Jharkhand Renewable Energy Development Agency (JREDA)
3rd Floor, S.L.D.C. Building,
Kusai Colony, Doranda,
Ranchi-834002 (Jharkhand)
Tel: 0651-2491161
Fax: 0651-2491165,
E-mail: info@jreda.com Website: www.jreda.com
http://.jharkhandtenders.gov.in

Request for Proposal (RfP)

Request for Proposal (RfP) for Rural Electrification Works of 363 Villages in districts of Chatra, Latehar, Garhwa, Palamu, West Singhbhum, Simdega, Sahibganj, Gumla, Hazaribagh & Pakur in Jharkhand through Solar Photovoltaic Power Plants (Mini/Micro grid) with distribution network & connection to households, along with 5 years CMC, under Decentralized Distributed Generation (DDG) Scheme of Deendayal Upadhyay Gram Jyoti Yojana (DDUGJY). through competitive bidding,

RfP No. 01/JREDA/SPV/DDG-363/2016-17, Dated 04/04/2016.

Interested Bidders/Applicants are invited to submit their proposal along with all required necessary documents pertaining to experience, qualification criteria etc. as mentioned in the RfP document available at website of http://jharkhandtenders.gov.in.

Proposal in prescribed RfP document should be accompanied with a Bid Document Fee in the form of Demand Draft of Rupees Ten Thousand only (Rs. 10,000/-) (non-refundable) (Nil for MSME of Jharkhand) in favour of "Director, Jharkhand Renewable Energy Development Agency, Ranchi" payable at Ranchi. Last date for submission of proposals is 26/04/2016 till 17:00hrs and the proposals received till the last date and time will be opened on 28/04/2016 at 15:00 hrs (IST).

JREDA reserves the right to reject any or all proposals without assigning any reason thereof.

Sd/-
Director,
JREDA, Ranchi

Request for Proposal

For

Rural Electrification Works of 363 Villages in districts of Chatra, Latehar, Garhwa, Palamu, West Singhbhum, Simdega, Sahibganj, Gumla, Hazaribagh & Pakur in Jharkhand through Solar Photovoltaic Power Plants (Mini/Micro grid) with distribution network & connection to households, along with 5 years CMC, under Decentralized Distributed Generation (DDG) Scheme of Deendayal Upadhyay Gram Jyoti Yojana (DDUGJY). through competitive bidding

RfP NO.: 01/JREDA/SPV/DDG-363/2016-17

Jharkhand Renewable Energy Development Agency

Ranchi, Jharkhand

Jharkhand Renewable Energy Development Agency (JREDA)

3rd Floor, S.L.D.C. Building, Kusai Colony, Doranda, Ranchi-834002.
Ph.: 0651-2491161, Fax: 0651-2491165,
E-mail: info@jreda.com; Website: www.jreda.com

e-Procurement Notice

Tender reference no.: 01/JREDA/SPV/DDG-363/2016-17 **Dated: 04.04.2016**

1	Name of the work	Request for Proposal (RfP) for Rural Electrification Works of **363 Villages** in districts of Chatra, Latehar, Garhwa, Palamu, West Singhbhum, Simdega, Sahibganj, Gumla, Hazaribagh & Pakur in Jharkhand through **Solar Photovoltaic Power Plants (Mini/Micro grid)** with distribution network & connection to households, along with 5 years CMC, under Decentralized Distributed Generation (DDG) Scheme of Deendayal Upadhyay Gram Jyoti Yojana (DDUGJY).
2	Estimated cost (Rs.)	Rs. 176.14 Crores
3	Time of completion	06 (Six) Months
4	Date of publication of NIT on website: http:// jharkhandtenders.gov.in	05.04.2016 (Tuesday)
5	Date & time of Pre-bid meeting	18.04.2016 (Monday) at 12.00 Noon
6	Last date & time for receipt of online bids	26.04.2016 (Tuesday) upto 05:00 PM
7	Submission of original copies of Bid fee & EMD (Offline)	26.04.2016 and 27.04.2016 up to 5.00 P.M.
8	Technical Bid Opening Date	28.04.2016 (Thursday) at 03:00 PM
9	Name & address of office inviting tender	Director, Jharkhand Renewable Energy Development Agency(JREDA) 3rd Floor, SLDC Building, Kusai, Doranda, Ranchi- 834002 (Jharkhand)
10	Contact no. of procurement officer	0651-2491163/61
11	Helpline no. of e-procurement	0651-2491163/61

