

1.2.2 **Selection of area:** Proposed capacities shall be developed at premises of domestic consumers category connected with feeders within the catchment area of JBVNL distribution network. Thus, bidders have the opportunity to identify and select domestic consumers from entire consumer base of JBVNL

1.2.3 **Minimum bid capacity and Maximum allocated capacity:** A bidder can bid for minimum capacity of 0.5 MW<sub>p</sub> and maximum capacity of 3 MWp.

1.2.4 **Bidding Process:** JBVNL seeks to qualify and select bidders for the development of 25 MWp distributed rooftop solar systems. For the purpose of identification of the successful bidder, bidders shall be required to submit both Technical Bid and Financial Bid as per the timelines mentioned in clause 4.7.2 (table 4.1) of this RFP.

Bidders who meet the “Qualification Requirement” as specified in Clauses 3.2 and 3.3 of this RFP will be declared Qualified Bidders. The technical evaluation of qualified bidders will be undertaken as per the process laid down under clause 3.3. All the bidders qualifying under technical evaluation will be termed as “technically qualified bidders” and the financial bid of only technically qualified bidders shall be opened. Bidders seeking to bid shall submit their bid in tabular format as per format given in Annexure 10. The identification of successful bidder shall be undertaken based on lowest tariff bid basis through a bucket filling process.

- The financial evaluation of both the category (i.e. category Part A & category Part B) shall be carried independently and separately for identification of successful bidders. In other words, all the financial bids received under category Part A shall be evaluated simultaneously and together for the identification of L1 bid under category Part A & all the financial bids received under category Part B shall be evaluated simultaneously for the identification of L1 bid under category Part B.
- Irrespective of whether the bidder has submitted its bids under single category part or both category parts the bidder need to submit only one technical bid for technical evaluation.

- 1.2.5 **Duration of PPA:** JBVNL will procure entire electricity generated from rooftop solar systems developed for the capacities allocated under this tender for a period of 25 years from the Commercial Operation Date (COD) at the Interconnection Point and in accordance with the terms of the Power Purchase Agreement (PPA) that will be signed between individual selected bidder and the Procurer.
- 1.2.6 **Commencement of supply of power:** The Selected Bidders shall have to commence the supply of power on the COD in accordance with the provisions of the PPA.
- 1.2.7 **Tariff:** The tariff shall be payable by Procurer in Indian Rupees, as per provisions of the PPA. Bidders shall quote the tariff as per the pre-specified structure mentioned in Annexure 10.
- 1.2.8 **Issue of RFP:** The detailed terms and conditions for qualification of the Bidders and for Bid submissions are indicated in the Clause 3.2.and 3.3, 3.4 all those interested in obtaining the RFP may download it from the following website [www.jharkhandtenders.gov.in](http://www.jharkhandtenders.gov.in) and of JBVNL i.e. [www.jbvnl.co.in](http://www.jbvnl.co.in). Bidders are required to pay a non-refundable tender fee of Rs. 10,000/- (Rupees Ten Thousand only) for submission of Bid. However, the tender fee for Jharkhand based MSMEs and Jharkhand based SSIs and Start-ups shall be nil. Tender fee is to be submitted in the form of Demand Draft (from the scheduled commercial bank only) drawn in favour of ED (C&R), JBVNL, HEC Dhurwa, Ranchi along with bid(s).
- 1.2.9 **Documents for Reference:** JBVNL may make available the list of feeders to the extent possible and on receipt of request from the bidders, for tendering. Bidders are encouraged to make ground assessment of the situation before finalising their bid
- 1.2.10 **Receipt and Opening of Bids:** The tender fee must be delivered to the address as given in Clause 1.2.11 of this notification on or before 15.00 hours (IST) by 13.05.2021. **Jharkhand based MSMEs and Jharkhand based SSIs are exempted from submitting tender fees however to avail the benefits Jharkhand based MSMEs and SSIs must submit their company’s incorporation certificates in place**

**of tender fee.** The Technical Bid will be opened on the same day in office of ED (C&R), JBVNL at 18.00 hours (IST), in the presence of the Bidder or it's representative(s) who wish to attend. The Financial Bid shall be opened as per the time schedule given in Clause 1.2.14 of the RFP. These dates and times may be amended in accordance with the RFP and any such amendment shall be notified at [www.jbvn.co.in](http://www.jbvn.co.in).

**1.2.11 Nodal Person for enquiries and clarifications:** All correspondence, clarifications with respect to the RFP and submission of bids may be addressed to:

Name:

Designation:

Address:

Tel:

Fax:

Email:

**1.2.12** Bids submitted shall be valid for **three (3) months** from the date of opening of Financial Bids.

**1.2.13** No correspondence would be made with the bidders once bids are submitted. The decision taken by ED (C&R), JBVNL, shall be final.

**1.2.14** List of Important Dates and details of bid

S.N	Activity	Timeline
1	Date of publication of bid documents	12.04.2021
2	Last date of receiving queries by email to: <a href="mailto:cecr2018@gmail.com">cecr2018@gmail.com</a>	21.04.2021
3	Pre-bid meeting	22.04.2021  Online  Please send your request for participation by 20.04.2021 (15.00 hrs) on <a href="mailto:cecr2018@gmail.com">cecr2018@gmail.com</a>
4	Date of publication of clarifications on queries	30.04.2021
5	Start date of bid submission	01.05.2021
6	Last date & time of online submission of bid	12.05.2021 by 15.00 hrs

## DEVELOPMENT OF 25MW ROOFTOP SOLAR POWER PROJECTS

7	Deadline for physical submission of tender fee and EMD	13.05.2021 by 15.00 hrs
8	Earnest Money Deposit (EMD)	<ul style="list-style-type: none"> <li>● For General Bidders EMD= INR 2 Lakhs/MWp x bid capacity</li> <li>● For MSMEs of Jharkhand &amp; SSIs of Jharkhand EMD=Nil</li> <li>● For Start-ups EMD=Nil (Incorporation certificate is must)</li> </ul> <p>EMD in form of DD shall be submitted in favour of JBVNL payable at Ranchi from any Nationalized bank</p>
9	Tender cost	<ul style="list-style-type: none"> <li>● For General Bidder Rs 10,000 plus GST shall be submitted in the form of DD drawn in favour of ED (C&amp;R), JBVNL</li> <li>● For MSMEs of Jharkhand, &amp; SSIs of Jharkhand Tender cost =Nil</li> <li>● For Start-ups Tender Cost=Nil (Incorporation certificate is must)</li> </ul> <p>Tender fee in form of DD shall be submitted in favour of JBVNL payable at Ranchi from any Nationalized bank</p>
10	Opening of Technical Bids	13.05.2021 at 18.00 hrs
11	Opening of Financial bids	20.05.2021 at 18.00 hrs
12	Issue of letter of Intent	27.05.2021

13	Submission of PBG	01.06.2021
14	Execution of PPA	04.06.2021
15	Authority inviting bids	Executive Director (C&R) Jharkhand Bijli Vitran Nigam Limited
16	Address	Engineer's Building, Dhurwa Ranchi, 834001 Ph. 18003456570 Email. <a href="mailto:cocr2018@gmail.com">cocr2018@gmail.com</a> Website. <a href="http://www.jbvnl.co.in">www.jbvnl.co.in</a>

- 1.2.15 The tender fee and Earnest Money Deposit (EMD) in original may be submitted on all working days by **15.30 hrs on 13.05.2021** . If tender fee and EMD are not received before mentioned date and time, tender shall not be accepted.
- 1.2.16 Place for receiving tender fee & EMD: Jharkhand Bijli Vitran Nigam Limited (JBVNL), Engineer's Building, Dhurwa, Ranchi - 834001.
- 1.2.17 Bidders have to download the bid document from the website ([www.jharkhandtenders.gov.in](http://www.jharkhandtenders.gov.in)) and submit the scan copy of the cost of the bid document in shape of demand draft of requisite value as mentioned in clause. 1.2.14 (List of Important dates & details of Bid) in favour of JBVNL on any Indian Nationalized Bank, payable at Ranchi. The tender fee in original must be submitted by of 15:00 hrs on 13.05.2021 in the office of JBVNL.
- 1.2.18 Bidders shall require submitting Information about the Bidding Firm in the official letter head of the company as per Annexure No. 15.
- 1.2.19 The honourable JSERC under its order bearing title Annual Performance review for FY 2018-19 & ARR & Tariff for 2019-20 dated Feb 28, 2019 has determined the generic tariff for the consumers of JBVNL who wants to supply electricity to their utility under gross metring scheme at Rs. 4.16/kwh. This generic tariff of Rs 4.16/kwh shall be treated as upper ceiling tariff under this bid, only the bids which has quoted lower and or upto Rs 4.16/kwh under the financial bid shall be treated as eligible during financial evaluation. All the bids containing quoted tariff above generic tariff of Rs. 4.16 as determined by JSERC shall be out rightly rejected as non-responsive during financial evaluation.

### 1.3 Definitions

Any capitalized term, used but not defined in the RFP, shall have the meaning ascribed to such term in the RFP Documents. In absence of availability of



definitions in the foregoing references, the capitalized terms shall be interpreted in accordance with the Electricity Act 2003, the CERC (Terms and Conditions of Tariff) Regulations 2019, the Grid Code or any other relevant electricity law, rule or regulation prevalent in India, as amended or re-enacted from time to time, in that order. The following terms are defined for use in the RFP:

- 1.3.1 **Affiliate** shall mean a company that either directly or controlled by or is under common control with a Company and 'control' means ownership by one company of at least fifty one percent (51%) of the voting rights of the other company.
- 1.3.2 **Agreement Authority** shall mean ED (C&R), JBVNL or any other officer authorized to execute the agreement with the Developer for executing the work/plant or supply power.
- 1.3.3 **Bank** means State Bank of India and its subsidiaries/associates, Nationalized Banks or any other bank approved by JBVNL.
- 1.3.4 **Bid Capacity** shall mean the capacity bid by the bidder. During the evaluation of bids and based on the competitiveness of the bid process, JBVNL retains the right to increase or decrease the Bid Capacity.
- 1.3.5 **Bid Due Date** shall mean the last date and time for submission of bid in response to this RFP as specified in Notice Inviting Tender.
- 1.3.6 **Bid** shall mean the Technical and Financial Bid submitted by the Bidder along with all documents, credentials, attachments, annexure etc., in response to this RFP, in accordance with the terms and conditions laid herein.
- 1.3.7 **Bidder** shall mean Company/ Limited Liability Partnership (LLP) firm/ Partnership firm/ Proprietorship firm submitting the bid independently or as a consortium. Any reference to the Bidder includes its successors, executors and permitted assigns as the context may require.
- 1.3.8 **Bidding Company** shall mean such independent company or a Lead Member (in the case of a Consortium) that has submitted the bid in accordance with the provisions of this document.
- 1.3.9 **Bidding Consortium or Consortium** shall refer to a group (not more than two) of Bidding Company/Limited Liability Partnership (LLP) firm/ Partnership firm/ Proprietorship firm that has collectively made a bid, in response to this RFP.
- 1.3.10 **BIS** shall mean Bureau of Indian Standards (BIS).
- 1.3.11 **Capacity Utilization Factor (CUF)** shall mean the ratio of the actual kWh (units) of energy generated by a rooftop solar system in a year and the contracted capacity in kW<sub>p</sub> multiplied with the number of hours in the same year. (CUF = Cumulative Annual Plant output in kWh/ (Installed system capacity in kW<sub>p</sub> x 24 x 365)).
- 1.3.12 **CEA** shall mean Central Electricity Authority.
- 1.3.13 **Commercial Operation Date (COD)** shall mean the date on which the commissioning certificate is issued upon the successful commissioning of the full capacity of the individual solar plants and after demonstrating the Performance Ratio.
- 1.3.14 **Commissioning Certificate** shall mean the certificate issued by JBVNL after



successful demonstration of Performance Ratio (PR) (defined in Clause 1.3.56) of 75% of the project for commercial operation and all other tests as mentioned in the clause 5.3.

1.3.15 **Commissioning** shall mean in respect of rooftop solar system, passing of the commissioning test by the systems, as certified by the JBVNL/ Independent Engineer and interconnection of the system with the distribution grid for receiving the delivered energy.

1.3.16 **Company** shall mean a body incorporated in India under the Companies Act, 1956 or Companies Act, 2013 including any amendment thereto.

1.3.17 **Competent Authority** shall mean the ED (C&R), JBVNL and/or a person or group of persons nominated by him/her mentioned purpose herein.

1.3.18 **Consents** shall mean all authorizations, licenses, approvals, registrations, permits, clearances, waivers, privileges, acknowledgements, agreements, or concessions required to be obtained from or provided by any Governmental Instrumentality for the purpose of setting up of the rooftop solar system and/ or supply of power from the rooftop solar system.

1.3.19 **Controlling Equity**

1.3.19.1 **In Case of Consortium**

If the Selected Bidder is a consortium of members and the Selected Bidder has incorporated a special purpose vehicle (SPV), then the members of the consortium will continue to hold the following equity pattern in SPV for at least a period of up to two (2) years from the COD of the last rooftop solar system of the project.

1 Lead member: - at least 51%

2 Technical member or Financial member who is not a lead member: - upto 49%

1.3.19.2 **In Case of Independent Bidder**

If the Selected Bidder is an independent company, and is not a consortium, has incorporated a special purpose vehicle, then the Selected Bidder shall hold 100% equity share for at least up to a period of two (2) years from the Commercial Operation Date of the last rooftop solar system commissioned under the project. Subsequently for next three years the equity stake in the SPV must be maintain at a level not below 26%.

1.3.20 **Deemed generation** shall mean the energy which a rooftop solar system was capable of generating and feeding into the grid but could not due to grid system conditions.

1.3.21 **Developer or Renewable Energy Services Company (RESCO)** shall mean the Selected Bidder/or the Project Company, as the case may be, who submits the Performance Bank Guarantee of requisite amount mentioned in Clause 1.3.55 and executes the PPA with JBVNL and executes tripartite agreement with JBVNL and the rooftop owners, and who shall be responsible for supplying power to Procurer at the Interconnection Points for the term of the PPA as per the terms and conditions specified therein.

- 1.3.22 **Developer's Representative** means any person authorized by the Developer in writing and approved by the ED (C&R), JBVNL to act on behalf of the Developer for the purpose specified in the letter of authorization issued by the developer.
- 1.3.23 **Developer's Personnel** means the Developer's representative and all personnel whom the Developer authorizes and utilizes at site and may include staff, labourer and all other employees and any personnel assisting the Developer in the execution of work.
- 1.3.24 **Defect** shall mean any part of the work not completed or not performing in accordance with contract or specifications.
- 1.3.25 **Drawing** shall mean collectively all the drawings, revisions and additions/modifications required as per site submitted by the Developer and accepted by the Authorized representative of ED (C&R), JBVNL.
- 1.3.26 **Effective Date** shall mean the date on which PPA shall be signed.
- 1.3.27 **Executive Director (C&R)** shall mean the Executive Director (C&R) of JBVNL, who shall be the tendering and agreement authority for this tender and shall include all the successors and permitted assigns.
- 1.3.28 **Eligibility Criteria** shall mean the eligibility criteria set forth in Clause 3.2.
- 1.3.29 **EPC** shall mean Engineering, Procurement and Construction of solar power projects.
- 1.3.30 **Electricity Act 2003** shall mean the Electricity Act, 2003 and any rules, amendments, regulation, notifications, guidelines or policies issued thereunder from time to time.
- 1.3.31 **Financial year** shall mean a year beginning on 1<sup>st</sup> April and ending on 31<sup>st</sup> March in the succeeding year.
- 1.3.32 **Financial bid** shall mean the bid containing the bidder's quoted tariff of energy being supplied as per Annexure 10.
- 1.3.33 **Financially Evaluated Entity** shall mean the parent company or affiliates as the case may be of the Financial Member whose financial capabilities are being used by the financial member (if required along with the financial capabilities of the financial member itself) to meet the financial criteria as set forth under Clause 3.2.3 of this RFP.
- 1.3.34 **Financial Member** shall mean the member of the consortium whose financial capabilities (along with the financial capabilities of its parent company or its affiliate as the case may be) are being used by the consortium to meet the financial criteria as set forth under Clause 3.2.3 of this RFP. In case of independent bidder, the bidder itself is the financial member.
- 1.3.35 **Grid** shall mean the network of JBVNL which interconnects the distribution network and consumers.
- 1.3.36 **IEC** shall mean specifications of International Electro-technical Commission.
- 1.3.37 **Interconnection Points** shall mean the point of injection of the power from each of the rooftop solar systems installations into JBVNL network which shall be mutually agreed by the Developer and Procurer based on the

interconnection system as per Chapter IV of JSERC (Rooftop Solar PV Grid Interactive Systems and Net/Gross Metering) Regulations, 2015 and amendment thereof. Interconnection Point shall also be Delivery Points. Interconnection point of a rooftop solar plant cannot be more than two (2) meters away from the consumer's meter.

- 1.3.38 **JSERC** shall mean the Jharkhand State Electricity Regulatory Commission constituted under Section-82 of the Electricity Act, 2003 for the State of Jharkhand.
- 1.3.39 **JBVNL** shall mean Jharkhand Bijli Vitran Nigam Limited, which has been nominated by competent authority to enter into the Power Purchase Agreement and Tripartite Agreement with the Developer to implement the Projects.
- 1.3.40 **Jharkhand Distribution Code** shall mean, collectively, the JSERC Electricity Supply Code Regulations 2018; the JSERC (Distribution License) Regulations; and the JSERC Standard of Performance of Distribution Licensee 2012 as amended from time to time.
- 1.3.41 **Jharkhand Grid Code or State Grid Code** shall mean the grid code specified by the CERC under clause (h) of sub-section (1) of Section 86 of the Electricity Act 2003, and JSERC State Grid Code Regulations 2019 and amendment thereof as applicable.
- 1.3.42 **kW<sub>p</sub>** shall mean kilo Watt peak.
- 1.3.43 **kWh** shall mean kilo Watt hour.
- 1.3.44 **Law** shall mean any law of Republic of India or unless otherwise specified, the law of any other applicable jurisdiction, in each case including all orders, rules, regulations, executive orders, decrees, policies, judicial decisions (including writ, injunction, decree or award), determinations or awards, notifications, or directives made pursuant thereto, issued or, (in case of treaties) entered into by a Statutory Entity, applicable to this RFP and the exercise, performance and discharge of the respective rights and obligations of the relevant parties hereunder, as may be in force and effect during the subsistence of this Agreement and as each may be amended or supplemented from time to time.
- 1.3.45 **Lead Member of the Bidding Consortium or Lead Member** shall mean the Member which commits at least 51% equity stake in the Project Company and so designated by other Member(s) of the Bidding Consortium in accordance with the Consortium Agreement specified in Annexure 3 of this RFP. Either of the technical member or the financial member of the consortium may be designated as the lead member of the consortium.
- 1.3.46 **Letter of Intent or LOI** shall mean the letter to be issued by JBVNL to the Selected Bidders for supply of power pursuant to Clause 3.4.2 of the RFP.
- 1.3.47 **Location** shall mean rooftop of the premises of an authorised JBVNL consumer which is being used for installation of solar systems.
- 1.3.48 **Maximum Allocated Capacity** shall mean maximum capacity of no more than 3 MW<sub>p</sub> of aggregated capacity that shall be allocated to a selected bidder.
- 1.3.49 **Minimum Bid Capacity** shall mean 0.5 MW<sub>p</sub> under this RFP which is the minimum capacity for which the bidder can **submit its bid**. Bidders(s) quoting less than the minimum bid capacity shall be out-rightly rejected.

- 1.3.50 **Month** shall mean Calendar month.
- 1.3.51 **MW<sub>p</sub>** shall mean Mega Watt peak
- 1.3.52 **Net worth Company** shall mean the Bidding Company or Member, as the case may be, that has at least twenty six percent (26%) equity in each Net worth Company whose accounts are merged in the audited consolidated accounts and provided further that the financial capability of such Net worth Companies (of which accounts are being merged in the consolidated accounts) shall not be considered again for the purpose of evaluation of the Bid.
- 1.3.53 **O&M** shall mean Operation and Maintenance of the entire rooftop solar system installation at a location and includes operation and maintenance of solar panels, inverter, mounting structures, cables, or any other associated items required for the operation of the rooftop solar system.
- 1.3.54 **Parent** shall mean a company, which holds at least 26% equity either directly or indirectly in the bidder's company as the case may be.
- 1.3.55 **Performance Bank Guarantee** shall mean the security amount to be remitted as Bank Guarantee by the Developer for guaranteed performance of the Contract along with the PPA (proportional to the awarded plant capacity as mentioned in the Letter of Intent).
- 1.3.56 **Performance ratio (PR)** is a measure for performance of a rooftop solar system taking into account environmental factors (temperature and irradiation). PR will take into account the availability of grid, minimum level of irradiation needed to generate electrical energy, irradiation levels at a given period.
- 1.3.57 **PPA** shall mean Agreement to be entered into between Procurer and the Developer pursuant to which the Developer shall supply power to Procurer as per the terms and conditions specified therein and that specified under this RFP.
- 1.3.58 **Project Company** shall mean Company incorporated by the bidder as per Indian Laws in accordance with Clause no 4.3.
- 1.3.59 **Procurer** shall mean JBVNL, including its successors and permitted assigns.
- 1.3.60 **Project** shall mean all rooftop solar generation systems (to be) developed at the residential consumers' premises located in the catchment area of the identified feeders for which a PPA shall be signed.
- 1.3.61 **Project Capacity** shall mean cumulative capacity of all rooftop solar systems, located in the catchment area of JBVNL distribution network, developed by the developer. Project Capacity should be within the range of 90% or 110% of allotted Capacity.
- 1.3.62 **RFP** shall mean this Request for Proposal dated 12.04.2021 along with all formats and documents attached hereto and shall include any modifications, amendments, alterations, or clarifications thereto that shall be provided till the date as specified in this RFP.
- 1.3.63 **Residential Consumer** shall mean the authorised consumer of JBVNL under DS1 and DS1-B tariff categories.
- 1.3.64 **Renewable Purchase Obligation** shall mean the mandatory Renewable Purchase

Obligation requirement of JBVNL as per the JSERC Renewable Purchase Obligation and its compliance Regulations, 2016.