Any change can be seen on website: http://jharkhandtenders.gov.in & www.jreda.com,

Further details can be seen on website: http://jharkhandtenders.gov.in & www.jreda.com

Sd/-

Director,

JREDA, Ranchi

DISCLAIMER

Though adequate care has been taken while preparing the Bidding documents, the Bidders shall satisfy themselves that the document is complete in all respects. Intimation of any discrepancy shall be given to this office immediately. If no intimation is received from any Bidder within ten (10) days from the date of notification of RfP /Issue of the RfP documents, it shall be considered that the RfP documents are complete in all respects has been received by the Bidder

The information contained in this Request for Proposal document "RfP" or subsequently provided to Bidders, whether verbally or in documentary or any other form by or on behalf of Jharkhand Renewable Energy Development Agency (JREDA) or any of their employees or advisers, is provided to Bidders on the terms and conditions set out in this RfP and such other terms and conditions subject to which such information is provided.

This RfP is not an agreement and is neither an offer nor invitation by JREDA to the prospective Bidders or any other person. The purpose of this RfP is to provide interested parties with information that may be useful to them in the formulation of their proposals pursuant to this RfP. This RfP includes Statements, which reflect various assumptions and assessments arrived at by JREDA in relation to Rural Electrification Works of Chatra, Latehar, Garhwa, Palmau, Singhbhum, Gumla, Simdea, Sahebanj, Hazaribagh, Pakur Districts of Jharkhand under Deendayal Upadhyaya Gram Jyoti Yojana. 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 JREDA, its employees or advisers to consider the objectives, technical expertise 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 and information contained in this RfP and obtain independent advice from appropriate sources.

Information provided in this RfP to the Bidders 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. JREDA accepts no responsibility for the accuracy or otherwise for any interpretation or opinion on the law expressed herein.

JREDA, its employees and advisers 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, reliability or completeness 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 Selection Process.

JREDA also accepts no liability of any nature whether resulting from negligence or otherwise however caused arising from reliance of any Bidder upon the Statements contained in this RfP. JREDA may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information, assessment or assumption contained in this RfP.

The Bidder shall bear all its costs associated with or relating to the preparation and submission of its Proposal including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by JREDA or any other costs incurred in connection with or relating to its Proposal. All such costs and expenses will remain with

the Bidder and JREDA 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 for submission of the Proposal, regardless of the conduct or outcome of the Selection Process.

The specification mentioned for all the equipment which include Solar modules, PCU, module mounting structures, interfacing panels, switch gears & other associated equipment etc., to complete the power generation and evacuation system, the present bidding documents is for the reference only. It is subject to revise/ alter as per the design/ planning/good engineering practices etc., to be carried out by the selected bidder, to the satisfaction of the Employer or its authorized representatives. It is advised that the bidders must satisfy himself with the prevailing site conditions before design/ plan. The design must be optimized for the site conditions and directed to achieve the maximum output form the installed capacity at all times. Moreover, the components not separately mentioned, but are required to complete the plant for operation is also included in the scope of bidder and shall be vetted by the Employer or its authorised representatives.