- 1.3.65 **Rooftop Solar System** shall mean the combination of multiple PV panels connected with inverter and other accessories and installed at residential consumer's premises for solar power generation.
- 1.3.66 **Rooftop Solar System Capacity** shall mean capacity in kW<sub>p</sub> that can be installed at premise of residential consumer and shall not be less than 1 kW<sub>p</sub> and/or not more than 3 kW<sub>p</sub>. System capacity is the sum of rated capacity in watt peak of each solar PV module.
- 1.3.67 **Schedules** mean the documents completed and submitted by the RESCO/Developer with the bid and included in the contract, which include the quantities, rates, general specifications, and technical particulars.
- 1.3.68 **Scheduled Bank** shall mean Scheduled Banks included in Schedule II of RBI Act.
- 1.3.69 **Selected Bidder** shall mean with respect to any of the Projects the Bidder selected by JBVNL pursuant to this RFP for supply of power from the project by itself or through the Project Company as per the terms of the RFP, and to whom a Letter of Intent has been issued.
- 1.3.70 **Specification** shall mean collectively, all the terms and stipulations contained in the RFP, Power purchase agreement and any additions, modifications thereto.
- 1.3.71 **Tariff** shall mean the tariff in Rs/kWh offered by the bidder for 25 years for the scope of work as per bid document.
- 1.3.72 **Technical Bid** shall mean the Bid containing the documents as specified in Annexure 1 of this RFP. If any Bidder wants to Bid for more than one sub-station, only one Technical Bid may be submitted.
- 1.3.73 **Tender Capacity** shall mean the sum total capacity of all the projects that will be allocated to the successful Developers i.e. 25MW<sub>p</sub>.
- 1.3.74 **Tendering authority/bidding authority** shall mean ED (C&R), JBVNL.
- 1.3.75 **Test** means the mandatory tests specified by rules or/and regulations, and all other tests specified under this RFP, and to be carried as per the satisfaction of the officers designated by JBVNL or his authorized representative.
- 1.3.76 **Technical Eligibility Criteria** means the criteria set out in Clause 3.2.2
- 1.3.77 **Technical Member** shall mean the member of the consortium whose technical experience is being used by the consortium to meet the technical eligibility criteria set forth under this RFP. In case of independent bidder, the bidder itself shall be the technical member.
- 1.3.78 **Tie Bidders** shall have the meaning ascribed to it in Clause 3.4.2.4
- 1.3.79 **Ultimate Parent Company** shall mean a company which directly or indirectly owns at least fifty one percent (51) paid up equity capital in the independent Bidding Company or in any Member of a Consortium, (as the case may be) and/or in the Financially Evaluated Entity. Further such independent Bidding Company or Member of a Consortium, (as the case may be) and/or the Financially Evaluated Entity shall be under the direct control or indirect control of such parent company.

- 1.3.80 **Work** means design, erection, installation, testing and commissioning of grid connected rooftop solar systems and operation and maintenance of the same as per the scope of the work specified under Clause 2.2.
- 1.3.81 **Writing** shall include any manuscript, typewritten or printed statement, any communication under or over signature or seal as the case may be.

### 1.4 Interpretations

- 1.4.1 Words comprising the singular shall include the plural & vice versa.
- 1.4.2 An applicable law shall be construed as reference to such applicable law including its amendments or re-enactments from time to time.
- 1.4.3 "A time of day "provided in any agreement or document may be construed as a reference to Indian Standard Time.
- 1.4.4 Different parts of this RFP are to be taken as mutually explanatory and supplementary to each other and if there is any differentiation between or among the parts of this RFP, they shall be interpreted in a harmonious manner to give effect to each part.
- 1.4.5 The table of contents and any headings or subheadings in the contract has been inserted for case of reference only and shall not affect the interpretation of this agreement.

**SECTION - 2**  
**PROPOSED MODEL,**  
**ROLES AND**  
**RESPONSIBILITIES**

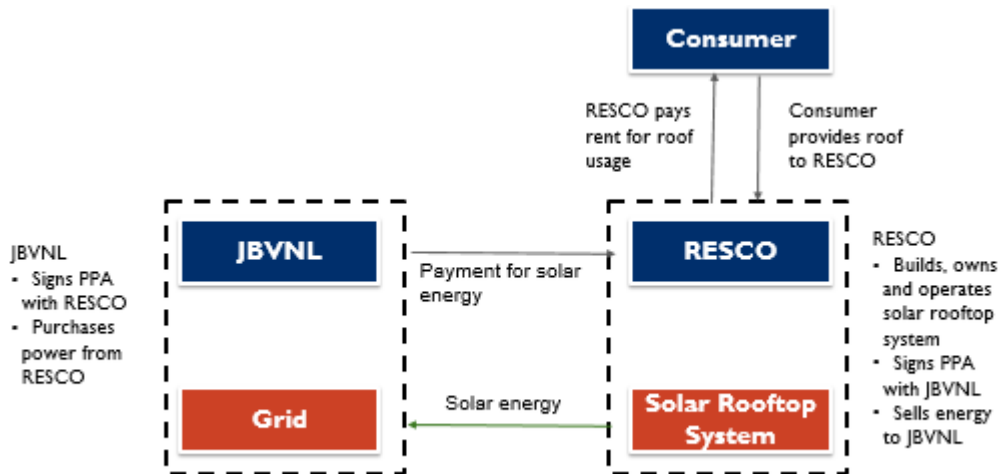


## 2 Proposed Model, Roles and Responsibilities

### 2.1 Background

JBVNL intends to select RESCOs for installation of 25 MWp of solar rooftop system on the premises of domestic category consumers located on feeders of the JBVNL distribution network. The RESCO shall identify consumers who are interested in installation of solar rooftop systems under this model, carry feasibility study for installation, negotiate rent for leasing the portion of premises for solar installation, install, test and commission the solar systems on the identified locations and sell the energy generated to JBVNL. JBVNL will pay RESCO the charges for energy procured based on the per unit energy tariff determined through this bidding process. Payment of rental to consumers for the portion of his premises leased, shall be the sole responsibility of RESCO. The PPA signed between the RESCO and JBVNL shall be for a duration of 25 years. The tariff determined through this bidding process for per unit energy being procured by JBVNL shall remain fixed and shall not be changed during the life of the PPA.

The schematic representation of the operational model is given below.



### 2.2 Scope of Work

The scope of the work has been indicated in below table:

SL No.	Scope	Details
1.	Tender Capacity	25 MW <sub>p</sub>
2.	Capacity to be allocated to different categories of bidder's i.e. a) General bidders/ MSME of Jharkhand b) Start-ups	a. For General bidders/ MSME of Jharkhand = 90% of tender capacity b. Start-ups = 10% of tender capacity
	Nature of work	Identification of consumer, installation of rooftop solar



## DEVELOPMENT OF 25MW ROOFTOP SOLAR POWER PROJECTS

		systems on consumer premises, Operation and maintenance of the system during project life, sell of energy generated from rooftop solar systems to JBVNL.
3.	Consumer Acquisition	Identification and acquisition of roofs from the residential consumers is the sole responsibility of the successful bidder. JBVNL has no role in consumer identification. However, JBVNL will extend all the necessary support, deemed fit, to successful bidders for consumer acquisition like providing details of consumers, participating in consumer acquisition campaigns etc., to the extent possible
4.	Contract Period (in years)	25 years from COD of respective rooftop solar system
5.	Installed Capacity to be made available at a single location	Under Category Part A- 1 kWp to 3 kWp Under Category Part B- Above 3 kWp to 500 kWp
6.	Location	Premises of domestic consumers within the catchment area of feeders of JBVNL distribution network
7.	Scheduled Commercial Operation Date	Developer shall commission and commence commercial operations of the allocated project within <b>15</b> months from the effective date as per Clause 5.1
8.	Grid Connection	Developer shall be responsible for synchronization of the rooftop solar systems with JBVNL's distribution network as per JSERC, Rooftop Solar PV Grid Interactive Systems and Net /Gross Metering Regulations, 2019.

9.	Installations and all allied works up to the interconnection point	It shall be the responsibility of the Developer to carry out all the installations and allied works up to the interconnecting point as per the CEA and relevant IEC standards.
10.	Interconnection Point	<p>Interconnection point is the point of injection of the power from each of the rooftop solar systems installations into JBVNL network which shall be mutually agreed by the Developer and Procurer based on the interconnection system as per Chapter IV of JSERC (Rooftop Solar PV Grid Interactive Systems and Net/Gross Metering) Regulations, 2015.</p> <p>Interconnection Point should not be more than two (2) metres away from the consumer meter of the respective premises.</p> <p>The Interconnection point shall also be the metering point for estimation of energy generated and shall also mean Delivery Point.</p> <p>Developer is responsible for the evacuation and delivery of electricity generated from rooftop solar system(s) till Interconnection Point(s) and beyond which JBVNL shall be responsible.</p>
11.	Interconnection Voltage	Interconnection Voltage will be in compliance with JSERC (Rooftop Solar PV Grid Interactive Systems and Net/Gross Metering) Regulations, 2015 and amendment thereof. Current Interconnection Voltage as per the above said

		<p>regulations is Up to 5 kW - Single phase at 230 V.</p> <p>5 kWp above and upto 50 kWp 3 phase 4 wire at 415 volts.</p> <p>Developer shall ensure that electrical energy generated by the rooftop solar systems are at Interconnection Voltage at the Interconnection Point.</p>
12.	Grid Code	<p>Developer will execute the work in accordance with the Jharkhand State Electricity Grid Code, as amended from time to time.</p>
13.	Metering and Grid Connectivity	<p>Metering and interconnection are essentially the responsibility of JBVNL. However, the cost of interconnection including Meter procurement and testing etc. will be borne by the Developer.</p> <p>The meter shall be of 2G/3G/4G modem whichever is adequate for hassle free data transfer. All the necessary arrangement (hardware and software including SIM &amp; its operational cost) shall be in scope of the developer. The developers are suggested to make their own assessment of JBVNL existing facilities to receive the gross meter data for ensuring the availability of data on JBVNL server on a daily basis.</p>
14.	Tariff	<p>Shall mean the firm single Tariff applicable for a period of 25 Years, quoted by the bidder in Rs. /kWh and shall be construed to be at the metering point. The bidder shall quote tariff considering the design of the rooftop solar system as per site conditions, manufacture, supply, erection, testing and commissioning, project financing and supply of energy from that</p>

## DEVELOPMENT OF 25MW ROOFTOP SOLAR POWER PROJECTS

		rooftop solar systems to JBVNL at contracted CUF as mentioned in the bid including Operation & Maintenance of the systems for 25 years from the CoD. JBVNL shall not pay anything other than the tariff at which PPA is signed.
15.	Performance Ratio testing and certification of Commercial Operation Date	Performance Ratio (AC) of minimum 75% shall be proved as specified for declaring commercial operation date.
16.	Contracted CUF	Min 15%
17.	Renewable Purchase Obligation rights over the energy	Energy procured under this contract shall be accounted against the RPO of the JBVNL. The bidder shall not have any rights whatsoever to accredit the rooftop solar system under Renewable Energy Certificate mechanism or to make use of the energy against its own Obligation, in case it is an obligated entity.
18.	Permits/clearances/sanction/ Connectivity	JBVNL shall provide reasonable assistance for grid connectivity of the rooftop solar system to the interconnection point in obtaining sanction, clearances, including Electrical Inspectorate sanction, permit and approval from appropriate authorities. However, the Developer shall bear the fee for approval payable to Electrical Inspectorate, application fee and the registration fee as per regulations of JSERC, connectivity fee as applicable to JBVNL, for obtaining connectivity as per the extant rules and Regulations.
19.	Shifting or Relocation of the project	Following events shall qualify for shifting of the rooftop solar systems

		<ol style="list-style-type: none"> <li>1. In case of repairs in roof, floor expansion or any new constructions around the rooftop solar systems affecting the system power generation.</li> <li>2. Limited uptime (upto 1,960 hours annually between 8:00 AM to 4:00 PM) of the distribution network at the delivery point.</li> <li>3. The Developer shall vacate the premises of rooftop owner and shall relocate the rooftop solar system within three (3) months after receiving the notice from the rooftop owner Unresolved dispute between Developer and Roof owner.</li> <li>4. A time of fifteen (15) days shall be provided to the Developer for shifting of the rooftop solar system after completion of the said notice period of three (3) months.</li> </ol> <p>In all the above events if rooftop solar system is required to be shifted, Developer shall be responsible to relocate/shift the system(s). The Developer shall be compensated by “relocation cost” by the defaulting party of the tripartite agreement</p>
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## 2.3 Roles and Responsibility

### 2.3.1 JBVNL

- 2.3.1.1 **Issuance of LOI-** JBVNL shall issue the LOI from the date of selection of bidder to the successful bidder within seven (7) working days of selection of successful bidder as per the terms and condition of the RFP.
- 2.3.1.2 **Power Purchase Agreement-** GM Coml JBVNL shall sign PPA within seven (7) days of submission of PBG by the successful bidders.
- 2.3.1.3 **Sharing of Consumer Data-** JBVNL shall support successful bidders by providing the data of consumers of respective the feeders viz. C.A. Number, contact details, load profile of consumers in project area etc, to the extent available with JBVNL.
- 2.3.1.4 **Feasibility Assessment-** JBVNL shall carry out feasibility assessment of project interconnection points proposed by Developer within seven (7) working days of intimation. JBVNL shall provide interconnection within ten days of intimation by Developer depending upon the availability of meter and testing arrangement. If timelines are extended due to any reason, Developer must be intimated proposed schedule of interconnection accordingly. JBVNL shall assess the site in the light of JSERC rooftop solar PV Grid Interactive Systems and Net/Gross Metering Regulations 2019.
- 2.3.1.5 **Liaison with MNRE-** Any liaison with MNRE related to capital subsidy to Developer shall be carried out by JBVNL.
- 2.3.1.6 **Meter Sealing, Testing and Maintenance-** Sealing and maintenance of meter shall be done by JBVNL.
- 2.3.1.7 **Tripartite Agreement-** JBVNL shall sign tripartite agreement with Developer and roof owners. However, JBVNL is not responsible for payment of lease rent to the consumer, it is the sole responsibility of Developer to compensate the consumer for roof rent.
- 2.3.1.8 **Feeders Maintenance-** JBVNL will ensure reliability of the feeders and downstream lines and ensure availability of quality power during 8 a.m. to 4 p.m.
- 2.3.1.9 **Developer Payment-** JBVNL shall make timely payment to Developers based on monthly meter readings and invoice received.
- 2.3.1.10 **Deemed Generation-** If JBVNL fails to off-take electricity beyond the Interconnection Point for any reason arising from its grid and its operations for a certain period of time, JBVNL shall be obliged to pay the Developer an amount equivalent to the power that could have been evacuated for that particular duration as per the rate specified in the PPA. Deemed generation shall be applicable as per PPA except for reasons specified in the specific clause of Deemed Generation under PPA.
- 2.3.1.11 **Up-gradation in Existing Facilities-** Any necessary augmentation required in distribution lines beyond interconnection point shall be done by the JBVNL at its own cost.

2.3.2 **Developer**

2.3.2.1 **Bid submission-** Developer shall be responsible to submit the bids as per the instruction and information written in the RFP. The required formats are attached as Annexures of this RFP.

2.3.2.2 **PBG submission-** Developer shall be responsible to submit the PBG within 15 days of issuing of LOI. The amount of PBG to be submitted shall be 2 % of the expected yearly invoice amount. The expected yearly invoice amount shall be computed as below:

Expected yearly invoice amount (INR) = Expected yearly generation from the project \* per unit energy tariff as quoted under the financial bid for the project.

Whereas,

Expected yearly generation from the project = units generated from 1 KW system during a year X capacity of project

Whereas, units generated from 1 KW system during a year shall be computed as

No of sunny days in a year	= 320
No of hours of operation per day	= 8
No of hours of grid unavailability per year	= 600
No of hours of grid availability during the year	= 320X8-600
	= 1960
Average generation (KWh) from 1 KW system/day	= 4
Average generation (KWh) from 1 KW system/hour	= 4/8
	= 0.5
Average generation (KWh) from 1 KW system in a year	= 0.5 X 1960
	= 980

In case the developer is not L1 and agrees to match L1 bid then expected yearly invoice amount shall be computed as below:

Expected yearly invoice amount (INR) = Expected yearly generation from the project \* L1 Tariff.

- 2.3.2.3 **PPA Signing**-The PPA will be executed by the Developer within seven (7) days of submitting PBG. The billing of the number of solar units injected into grid will be done on the basis of PPA agreement.
- 2.3.2.4 **Consumer acquisition**-Identification and tie up with residential consumers connected to the sub-station allocated to the developer shall be the sole responsibility of Developer for development of solar rooftop systems.
- 2.3.2.5 **Consumer Identification**-Bidder shall identify the consumers connected to the feeders of JBVNL for execution of the project at its own cost.
- 2.3.2.6 **No Objection Certificate(s), Consents, Approvals, Clearances and Permits**- Developer shall obtain all authorizations, licenses, approvals, registrations, permits, waivers, privileges, acknowledgements, agreements, or concessions required for the purpose of supply of power.
- 2.3.2.7 **Coordination with JBVNL for interconnection**-Successful bidders shall coordinate with JBVNL for interconnection of systems, metering etc. Developer is advised to intimate JBVNL one week prior to commencement of the system to minimize delay in execution.
- 2.3.2.8 **Procurement of meters**- The procurement of meters, testing and its certification from JBVNL shall be the responsibility of the Developer. Developer shall procure the meters from empanelled vendors of JBVNL and get them tested from JBVNL testing centres. All the cost associated towards testing and certification shall be borne by developer. In case the meter develops any defects, developer shall ensure replacement of the defective meter within thirty days of the identification of the defects by developer or on the receipt of notice by JBVNL whichever is early. Cost towards replacement of meter shall be entirely on account of developer.
- 2.3.2.9 **Project development**- Investment, installation and commissioning of rooftop solar systems within the prescribed timelines and interconnection arrangements in compliance with applicable technical standards shall be the responsibility of the Developer.
- 2.3.2.10 **Tripartite Agreement** - Sign agreement for using roofs with consumers and JBVNL.
- 2.3.2.11 **Fault intimation**- Intimation to procurer about any technical fault and other issues into the plant
- 2.3.2.12 **Inspection Support**- Successful bidder shall assist procurer in carrying the inspection activity also support for any of activity required during the lifetime of the project.
- 2.3.2.13 **Meter Reading**- Authorised officer of JBVNL along with developer will go for joint meter reading (in case it is required) every month for raising invoice. If gross meter is defective the billing for the period during which the meter was found to be defective and was not replaced shall be based on meter reading for previous months up to twelve (12) months.
- 2.3.2.14 **Operation & Maintenance** - O&M of the project for twenty-five years.
- 2.3.2.15 **Payment of Lease Rent** - Shall make the agreement with developer and roof owner. JBVNL is not responsible for payment of lease rent to the consumer.



2.3.2.16 **Invoice submission-** Successful bidder shall submit invoice on time against the power supplied. The format for submission of invoice has been provided at Annexure no 17.

**SECTION 3**  
**BIDDING PROCESS,**  
**ELIGIBILITY AND**  
**EVALUATION CRITERIA**

### 3 Eligibility and Evaluation Criteria

#### 3.1 Bidding Process

The ED (C&R) JBVNL intends to pre-qualify and short-list suitable bidders based on criteria mentioned in clauses 3.2 and 3.3. Bids of shortlisted bidders shall be opened on the date specified in Clause 1.2.14 and will be eligible for participation in the financial bid opening. The technically qualified bidders will be intimated for financial bid opening. Successful bidders shall be identified and capacity allotted based on lowest tariff basis.

#### 3.2 Eligibility Criteria

##### 3.2.1 Incorporation

The independent bidder or the members of the bidding consortium should be a Company/Limited Liability Partnership (LLP) firm/Partnership Firm/ Proprietorship firm in any form submitting the Bid. Any reference to the Bidder includes its successors, executors and permitted assignee. The Bidder should be a body corporate incorporated in India under the Companies Act, 1956 or 2013 including any amendment thereto or a Partnership Firm having executed partnership deed and registered as per sections 58 & 59 of the Partnership Act, 1932, as amended or a Limited Liability Partnership Firm (LLP) registered under section 12 of Limited Liability Partnership Act, 2008, as amended or Proprietorship firm and should have valid Pan, and GST number. A copy of certificate of incorporation, partnership deed or LLP/ Sole Proprietor registration, as applicable and relevant, shall be enclosed along with Annexure 5.

##### 3.2.2 Technical Eligibility Criteria

3.2.2.1 The bidder shall have commissioned grid connected rooftop solar systems with aggregate capacity of 50% of the bid capacity as a Developer under Net-Metering/Gross Metering mode. The start-ups, MSME registered under Jharkhand under Jharkhand Start-ups Policy 2016 shall be exempted from the minimum technical requirement condition. However, start-ups registered in any states other than Jharkhand shall must have the experience of working in Jharkhand in terms of having installed at least aggregate capacity of 20% of the bid capacity as a developer under Net-Metering/Gross Metering mode exclusively in Jharkhand.

3.2.2.2 The list of rooftop solar systems commissioned till the date of bid submission, indicating whether the system is grid connected, along with a copy of the Commissioning certificate and Work order / Contract / Agreement from the Client/Owner shall be submitted in support of Clause 3.2.2.1. The bids not meeting the technical criteria shall be treated non-responsive and shall be rejected.