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SECTION – I

INVITATION TO BID (ITV)

Jharkhand Renewable Energy Development Agency

Ranchi, Jharkhand

Invitation To Bids (INV)

Jharkhand Renewable Energy Development Agency

Request for Proposal
For
Request for Proposal (RfP) for Rural Electrification Works of 363 Villages in districts of Chatra, Latehar, Garhwa, Palamu, West Singhbhum, Simdega, Sahibganj, Gumla, Hazaribagh & Pakur in Jharkhand through Solar Photovoltaic Power Plants (Mini/Micro grid) with distribution network & connection to households, along with 5 years CMC, under Decentralized Distributed Generation (DDG) Scheme of Deendayal Upadhyay Gram Jyoti Yojana (DDUGJY)

1. Introduction

1.1. **Jharkhand Renewable Energy Development Agency** (hereinafter referred to as 'JREDA') have been entrusted to execute the Project i.e. **Electrification works of remote un-electrified (UE) villages/ hamlets through solar PV power plant (Mini/Micro grid) with distribution network & connection to households, along with 5 years CMC, under Decentralized Distributed Generation (DDG) programme for 10 (Ten) districts in Jharkhand under Deendayal Upadhyay Gram Jyoti Yojana (DDUGJY)** on behalf of Government of Jharkhand. The execution of the project shall be funded out of the proceeds of financial assistance to be received by **Government of Jharkhand/ JREDA** from Rural Electrification Corporation Limited (REC) and the ownership of the project shall remain vested with Government of Jharkhand. The project shall be executed by JREDA on turnkey basis and all eligible payment under the project shall be made from the proceeds of financial assistance to be received by Government of Jharkhand/ JREDA. For the purpose of all procurement activities related to the aforesaid project, JREDA shall be referred to as 'Employer' and Government of Jharkhand "the Owner".

1.1.1. The project shall be executed under packages as provided in clause 3.2 for which JREDA invites sealed bids under domestic competitive bidding for Design, Supply and erection of SPV based Decentralized Distributed Generation Systems for Electrification works in remote un-electrified villages in different districts of Jharkhand.

1.2. Scope of Work

The project developer will carry out the following activities:

The scope of work under the subject package includes site survey, planning, design, engineering, assembly, manufacturing, testing, supply, loading, transportation, unloading, insurance, delivery at site, handling, storage, installation, testing, commissioning and documentation of all items/ material required to complete the Electrification works in above mentioned 10 (Ten) districts under Six Packages which interlia include construction of LT Line, control room, fencing & any other civil works and Operation & Maintenance of Plant for five years after commissioning.

1.2.1. The complete Bidding Documents including technical specifications are available at JREDA's website www.jreda.com. Bid document may also be seen at the JREDA's e-tendering portal http://jharkhandtenders.gov.in Interested bidders can download the Bidding Documents and commence preparation of bids to gain time.

1.2.2. The Bidder will be required to download the Bidding Documents from web portals mentioned in para 1.2.1 above. However, they will have to pay a non – refundable tender

fee of INR 10,000/- against each package in the form of demand draft in favour of The Director JREDA, payable at Ranchi along with their bid and provide the DD details in the web documents. The acceptance of the bid shall be subjected to acceptance of the documents fee.

- The guidelines to submit bid online can be downloaded from website http://Jharkhandtenders.gov.in
- The interested bidders can download the bid from the website "http://Jharkhandtenders.gov.in".
- To **participate in 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.
- 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.
- Bids will be opened online as per time schedule mentioned in Clause 2.3
- Bidders should get ready with the **scanned copies of cost of documents and EMD/Bid Security (in the form of Bank Guarantee/Demand Draft)** as specified in the tender document. Before submission of online bids, bidders must ensure that scanned copy of all the necessary documents have been **attached with bid**.
- Bidder have to produce the **original D.D. towards tender fee & EMD/Bid Security (in the form of Bank Guarantee/Demand Draft)** in approved form to the authority "Director, Jharkhand Renewable Energy Development Agency, Ranchi" on the date & time as mentioned in the RfP failing which bidder will be disqualified. The **details of cost of documents, EMD** specified in the tender documents **should be the same as submitted online** (**scanned copies**) otherwise tender will summarily be rejected.
- Uploaded documents of valid successful bidders will be verified with the original before signing the agreement. The valid successful bidder has to provide the originals to the concerned authority.
- The department will not be responsible for delay in online submission due to any reason.
- All the required information for bid must be filled and submitted online. If the bid is not found to be uploaded online in the website (http://Jharkhandtenders.gov.in), bid shall be rejected even though the bidder/s have submitted Bid fee & EMD. No hard copy is required to be submitted in the office of JREDA except original Bid fee & EMD.
- Scanned copies of the following documents to be up-loaded in pdf format on the website http://Jharkhandtenders.gov.in.