##### Documents Required for Technical Eligibility

Commissioning certificate and Work order, Contract or Agreement copy

##### 3.2.3 Financial Eligibility Criteria

##### 3.2.3.1 Turnover Requirement:

##### i. For General Bidder:

The independent Bidder or the financial member of the consortium (along with the its financially evaluated entities, if applicable) should have the minimum average

Annual Turnover of INR **1.5 Cr per MWp** derived from the last three financial years on the basis of audited annual accounts.

**ii. For MSME of Jharkhand and SSI of Jharkhand, incorporated before 31<sup>st</sup> March 2017:**

The independent Bidder or the financial member of the consortium (along with the its financially evaluated entities, if applicable) should have the average Annual Turnover of INR **50 Lacs per MWp** derived from the last three financial years on the basis of audited annual accounts.

**iii. Start-ups (Registered within or outside Jharkhand) incorporated after 31<sup>st</sup> March 2017:**

Bidder should have the average Annual Turnover of INR **25 Lacs per MW** derived from the last three financial years on the basis of audited annual accounts.

AND

**3.2.3.2 Net worth Requirement:**

**i. For General Bidder:** The independent bidder or the financial member of the consortium (along with the its financially evaluated entities, if applicable) should have Positive Net Worth of minimum INR **1 Cr per MWp** derived from the last three financial years on the basis of audited annual accounts.

**i. For MSME of Jharkhand & SSI of Jharkhand, incorporated before 31<sup>st</sup> March 2017**The independent bidder or the financial member of the consortium (along with the its financially evaluated entities, if applicable) should have Positive Net Worth of minimum **50 Lacs per MWp of capacity bidded** per MW derived from the last three financial years on the basis of audited annual accounts.

**ii. Start-ups (Registered within or outside Jharkhand) incorporated after 31<sup>st</sup> March 2017:** Bidder should have Positive Net Worth derived from the last three financial years on the basis of audited annual accounts.

**3.2.4** The MSME of Jharkhand should have valid GST No of **Jharkhand State**. The start-ups of Jharkhand must be registered under Jharkhand Start-ups policy.

Net worth shall be computed in the following manner by the Bidder:

<b>Net worth =</b>	Paid up share capital
Add:	Reserves
Subtract:	Revaluation Reserves
Subtract:	Intangible Assets

Subtract:	Miscellaneous Expenditures to the extent not written off and Carry forward losses
	Bidders shall furnish documentary evidence as per Annexure 6(A) duly certified by its Statutory Auditor in support of their financial capability.

For the purposes of meeting financial requirements, only consolidated audited annual accounts shall be used. However, audited consolidated annual accounts of the independent Bidding Company or the Financial Member of the consortium, as the case may be, used for meeting the purpose of financial requirements, shall have at least twenty six percent (26%) equity in each financially evaluated entity, provided the Bidding Company or Financial Member, as the case may be, whose accounts are merged in the audited consolidated accounts of the independent bidding company or the financial member of the bidding consortium.

Provided further that the financial capability of such financially evaluated entity (of which accounts are being merged in the consolidated accounts) shall not be considered again for the purpose of evaluation of the Bid of any other bidder. In case of a Bidding Consortium, the provisions of Clause 4.1.2 shall apply.

**Documents Required for Financial Eligibility**

Certified copy of consolidated audited annual accounts, Net worth, Turnover derived from the last three financial years.

[**Note:** For the Qualification Requirements, if data is provided by the Bidders in foreign currency, equivalent rupees of Net worth and Revenue will be calculated using bills selling exchange rates (card rate) USD / Rs. of State Bank of India prevailing on the date of closing of the accounts for the respective financial year as certified by the Bidders’ banker.

For currency other than USD, Bidders shall convert such currency into USD as per the exchange rates certified by their banker prevailing on the relevant date and used for such conversion.

If the exchange rate for any of the above dates is not available, the rate for the immediately available previous day shall be taken into account.

**3.2.4 General Criteria:**

The Bidder must fulfil the following minimum technical requirements specified in below clauses in the aggregate in addition to clause 3.2.

- 3.2.4.1 Notwithstanding anything stated above, the JBVNL reserves the right to verify the authenticity of the documents submitted for meeting the Qualification Requirements and may request for any additional information / documents. The JBVNL reserves the right at its sole discretion to contact the Bidder’s bank, lenders, financing institutions and any other persons as necessary to verify the Bidder’s information/ documents for the purpose of qualification.

- 3.2.4.2 If at any stage of the bidding process, any order / ruling is found to have been passed in the last one (1) year preceding the Bid Deadline by an Appropriate Commission or a competent court of Law against any Bidder or its Affiliates for its material breach of any contract for supply of power having duration of contract in excess of one (1) year to any licensee in India, Bids from such Bidders shall be liable to be rejected. All Bidders shall confirm in accordance with Annexures 7 (a)/ (b) that no such order(s) / ruling(s) have been passed by an Appropriate Commission or a competent court of Law against it or its Affiliates.
- 3.2.4.3 If the EMD submitted by the Bidder or its Affiliates has been forfeited either partly or wholly in any bid process, as per bidding procedure prescribed by the Ministry of Power, Government of India, in the last one (1) year preceding the Bid Deadline, the Bids of such Bidders shall be liable for rejection. The Bidder shall confirm in accordance with Annexures 7 (a)/ (b) that the EMD submitted by the Bidder or its Affiliates, as aforesaid has not been forfeited.
- Provided further that after Bid Deadline, if any such ruling is passed against any Bidder or its Affiliates for its material breach of any contract for supply of power having duration of contract in excess of one (1) year to any licensee in India or EMD mentioned at clause 3.2.4.2 above is forfeited, at any time prior to issuance of Letter of Intent, the Bid of such Bidder shall be liable to be rejected and the consequences of clause 4.16.2 shall apply.
- 3.2.4.4 It shall be the responsibility of the Bidder to inform the JBVNL regarding the passing of such order or forfeiture of EMD, failing which consequences of clause 4.16.2 shall apply.
- 3.2.4.5 The Qualified Bidder(s) will be required to continue to maintain compliance with the Qualification Requirements throughout the bidding process and till the execution of the PPA. Where the Financially Evaluated Entity is not the Bidding Company or a Member of a Bidding Consortium, as the case may be, the Bidding Company or Member shall continue to be an Affiliate of the Financially Evaluated Entity till COD under the PPA. Failure to comply with the aforesaid provisions shall make the Bid liable for rejection at any stage.
- 3.2.4.6 If Bidder/MSME unit fails to carry out the work allotted to him as per the provisions of the tender documents, then such Bidder/MSME unit may be blacklisted for future awards of work.

### 3.3 Technical Evaluation

Technical evaluation is a two-step process

- Step I – Responsive check of Technical Bid
- Step II - Check of Bidder’s fulfilment of Qualification Requirements

#### 3.3.1 Step I – Responsiveness check of Technical Bid

A committee for evaluation of the bids (Evaluation Committee) will be constituted with at least four members, including at least one member with expertise in financial matters/bid evaluation. Before pre-qualification, ED (C&R) JBVNL will examine all bids for their genuineness and responsiveness.

The Technical Bid submitted by Bidders shall be scrutinized to establish responsiveness to the requirements laid down in the RFP. Subject to Clause 3.3.1, any of the following may cause the Bid to be considered “Non-responsive”, at the sole discretion of Procurer / JBVNL:

Only single technical bid shall be submitted by the developer for meeting the technical requirement even though developer intends to submit the financial bid in both the category part.

- 3.3.1.1 Bids that are incomplete, i.e., not accompanied by any of the applicable formats inter alia covering letter, power of attorney supported by a applicable board resolutions, applicable undertakings, formats for disclosure, valid EMD, Consortium Agreement; or any other document solicited from the bidder as per this RFP
- 3.3.1.2 Bid not signed by authorized signatory and / or stamped in the manner indicated in the RFP;
- 3.3.1.3 Material inconsistencies in the information / documents submitted by the Bidder, affecting the Qualification Requirements;
- 3.3.1.4 Information not submitted in the formats specified in the RFP;
- 3.3.1.5 Bid validity being less than that required as per Clause 4.8.1 of the RFP;
- 3.3.1.6 Bid being conditional in nature;
- 3.3.1.7 Bid not received by the Bid Deadline;
- 3.3.1.8 Bid having Conflict of Interest;
- 3.3.1.9 Bids where more than one Member of the Bidding Consortium or a Bidding Company using the credentials of the same Parent Company / Affiliate;
- 3.3.1.10 Bidder delaying or denying in submission of additional information or clarifications sought by JBVNL as applicable;
- 3.3.1.11 Bidder makes any misrepresentation advertently as specified in Clause 3.3;
- 3.3.1.12 Bid not accompanied with EMD and tender fee unless the bidder are exempted from submission of tender fee and EMD/
- 3.3.1.13 Each Bid shall be checked for compliance with the submission requirements set forth in the RFP before the evaluation of Bidder’s fulfilment of Qualification Requirement is taken up. Annexure 6 shall be used to check whether each Bidder meets the stipulated requirements.
- 3.3.1.14 If the developer submit multiple technical bid i.e. separate technical bid against each of the two category parts in which developer is submitting its technical bid or otherwise the bid shall be treated as irresponsive and out rightly rejected

**3.4 Step II- Evaluation of Bidder’s fulfilment of Qualification Requirements**  
 Evaluation of Bidder’s Qualification will be carried out based on the information furnished by the Bidder as per the Annexure 6 and related documentary evidence in support of meeting the Qualification Requirements as specified in Clause 3.2. Non-availability of information and related documentary evidence for the satisfaction of Qualification Requirements may cause the Bid to be non-responsive.

However, JBVNL may seek further clarification, information and documents from the responsive Bidders as it may deemed necessary. The Bidders shall be required to respond to any such request of the JBVNL within the time permitted by JBVNL for submission of such clarifications, information and documents. If any Bidder fails, refuses or avoids submission of any such clarification, information or documents within the permitted time, then such Bidders' Bid shall be evaluated in absence of such information and the JBVNL shall not be responsible for any consequence thereof, including the rejection of the Bid. JBVNL shall declare the name of qualified Bidders before the opening of financial bids of the qualified bidders.

### 3.5 Financial Evaluation



### 3.5.1 Step I - Evaluation of Financial Bid

- 3.5.1.1 Bids qualifying as per assessment carried under clause 3.3.3 shall only be evaluated in this stage.
- 3.5.1.2 Financial Bids of the Qualified Bidders shall be opened in presence of the representatives of such Qualified Bidders, who wish to be present, as per the timelines indicated in Clause 4.7.2, or such other date as may be intimated by JBVNL to the Bidders. The evaluation of Financial Bid shall be carried out based on the information furnished under Annexure 10 (Financial Bid).
- If a developer who intends to submit its financial bids under both the category parts i.e. category Part A & category Part B has to provide the offer bid for the respective category parts at the corresponding table indicated at Annexure 10. The developer need not to submit two copies (quoted tariff for individual category part) for evaluation. The bid tariff for both the category parts, if intended to be submitted, shall be provided under single Annexure 10 document.
- 3.5.1.3 The financial bid shall be rejected, if it contains any deviation from the tender conditions. No clarifications shall be requested from Bidders at this stage.
- 3.5.1.4 The Financial Bids submitted by the Bidders in a form other than described format as per Annexure no 10 and/or containing incomplete information shall be rejected.
- 3.5.1.5 The honourable JSERC under its order bearing title Annual Performance Review for 2018-19 and ARR & tariff for 2019-20 dated Feb 28, 2019 has determined the generic tariff for the consumers of JBVNL who wants to supply electricity to their utility under gross metring scheme at Rs. 4.16/kwh. This generic tariff of Rs 4.16/kwh shall be treated as upper ceiling tariff under this bid, only the bids which has quoted lower and or upto Rs 4.16/kwh under the financial bid shall be treated as eligible during financial evaluation. All the bids containing quoted tariff above generic tariff of Rs. 4.16 as determined by JSERC shall be out rightly rejected as non-responsive during financial evaluation.
- 3.5.1.6 The financial evaluation of both the category (i.e. category Part A & category Part B) shall be carried independently and separately for identification of successful bidders. In other words all the financial bids received under category Part A shall be evaluated simultaneously and together for the identification of L1 bid under category Part A & all the financial bids received under category Part B shall be evaluated simultaneously and together for the identification of L1 bid under category Part B.

### 3.5.2 Step II - Selection of successful Bidder(s)

- 3.5.2.1 Bids, under a particular category part, qualifying under clause 3.4.1 shall only be evaluated in this stage.

### For General Bidders/MSME of Jharkhand

3.5.2.2 Bidders shall be required to quote tariff with MNRE subsidy and without MNRE subsidy. The quoted tariff shall be inclusive of the compensation/ roof rent to the rooftop owner. The Quoted Tariff from the Financial Bids for each of the Project of all Qualified Bidders shall be ranked from lowest to the highest based on the quoted tariff (with subsidy) per unit and for determination of L1 bids. All the financial bids shall be arranged based on the quoted tariff against each project from lowest to highest tariff (L1, L2, L3... Ln) where L1 is the lowest and Ln is the highest. In case there is a tie between two or more bids the provision under clause 3.4.2.4 shall be used to arrange the tie bids in ascending order of tie bids.

3.5.2.3 **L1 Matching:** Subject to Clause 3.4, the Bidder(s) with the lowest Quoted Tariff (L1) shall be declared as a Selected Bidder(s). In case summation of allocated capacity of all L1 bidder(s) is less than 15 MW (Part A) Or 10 MWp (Part B) that is remaining, capacity is greater than zero.

(Where remaining capacity = 15 MWp (Part A) Or 10 MWp (Part B) -Summation of capacity allocated till that stage).

This remaining capacity shall be opened for all the bidder(s) whose quoted tariff was higher than L1. All the bidder(s), whose quoted tariff is higher than L1, will be given an opportunity to match L1 tariff. The last date and time for sending their acceptance/approval for matching L1 tariff shall be decided by JBVNL and intimated to all qualified bidder(s) whose quoted tariff is above L1. These bidders can send their approval/acceptance to match L1 any time before expiry of date and time suggested by JBVNL. However, the allocation of capacity, restricted to maximum capacity quoted by developer, shall be accepted by JBVNL only on first come first serve basis till the entire capacity is allocated. The process shall continue till capacity allocation is done to all the developer who have expressed their desire to match L1 or till the entire capacity is exhausted, whichever is earlier. It is possible that in the process of allocation of capacity to the bidder(s) who have agreed to match the L1 rate, the last bidder whose request may be accommodated may not be able to get entire capacity quoted by the developer for allocation. This last bidder will thus be allocated only the remaining capacity available at that stage.

Further, in case there remains any unallocated capacity at this stage JBVNL shall decide how to deal with the unallocated capacity.

Notwithstanding anything indicated in this section, if the total capacity of the bidders expressing their interest for L1 matching is more than 15 MWp (Part A) Or 10 MWp capacity respectively (Part B), JBVNL shall have the right to decide whether the entire capacity available at L1 after matching should be taken up for implementation. However, the total quantum that JBVNL shall approve for implementation at L1 shall not exceed 50 MWp (Cumulative of both category Part A & Part B).

3.5.2.4 In the event that two or more Bidders bid the same Quoted Tariff (the “**Tie Bidders**”), the JBVNL shall identify the Selected Bidder based on the Net worth or Turnover of the Tie Bidders in the order indicated below.

The bidder with highest Net worth amongst the tie bidders shall be termed as lowest amongst tie bidder(s). Whereas the bidder with lowest Net worth amongst tie bidders will be ranked highest amongst the bidders. The capacity allocation

amongst tie bidders shall be carried in such a way that lowest amongst ties bidders shall be given first preference whereas the bidder with highest Net worth amongst the tie bidder(s) will be given last preference amongst the tie bidder(s). In case there is a tie on Net worth aspect also then assessment shall be made on the line of Net worth while taking Turnover of the bidder into account for the bidders whose net worth were found to be equal.

- 3.5.2.5 In case one or more of the Tie Bidders is a Bidding Consortium, then actual Turnover/Net worth of Financial Member of each Bidding Consortium shall be considered for this purpose.

#### **For Start-ups**

- a. Start-ups are exempted from submitting any financial bid. In place of financial bid, they shall submit a self-declaration indicating their position to be that of start-ups as per Jharkhand start-ups policy on the day of issue of this RFP. The relevant certificate of incorporation shall also be provided along with self-declaration.
  - b. The Start-ups shall also declare the category part in which they want to participate. The Start-ups can participate in single category part or both the category parts.
  - c. Start-ups shall be requested to match the L1 tariff determined for the respective category part under the bidding process being carried for general bidders/MSME/SSI.
  - d. Only those start-ups who have expressed their desire in written to match L1 tariff of respective category part, provided they have earlier expressed the desire to participate in the evaluation process of that category part, and fulfilled all other necessary conditions as indicated in this RFP shall be considered for the allocation of work
  - e. If the summation of bid capacities of all the start-ups meeting condition provided at point "d" above, for a particular category part, is more than the tender capacity reserved exclusively for the start-ups under that category part i.e. 10% of the tender capacity of that particular category part then the capacity that has been reserved for the start-ups shall be divided equally amongst all the start-ups in that particular category part. In case If the summation of bid capacities of all the start-ups meeting condition provided at point "d" above is equal to or less than the tender capacity reserved exclusively for the start-ups under that particular category part, then the capacity allocation shall be equals to the capacity allocation desired by the individual start-ups in that particular category part.
- 3.5.2.6 There shall be no negotiation on the Quoted Tariff between the JBVNL and the Bidder(s) during the process of evaluation.
- 3.5.2.7 Each Selected Bidder shall unconditionally accept LOI, and record on one (1) copy of the LOI, "Accepted Unconditionally", under the signature of the authorized signatory of the Selected Bidder and return such copy to the JBVNL within seven (7) days of issue of LOI.
- 3.5.2.8 If Price quoted by the bidders is found to be unacceptable to the Tender Finalisation Committee of JBVNL, in that case the decision of the Committee shall be final and binding to all. Such bidders who have quoted an unrealistic rate and committee

does not consider him for further process, in that case the committee may consider the next realistic rate as the discovered rate.

- 3.5.2.9 JBVNL shall pay only the discovered tariff that is the tariff at which PPA is signed. JBVNL shall not pay anything over and above the discovered tariff that is the tariff at which PPA is signed.

**SECTION 4**  
**INSTRUCTIONS TO**  
**BIDDERS**

## 4 Instructions to Bidder

### 4.1 Submission of Bid

#### 4.1.1 Submission by the Bidders

- 4.1.1.1 The information and/or documents shall be submitted by the Bidder as per the Annexure 1 to Annexure 16 of this RFP document.
- 4.1.1.2 Strict adherence to the formats wherever specified, is required. Wherever, information has been sought in specified formats, the Bidder shall refrain from referring to brochures / pamphlets. Non-adherence to formats and / or submission of incomplete information may be a ground for declaring the Bid as non-responsive.
- 4.1.1.3 The Bidder shall furnish documentary evidence in support of meeting Qualification Requirements to the satisfaction of the JBVNL and shall furnish consolidated audited annual accounts in support of meeting financial requirement, which shall consist of unabridged balance sheet, profit and loss account, profit appropriation account, auditors report, etc., as the case may be, of Bidding Company or Financial Member of a Consortium or Financially Evaluated Entity for the last financial years immediately preceding the Bid Deadline for the purpose of calculation of Net worth or Revenue.
- 4.1.1.4 To participate in the bidding process, bidders have to get 'Digital Signature Certificate (DSC)' as per Information Technology Act-2000 to participate in online bidding. This certificate will be required for digitally signing the bid. Bidders can get above mention digital signature certificate from any approved vendors (CCA). Bidders, who already possess valid Digital Certificates, need not to procure new Digital Certificate.
- 4.1.1.5 The bidders have to submit their bids online in electronic format with digital Signature. The bids without digital signature will not be accepted. No proposal will be accepted in physical form.
- 4.1.1.6 The successful shall be allowed to install the systems conforming to the JBVNL/MNRE specifications / guidelines after authorization by JBVNL.
- 4.1.1.7 Where there is a discrepancy between the quoted tariffs rate in figures and in words, the rate in words will govern; and The amount stated in the Bid will be adjusted by the JBVNL in accordance with the above procedure for the correction of errors and shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount, the Bid will be rejected, and the Earnest money shall be forfeited to add in Price bid

#### 4.1.2 Submission of Bid by a Bidding Consortium

- 4.1.2.1 The Bid shall contain a legally enforceable Consortium Agreement entered amongst the Members in the Bidding Consortium, designating one of the Members to be the Lead Member (as per Annexure 3). There shall be only one Lead Member which shall continue to hold fifty one percent (51%) equity in the Project Company up to a period of two (2) years after Commercial Operation Date of the last rooftop solar system commissioned under the Project and twenty-six (26%) for a period of three years thereafter. Each Member of the Bidding Consortium shall duly sign the Consortium Agreement making it liable for raising the required funds for its respective equity investment commitment as specified in the Consortium Agreement. In the absence of a duly executed Consortium Agreement, the Bid will not be considered for evaluation and will be rejected.

Provided however that the Lead Member of the Bidding Consortium shall be liable to the extent of one hundred percent (100%) of the total proposed commitment of equity investment in the Project Company, i.e., for both its own liability as well as the liability of the other Members of the consortium.

Provided further that the Consortium Agreement shall not be amended without the prior written approval of the JBVNL.

- 4.1.2.2 Bidder must meet the eligibility criteria independently as a Bidding Company or as a Bidding Consortium of a maximum of Two companies with one of the members acting as the Lead Member of the Bidding Consortium. Bidder will be declared as a technically qualified Bidder based on meeting the eligibility criteria and as demonstrated based on documentary evidence submitted by the Bidder in the Bid.
- 4.1.2.3 The Lead Member shall designate one person to represent the Consortium in its dealings with the JBVNL. The person designated by the Lead Member shall be authorized through a Power of Attorney (as per Annexure 2 ) to perform all tasks including, but not limited to providing information, responding to enquiries, signing of Bid on behalf of the Consortium, etc. Additionally, the Bid shall also contain a Power of Attorney in original as per Annexure 2 in favour of the Lead Member issued by the other Members of the Consortium. Settlement of any dispute amongst the Consortium Members shall not be the responsibility of the JBVNL and the JBVNL shall not bear any liability whatsoever on this account.
- 4.1.2.4 The Bidder or the technical Member of the Bidding Consortium shall have commissioned grid connected rooftop solar systems with aggregate capacity as per the clause 3.2. The documentary evidence to be submitted by the Bidder for establishing the fulfilment of required minimum technical criteria shall be as specified in clause 3.2.
- 4.1.2.5 The Technical experience of technical member and financial capabilities of financial member of the Consortium are allowed to jointly meet the Technical and Financial Eligibility Criteria for the consortium. However, each of the member of the Consortium shall be jointly and severally liable for successful completion of the work awarded by JBVNL under this RFP.



- 4.1.2.6 In case the Selected Bidder is a Bidding Consortium, it shall incorporate a Project Company in accordance with Clause 4.3. The Selected Bidder shall be responsible to get any Consents, Clearances and Permits it may have to obtain prior to the incorporation of the Project Company. Before assignment of the Letter Of Intent in favour of the Project Company, the Selected Bidder shall demonstrate that the shareholding structure of the Project Company complies with the structure proposed in the Bid and the requirements of this RFP.
- 4.1.2.7 In case of a Bidding Consortium, the Financial Member, who is not a lead member, shall be required to maintain an equity stake of 49% in the Project Company for a period of at least two (2) years from the Commercial Operation Date of the last rooftop solar system commissioned under the Project.

Provided further that where a single Member of the consortium acts as both Financial Member & Technical Member for meeting the Financial Criteria as well as relevant technical experience for meeting the Technical Criteria respectively, the provisions of Clause 3.2.2, 3.2.3 shall apply.

#### 4.1.3 Using financial capability of Parent Company & its affiliates

- 4.1.3.1 **In Case of Independent Company:** The independent bidder may seek financial qualification on the basis of financial capability of its Parent Company and/or its Affiliate(s). However, the financial capabilities of the parent company/affiliates, as the case may be, that is being used by the independent bidder shall not be used by any other competing bidder or financial member of a competing consortium.
- 4.1.3.2 **In Case of Consortium:** Similarly, financial member of the bidding consortium may seek qualification on the basis of financial capabilities of its parent company and/or its affiliates. However, the financial capabilities of the parent company and/or affiliates of the financial member, that is being used to meet the financial criteria, shall not be used by any other competing independent bidder or financial member of the competing consortium.
- 4.1.3.3 Further, the relationship between Parent Company or Affiliate with the independent Bidding Company or with the financial Member of the Bidding Consortium, shall be as existing on the date seven (7) days prior to the Bid Deadline. Documentary evidence to be provided in form of a certification from a practicing Company Secretary or Statutory Auditor to establish such relationship shall be furnished by the independent Bidder or the financial member of the consortium along with the Bid. The relationship between the parent company or affiliate with the independent bidding company or with financial member of bidding consortium shall be maintained as it is for a period of up to two years from the COD of the last rooftop solar system commissioned under the project.
- 4.1.3.4 The company whose financial capabilities are being used for meeting the financial criteria shall furnish documentary evidence, in support of meeting eligibility criteria as indicated in Clause 3.2.3 to the satisfaction of JBVNL, and shall also furnish /consolidated audited annual accounts as per the requirement in support of meeting financial requirement. The documentary evidence submitted shall be years at least for the last three (3) financial years.



- 4.1.3.5 A Bidder shall submit only one response to the RFP either individually as an independent Bidding Company or as a Bidding Consortium. It is further clarified that a Bidding Company or Member(s) of a Bidding Consortium or any of the Parent Company / Affiliate / Ultimate Parent Company of the Bidding Company or a Member(s) of a Bidding Consortium shall not participate directly or indirectly, whether as a Member of another Bidding Consortium or otherwise in another Bid pursuant to this RFP. Further, if any Bidder has a Conflict of Interest with other Bidder(s) participating in the same bidding process, the Bid of all such Bidder(s) shall be rejected.
- 4.1.3.6 The Bidding Company should designate one person to represent the Bidding Company in its dealings with the JBVNL. The person should be authorized to perform all tasks including, but not limited to providing information, responding to enquiries, signing of Bid etc.
- 4.1.3.7 The Bidding Company should submit, along with Bid, a Power of Attorney in original (as per Annexure 2 (a)), authorizing the signatory of the Bid.

**4.1.4 Minimum Equity Holding Lock-in**

**In case of Consortium:** The Lead Member shall continue to hold at least fifty one percent (51%) equity in the Project Company up to a period of two (2) years after Commercial Operation Date of the last rooftop solar system commissioned under the project and twenty six (26%) for a period of three (3) years thereafter. The Second Member, shall be required to maintain an equity stake up to 49% in the Project Company for a period of at least two (2) years from the Commercial Operation Date of the last rooftop solar system commissioned under the project.

**In case of Independent Bidder:** In the event the Selected Bidder is an independent Bidding Company and it establishes the Project Company, then in such event the Bidding Company shall be required to hold hundred percent (100%) equity in the Project Company up to a period of two (2) years after the Commercial Operation Date of the last rooftop solar system commissioned under the Project and twenty six percent (26%) for a period of three (3) years thereafter.

**4.1.5 Subsidy**

MNRE through its letter no. 318/38/2018-GCRT dated 21/07/2021, has issued new benchmark cost of solar plant under the Phase – II scheme for the FY 2021-21. The benchmark cost of the MNRE, as per the aforesaid order has been reproduced below for ready reference.

Sl No	Capacity Range (KW)	Benchmark cost for FY 2021-21 (INR/Watt)
1	1KW	47
2	More than 1 kW and upto 2 KW	43
3	More than 2 kW and upto 3 KW	42

4	More than 3 kW and upto 10 KW	41
5	More than 10 kW and upto 100 KW	38
6	More than 100 kW and upto 500 KW	36

The subsidy amount shall be computed based on the above indicated benchmark cost. The subsidy amount payable to the RESCO shall be released to the RESCO on the receipt of the same from MNRE, provided RESCO fulfils all the requirements deemed necessary by the MNRE.

**Subsidy Pattern and release:**

Subsidy for Grid Connected Rooftop Solar Power Plants located at Residential Electricity Consumers, will be as per CFA under MNRE Phase II.

Sector-wise eligibility of Central Financial Assistance (CFA) and state share incentive/Awards

Type of Residential	Sector CFA (as percentage of benchmark cost or cost discovered through competitive process whichever is lower)
Residential Sector (maximum up to 3 kW capacity)	40% of benchmark cost
Residential Sector (above 3kW capacity and up to 10kW capacity)	40% up to 3 kWp Plus 20% for RTS above 3 kWp and up to 10 kWp
Group Housing societies/Residential Welfare Associations (GHS/RWA) etc. for common facilities up to 500 kWp (@10 kWp per house), with the upper limit being inclusive of individual rooftop residents in that GHS/RWA at the time of installation of RTS for common activity	20%

100% of the subsidy amount would be released after successful commissioning and acceptance of the project. Bidders should note that subsidy will be released subject to release from MNRE and in a manner being released by the MNRE. For the release of the

subsidy all applicable norms and guidelines governing release of subsidy shall be applicable

As per MNRE Notification No. 146/57/2018-P&C Dated 11.12.2018, the solar module should be 100% Indian make, 40% of remaining component should also be of Indian make. The Solar cells and Solar Panels should be compliant with MNRE Notification No: 283/134/2017-Grid Solar.

4.1.6 The successful bidders may claim subsidy from JBVNL by submitting complete list of beneficiaries along-with full addresses, date of installation, models and makes and serial numbers of systems & PV modules supplied along with the photographs of installed system duly verified by JBVNL and/or its authorized agency/ies as per the norm of JBVNL. The bidder shall also be required to submit any other relevant documents as required by MNRE under Phase II guidelines

4.1.7 The subsidy sanction letter shall be issued to the successful bidders on identifying the beneficiaries and submitting the complete list of beneficiaries.

#### 4.1.8 **Arbitration**

Following standard Arbitration Clause shall become operative post award of contract to the successful bidders: Any question, dispute or difference whatsoever arises between DISCOM and successful bidders, in connection with this agreement except as to matters, the decision for which has been specifically provided, either party may forthwith give to the other notice in writing existence of such questions, dispute, difference and the same shall be referred to the sole arbitration of a person nominated by Executive Director (C&R) of JBVNL. This reference shall be governed by Indian Arbitration Act prevailing at the time of dispute and the rules there under. The award in such arbitration shall be final and binding on all the parties. Work under the agreement shall continue during the arbitration proceedings unless the DICOM or the Arbitrator directs otherwise.

#### 4.1.9 **Jurisdiction of the Court:**

The laws applicable to the contract shall be the laws in force in India. The court at Ranchi, Jharkhand shall have exclusive jurisdiction in all matters arising under this contract.

## 4.2 Bid Formats

The Bid in response to the RFP shall be submitted by the Bidders in the manner provided in Clause 4.2. The Bid shall comprise of the following:

## 4.2.1 **Online submission -Technical Bid comprising of:**

4.2.1.1 Covering Letter as per Annexure 1

4.2.1.2 Original power of attorney issued by the independent Bidding Company or the Lead Member of the Consortium, as the case may be, in favour of the authorized person signing the Bid, in the form attached hereto as Annexure 2(A). Additionally, in case of a Bidding Consortium, the Bid should also contain a Power of Attorney in original as per Annexure 2(B) in favour of the Lead Member issued by other Member(s) of the Consortium.

Provided that in the event the independent Bidding Company or any Member of the Bidding Consortium, as the case may be, is a foreign entity, it may submit Board resolutions in place of Power of Attorney for the purpose of fulfilling the above requirements.

Provided further that such Board resolutions, as specified above, shall be supported by an unqualified opinion issued by the legal counsel of such foreign entity, stating that the Board resolutions are in compliance with the applicable laws of the land of respective jurisdictions of the issuing company and that authorizations granted therein are true and valid.

In the case of a foreign entity in the event that, any and/or all of the documents/resolutions being submitted are in any language other than the language allowed under this RFP, then a duly notarized copy of such translation of the documents/resolutions submitted shall also be required to be submitted.

4.2.1.3 Consortium Agreement as per Annexure 3;

4.2.1.4 Letter of Consent from the Consortium Members as per Annexure 4;

4.2.1.5 Bidder's composition and ownership structure as per Annexure 5;

4.2.1.6 Details for meeting Qualification Requirement as per Annexure 6 along with documentary evidence for the same as specified in Clause 3.2;

4.2.1.7 Bidders' undertaking as per Annexure 7(A) and Undertakings from the Financially Evaluated Entity or its Parent Company / Ultimate Parent Company as per Annexure 7(B);

Provided further, in case the independent Bidding Company or Member of a Consortium, (as the case may be) holds at least fifty-one percent (51%) equity in such Financially Evaluated Entity, whose credentials have been considered for the purpose of meeting the Qualification Requirements as per the RFP, undertaking shall not be required from the Financially Evaluated Entity;

- 4.2.1.8 Board Resolution of the Financially Evaluated Entity of the independent Bidding Company or each Member of the Bidding Consortium as per prescribed Annexure 8, duly certified by the Company Secretary or the Managing Director undertaking to provide the Performance Guarantee in the event of failure of the Bidding Company / Member of the Consortium to do so; or
- 4.2.1.9 Board Resolution of the Parent or Ultimate Parent of the Financially Evaluated Entity referred to above, as per Annexure 8, duly certified by the Company Secretary or the Managing Director undertaking to provide the entire Development Security and Performance Guarantee in the event of failure of the Bidding Company / Member of the Consortium to do so.
- 4.2.1.10 Provided that such Board resolutions, as specified above, in case of a foreign entity, shall be supported by an unqualified opinion issued by the legal counsel of such foreign entity, stating that the board resolutions are in compliance with the applicable laws of the respective jurisdictions of the issuing company and the authorizations granted therein are true and valid.
- 4.2.1.11 Scanned copy of EMD as per Annexure 9.
- 4.2.1.12 Checklist for Bid submission requirements as per Annexure 11
- 4.2.1.13 Disclosure as per Annexure 12 regarding participation of any related companies in this bidding process;
- 4.2.1.14 Scanned copy of bank draft towards tender fee of Rs. 10,000/-
- 4.2.1.15 Undertaking, if applicable with respect to rooftop solar experience as per Annexure 14.
- 4.2.1.16 Signed copy of RFP.
- 4.2.1.17 Any Bidder who wishes to apply for more than one Project is required to submit only one Technical Bid.

#### 4.2.2 **Online submission - Financial Bid comprising of:**

- 4.2.2.1 Financial offer as per Annexure 10 duly signed by authorised signatory
- 4.2.2.2 Bidding Parameter: The bidding parameter is the Quoted Tariff. The Bidder shall inter-alia take into account the following while preparing and submitting the Financial Bid as per Annexure 10 duly signed by an authorized signatory.
- 4.2.2.3 The Bidder shall submit their Quoted Tariff and shall specify the same in its Financial Bid as per Annexure 10 of the RFP.
- 4.2.2.4 Any Bidder who wishes to apply for more than one projects in different sub-station area is required to submit a single Financial Bid in tabular format comprising the Tariffs as per Annexure 10 for all such project.

#### 4.2.3 **Hard copy Submission**

The following documents must be submitted in hard copies

- a. DD towards EMD.
- b. Bank DD towards tender fee.

- c. In case of MSMEs of Jharkhand and SSIs of Jharkhand DD towards EMD and DD towards tender fee are exempted however to avail the benefits the following documents must be submitted in hard copies;

- 1 Incorporation certificate
- 2 GST registration certificate of Jharkhand
- 3 The hard copies of the documents indicated under clause 4.2.3 must be placed in envelope and send to JBVNL authorised person before 15.00 hrs of 13.05.2021

## 4.3 Incorporation of a Project Company as a Developer

4.3.1 In case the Selected Bidder is a Bidding Consortium, the Selected Bidder shall, within fifteen (15) days of the issue of the Letter of Intent, incorporate a Project Company as a Developer of that particular distributed rooftop solar power project in the event such a Project Company has not been incorporated by the Bidder prior to the submission of the Bid. In case the Project Company has already been incorporated prior to the submission of the Bid as specified in the Consortium Agreement such Project Company shall be responsible to execute the RFP Documents. The investment in the Project Company shall be as per provisions of the Consortium Agreement and shall be subject to the provisions of Clause 4.1.2 of the RFP.

4.3.2 A Bidding Company may (but shall not be under an obligation to) form a Project Company to undertake the relevant Project and enter into the RFP Documents, Such Project Company should, however, be incorporated within fifteen (15) days of the issue of the Letter of Intent.

4.3.3 Within fifteen (15) days of the issue of the Letter of Intent for each Project, the Selected Bidder/ Project Company, as the case may be, shall:

- 4.3.3.1 Provide a valid Performance Guarantee as per the provisions of clause 1.3.55 of the RFP; and thereafter
- 4.3.3.2 Execute the PPA, Tripartite Agreement in required number of originals so as to ensure that one original is retained by each party to the agreement(s).

Provided that, if for any reason attributable to Procurer, the Performance Guarantee is not provided by the Selected Bidder(s)/ Developer within the above period of fifteen (15) days of the issue of Letter of Intent as mentioned in this Clause, such period of fifteen (15) days shall be extended, on a day for day basis till the end of the Bid validity period.

4.3.3.3 The cost of all stamp duties payable for executing the RFP Documents shall be borne by the Selected Bidder.

4.3.3.4 If the Selected Bidder(s) / Developers fails or refuses to comply with any of its obligations under Clauses 3.2, 3.3, and 3.4 and provided that Procurer(s) and / or other parties to the respective RFP Documents are willing to execute the said documents, such failure or refusal on the part of the Selected Bidder/ Project Company shall constitute sufficient grounds for cancellation of the Letter of Intent. In such cases, Procurer shall be entitled to, invoke, appropriate remedies and forfeit the EMD of the Selected Bidder / Developer.

#### 4.3.4 Amendment of RFP

4.3.5 The JBVNL, for any reason, whether at its own initiative or in response to clarifications requested by any Bidder may modify the RFP, including the timelines specified Clause 4.7.2 by issuance of addendum / modification / errata and / or a revised document. Revisions or amendments in the Bidding Guidelines may cause Procurer to modify, amend or supplement the RFP, including the RFP Documents to be in conformance with any applicable Law. Such document shall be notified in writing through a letter or fax or e-mail to all the entities to which the RFP has been issued and shall be binding on them. Such documents shall be sent by email to the person designated by the Bidder. Procurer shall not be responsible for any delay in receipt of the addendum / modification / errata and / or revised document and receipt of the same by the Bidders shall be presumed by Procurer upon taking all reasonable steps to notify the Bidders in accordance with the means mentioned in the preceding sentence. In order to provide reasonable time to the Bidders to take the modification into account in preparing their Bid, or for any other reasons, procure may, at its discretion, extend the Bid Deadline. Late receipt of any addendum / modification / errata and / or revised document will not relieve the Bidder from being bound by that modification or the Bid Deadline. All such amendments/modifications shall be issued at least fifteen (15) days prior to the Bid Deadline mentioned in clause 1.2.14.

4.3.6 In case Bidders need any further clarifications not involving any amendments in respect of the final RFP and RFP Documents, they should ensure that written request for such clarification is delivered to Procurer at least fifteen (15) days prior to the Bid Deadline as mentioned in Clause 1.2.14, the JBVNL may issue clarifications only, at its sole discretion, which is considered reasonable by it. Any such clarification issued shall be sent to all the Bidders to whom the RFP has been issued. Clarifications sought after this date shall not be considered in any manner and shall be deemed not to have been received. There shall be no extension in Bid Deadline on account of clarifications sought as per this Clause.

#### 4.4 The Bidder should note that:



- 4.4.1 If any Bidder conceals any material information or makes a wrong statement or misrepresents facts or makes a misleading statement in its Bid, in any manner whatsoever in order to create circumstances for the acceptance of its Bid, the JBVNL reserves the right to reject such Bid or cancel the LOI, if issued. If such event is discovered after the date of signing the RFP Documents, consequences specified in the relevant RFP Document shall apply.
- 4.4.2 If for any reason the Bid of any Selected Bidder is rejected or Letter of Intent issued to such Selected Bidder is cancelled, JBVNL may:
- 4.4.2.1 Consider the next lowest Financial Bid from Bidders other than the Selected Bidder(s) whose Bids are responsive and valid; or
- 4.4.2.2 Annul the bid process; or
- 4.4.2.3 Take any such measure as may be deemed fit in the sole discretion of JBVNL, as applicable
- 4.4.3 Bid submitted by the Bidders, within the Bid Deadline, shall become the property of the JBVNL and shall not be returned to the Bidders;
- 4.4.4 Language of the Bid shall be English only;
- 4.4.5 Bidders shall mention the name of the contact person and complete address of the Bidder in the covering letter as per Annexure 1;
- 4.4.6 The JBVNL may, at its sole discretion, ask for additional information/ document and/ or seek clarifications from a Bidder after the Bid Deadline, inter alia, for the purposes of removal of inconsistencies or infirmities in its Bid. However, no change in the substance of the Quoted Tariff shall be sought or permitted by Procurer/ JBVNL;
- 4.4.7 Failure by the JBVNL to require information from a Bidder that has not been properly provided shall not be construed as waiver on the part of the JBVNL of the obligation of the Bidder to furnish the said data / information unless the waiver is in writing;
- 4.4.8 The JBVNL may verify the Bidder's financial data by checking with the Bidder's lenders / bankers / financing institutions / any other person as necessary;
- 4.4.9 The Bidders shall satisfy themselves, on receipt of the RFP, that the RFP is complete in all respects. Intimation of any discrepancy shall be given to the JBVNL address provided in bid document immediately. If no intimation is received from any Bidder within ten (10) days from the date of issue of the RFP or from the date on which it was made available on [www.jbvn.co.in](http://www.jbvn.co.in) it shall be considered that the issued document, complete in all respects, has been received by the Bidder; and
- 4.4.10 The RFP document includes statements, which reflect the various assumptions arrived at by the JBVNL in order to give a reflection of the current status in the RFP. These assumptions may not be entirely relied upon by the Bidders in making their own assessments. The RFP does not purport to contain all the information each Bidder may require and may not be appropriate for all persons. Each Bidder should conduct its own investigations and analysis and should check the accuracy, reliability and completeness of the information in the RFP and obtain independent advice from appropriate sources.