1.3. A prospective bidder may participate in the bidding for any or all packages as per the laid-down norms of JREDA. Any quarry for clarification of the bids shall be entertained only through email i.e., info@jreda.com during the office hours upto Date & Time as mentioned in Clause 2.3 and no further communication shall be entertained from this end beyond the specified date from this end.

Note: The tender fee and EMD/Bid Security has been kept NIL for MSME Jharkhand. MSME seeking exemption from Bid fee & EMD, shall submit documentary evidence supporting the exemption.

2. Bid Information

2.1. The bidding documents which include detailed scope of work, Instruction to bidders,

Specifications, Terms & conditions, formats etc., can be downloaded from www.jreda.com, http://.jharkhandtenders.gov.in

2.2. Brief details of the RfP are as follows:

Uploading of Document on web site of JREADA Date:	From 05/04/2016
Last Date & Time of Bid Receipt :	Up to 26/04/2016 17:00 hrs (IST)
Pre – bid Conference Date :	18/04/2016 at 12:00 hrs at JREDA, Jharkhand
Bid Opening Date & Time :	28/04/2016 at 15:00 hrs at JREDA, Jharkhand
Bid Document Fees :	10,000/- (Rupees Ten Thousand only) per set

2.3. All bids must be accompanied by

2.3.1. A **Bid Security of 2% (rounded up to nearest lakh Rs.) of the project estimated cost** in the form as stipulated in the Bidding Documents to be drawn in favor of "Director JREDA", Ranchi.

2.3.2. A non-refundable **Bid Document fee of 10,000/- (Rupees Ten Thousand only)** in form of DD drawn in favour of "Director JREDA" payable at Ranchi.

ANY BID NOT ACCOMPANIED BY AN ACCEPTABLE BID SECURITY AND BID DOCUMENT FEES SHALL BE REJECTED BY THE EMPLOYER/ AUTHORIZED REPRESENTATIVE AS BEING NON – RESPONSIVE.

3. Bid Submission

3.1. Details of documents to be furnished for online bidding

A. Scanned copies of the following documents to be up-loaded in pdf format on the website http://Jharkhandtenders.gov.in.

i. D. D. towards Tender fee.
ii. Duly pledged EMD (in case of BG as per Annexure)
iii. Copy of CST/VAT certificate.
iv. Copy of PAN Card
v. Firm's registration certificate/ Registration certificate of MSME of Jharkhand.
vi. Certificate issued by Industry Dept. or MNRE for system/components manufacturing.
vii. Audited Balance sheet of last three years.
viii. IEC/IS certificate of Solar PV module.
ix. Test certificate of battery.
x. Test certificate of Inverter

B. Scanned Copies of the Annexure as per the enclosed formats should be uploaded after converting the same to pdf format.