#### 4.5 Bidder to inform itself fully

- 4.5.1 The Bidder shall make independent enquiry and satisfy itself with respect to all the required information, inputs, conditions (including site conditions) and circumstances and factors that may have any effect on its Bid. Once the Bidder has submitted the Bid, the Bidder shall be deemed to have examined the laws and regulations in force in India, the grid conditions, and fixed its price taking into account all such relevant conditions and also the risks, contingencies and other circumstances which may influence or affect the supply of power. Accordingly, the Bidder acknowledges that, on being selected as Selected Bidder, it shall not be relieved from any of its obligations under the RFP Documents nor shall be entitled to any extension of time for commencement of supply or financial compensation for any reason whatsoever.
- 4.5.2 The Bidders should particularly acquaint themselves with the technical requirements of integrated grid operation as specified in the Jharkhand Grid Code and the Jharkhand Distribution Code.
- 4.5.3 In their own interest, the Bidders are requested to familiarize themselves with the Electricity Act, 2003, the Income Tax Act 1961, the Companies Act, 1956, the Customs Act, the Foreign Exchange Management Act 1999, the Environment Protection Act 1986 and Forest (Conservation) Act 1980, the local laws affecting use of rooftop for solar PV installations the regulations framed by regulatory commissions and all other related acts, laws, rules and regulations prevalent in India, as amended from time to time. Procurer shall not entertain any request for Clarifications from the Bidders regarding the same. Non-awareness of these laws or such information shall not be a reason for the Bidder to request for extension in Bid Deadline. The Bidder undertakes and agrees that, before submission of its Bid; all such factors as generally stated above, have been fully investigated and considered while submitting the Bid.
- 4.5.4 The Bidder shall familiarize itself with the procedures and time frames required to obtain all Consents, Clearances and Permits required for the supply of power to Procurer. Procurer shall have no liability to obtain any of the Consents, Clearances and Permits required for setting up of the generation facilities and/ or supply of power.
- 4.5.5 Clarifications -
- JBVNL will not enter into any correspondence with the Bidders, except to furnish clarifications on the RFP and RFP Documents, if necessary. The Bidders may seek clarifications on the RFP and RFP Documents in writing, through a letter or by fax (and also soft copy by e-mail) to reach the JBVNL address, date and time mentioned in Clause 4.7. For the avoidance of any doubt, it is hereby clarified that there shall be no extension in the Bid Deadline on account of clarifications.

#### 4.6 Due Dates

- 4.6.1 The Bidders should submit the Bids so as to reach the address specified below by 15.00 hrs (IST) on 12.05.2021

4.6.2 The following table shall provide the time schedule for completion of the bidding process

Event	Schedule
Date of issue of RFP	T=0
Pre-Bid Meeting	T + 7 days
Submission of queries on RFP by Prospective bidders	T+14 days
Revision of RFP (if required) and issuance of amendment if any	T +21 days
Bid submission and opening of Technical Bids	T+ 28 days
Opening of Financial Bid of Qualified Bidders	T+ 35 days
Issue of LOI*	T+ 42 days
Signing of PPA Documents	T+ 49 days

\* Subject to approval of power purchase rate by JSERC

The timelines are indicative may be changed as per discretion of JBVNL

#### 4.7 Validity of the Bid

4.7.1 The Bidder shall submit the Bid which shall remain valid up to ninety (90) days after the Bid Deadline (“Bid Validity”). JBVNL reserve the right to reject any Bid which does not meet the aforementioned validity requirement

4.7.2 JBVNL may solicit the Bidders’ consent for an extension of the period of validity of the Bid. The request and the response in this regard shall be in writing. In the event any Bidder refuses to extend its Bid validity as requested by the JBVNL, the JBVNL shall not be entitled to invoke the EMD. A Bidder accepting the JBVNL’s request for validity extension shall not be permitted to modify its Bid and such Bidder shall, accordingly, extend the validity of the EMD as requested by the JBVNL within seven (7) days of such request, failing which the Bid shall not be considered as valid.

4.8 Method of Submission

4.8.1 Both technical and financial Bid are to be submitted online. Only the documents as indicated under the clause 4.2.3 shall be submitted in hard copies. The envelope containing the hard copy should be closed and marked with the following subscript.

“Tender fee and EMD for selection of Developer for procurement of solar power from rooftops of residential consumers of JBVNL”

Name of the Bidder .....

Due for opening on.....

Addressed to ED (C&R), JBVNL

Engineer’s Building,

HEC, Dhurwa, Ranchi. India

834004

4.9.1 The Bidders have the option of sending the envelope containing hard copies sought under clause 4.2.3 either by registered post; or speed post; or courier; or by hand delivery, so as to reach JBVNL by the Bid Deadline indicated in the relevant section. Bids submitted by telex / telegram / fax / e-mail shall not be considered under any circumstances. JBVNL shall not be responsible for any delay in receipt of the Bid.

4.9.2 It may be noted that Technical Bid shall not contain any information/document relating to Financial Bid. If Technical Bid contains any such information / documents, Procurer shall not be responsible for premature opening of the Financial Bid.

4.9.3 No change or supplemental information to a Bid will be accepted after the Bid Deadline, unless the same is requested for by JBVNL.

Provided that a Bidder shall always have the right to withdraw or modify its Bid before the Bid Deadline.

4.9 Preparation Cost

4.9.1 The Bidder shall be responsible for all the costs associated with the preparation of the Bid and participation in discussions and attending Pre-bid meetings, and finalization and execution of the RFP Documents, etc., Procurer shall not be responsible in any way for such costs, regardless of the conduct or outcome of this Bid process.

4.10 EMD

- 4.10.1 Each Bidder shall submit the EMD in the form of DD, as per Annexure 9 issued by a scheduled commercial bank. In the case of a Consortium, the Lead Member shall furnish the EMD as stipulated in the RFP, on behalf of the Consortium Members as per the Consortium Agreement. The EMD shall be valid for a period of thirty (30) days beyond the validity of the Bid.
- 4.10.2 The EMD, may be invoked by the JBVNL without any notice, demure, or any other legal process upon occurrence of any of the following:
  - 4.10.2.1 Failure to incorporate the Project Company as a legal entity as per the provisions of clause 4.3 of the RFP, or,
  - 4.10.2.2 Failure to furnish the Performance Guarantee as per clause 1.3.55; or
  - 4.10.2.3 Failure to execute the RFP Documents subject to the provisions of Clause 2.2or
  - 4.10.2.4 Bidder submitting any wrong information or making any misrepresentation in Bid as mentioned in clause 4.16
- 4.10.3 The EMDs of all Bidders, whose Bids are declared non-responsive or unrealistic, shall be returned and released by JBVNL within thirty (30) days after the date on which the Financial Bids are opened.
- 4.10.4 The EMDs of all unsuccessful Bidders shall be returned and released by JBVNL within a period of thirty (30) days of the occurrence of the earlier of the following:
  - 4.10.4.1 Submission of the Performance Guarantee as per clause 1.3.55 of the RFP and the execution of the RFP Documents (as applicable) by the Selected Bidder(s); or
  - 4.10.4.2 Expiry of the Bid Validity/extended validity of Bid of unsuccessful Bidders; or
- 4.10.5 The EMDs of all Bidders shall be returned and released by JBVNL within a period of thirty (30) days of the occurrence of the termination/cancellation of Bid process by the JBVNL.
- 4.10.6 The EMD of the Selected Bidder(s) shall be returned on the submission of the Performance Guarantee as per clause 3.4.2 of the RFP and the provisions of the relevant RFP Documents.

## 4.11 Opening of Bids

- 4.11.1 The online technical bid section shall be opened as per the time schedule mentioned in clause 1.2.14 in the office of JBVNL in the presence of one representative from each of such Bidders who wish to be present.
 

In the event of any of above dates falling on a day which is not a working day or which is a public holiday, the Bid shall be opened on the next working day at the same venue and time.
- 4.11.2 The following information from each Bid shall be read out to all the Bidders at the time of opening of online Technical Bids
  - 4.11.2.1 Name of the Bidder including Members of the Bidding Consortium, if applicable

## 4.11.2.2 Details of the EMD

### 4.12 Right to withdraw the RFP and to reject any Bid

The RFP may be withdrawn or cancelled by the JBVNL at any time without assigning any reasons thereof. The JBVNL further reserve the right, at their complete discretion, to reject any or all of the Bids without assigning any reasons whatsoever and without incurring any liability on any account.

### 4.13 Enquiries

Written clarifications on the RFP and RFP Documents may be sought from:

ED (C&R), JBVNL

Engineer's Building, HEC Dhurwa,

Ranchi, India

834004

Telephone:

Fax:

E-mail: [cecr2018@gmail.com](mailto:cecr2018@gmail.com)

Website. [www.jbvnl.co.in](http://www.jbvnl.co.in)

JBVNL reserves the right to interpret the Bid submitted by the Bidder in accordance with the provisions of the RFP and make its own judgment regarding the interpretation of the same. In this regard the JBVNL shall have no liability towards any Bidder and no Bidder shall have any recourse to the JBVNL with respect to the selection process. The JBVNL shall evaluate the Bids using the evaluation process specified in Section 3, at its sole discretion. The JBVNL's decision in this regard shall be final and binding on the Bidders.

### 4.14 Confidentiality

- 4.14.1 The parties undertake to hold in confidence the RFP and RFP Documents and not to disclose the terms and conditions of the transaction contemplated hereby to third parties, except:
  - 4.14.2 To their professional advisors;
  - 4.14.3 To their officers, Developers, employees, agents or representatives, financiers, who need to have access to such information for the proper performance of their activities;

- 4.14.4 Disclosures required under applicable Law, without the prior written consent of the other parties of the concerned agreements.  
 Provided that the Selected Bidder(s) agrees and acknowledges that any of Procurers may at any time, disclose the terms and conditions of the RFP and RFP Documents to any person, to the extent stipulated under the applicable Law or the Bidding Guidelines.

#### 4.15 Fraudulent and Corrupt Practices

- 4.15.1 The Bidders and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Bid process and subsequent to the issue of the Letter of Intent. Notwithstanding anything to the contrary contained herein, or in the Letter of Intent, the JBVNL shall reject a Bid, withdraw the Letter of Intent, as the case may be, without being liable in any manner whatsoever to the Bidder, if it determines that the Bidder has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice in the Bid process. In such an event, the JBVNL shall forfeit the EMD, without prejudice to any other right or remedy that may be available to Procurer / JBVNL hereunder or otherwise.

- 4.15.2 Without prejudice to the rights of the JBVNL under Clause 4.16.1 hereinabove and the rights and remedies which the JBVNL may have under the Letter of Intent, if a Bidder is found by the JBVNL to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the Bid process, or after the issue of the Letter of Intent, such Bidder shall not be eligible to participate in any tender or RFP issued by the JBVNL, during a period of two (2) years from the date such Bidder is found by the JBVNL to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practices, as the case may be.

- 4.15.3 For the purposes of this Clause 4.16, the following terms shall have the meaning hereinafter respectively assigned to them:

##### 4.15.3.1 *"corrupt practice" means*

- 4.15.3.1.1 the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the actions of any person connected with the Bid process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the JBVNL who is or has been associated or dealt in any manner, directly or indirectly with the Bid process or the Letter of Intent or has dealt with matters concerning the Relevant PPA or arising there from, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the JBVNL, shall be deemed to constitute influencing the actions of a person connected with the Bid Process); or
- 4.15.3.1.2 engaging in any manner whatsoever, whether during the Bid Process or after the issue of the LOI or after the execution of the Relevant PPA, as the case may be, any person in respect of any matter relating to the Projects or the Letter of Intent or the Relevant PPA, who at any time has been or is a legal, financial or technical adviser of the JBVNL in relation to any matter concerning the Projects;

- 4.15.3.1.3 “**Fraudulent practice**” means a misrepresentation or omission of facts or suppression of facts or disclosure of incomplete facts, in order to influence the Bid process;
- 4.15.3.1.4 “**Coercive practice**” means impairing or harming, or threatening to impair or harm, directly or indirectly, any person or property to influence any person’s participation or action in the Bid process;
- 4.15.3.1.5 “**Undesirable practice**” means (i) establishing contact with any person connected with or employed or engaged by Procurer/JBVNL with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Bid process; or (ii) having a Conflict of Interest; and
- 4.15.3.1.6 “**Restrictive practice**” means forming a cartel or arriving at any understanding or arrangement among Bidders with the objective of restricting or manipulating a full and fair competition in the Bid process;

**SECTION 5**  
**PROJECT**  
**COMMISSIONING**  
**AND**  
**COMMERCIAL**  
**OPERATIONS**



## 5 Project Commissioning and Commercial Operations

### 5.1 Project Commissioning

5.1.1 The Developer shall commission the project within 15 months from the effective date. Developer shall be entitled to Commission the allotted project capacity in phases ("Phased Commissioning"), as per following commissioning schedule.

5.1.1.1 First phase: 25% of the allocated capacity of rooftop solar power project shall be commissioned within Nine (9) months from Effective Date;

5.1.1.2 Second phase: 25% of the allocated project capacity aggregating to 50% (Phase 1+Phase 2) of the total project capacity shall be commissioned within Twelve (12) months from the Effective Date;

5.1.1.3 Third phase: 50% of the allocated project capacity aggregating to 100% (Phase 1+ Phase 2 + Phase 3) of the total project capacity shall be commissioned within Fifteen (15) months from the Effective Date;

5.1.2 Developer shall provide details of Locations and proposed interconnection plan before starting of construction of rooftop solar system at the location.

5.1.3 Within 15 (Fifteen) days after the receipt of the notice for Commissioning of rooftop solar system JBVNL shall by a written notice either:

5.1.3.1 propose changes to dates for Commissioning of rooftop solar system; or

5.1.3.2 agree to the dates for Phased Commissioning (including PR test & synchronisation) proposed by the Developer;

Provided that JBVNL shall be entitled to propose changes to the Developer's dates for Commissioning on the ground that, in accordance with Prudent Utility Practice, JBVNL's distribution grid cannot accommodate electricity from one or more rooftop solar systems identified by the Developer;

Provided further that JBVNL shall not have the right to defer the date(s) beyond a period of fifteen 15 days from the date(s) mentioned in the notice for commissioning of the project.

Provided further that the Developer shall be entitled to amend such interconnection plan with the consent of JBVNL

### 5.2 Commercial Operation Date

- 5.2.1 The Developer is required to achieve the Commercial Operation Date of the quantum of allocated capacity of solar rooftop systems as per Schedule Commercial Operation Date indicated under clause 5.1 .If the Developer cannot achieve Commercial Operation Date by the Schedule Commercial Operation Date due to (i) Force Majeure or (ii) for any reason which is beyond the control of the Developer, then Developer will give a written notice to JBVNL and the JBVNL, if satisfied with the aforesaid reasons, may grant extension of the Schedule Commercial Operation Date. In case JBVNL accept the reasons provided for the delay JBVNL shall issue new schedule to the developer the new schedule provided to developer shall replace the SCOD as provided under clause 5.1.
- 5.2.2 In case the reasons, as provided by the developer under clause 5.2.1, attributed to delay in achievement of COD as per the scheduled commercial operation date as indicated under clause 5.1 is not acceptable by JBVNL consequences of not achieving the COD of the rooftop solar systems under that phase shall be govern as per below
- 5.2.2.1 The JBVNL reserves the right to take away the unfinished/remaining quantum of work under that phase and reallocate it to some other selected bidder who has surpassed his target during that corresponding phase. However, the selected bidder who will be provided this reallocated capacity must match the tariff as quoted under this project from which the unfinished/remaining capacity is being allocated to the selected bidder. However, the selected bidder will have to make available the PBG to JBVNL for the quantum of work being reallocated to the bidder. The amount of PBG shall be determined on prorate basis for the quantum of work being reallocated under this section. Provided further the selected bidder identified under clause 5.2.2.1 fails to complete the reallocated capacity work within his own project completion deadline of 15 months the PBG amount that has been made available under section 5.2.2.1 for obtaining the reallocation capacity shall be forfeited.
- 5.2.2.2 **Developer unable to achieve COD**
- The entire PBG amount of the developer who has failed to achieve the COD of the work allocated to developer as per the SCOD as indicated under clause 5.1 and the reason for delay provided for non-achievement of SCOD under clause 5.2.1 is not accepted by JBVNL, shall be forfeited
- 5.2.3 Delay in COD of the Rooftop Solar Systems due to reasons attributed to JBVNL action
- JBVNL shall ensure that all necessary arrangements required for commercial operation of the rooftop solar systems is made available before the dates decided for achievement of COD. If the solar plant has been constructed but necessary arrangements required to be provided by JBVNL has not been provided the delay in achieving COD of the rooftop solar system shall not be attributed to the developer. In this case the solar rooftop system shall under consideration shall be deemed to have been commissioned ("**Deemed Commissioning**") on the date mentioned in the notice for commissioning. The deemed commission system shall be considered to be available from the date mentioned in the notice provided for Commissioning of the system for computation of deemed generation as per PPA.

5.3 Performance Ratio testing and certification of COD

The successful bidder shall be required to meet minimum guaranteed Performance Ratio (PR) at the time of commissioning as per the GHI levels of the location. PR should be shown minimum of 75% at the time of inspection. Performance ratio (AC) shall be proved within a period of ten (10) good sunny days of energization for declaring Commercial Operation Date. The performance ratio test as per IEC 61724 has to be carried out at site by the Developer in presence of authorized officials, deriving sample data of best 7 seven days is sufficient to provide operational data representing solar radiation and ambient conditions as desired by the agreement authority to prove the Performance ratio of 75%. If the specified performance ratio is not achieved, the same shall be demonstrated within a period of another 7 days immediately following the previous testing and still if it is not achieved, the Developer shall enhance the module capacity of solar plant/improve the quality of the plant by replacement of module/other components with all suitable modification requirements on balance of systems at his own cost to achieve the performance ratio. The actual energy generated will be taken from inverter/the solar energy meter installed in the plant. If a Solar Plant achieves the Minimum Performance Ratio, then the JBVNL issue Commercial Operation Date Certificate. The day of issuance of the Commercial Operation Date Certificate by the JBVNL will be the Commercial Operation Date of the solar plant and the Solar Plant will commence supply of electricity in accordance with the PPA.

5.4 Capacity utilization factor (CUF)

Capacity Utilization Factor (CUF) means the ratio of total kWh (units) of power generated by solar plant in a year/duration considered (duration between the date of COD and next 31<sup>st</sup> March) and Contracted capacity multiplied with number of hours in the same year/duration considered (duration between the date of COD and next 31<sup>st</sup> March). Capacity Utilization Factor of the solar PV plants shall be calculated within seven (7) days of completion of financial year.

CUF shall be calculated on yearly basis for the plant. CUF shall be 15% (minimum). In case the plant generates and supplies energy less than the energy corresponding to the minimum CUF (15%), the developer shall be liable to pay penalty to the JBVNL, for the shortfall in availability below such contracted CUF level. The amount of such penalty will be in accordance with the terms of the Power purchase Agreement as per below.

Slab 1	CUF less than 15% but greater than 12.5%	25% of the PPA tariff x shortfall energy between 15% to CUF identified
Slab 2	CUF less than 12.5% but greater than 10%	50% of the PPA tariff x shortfall energy between 12.5% to CUF identified
Slab 3	CUF less than 10%	qualifies to be considered as default case mentioned under PPA

## 5.5 Commencement of Supply of Power to Procurer

Developer shall at all times be responsible, at its own cost and risk for the commencement of supply of power to JBVNL as per the terms of the PPA.

Wherever information has been sought in specified formats, the Bidders shall furnish the details as per the prescribed formats and shall refrain from referring to any other document for providing any information required in the prescribed format.

**SECTION 6  
DETAILED BOS  
REQUIREMENT  
AND  
STATUTORY  
COMPLIANCE**

## 6 Detailed BoS Requirement and Statutory Compliance

The Successful Bidder shall be obligated to perform following Scope of Work in relation to the Project. The Scope of Work of the Successful Bidder includes, but is not limited to, the following:

- 6.1 Design, develop, procure, construct and commission, operate and maintain various rooftop solar systems totalling to capacity of 25MWp, which includes, but is not limited to the following:
- a) Solar PV modules. Inverters, DC Cables for stringing.
  - b) Each PV module deployed must use a RF identification tag. The following information must be mentioned in the RFID used on each module. (This can be inside or outside the laminate but must be able to withstand harsh environmental conditions).
    - Name of the manufacturer of the PV module
    - Month & year of the manufacture (separate for solar cells and modules)
    - Country of origin (separately for solar cells and module)
    - I-V curve for the module
    - Wattage,  $I_m$ ,  $V_m$  and FF for the module
    - Unique Serial No and Model No of the module
    - Date and year of obtaining IEC PV module qualification certificate
    - Name of the test lab issuing IEC certificate
    - Other relevant information on traceability of solar cells and module as per ISO 9001.
  - c) Modules Mounting Structure, array foundation (grouting on terrace), earthing of Modules, Structures, ACDB, DCDB, Inverters and module inter-connection.
  - d) Arrays Junction boxes with SPD.
  - e) Appropriate AC power evacuation panels according to site requirements, with bus bars (in-built or otherwise) and circuit breakers.
  - f) Protection/isolation systems.
  - g) Power and Control Cables.
  - h) Earthing system for PV Array, DC power system, lightning protection system.
  - i) Transportation, unloading, and loading of all equipment at Site.
  - j) Project Management including adherence to all requisite safety practices.
  - k) Making arrangements for water in the plant area for module cleaning along with cleaning mechanism;

## 6.2 Installation and Commissioning of various roof mounted SPV power plants that includes:

- a) Design and construction of foundations / grouting for holding module mounting structures without puncturing the roof; maintaining proper drainage of rainwater over terrace through the installation area; cable routings through PVC pipes not obstructing the movement on the terrace.
- b) Special care to be taken while designing all structures for modules to cater to heavy rainfall, strong winds and earthquake that may be prevalent in the area.
- c) Pre-commissioning and Commissioning of all supplied equipment.
- d) Test running of the grid-connected solar power plant at site, prior to handover and commencing energy export for metering.
- e) Grid commissioning; the plant needs to be grid interactive. Interconnection points to be checked and certified by Utility for accuracy and safety.
- f) Installation of gross meter, i.e the custody transfer meter, will also be in the scope of the successful bidder. Gross energy meter shall be purchased by developer at its own cost and shall made available to JBVNL for testing. All the cost associated with meter testing shall be borne by developer.
- g) The gross meter shall equipped with the Remote Monitoring System (RMS) for uploading the generated energy on JBVNL server. The meter shall be of 4G modem for data transfer. All the necessary arrangement (hardware and software including SIM & its operational cost) shall be in scope of developer. The developer is suggested to make their own assessment of JBVNL existing facilities to receive the gross meter data for ensuring the availability of data on JBVNL server on daily basis. The following parameters should be made available from the meter on JBVNL server.
  - 1 Energy generation on fifteen (15) minutes time interval
  - 2 Grid unavailability details (Grid outage, Over voltage) to compute the grid unavailability duration on per day basis.
- h) Any fault e.g earth fault etc. leading to no generation must not be considered as grid unavailability for the computation of deemed generation.
- i) Commissioning certificate from JBVNL for the solar power plant.
- j) Identification and acquisition of Residential consumers and sub-stations will be responsibility of the Developer the list of sub-station and connected category information can be collected from JBVNL office.
- k) All the material required for the installation of solar power plant as per the work order issued shall be kept at site in custody of the contractor, JBVNL shall not be responsible for any loss or damage of any material during the installation. The contractor shall be responsible and take an insurance policy for transit-cu storage erection for all the materials.

## 6.3 General Instructions

- a) Successful Bidder to obtain comprehensive insurance cover for the Project until it is handed over to the Owner.
- b) Expenses for any other works, supply of material, and providing services required for the successful commissioning and operation of the solar power plant, but not specifically mentioned in this document.
- c) Developer Safety Management to be strictly complied by Successful Bidder throughout Project activity.
- d) First-Aid medical facilities at the site during construction to be provided by the Successful Bidder.
- e) All local Labour, employment, and other issues shall be handled independently by the Successful Bidder.
- f) The entire responsibility and risk relating towards the workforce working at the site, and compliance of different statutory regulations like Workman Compensation Act, ESIC, Factory Act 1948, Contract Labor Regulation, and Abolition Act 1970, Shop and Establishment Act 1948, and other Statutory regulatory bodies shall solely lie with the Successful Bidder. Successful Bidder shall also be solely responsible for payment of Wages, PF, Bonus, Retrenchment Compensation Leave etc. applicable as per various statutory regulations to their entire workforce, and keep The Owner indemnified in this regard against any Claim.
- g) In case any gaps in the information supplied by the bidder during bid on the installation of the systems on the rooftop, the rooftop owner has the right to ensure that whatever installations take place on the roof follow standard Industrial Practices without any cost implications to the rooftop owner.

## 6.4 Indemnity

The successful bidders agrees to defend, indemnify and hold harmless JBVNL, its officers, directors, consultant, agents, employees and affiliates (and their respective officers, directors, agents and employees,) and rooftop owner from and against any and all claims, liabilities, actions, demands, judgments, losses, costs, expenses, suits, actions and damages arising by reason of bodily injury, death or damage to property sustained by third parties that are caused by an act of negligence or the wilful misconduct of the successful bidder , or by an officer, director, agent or employee of the successful bidders.

### 6.3.1 The following Statutory Clearances to be obtained by Successful Bidder on behalf of the Owner, wherever applicable:

- a) All equipment, accessories, materials, civil construction & erection works should comply with statutory requirements and IS standards.
- b) All statutory requirements for working at the Site like Labour Registration, Workman Compensation Policy, ESIC etc. to be complied with by the Vendor before deployment of resources at the Site.



- 6.3.2 Successful Bidder shall give undertaking that for the plant period of minimum 25 years all the plants covered under this project will be operated, maintained and repaired whenever necessary so that all plants are operative and export maximum possible energy to the grid this shall be ensured through undertaking services that include, but are not limited to, the following
- a. Supply of all technical, production/operation data and information through a monthly report.
  - b. Planned visits on a monthly, quarterly, and annual basis for preventative and corrective maintenance which include, but are not limited to the following:
  - c. Daily Performance of plant data
  - d. Cleaning solar panels twice a month or as per local conditions, as appropriate to get maximum output from the panels.
  - e. Check inverter cabinets (ventilation openings, lighting, leakages in inverter cabinets and cleaning of filters) and inverter maintenance. Successful bidder will keep the necessary spares at the site.
  - f. Check security and fire protection system.
  - g. Check parts for corrosion.
  - h. Check the state of tightness of connections, fuses, main junction boxes, etc.
  - i. Adequate spares to ensure uninterrupted operation and minimum downtime during the entire period.
  - j. Comprehensive operation and maintenance of the solar power plant up to the interconnection point and/or energy meter shall be the responsibility of the Successful Bidder.
  - k. Comprehensive Operation and Maintenance during entire life of the systems shall include supply of spares, consumables, machine breakdown insurance, transpiration, and general comprehensive insurance covering fire, earthquake and provision of security personnel with the insurance policy which shall be taken in the xxxx's name as the primary beneficiary. Copies of the Insurance Policies are to be given to the concerned department, as and when taken/renewed. All risks associated with lapses or delays in insurance coverage, during the construction period, shall be at the Successful Bidder's cost

**Notes for Developer:**

1. Developer needs to acquaint himself fully with the proposed roof area on the buildings in the lists.
2. It should be noted that the power plant capacity estimates are arrived at considering shadow free area available on top most terraces and in few cases where floors below also have terraces these are considered only where these are south facing and have substantial shadow free area for SPV plant. (buildings where different level terraces are considered are marked separately in the lists)
3. The installation should not be protruding outside the building and there should not be overhang type structure on any terrace.

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4. Location and area for inverter and other interconnection equipment should be located in suitable and secure place and this should be approved by the JBVNL/ or the owner.
5. Any installations on the terrace should be planned and executed in such a way that water proofing will not be disturbed and harmed. In case any area's waterproofing is affected it will be the Developer's responsibility to correct it and put it right.

**SECTION 7**  
**FORMATS FOR**  
**BID SUBMISSION**

## 7 Formats for Bid Submission

The following formats are required to be submitted as part of the Bid. These formats are designed to demonstrate the Bidder's compliance with the Qualification Requirements set forth in Clause 3.2 and other Bid submission requirements specified in the RFP.

- i. Format of Covering Letter (Annexure 1)
- ii. Formats for Power of Attorney (Annexure 2)
- iii. Format for the Consortium Agreement (Annexure 3)
- iv. Format for Letter of Consent from Consortium Members (Annexure 4)
- v. Format for Bidder's composition and ownership structure (Annexure 5)
- vi. Format for Qualification Requirement (Annexure 6)
- vii. Format of Undertakings (Annexure 7)
- viii. Format for Board Resolutions (Annexure 8)
- ix. Format for EMD (Annexure 9)
- x. Format for Financial Bid (Annexure 10)
- xi. Format of checklist for Bid submission requirements (Annexure 11)
- xii. Format for Disclosure (Annexure 12)
- xiii. Format for certificate of relationship of Parent Company or Affiliate with the Bidding Company or with the Member of the Bidding Consortium, including the Lead Member (Annexure 13)
- xiv. Format for undertaking with respect to rooftop solar experience (Annexure 14)
- xv. Format for information about bidding firm (Annexure 15)
- xvi. Format for Authorization by Financial Member to Bidding Consortium (Annexure 16)
- xvii. Format for security deposit by way of demand draft/ performance bank guarantee (PBG) format (Annexure 17)
- xviii. Self-declaration by start-ups to obtained exemption from submitting financial bid (on firm letter head)
- xix. Incorporation certificate issued by the competent authority to the start-ups.

A Bidder may use additional sheets to submit the information for its detailed response.

**Annexure 1**

**Format of Covering Letter**

**(The covering letter should be on the Letter Head of the Bidding Company/ Lead Member of the Bidding Consortium)**

**Date: \_\_\_\_\_ From: \_\_\_\_\_(Insert name and address of Bidding Company/ Lead Member of the Bidding Consortium)**

**Tel. #: Fax#: E-mail address#**

To

ED (C&R)

JBVNL

Engineer's Building, HEC, Dhurwa

Ranchi - 834004

**Sub: Bid for supply of power on long term basis through tariff based competitive bidding process for distributed rooftop solar power projects for residential consumers under [insert sub-station name ]sub-stations of JBVNL distribution network in Jharkhand, in response to RFP dated 12.04.2021.**

Dear Sir,

We, the undersigned ..... [insert name of the 'Bidder'] having read, examined and understood in detail the RFP and RFP Documents for development of the Projects in Jharkhand and supply of power on long term basis through tariff based competitive bidding process for meeting the requirements of Procurer hereby submit our technical Bid. The financial bid, in proper format, has been uploaded on the online portal in accordance with this RFP bearing NIT No. PR/JBVNL/2020-21. We confirm that neither we nor any of our Parent Company/ Affiliate/ Ultimate Parent Company has submitted Bid other than this Bid directly or indirectly in response to the aforesaid RFP.

**1.** We give our unconditional acceptance to the RFP bearing NIT No. PR/JBVNL/2020-21, dated **12.04.2021**, and to the amendments to the aforesaid NIT issued by JBVNL. We shall ensure that the project is executed as per the provisions of the RFP and provisions of such RFP Documents shall be binding on us.

**2. EMD**

We have enclosed an EMD of INR [Insert Amount], in the form of DD or bank guarantee [Insert number of the bank guarantee] dated [Insert date of bank guarantee] as per Format 4.9 from [Insert name of bank providing EMD] and valid up to [insert validity Date ] as per of Clause 4.8.1 of the RFP.

**3.** We have submitted our Financial Bid strictly as per Annexure 25 of the RFP, without any deviations, conditions and without mentioning any assumptions or

notes for the Financial Bid in the said format.

**4. Acceptance**

We hereby unconditionally and irrevocably agree and accept that the decision made by the JBVNL in respect of any matter regarding or arising out of the RFP shall be binding on us. We hereby expressly waive any and all claims in respect of Bid process.

We confirm that there are no litigations or disputes against us, which materially affect our ability to fulfil our obligations with regard to supply of power.

**5. Familiarity with Relevant Indian Laws & Regulations**

We confirm that we have studied the provisions of the relevant Indian laws and regulations as required to enable us to submit this Bid and execute the RFP Documents, in the event of our selection as Selected Bidder. We further undertake and agree that all such factors as mentioned in Clause 4.6 of the RFP have been fully examined and considered while submitting the Bid.

**6. Contact Person**

Details of the contact person are furnished as under:

Name: .....

Designation: .....

Company: .....

Address: .....

Phone Nos.: .....

Fax Nos.:.....

E-mail address: .....

- 7. We are enclosing herewith the Technical Bid (Envelope I) containing duly signed formats, in one (1) original + two (2) copies (duly attested) as desired by you in the RFP for your consideration.
- 8. It is confirmed that our Bid is consistent with all the requirements of submission as stated in the RFP and subsequent communications from JBVNL.
- 9. The information submitted in our Bid is complete, strictly as per the requirements stipulated in the RFP and is correct to the best of our knowledge and understanding. We would be solely responsible for any errors or omissions in our Bid.
- 10. We confirm that all the terms and conditions of our Bid are valid for acceptance for a period of ninety (90) days from the Bid Deadline.
- 11. We confirm that we have not taken any deviation so as to be deemed non-responsive with respect to the provisions stipulated in Clause 3.2 and subsequent sections of the RFP.
- 12. We confirm that no order / ruling has been passed by an Appropriate Commission or a competent court against us or any of our Affiliates in the

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preceding one (1) year from the Bid Deadline for breach of any contract for supply of power having duration of contract in excess of one (1) year and that the EMD submitted by the us or any of our Affiliates has not been forfeited, either partly or wholly, in any bid process under Case-1 or Case -2 bidding procedure for procurement of power prescribed by Ministry of Power, Government of India, in the preceding one (1) year from the Bid Deadline to any licensee in India as per the provisions of Clause 3.2.4

Dated the \_\_\_\_\_ day of \_\_\_\_\_, 2021

Thanking you,

We remain,

Yours faithfully,

**Name, Designation and Signature of Authorized Person in whose name Power of Attorney / Board Resolution as per respective Clause**

**Annexure 2 (a)**

**Formats for Power of Attorney**

**(To be on non-judicial stamp paper of appropriate value as per Stamp Act relevant to place of execution. Foreign companies submitting Bids are required to follow the applicable law in their country)**

- a) Power of Attorney to be provided by the Bidding Company/ Lead Member in favour of its representative as evidence of authorized signatory's authority.**

Know all men by these presents, We .....(name and address of the registered office of the Bidding Company or Lead Member of the Bidding Consortium, as applicable) do hereby constitute, appoint and authorize Mr./Ms.....(name and residential address) who is presently employed with us and holding the position of ..... as our true and lawful attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to submission of our Bid for supply of power on long-term basis through tariff based competitive bidding process for meeting the requirements of JBVNL in the country of India in response to the RFP dated..... issued by JBVNL, including signing and submission of the Bid and all other documents related to the Bid, including but not limited to undertakings, letters, certificates, acceptances, clarifications, guarantees or any other document which JBVNL may require us to submit. The aforesaid Attorney is further authorized for making representations to the JBVNL, and providing information / responses to JBVNL, representing us in all matters before the JBVNL, and generally dealing with JBVNL in all matters in connection with our Bid till the completion of the bidding process as per the terms of the RFP.

We hereby agree to ratify all acts, deeds and things done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall be binding on us and shall always be deemed to have been done by us.

All the terms used herein but not defined shall have the meaning ascribed to such terms under the RFP.

**Signed by the within named .....[Insert the name of the executant company] through the hand of**

Mr. ....

**duly authorized by the Board to issue such Power of Attorney**

**Dated this ..... day of .....**

**Accepted**

..... Signature of Attorney (Name, designation and address of the Attorney)

**Attested**



## DEVELOPMENT OF 25MW ROOFTOP SOLAR POWER PROJECT

.....

**(Signature of the executant) (Name, designation and address of the executant)**

.....

**Signature and stamp of Notary of the place of execution**

**Common seal of ..... has been affixed in my/our presence pursuant to Board of Director's Resolution dated.....**

**WITNESS**

1. ....  
**(Signature)**

**Name** .....

**Designation**.....

2. ....  
**(Signature)**

**Name** .....

**Designation**.....

**Notes:**

- (1) The mode of execution of the power of attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s).
- (2) In the event, power of attorney has been executed outside India, the same needs to be duly notarized by a notary public of the jurisdiction where it is executed.
- (3) Also, wherever required, the executant(s) should submit for verification the extract of the charter documents and documents such as a Board resolution / power of attorney, in favour of the person executing this power of attorney for delegation of power hereunder on behalf of the executant(s).

**Annexure 2 (b)**

**Power of Attorney to be provided by each of the Members of the Consortium (other than the Lead Member) in favour of the Lead Member**

**WHEREAS** Jharkhand Bijli Vitran Nigam Limited (“JBVNL”) have issued a Request for Proposal (RFP) no..... on ..... [Insert Date] for inviting Bids in respect of supply of power to Procurer named in the RFP on the terms and contained in the RFP and the RFP Documents (as defined in RFP);

**AND WHEREAS** .....,..... and ..... (Insert names of all Members of Consortium) the Members of the Consortium are desirous of submitting a Bid in response to the RFP, and if selected, undertaking the responsibility of supplying power to Procurer as per the terms of the RFP Documents;

**AND WHEREAS** all the Members of the Consortium have agreed under the Consortium Agreement dated ....., entered into between all the Members and submitted along with the Bid to appoint ..... (Insert the name and address of the Lead Member) as Lead Member to represent all the Members of the Consortium for all matters regarding the RFP and the RFP documents and the Bid;

**AND WHEREAS** pursuant to the terms of the RFP and the Consortium Agreement, we, the Members of the Consortium hereby designate M/s ..... (Insert name of the Lead Member) as the Lead Member to represent us in all matters regarding the Bid and the RFP, in the manner stated below: -

Know all men by these presents, We ..... (Insert name and address of the registered office of the Member 1), ..... (Insert name and address of the registered office of the Member 2) ..... (Insert name and address of the registered office of the Member n) do hereby constitute, appoint and authorize .....(name and registered office address of the Lead Member), which is one of the Members of the Consortium, to act as the Lead Member and our true and lawful attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to submission of Consortium’s Bid in response to the Request For Proposal dated ....., issued by the JBVNL including signing and submission of the Bid and all documents related to the Bid as specified in the RFP, including but not limited to undertakings, letters, certificates, acceptances, clarifications, guarantees or any other document, which the JBVNL may require us to submit. The aforesaid Attorney shall be further authorized for making representations to the JBVNL named in the RFP, and providing information / responses to the JBVNL, representing us and the Consortium in all matters before the JBVNL named in the RFP, and generally dealing with the JBVNL named in the RFP in all matters in connection with our Bid, till completion of the bidding process in accordance with the RFP.

We, as Members of the Consortium, hereby agree to ratify all acts, deeds and things done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall be binding on us and shall always be deemed to have been done by us.

All the terms used herein but not defined shall have the meaning ascribed to such

## DEVELOPMENT OF 25MW ROOFTOP SOLAR POWER PROJECT

terms under the RFP.

**Signed by the within named ..... [Insert the name of the executant company] through the hand of**

Mr. ....

**duly authorized by the Board to issue such Power of Attorney**

**Dated this ..... day of .....**

**Accepted**

**Signature of Attorney (Name, designation and address of the Attorney)**

**Attested**

**(Signature of the executant) (Name, designation and address of the executant)**

.....

**Signature and stamp of Notary of the place of execution**

**Common seal of ..... has been affixed in my/our presence pursuant to Board of Director's Resolution dated.....**

**WITNESS:**

1. ....  
**(Signature)**

**Name .....**

**Designation.....**

2. ....  
**(Signature)**

**Name .....**

**Designation.....**

Notes:

1. The mode of execution of the power of attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s).
2. In the event, power of attorney has been executed outside India, the same needs to be duly notarized by a notary public of the jurisdiction where it is executed.

## DEVELOPMENT OF 25MW ROOFTOP SOLAR POWER PROJECT

3. Also, wherever required, the executant(s) should submit for verification the extract of the charter documents and documents such as a Board resolution / power of attorney, in favour of the person executing this power of attorney for delegation of power hereunder on behalf of the executant(s).

**Annexure 3**

**Format for the Consortium Agreement**

(To be on non-judicial stamp paper of 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  
(.....) AS PER CLAUSE 4.3.1

**THIS Consortium Agreement** (hereinafter referred to as "Agreement") executed on this..... day of .....Two thousand..... between M/s..... a company incorporated under the laws of ..... and having its Registered Office at ..... (Hereinafter called the "**Party 1**", which expression shall include its successors, executors and permitted assigns), and M/s..... a Company incorporated under the laws of ..... and having its Registered Office at ..... (Hereinafter called the "**Party 2**", which expression shall include its successors, executors and permitted assigns) (The Bidding Consortium should list the name, address of its registered office and other details of all the Consortium Members) for the purpose of submitting the Bid in response to the RFP and in the event of selection as Selected Bidder to comply with the requirements as specified in the RFP and ensure execution of the RFP Documents as may be required to be entered into with the JBVNL [as applicable].

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

**WHEREAS** the Procurer desired to procure power for 25 years through tariff based competitive bidding process.

**WHEREAS**, the JBVNL had invited Bids, vide RFP dated .... [Insert date] issued to..... [Insert the name of purchaser of RFP]

**AND WHEREAS** Clause 4.3.2 of the RFP stipulates that the Bidders qualifying on the strength of a Bidding Consortium shall submit a legally enforceable Consortium Agreement in a format specified in the RFP, whereby the Consortium Members undertake to be liable for their respective equity investment commitment for the formation of a Project Company and undertake to submit the Development Security and Performance Guarantee as required as per the provisions of the RFP, as specified herein.

**NOW THEREFORE, THIS INDENTURE WITNESSTH AS UNDER:**

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

1. In consideration of the selection of the Consortium as the Selected Bidder by the JBVNL, we the Members of the Consortium and Parties to the Consortium Agreement do hereby unequivocally agree that M/s..... (Insert name of the Lead Member), shall act as the Lead Member as defined in the RFP for self and agent for and on behalf

## DEVELOPMENT OF 25MW ROOFTOP SOLAR POWER PROJECT

of ..... (The names of all the other Members of the Consortium to be filled in here).

2. The Lead Member is hereby authorized by the Members of Consortium and Parties to the Consortium Agreement to bind the Consortium and receive instructions for and on behalf of all Members. [●] is designated as the Technical Member, whose credentials have been used for the Consortium to meet the Technical Criteria. [●] is designated as the Financial Member, whose credentials have been used for the Consortium to meet the Financial Criteria.
3. The Lead Member shall continue to hold [fifty one percent (51%)] equity in the Project Company up to a period of two (2) years after Commercial Operation Date of the relevant Project and twenty six (26%) for a period of three (3) years thereafter as per provisions of the relevant RFP Documents. The Second member of the consortium shall be required to maintain an equity stake of 26% in the Project Company for a period of at least two (2) years from the Commercial Operation Date of the relevant Project as per the provisions of the RFP Documents.
4. 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 equity obligations. Each Consortium Member further undertakes to be individually liable for the performance of its part of the obligations without in any way limiting the scope of collective liability envisaged in this Agreement.
5. (Insert as applicable) The Consortium shall be responsible to incorporate a Project Company as a legal entity as per the provisions of the RFP, within fifteen (15) days of issue of Letter of Intent provided such a Project Company has not been incorporated by the Bidder prior to the submission of the Bid.

**OR**

The Consortium has incorporated a Project Company by the name .....(Insert name of the Project Company) to undertake the responsibilities and obligations for supply of power as per the provisions of the RFP Documents. The percentage of equity holding of each Member of the Consortium in the Project Company shall be/is as follows:

<b>Name</b>	<b>Percentage of equity holding in the Project Company</b>
Party 1	....
Party 2	....
<b>Total</b>	<b>100%</b>

**[Note: The percentage equity holding for any Consortium Member cannot be zero in the above table. Lead Member's percentage equity holding cannot be less than**

51%.

6. In case of any breach of any of the equity investment commitment as specified under Clause 4 above by any of the Consortium Members for the formation of the Project Company, the Lead Member shall be liable to meet the equity obligation.
7. Except as specified in the Agreement, it is agreed that sharing of responsibilities as aforesaid and equity investment obligations thereto shall not in any way be a limitation of responsibility of the Lead Member under these presents.
8. It is further specifically agreed that the financial liability for equity contribution of Lead Member shall not be limited in any way so as to restrict or limit its liabilities. The Lead Member shall be liable irrespective of their scope of work or financial commitments.
9. This Consortium Agreement shall be construed and interpreted in accordance with the Laws of India and courts at Ahmedabad/Jharkhand alone shall have the exclusive jurisdiction in all matters relating thereto and arising there under.
10. It is hereby agreed that the Lead Member shall furnish the EMD, as stipulated in the RFP, on behalf of the Consortium. It is hereby agreed that in case of selection of Bidding Consortium as the Selected Bidder, the Parties to this Consortium Agreement do hereby agree that they shall furnish the Performance Guarantee on behalf of the Solar Company in favour of JBVNL, respectively, as stipulated in the RFP, Project Implementation Agreement and PPA. The Lead Member shall be responsible for ensuring the submission of the Performance Guarantee and the Development Security on behalf of all the Consortium Members.
11. It is further expressly agreed that the Consortium Agreement shall be irrevocable and, for the Selected Bidder, shall remain valid over the term of the Project Implementation Agreement and PPA, unless expressly agreed to the contrary by JBVNL and/or Procurer, as the case may be.
12. The Lead Member is authorized and shall be fully responsible for the accuracy and veracity of the representations and information submitted by the Consortium Members respectively from time to time in response to the RFP for the purposes of the Bid.
13. It is expressly understood and agreed between the Members that the responsibilities and obligations of each of the Members shall be as delineated as annexed hereto as **Annexure 1** forming an 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 supply of power envisaged in the RFP Documents.
14. It is clearly agreed that the Lead Member shall ensure performance under the agreements and if the second Consortium Members fail to perform its /their respective obligations under the agreement(s), the same shall be deemed to be a default by all the Consortium Members.
15. It is hereby expressly agreed between the Parties to this Consortium Agreement that neither Party shall assign or delegate its rights, duties or obligations under this Agreement except with prior written consent of Procurer.

**DEVELOPMENT OF 25MW ROOFTOP SOLAR POWER PROJECT**

16. This Consortium Agreement:

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

**IN WITNESS WHEREOF**, the Parties to the Consortium Agreement have, through their JBVNLs, executed these presents and affixed common seals of their respective companies on day, Month Year first mentioned above

(Signature of authorized representative)

Name: .....

Designation:.....

Place: .....

Date: .....

**Witness<sup>3</sup>:**

1 ..... (Signature)

Name .....

Designation.....

2 ..... (Signature)

Name .....

Designation.....

Common Seal of..... For and on behalf of has been affixed in my/our Consortium Member (Party n)

<sup>3</sup> Separate witnesses for each Consortium Member should fill in the details.

presence pursuant to the M/s..... Board of Director's resolution dated .....

(Signature of authorized representative)

Name:

Designation:

Place:



**DEVELOPMENT OF 25MW ROOFTOP SOLAR POWER PROJECT**

Date:

**WITNESS 1**

1 ..... (Signature)

Name ..... Designation.....

**Attested:**

..... (Signature) (Notary Public)

Place: ..... Date:

**Annexure 1 to the Consortium Agreement**

Role and Responsibility of each Member of the Consortium:

- 1. Role and Responsibility of Lead Member
- 2. Role and Responsibility of Second Member

**Annexure 4**

**Format for Letter of Consent from Consortium Members**

**(On the letter head of each Member of the Consortium including Lead Member)**

**Date:** \_\_\_\_\_

**From:** \_\_\_\_\_

**Tel.#:**

**Fax#:**

**E-mail address#:**

**To:** Jharkhand Bijli Vitran Nigam Limited ("JBVNL") [*Insert name and address of JBVNL*]

**Sub: Request for Proposal, dated .... [*Insert Date*] for .....**

We, the undersigned Member of ..... (Insert name of the Bidding Consortium) have read, examined and understood the RFP and RFP Documents for the selection of Bidder(s) as prospective Solar Company(s) of power through tariff based competitive bidding for supply to Torrent Power Limited. We hereby confirm our concurrence with the RFP including in particular the Consortium Agreement and the Bid submitted by ..... (Insert name of the Lead Member), in response to the RFP. We confirm that the Bid has been reviewed and each element of the Bid is agreed to including but not limited to the investment commitment in the Project Company.

The details of contact person are furnished as under:

Name : .....

Designation : .....

Name of the Company : .....

Address : .....

Phone Nos. : .....

Fax Nos. : .....

E-mail address : .....

Dated the ..... day of ..... of 20...

Thanking you,

Yours faithfully,

(Signature, Name, Designation of Authorized Signatory of Consortium Member and Company's Seal)

**Annexure 5**

**Format for Bidder's composition and ownership structure**

**If the Bidder is a Consortium, please provide this information for each Member including Lead Member**

**1. Corporate Details:**

Please provide the following information for the Bidder.

**1. Company's Name, Address, Nationality and Director's details:**

Name:

\_\_\_\_\_

Registered/Principal Address:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Website Address:

\_\_\_\_\_

Corporate Identification Number, if any: \_\_\_\_\_

Country of Origin:

\_\_\_\_\_

**2. Year of Incorporation:**

\_\_\_\_\_

**3. Company's Business Activities:**

**4. Name of the authorized representative:**

Telephone Number: \_\_\_\_\_

Email Address: \_\_\_\_\_

Telefax Number: \_\_\_\_\_

**5. Status as a Bidder:**

(i) Bidding Company

(ii) Lead Member of the Bidding Consortium

(iii) Member of the Bidding Consortium Note: (tick the applicable serial number)

**6. Company's Local Address in India (if incorporated outside India):**

**7. Please provide the following documents:**

- a. Copy of the Memorandum and Articles of Association and certificate of incorporation or other equivalent organizational document (as applicable in

## DEVELOPMENT OF 25MW ROOFTOP SOLAR POWER PROJECT

the case of a foreign company), including their amendments, certified by the company secretary of the Bidding Company/each Member of the Consortium (as Attachment 1)

- b. Authority letter in favour of ..... “JBVNL from the Bidding Company/each Member of the Consortium (as per format specified below) authorizing ..... JBVNL to seek reference from their respective bankers, lenders, financing institutions and any other person as given below in the Format for Authorization, as per Clause 2.1.7 of the RFP.
- c. (Insert this point in case of Bidder being a Bidding Company) Whether the Bidder has already formed a Project Company :.....(Yes/No) If Yes, the details of the Project Company as follows:

i.	Name of the Project Company	
ii.	Name of the Equity Holder	
iii.	Type and No. of Shares owned	
iv.	% of equity holding	
v.	Extent of voting control (%)	
vi.	Date of incorporation	

### 2. Details of Ownership Structure:

Details of persons owning 10% or more of the total paid up equity of the Bidding Company / each Member of the Consortium.

Name of the Bidding Company/ Member of the Consortium: .....

Status of equity holding as on .....

Name of Equity Holder	Type and Number of Shares owned	% of Equity Holding	Extent of Voting Control (%)
1			
2			
3			

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**Notes:**

1 Status of equity holding should be provided not earlier than 30 (thirty) days prior to Bid Deadline.

2 The above table is to be filled in separately for each Consortium Member if applicable.

**Documents submitted in support of establishing the relationship with the Parent Company / Affiliate with the Bidding Company or with the Member of the Bidding Consortium (including Lead Member) in terms of the provisions of Clause 4.3 of the RFP:**

- 1 .....
- 2 .....
- 3 .....
- 4 .....

**For and on behalf of Bidding Company/ Member of the Consortium**

M/s.....

(Signature of Authorized Representative)

Name:

Designation:

Date:

Place: .....

**Annexure 6**

**FORMAT FOR QUALIFICATION REQUIREMENT**

**To, ED (C&R)**

Jharkhand Bijli Vitran Nigam Limited (“JBVNL”)

Dear Sir,

**Sub: Bid for supply of power for 25 years through tariff based competitive bidding process for rooftop solar PV project in JBVNL sub-station catchment area of Jharkhand in response to RFP dated 12.04.2021.**

We submit our Bid / Bids for *[Sub-station Name in case bidding for one sub-station] / [in case of multiple sub-stations mention their name]*<sup>1</sup> for which we submit details to satisfy the Qualification Requirements.

**Technical Criteria**

Project Development/ EPC	Entity that undertook the Project [Member name or Bidding Company's name]	Capacity (developed or constructed under EPC Contract)	Role (Development / EPC)	Details of equity held in the relevant project (In case of Developer)	Details of documents attached as per Clause 3.3.2

(\* Please attach the documents specified in Clause 3.3.2 to this letter.)

**Financial Criteria**

**[Note: Applicable in case of Bidding Company]**

We certify that the Financially Evaluated Entity had a Net worth of Rs. .... Crore computed as per instructions provided in Clause 3.2.3 of the RFP based on

---

<sup>1</sup> Delete whatever is not applicable.

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unconsolidated audited annual accounts (refer Note-2 below) of the last financial year immediately preceding the Bid Deadline.

Name of Net worth Company whose Net worth is relied on ** Or Revenue	Relationship with Bidding Company or Financial Evaluated Entity***	Net worth (Rs. Crore) Or Revenue	Financial Year
1			
2			
3			
....			
<b>Total Net worth or Revenue</b>			

\* Equivalent USD shall be calculated as per provisions of Clause 3.2.3

\*\*

\*\* The Financially Evaluated Entity may be the Bidding Company itself, i.e. the sole bidder

\*\*

\*

The column for "Relationship with Bidding Company" is to be filled in only in case financial capability of Parent Company and/ or Affiliate has been used for meeting Qualification Requirements.

We certify that the Net worth Companies had a Net worth of Rs. .... Crore or equivalent USD\* computed as per instructions provided in Clause 3.2.3 of the RFP and based on unconsolidated audited annual accounts (refer Note-2 below) of the last financial year immediately preceding the Bid Deadline.

**[Note: Applicable in case of Bidding Consortium]**

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Name of Consortium Member	Equity commitment in the Project Company (%)	Net worth or Revenue of Member (Rs. Crore) (As per table below)	Net worth or Revenue Requirement to be met by the Financially Evaluated Entity i.e. the Financial Member (Rs. Crore) (Total Net worth or Revenue requirement * % at Column no. 2 )	Whether the Financially Evaluated Entity, i.e. the Financial Member meets the Net worth or Revenue Requirement
(1)	(2)	(3)	(4)	(5)
1				Yes/No
2				Yes/No
..				Yes/No
<b>Total Net worth or Revenue</b>				

**Member - I (Lead Member) (Note: Similar particulars for each Member of the Consortium is to be furnished, duly certified by the Member's Statutory Auditors)**

- i. Name of Member:
- ii. Total Net worth or Revenue requirement: Rs \_\_\_\_\_crores
- iii. Percentage of equity commitment for the Project Company by the Member\_\_\_\_%
- iv. Net worth or Revenue requirement for the Member\*\*\*: Rs. \_\_\_\_\_crores.

Name of Net worth or Revenue Company **	Relationship with Financially Evaluated Entity, i.e. Financial Member ***	Net worth or Revenue(Rs. Crore) ****	Financial Year
1			
2			



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3			
....			
<b>Total Net worth or Revenue</b>			

- \* Equivalent USD shall be calculated as per provisions of Clause 3.2.3
- \* The Financially Evaluated Entity may be a Member of the Bidding Consortium itself

The column for "Relationship with Bidding Consortium" is to be filled in only in case financial capability of Parent Company and/ or Affiliate has been used for meeting Qualification Requirements.

\*\*\*\* Net worth or Revenue requirement to be met by a Member shall be in proportion to the equity commitment of the Member for the Project Company.

### Rooftop Solar Power Experience (Clause 3.2.2)

Address of Rooftop Solar Power Project	Installed capacity of the project in Net/gross Metering s	Name and address of the Developer / EPC Developer	Date of commissioning (Provide documentary evidence)	Relationship of the Bidder/ Member with the Developer or EPC Developer

**Yours faithfully**

*(Signature of Authorized Representative and rubber stamp of Bidding Company/ Member of Consortium)*

**Name: Date: Place:**

*(Signature and Stamp (on each page) of Statutory Auditors of Bidding Company/ Member of Consortium)*

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Name: Date: Place:

**WITNESS:**

1. .... (Signature)

Name .....

Designation.....

Date:

2. .... (Signature)

Name .....

Designation.....

**Notes:**

- 1 Along with the above format, in a separate sheet, please provide details of computation of Net worth duly certified by Statutory Auditor.
- 2 Audited consolidated annual accounts of the Bidder may also be used for the purpose of financial criteria provided the Bidder has at least 51% equity in each company whose accounts are merged in the audited consolidated accounts and provided further that the financial capability of such companies (of which accounts are being merged in the consolidated accounts) shall not be considered again for the purpose of evaluation of the Bid.

**Annexure 7(a)**

**Format of Undertaking**

**(A) Bidder's undertaking**

**[On the Letter Head of the Bidding Company/Lead Member of Bidding Consortium]**

To,

ED (C&R), JBVNL

**Sub: Bid for supply of power for 25 years through tariff based competitive bidding process from rooftop solar PV project in JBVNL sub-station catchment area of Jharkhand in response to RFP dated 12.04.2021.**

Dear Sir,

- 1 We give our unconditional acceptance to the RFP and RFP Documents issued by JBVNL as a part of the RFP dated 12.04.2021, and as amended. We shall ensure that the Solar Company (as defined in the PPA) shall execute such RFP Documents as per the provisions of the RFP.
- 2 We have submitted our Financial Bid(s) strictly as per Format 4.2.2 of the RFP, without any deviations, conditions and without mentioning any assumptions or notes for the Financial Bid in the said format.
- 3 We have submitted the Bid on the terms and conditions contained in the RFP.
- 4 Our Bid (including Financial Bid) is valid up to the period required under Clause 4.8.1 of the RFP.
- 5 Our Bid (including Financial Bid) has been duly signed by authorized signatory and closed in the manner and to the extent indicated in the RFP and the Power of Attorney/ Board Resolution as per Clause 4.3 in requisite format as per RFP has been enclosed in original with this undertaking.
- 6 We undertake that if we are selected as the Selected Bidder we shall transfer all Consents, Clearances and Permits in the name of the Project Company within the period specified in the PPA and Project Implementation Agreement, if such Consents, Clearances and Permits have been obtained in the name of a company other than the Project Company prior to the submission of our Bid<sup>2</sup>.
- 7 We have assumed that if we are selected as the Selected Bidder, the provisions of the Consortium Agreement submitted along with the Bid, to the extent and only in relation to equity lock in and our liability thereof shall get modified to give effect to the provisions of the RFP and the relevant RFP Documents. (Applicable only in case of a Bidding Consortium)
- 8 We confirm that our Bid meets the following conditions:
  - a. The Scheduled Commercial Operation Date is not later than the date specified in

---

<sup>2</sup> Applicable to Bidding Consortium. Delete this in case of sole bidder.

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the RFP, subject to the provisions of the Relevant PPA.

- 9 We confirm that the Financial Bid(s) conform(s) to all the conditions in the RFP. including:
  - a. Financial Bid(s) is/are as per Annexure 10, and is submitted duly signed by the authorized signatory
  - b. Financial Bid(s) is/are unconditional

We have neither made any statement nor provided any information in this Bid, which to the best of our knowledge is materially inaccurate or misleading. Further, all the confirmations, declarations and representations made in our Bid are true and accurate. In case this is found to be incorrect after our selection as Selected Bidder, we agree that the same would be treated as a Solar Company’s event of default under the PPA, and consequent provisions of the PPA apply.

.....

**Signature and name of authorized signatory in whose name Power of Attorney/ Board Resolution as per Clause 4.1 is issued**

Original Power of Attorney/ Board Resolution as per Annexure8 is enclosed.

**Rubber stamp of the Bidder to be affixed.**

**Annexure 7(b)**

**Undertaking from the Financially Evaluated Entity or its Parent Company/  
Ultimate Parent Company (On the Letter Head of the Financially Evaluated  
Entity or its Parent Company/ Ultimate Parent Company)**

Name:  
Full Address:  
Telephone:  
E-mail:  
Fax / No.:

**To,**

ED (C&R), JBVNL

Engineer's Building

HEC, Dhurwa Ranchi - 834004

**Dear Sir,**

We refer to the Request for Proposal dated.... *[Insert Date]* issued by you for procurement of power from rooftop solar projects in Jharkhand on long term basis through tariff based competitive bidding process for meeting the requirements of Procurer.

(Insert in case of Bidding Company: "We have carefully read and examined in detail the RFP, including in particular, Clause 4.1.3 of the RFP, regarding submission of an undertaking, as per the Annexure 7 (B).

We have also noted the amount of the Performance Guarantee required to be submitted as per Clause 1.3.55 of the RFP by the ..... (Insert the name of the Bidding Company) for the supply of power in the event of it being selected as the Selected Bidder".

In view of the above, we hereby undertake to you and confirm that in the event of failure of ..... (Insert name of the Bidding Company) to submit the Performance Guarantee in full or in part at any stage, as specified in the RFP, we shall submit the Performance Guarantee for the amount not submitted by ..... (Insert name of the Bidding Company)".)

(Insert in case of Member of a Consortium: "We have carefully read and examined in detail the RFP, including in particular, Clause 4.1.3 of the RFP, regarding submission of an undertaking, as per Annexure 7(B).

We confirm that M/s. .... (Insert name of Bidding Company / Consortium Member) has been authorized by us to use our financial capability for meeting the Qualification Requirements as specified in Clause 3.2.3 of the RFP referred to above.

In view of the above, we hereby undertake to you and confirm that we shall maintain the status of our relationship as a Parent/Affiliate/Ultimate Parent in ..... *[Insert name of the Bidding Company/Member]* as was prevalent at seven (7) days prior to the Bid Deadline, up to a period of two (2) years from the Scheduled COD of the rooftop solar PV project A / Project B / Project A and Project. **[Please select as appropriate]**

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We have also noted the amount of the Performance Guarantee required to be submitted as per Clause 1.3.55 of the RFP by the .....  
*[Insert the name of the Consortium Member]* for the supply of power in the event of it being selected as the Selected Bidder.

In view of the above, we hereby undertake to you and confirm that in the event of failure of ..... *[Insert name of the Consortium Member]* to submit the Performance Guarantee and Development Security on behalf of the Solar Company in full or in part at any stage, as specified in the RFP, we shall submit the Performance Guarantee and for the amount not submitted by ..... *[Insert name of the Consortium Member]”).*

We have also noted the amount of the equity investment required to be made in the Project by the ..... *[Insert the name of the Bidding Company/Consortium Member]* to be incorporated to undertake the obligations under the RFP and PPA for the supply of power.

In view of the above, we hereby undertake to you and confirm that in the event of failure of ..... *[Insert name of the Bidding Company/Member of the Consortium]* to invest in full or in part, in the equity share capital of the Project as specified in the Bid, we shall invest the said amount not invested by ..... *[Insert name of the Bidding Company/Member of the Consortium)].*

We have attached hereto certified true copy of the Board Resolution whereby the Board of Directors of our Company has approved issue of this Undertaking by the Company.

All the terms used herein but not defined, shall have the meaning as ascribed to the said terms under the RFP.

**Signature of Authorized Representative**

**WITNESS**

1 .....

**(Signature)**

**Name .....**

**Designation.....**

2 .....

**(Signature)**

**Name .....**

**Designation.....**

**Annexure 8**

**Format for Board Resolution**

**Format for the Board resolution to be passed by each Financially Evaluated Entity/ its Parent Company /Ultimate Parent Company**

The Board, after discussion, at the duly convened Meeting on ..... (*Insert date*), with the consent of all the Directors present and in compliance of the provisions of the Companies Act, 1956, passed the following Resolution:

1. **RESOLVED THAT** pursuant to the provisions of the Companies Act, 1956 and compliance thereof and as permitted under the Memorandum and Articles of Association of the company, approval of the Board be and is hereby accorded for issuing an Undertaking to the JBVNL, in the format specified in the RFP, draft of which is attached hereto and initialled by the Chairman whereby the company undertakes to provide the .....percent (... %) [*Insert 100% in case of Bidding Company and percent of equity investment in the Project Company in case of Member of Consortium*] of the Performance Guarantee and Development Security, as per the terms and conditions of the RFP, representing the total amount of Performance Guarantee and Development Security required to be provided by the ..... [*Insert the name of the Bidding Company/ Consortium Member*], in case of failure of the ..... [*Insert the name of the Bidding Company/ Consortium Member*] to provide such Performance Guarantee and Development Security.
2. **FURTHER RESOLVED THAT** pursuant to the provisions of the Companies Act, 1956 and compliance thereof and as permitted under the Memorandum and Articles of Association of the company, approval of the Board be and is hereby accorded for issuing an undertaking to the JBVNL whereby the company undertakes to invest equity in the Project Company to the extent of .....percent (... %), as per the terms and conditions of the RFP, representing the amount of equity required to be provided by ..... [*Insert the name of the Bidding Company/ Consortium Member*], in case of failure of ... .. [*Insert the name of the Bidding Company/ Consortium Member*] to invest such equity.
3. **FURTHER RESOLVED THAT** Mr/Ms....., be and is hereby authorized to take all the steps required to be taken by the Company for submission of Bid, including in particular, signing the Bid, making changes thereto and submitting amended Bid, all the documents related to the Bid, certified copy of this Board resolution or letter or undertakings etc. required to be submitted to Procurer as part of the Bid or such other documents as may be necessary in this regard.

**[Note: In the event the Bidder is a Bidding Consortium, the following Board resolution no. 4 also needs to be passed by the Lead Member of the Bidding Consortium]**

4. **FURTHER RESOLVED THAT** approval of the Board be and is hereby accorded to contribute such additional amount over and above the percentage limit [*specified for the Lead Member in the Consortium Agreement*] to the extent becoming necessary towards the total equity share in the Project Company, obligatory on the part of the Consortium pursuant to the terms and conditions contained in the Consortium Agreement dated ..... executed by the Consortium as per the provisions of the RFP.

**[Note: The following resolution no. 5 is to be provided by the Bidding Company**

**/Lead Member of the Consortium only]**

5. **FURTHER RESOLVED THAT** Mr. /Ms....., be and is hereby authorized to take all the steps required to be taken by the Company for submission of Bid, including in particular, signing the Bid, making changes thereto and submitting amended Bid, all the documents related to the Bid, certified copy of this Board resolution or letter or undertakings etc., required to be submitted to Procurer/ JBVNL as part of the Bid or such other documents as may be necessary in this regard.

**Certified True Copy**

**Signature and stamp of Company Secretary / Managing Director of Financially Evaluated Entity/ its Parent Company /Ultimate Parent Company**

**Notes:**

1. This certified true copy should be submitted on the letterhead of the Company, signed by the Company Secretary / Managing Director of the Financially Evaluated Entity/ its Parent Company /Ultimate Parent Company.
2. The contents of the format may be suitably re-worded indicating the identity of the entity passing the resolution.
3. In case of the Board resolution being provided by a company incorporated in India, the Board resolution needs to be notarized by a notified notary. In the event the Board resolution is from a company incorporated outside India, the same needs to be duly notarized in its jurisdiction.
4. This format may be modified only to the limited extent required to comply with the local regulations and laws applicable to a foreign entity submitting this resolution. For example, reference to Companies Act 1956 may be suitably modified to refer to the law applicable to the entity submitting the resolution. However, in such case, the foreign entity shall submit an unqualified opinion issued by the legal counsel of such foreign entity, stating that the Board resolutions are in compliance with the applicable laws of the respective jurisdictions of the issuing company and the authorizations granted therein are true and valid.



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## Annexure 9

Format for Submitting Bank Guarantee/DD for Earnest Money

**NIT No:**

(To be submitted in Rs. 100/- Non-Judicial Stamp Paper to be purchased in the name of the issuing bank)

To,

The Executive Director (C&R),  
Jharkhand Bijli Vitran Nigam Limited,  
Engineer's Building,  
Dhurwa,  
Ranchi - 834001.

WHEREAS ..... (Developer's name) (hereinafter referred to as "Developer"), a company registered under the Companies Act, 1956 and having its registered office at ..... is required to deposit with you, the Purchaser, by way of Earnest Money Rs. .... (Rupees ..... only) in connection with its tender for the work with reference to Notice Inviting Tender (NIT) No. .... dated ..... as per specification and terms and conditions enclosed therein.

WHEREAS the Developer as per "Notice Inviting Tender, Clause No. 1.2.14 Earnest Money" has agreed to establish a Bank Guarantee/DD in Your favour through us valid up to ..... (date) instead of deposit of earnest money in cash.

WHEREAS you have agreed to accept a Bank Guarantee/DD from us in ..... instead of earnest money in cash from the Developer.

1. We ..... (Bank) hereby agree and undertake to pay you on demand the said amount of Rs. .... (Rupees ..... only) without any protest or demur in the event the Developer/Tenderer after submission of his tender, resiles from or withdraws his offer or modifies the terms and conditions thereof in a manner not acceptable to you or expresses his unwillingness to accept the order placed and/or letter of intent issued on the Developer/Tenderer for the work under "Notice Inviting Tender Ref. No.:" **--/JBVNL/XXX/Rooftop/2019-20"**.

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2. Your decision as to whether the Developer/Tenderer has resulted from or has withdrawn his offer or has modified the terms and conditions thereof in a manner not acceptable to you or has expressed his unwillingness to accept the order placed and/or Letter of Intent issued by you on the Developer/Tenderer for the work under "Notice Inviting Tender Ref. No. : ~~-/JBVNL/XXX/Rooftop/2019-20~~ in this regard, shall be final and binding on us and we shall not be entitled to question the same.
3. Notwithstanding anything contained in the foregoing, our liability under this Guarantee shall be restricted to Rs. .... (Rupees ..... only).
4. This Guarantee shall remain valid and in full force and effect up to ..... (Date) and shall expire thereafter unless an intimation is given to the Bank by you earlier in writing discharging us from our obligation under this Guarantee.
5. We shall not revoke this Guarantee during its currency except by your consent in writing.
6. This Guarantee shall not be affected by any change in the constitution of the Developer/Tenderer or yourselves or ourselves but shall ensure to your benefit and be enforceable against our legal successors or assignees by you or your legal successors.
7. Notwithstanding anything contained herein above unless a demand or claim under this Guarantee is made on us in writing within six months from the date of expiry of this Guarantee we shall be discharged from all liabilities under this Guarantee thereafter.
8. We have power to issue this Guarantee under our Memorandum and Articles of Association and the undersigned who is executing this Guarantee has the necessary power to do so under a duly executed Power of Attorney granted to him by the Bank.

Signed and Delivered

For and on behalf of ..... Bank.

(Banker's Name)

Name of Bank Manager: .....

Address .....

**Annexure 10**

**Format for Financial Bid**

**(The format should be on the Letter Head of the Bidding Company/ Lead Member of the Bidding Consortium)**

**Date:** \_\_\_\_\_

**From:** \_\_\_\_\_

**(Insert name and address of Bidding Company/ Lead Member of the Bidding Consortium)**

**Tel.#:**

**Fax#:**

**E-mail address#**

To

.....

*[Insert name and address of ED C&R JBVNL]*

**Sub: Bid for supply of power on long term basis through tariff based competitive bidding process from rooftop solar PV project in Jharkhand, in response to RFP dated ..... [Insert date in xx-xx-yyy].**

Dear Sir,

We, the undersigned ..... *[insert name of the 'Bidder']* having read, examined and understood in detail the RFP and RFP Documents for development of the Projects in sub-station catchment area of JBVNL, Jharkhand and supply of power on long term basis through tariff based competitive bidding process for meeting the requirements of JBVNL hereby submit our Financial Bid(s) for *[Sub-station Name]* /insert in case bidding for multiple project *[Multiple Sub-station Name]*<sup>3</sup>. We hereby undertake and confirm that:

1. We have submitted our Financial Bid strictly in accordance with the RFP without any deviations or condition.
2. That our Financial Bid is consistent with all the requirements of submission as stated in the RFP and subsequent communications from JBVNL.
3. Our Quoted Tariff for the categories for which the bids are being submitted has been provided below.

**Category Part A: (1kWp-3kWp Range)**

Project	Quoted Tariff* (INR. /kWh) for twenty-five Contract Years
---------	---

<sup>3</sup> Insert as applicable.

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<b>I. With MNRE Subsidy</b>	<i>[Insert Quoted Tariff* (INR. /kWh) with rooftop owner compensation]</i>
<b>II. Without MNRE Subsidy</b>	<i>[Insert Quoted Tariff* (INR. /kWh) with rooftop owner compensation]</i>

### Category Part B: (Above 3 kWp-500 kWp)

Project	Quoted Tariff* (INR. /kWh) for twenty-five Contract Years
<b>I. With MNRE Subsidy</b>	<i>[Insert Quoted Tariff* (INR. /kWh) with rooftop owner compensation]</i>
<b>II. Without MNRE Subsidy</b>	<i>[Insert Quoted Tariff* (INR. /kWh) with rooftop owner compensation]</i>

[\*Tariff to be quoted up to three decimal places]

Note:

- Price quoted above is exclusive of any taxes duties royalties and other levies. The taxes, duties, royalties and levies will be charged in invoice as per the rate applicable on the date of issue of invoice
- The honourable JSERC under its order bearing title Annual Performance Review for 2018-19 and ARR & tariff for 2019-20 dated 28 Feb, 2019 dated 28 Feb 2019.....has determined the generic tariff for the consumers of JBVNL who wants to supply electricity to their utility under gross metering scheme at Rs. 4.16/kwh. This generic tariff of Rs 4.16/kwh shall be treated as upper ceiling tariff under this bid, only the bids which has quoted lower and or upto Rs 4.16/kwh under the financial bid shall be treated as eligible during financial evaluation. All the bids containing quoted tariff above generic tariff of Rs. 4.16 as determined by JSERC shall be out rightly rejected as non-responsive during financial evaluation.

#### 4. Acceptance:

We hereby unconditionally and irrevocably agree and accept that the decision made by

## DEVELOPMENT OF 25MW ROOFTOP SOLAR POWER PROJECT

the JBVNL in respect of any matter concerning or arising out of the RFP and the selection of Selected Bidder thereof shall be binding on us. We hereby expressly waive any and all claims in respect of Bid process.

Dated the \_\_\_\_\_ day of \_\_\_\_\_, 2021

Thanking you,

We remain,

Yours faithfully,

**Name, Designation and Signature of Authorized Person in whose name Power of Attorney / Board Resolution is issued**

**Annexure 11**

**Format of checklist for Bid submission requirements**

Submission of Bid requirements	Response (Yes/No)
Disclosure as per Annexure 12	
Certificate of relationship of Parent Company or Affiliate with the Bidding Company or with the Member of the Bidding Consortium, including the Lead Member as per Annexure13;	
Calculation sheets detailing computation of Net worth considered for meeting Qualifying Requirements.	
Last 3 financial years' unconsolidated/consolidated audited annual accounts of the Bidder/ Financial Member (or Financially Evaluated Entity, if different from the Bidder/ Financial Member) duly certified by the Statutory Auditor. Authority letter in favour of ..... [ <i>Insert "Procurer" / "JBVNL" as applicable</i> ] from the Bidder authorizing ..... [ <i>Insert "Procurer" / "JBVNL" as applicable</i> ] to seek reference from their respective bankers & others.	
Initialling of all pages of Bid by authorized signatory.	

**Signature of authorized signatory in whose name Power of Attorney as per Clause 4.15 and subsequent is issued:**

Name and designation of authorized signatory: .....

Place: ..... Date: .....

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## Annexure 12

### Disclosure

(Each Member in a Bidding Consortium)

To: ..... (Insert name and address of JBVNL)

Sub: Bidders' Disclosure for Bid for supply of power to Procurer in response to the RFP

Dated .... [Insert date] We hereby declare that the following companies with which we have direct or indirect relationship are also separately participating in this bidding process as per following details

Sl. No.	Name of the Company	Relationship
1.		
2.		
3.		

Further we confirm that we don't have any Conflict of Interest with any other Bidder participating in this bid process.

.....

*Signature of Authorized Representative*

**Notes:**

In case there is no such company please fill in the column "Name of the Company" as Nil and under column of Relationship as "Not Applicable".

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## Annexure 13

### Format for certificate of relationship of Parent Company or Affiliate with the Bidding Company or with the Member of the Bidding Consortium, including the Lead Member

To,

*[Insert name and address of JBVNL]*

Dear Sir,

**Sub: Bid for procurement of power for 25 years through tariff based competitive bidding process in response to the RFP dated .... *[Insert date]***

We hereby certify that M/s....., and M/s..... are the Affiliate(s) / Parent Company of the Bidding Company/Member of the Bidding Consortium as per the definition of Affiliate/Parent Company as provided in the RFP and based on details of equity holding as on seven (7) days prior to the Bid Deadline.

The details of equity holding of the Bidding Company/Member of the Consortium in the Affiliate/Parent Company or vice versa as on seven (7) days prior to the Bid Deadline are given as below:

Name of Bidding Company / Member of Bidding Consortium	Name of the Affiliate of the Bidding Company / Member of the Bidding Consortium*	Name of the Parent Company of the Bidding Company / Member of Bidding Consortium	Name of the company having common control on the Affiliate and the Bidding Company / Member of Bidding Consortium
<i>[Insert Name]</i>	<i>[Insert Name]</i>	<i>[Insert Name]</i>	<i>[Insert Name]</i>

\* Bidding Company / Member of Bidding Consortium to hold at least twenty six percent (26%) in such Affiliate as on seven (7) days prior to Bid Deadline

..... *[Insert Name and Signature of Statutory Auditor of the Bidder or practicing Company Secretary]*



**Annexure 14**

**Format for undertaking**

**This undertaking should be on the Letter Head of the Bidding Company/ Lead Member of the Bidding Consortium)**

To,

*[Insert name and address of JBVNL]*

**Dear Sir,**

We refer to the Request for Proposal dated.... *[Insert Date]* issued by you for procurement of power from solar rooftop projects in JBVNL distribution area of Jharkhand on long term basis through tariff based competitive bidding process for meeting the requirements of Procurer.

(Insert in case of Bidding Company: "We have carefully read and examined in detail the RFP, including in particular, 3.2.2 of the RFP, regarding experience in rooftop solar power projects and submission of an undertaking, as per Annexure 14.

All the terms used herein but not defined, shall have the meaning as ascribed to the said terms under the RFP.

**Signature of Authorized Representative**

**WITNESS**

1. ....

**(Signature)**

**Name** .....

**Designation**.....

2. ....

**(Signature)**

**Name** .....

**Designation**.....

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### Annexure-15

#### Formats for Information about the Bidding Firm

(To be submitted in the official letter head of the company)

SL. No.	Particulars	
1.	Name of the Bidder	
2.	Address of Bidder with Telephone, Fax, email	
3.	Address of the Registered Office	
4.	Address of the works	
5.	Name & Designation of Authorized Signatory for Correspondence	
6.	Nature of Firm (Proprietorship/Partnership/Pvt. Ltd./Public Ltd. Co./Public Sector)	
7.	Permanent Account Number (PAN)/TIN (Attach proof)	
8.	Firm's Registration Number (Attach proof)	
9.	Sales Tax/Value Added Tax	

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	Registration Number (Attach proof)	
10.	Office/ Dealer and Service network in Jharkhand with TIN No.(Give details)	
11.	Quoted quantity	
12.	Particulars of Earnest Money	
13.	Other details and remarks, if any	

Yours faithfully,

(Signature of Authorized Signatory)

Name:

Designation:

Company seal:

**Annexure 16**

**FORMAT FOR AUTHORISATION**

(On Non – judicial stamp paper duly attested by Notary Public)

**(In case of Bidding Consortium to be given by Financial Member)**

The undersigned hereby authorize(s) and request(s) all our Bankers, a list of which is attached herewith as Annexure A hereto, including its subsidiaries and branches, any person, firm, corporation or authority to furnish pertinent information deemed necessary and requested by JBVNL to verify the authenticity of the documents / information submitted by us for meeting the Qualification Requirements in respect of our Bid for supply of power for 25 years through tariff based competitive bidding process for meeting the requirements of JBVNL and / or regarding our financial standing and general reputation.

For and on behalf of M/s..... (Insert Name of Bidding Company or Financial Member of the Consortium)

..... Signature and Name of the authorized representative of the Company

Company rubber stamp/seal

..... (Signature of Notary Public)

(Name and Address of the Attorney) Place...Date...

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## Annexure 17

### SECURITY DEPOSIT BY WAY OF DEMAND DRAFT/ PERFORMANCE BANK GUARANTEE (PBG) FORMAT

#### NIT No:

(To be submitted in Rs. 100/- Non-Judicial Stamp Paper to be purchased in the name of the issuing bank)

To,

The Executive Director (C&R),

Jharkhand Bijli Vitran Nigam Limited,

Engineer's Building,

Dhurwa, Ranchi - 834001. (With due stamp duty if applicable)

OUR LETTER OF GUARANTEE NO.:

In consideration of Jharkhand Bijli Vitran Nigam Limited having its office at

(hereinafter referred to as "JBVNL" which expression shall unless repugnant to the content

or meaning thereof include all its successors, administrators and executors) and having

issued Work Order No.....

dated:.....

with/ on M/s (here in after referred to as "Developer" which expression unless repugnant to the content or meaning thereof, shall include all the successors, administrators, and executors).

WHEREAS the Developer having unequivocally accepted to perform the services as per terms and conditions given in the Work Order/ Sanction

Order No..... dated:..... and

JBVNL having agreed that the Agency shall furnish a Security Deposit by way of

D.D./ Performance Bank Guarantee for the faithful performance during the entire contract, of the

value of ₹ .

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In case of Bank Guarantee:

We,..... ("The Bank") which shall include OUR successors, administrators and executors herewith establish an irrevocable Letter of Guarantee No..... in your favour for account of..... (The Developer) in cover of performance guarantee in accordance with the terms and conditions of the Work Order/ Sanction Order.

Hereby, we undertake to pay up to but not exceeding..... (say..... only) upon receipt by us of your first written demand accompanied by your declaration stating that the amount claimed is due by reason of the Agency having failed to perform the Work Order/ Sanction Order and despite any contestation on the part of above named-agency.

This letter of Guarantee will expire on.....after which date this Letter of Guarantee will become of no effect whatsoever whether returned to us or not.

.....

Authorized signature Chief Manager/ Manager Seal of Bank

## ANNEX III: LIST OF MEETINGS AND COMMUNICATIONS

TYPE OF COMMUNICATION	DATE	PARTICIPATION	PROCEEDINGS
Face – Face Meeting	February 4, 2020	<ul style="list-style-type: none"> <li>Attended by 13 numbers of Jharkhand based solar power developer in Developer Consultation Meet held at Ranchi</li> <li>PACE – D 2.0 RE Team</li> </ul>	<p>PACE-D 2.0 presented the background of the Program. The objective of implementing a pilot for low paying consumers in the state of Jharkhand.</p> <p>Understanding the state-based developer experiences in the sector, defining challenges in developing solar projects and putting forth their suggestions on the table.</p>
Face – Face Meeting	February 18, 2020	<ul style="list-style-type: none"> <li>Chaired by GM Coml at JBVNL Head Quarter</li> <li>PACE -D 2.0 RE Team</li> </ul>	Status of the work carried out and briefing of the developer views on the pilot
Mail	May 3, 2020	<ul style="list-style-type: none"> <li>PACE – D 2.0 RE, JBVNL</li> </ul>	<p>Program team shared note on Low Paying Pilot &amp; RFP and PPA</p> <p>Received feedback from JBVNL</p>
Virtual Meeting	June 22, 2020	<ul style="list-style-type: none"> <li>Chaired by MD. JUSNL &amp; ED JBVNL</li> <li>JBVNL Officials - GM (Comm), ESE, EE, Law Officer</li> <li>USAID</li> <li>PACE -D 2.0 RE Team</li> </ul>	<p>Steering committee meeting on the progress of the program</p> <p>Program team requested the committee to get the approval from JSERC for Size of the Plants &amp; Compensation mechanism for roof owners</p>
Mail	July 17, 2020	<ul style="list-style-type: none"> <li>PACE – D 2.0 RE, JBVNL</li> </ul>	Circulated MoM of steering committee meeting

Mail	July 20, 2020	<ul style="list-style-type: none"> <li>• PACE – D 2.0 RE, JBVNL</li> </ul>	Program team shared updated RFP and PPA incorporating 1 <sup>st</sup> level of suggestion received from JBVNL
Mail	July 21, 2020	<ul style="list-style-type: none"> <li>• PACE – D 2.0 RE, JBVNL</li> </ul>	PACE-D 2.0 shared and discussed the concept note developed for pilot to GM, Commercial.
Conference Call	July 22 tll August 9, 2020	<ul style="list-style-type: none"> <li>• PACE – D 2.0 RE, JBVNL EEE</li> </ul>	Line by Line discussion on RFP and PPA  Readdressed feedback received during discussion and updating of RFP and PPA
Mail	August 9, 2020	<ul style="list-style-type: none"> <li>• PACE – D 2.0 RE, JBVNL</li> </ul>	requested JBVNL to revert approved MoM and share with MNRE for their information
Mail	August 10, 2020	<ul style="list-style-type: none"> <li>• PACE – D 2.0 RE, JBVNL EEE</li> </ul>	Shared Draft Tripartite Agreement
Conference Call	August 20, 2020	<ul style="list-style-type: none"> <li>• PACE – D 2.0 RE, JBVNL EEE</li> </ul>	Received feedback on tripartite agreement from JBVNL
JBVNL Headquarter	September 04, 2020	<ul style="list-style-type: none"> <li>• PACE – D 2.0 RE, GM Coml</li> </ul>	Prepared Draft letter to MNRE for merging the unutilized capacity allocated to JBVNL under the pilot  Letter shared with MNRE by ED JBVNL
JBVNL Headquarter	September 07, 2020	<ul style="list-style-type: none"> <li>• PACE – D 2.0 RE, GM Coml</li> </ul>	Discussion on the RFP and PPA draft with GM Commercial  Received feedback that JBVNL CAPEX tender terms and clause shall must be incorporated in tender
JBVNL Headquarter	September 17, 2020	<ul style="list-style-type: none"> <li>• PACE – D 2.0 RE, GM Coml</li> </ul>	submission of updated RFP and PPA in line with the



			<p>suggestions received during several face to face discussion held at JBVNL between Program team and JBVNL team</p> <p>Preparation of File noting for ED JBVNL approval of tender documents</p>
JBVNL Headquarter	September 17, 2020	<ul style="list-style-type: none"> <li>• PACE – D 2.0 RE, GM Coml</li> </ul>	Preparation and submission of invitation letter for the Tender Evaluation Committee comprising the JBVNL senior officials: Executive Director, (C&R), GM (IT), GM (S&P), Dy. G M (F&A),EEE (C&R),EEE Comml
JBVNL Headquarter	September 23, 2020	<ul style="list-style-type: none"> <li>• Chaired by GM Comml</li> <li>• PACE – D 2.0 RE,</li> </ul>	Program team gave the detailed presentation before the committee on key features of RFP and PPA
Email	October 3, 2020	<ul style="list-style-type: none"> <li>• GM Comml EEE C&amp;R</li> <li>• PACE – D 2.0 RE,</li> </ul>	Submission and discussion over phone on comparative analysis for five RESCO projects executed by different states in the country
Email & Con Call	October 3, 2020 till February 19 2020	<ul style="list-style-type: none"> <li>• GM Comml EEE C&amp;R</li> <li>• PACE – D 2.0 RE,</li> </ul>	Several rounds of discussion on key features of RFP & PPA insertion an deletion of new clauses and other specific comments received from JBVNL team.