i. Annexure-A: Proforma of Joint Undertaking by Manufacturer Along with the Bidder/Contractor
ii. Annexure-B: Format for Evidence of Access to or Availability of Credit/ Facilities
iii. Annexure-C: Form of Power of Attorney for Joint Venture
iv. Annexure-D: Form of Joint Venture Agreement
v. Annexure-I: Proforma of Bank Guarantee for Bid Guarantee
vi. Annexure-IV: Proforma of Letter of Undertaking

vii. Annexure-XI: Format of Power of Attorney for Signing Bid
viii. Annexure-XII: Information about the Bidding Firm
ix. Annexure-XIII: Declaration by the Bidder
x. Annexure-XIV: Format for Financial Requirement – Annual Turnover
xi. Annexure-XV: Format For Financial Requirement - Net Worth Certificate
xii. Annexure-XVI: Format For Covering Letter
xiii. Annexure-XVII: Format For Check List for Technical bid
xiv. Schedule-3: Firm price declaration Schedule
xv. Schedule-4: Commercial Deviations Schedule
xvi. Schedule-5: Technical Deviation
xvii. Schedule-6: Additional Information Included with this Proposal
xviii. Schedule-7: Qualifying Requirement Data
xix. Schedule-8: Guarantee Declaration
xx. Schedule-9: Bought-out & Sub-Contracted Items
xxi. Schedule-10: Work Completion Schedule
xxii. Schedule-11: Checklist Schedule

C. Duly filled in & digitally signed Price Bid as per formats provided in the document.

D. Uploaded documents of valid successful bidders will be verified with the original before signing the agreement. The valid successful bidder has to provide the originals to the concerned authority on receipt of such letter, which will be sent though registered post.

E. RfP is not to be uploaded by the bidder. The bidder has to give affidavit stating agree / disagree on the conditions in the RfP. The bidders, who disagree on the conditions of RfP, cannot participate in the tender.

3.2. Techno-Commercial Part shall be opened on the date and time as provided in Clause 3.1 of INB in presence of the bidder's representatives who choose to attend in person at the address provided in Clause 3.1 of INB. Price Bids shall be opened in the presence of the bidder's representatives who choose to attend at the time and date at the address given in the intimation for opening of Price Bids.

Packages	**District**	**Block**	**No of Villages**	**Capacity kW**	**Length km**	**Estimate Cost in Lakhs**
Package 1	Pakur		18	129	20.9	129
	Sahebanj		38	319	49.3	880
	Simdea		5	83	13.6	213
	West Singhbhum	Manjhari	1	20	3.4	51
		Tonto	21	267	44.9	706
		Kumardungi	1	59	10	142
		Anandpur	1	30	5	75
		Noamundi	1	7	1.1	20
		Manoharpur	2	52	8.8	131
Package 2	Garhwa	0	12	209	35.4	538
	Palmaw	0	20	546	89.5	1329
	Chatra	Pratappur	12	174	24.7	446
	Chatra	Kunda	19	197	29.4	525
Package 3	West Singhbhum	Goilkera	39	1114	187.2	2773
Package 4	West Singhbhum	Bandhgaon	22	292	47.7	770
	West Singhbhum	Chakradharpur	3	63	10.6	158
	West Singhbhum	Sonua	35	734	124.1	1860

Package 5	Latehar		23	576	93.7	1436
	Gumla		24	501	81	1253
	Chatra	Hunterganj	14	165	22.1	436
Package 6	Chatra	Lawalaung	42	994	134	2455
	Hazaribag		10	142	22.6	369
Total						**16695**

3.3. The successful bidder will be required to furnish a Contract Performance Guarantee for ten percent (10%) of the total contract price on award of the Contract. The successful bidder will also be required to furnish a Project Operation Guarantee for twenty percent (20%) of the total contract price as detailed in the bidding document.

3.4. JREDA will not be responsible for misplacement/ delay in receipt of either request bid document fee and EMD sent by post.

4. Address for Communication

All correspondence with regard to the above shall be to the following address.

To
Director,
Jharkhand Renewable Energy Development Agency (JREDA)
3rd Floor, SLDC Building, Kusai, Doranda,
Ranchi- 834002 (Jharkhand)
Tel: 0651-2491161
Fax: 0651-2491165,
E-mail: info@jreda.com Website: www.jreda.com

Note: JREDA reserves the right to cancel/ withdraw the bid without assigning any reason for such decision. Such decision will not incur any liability whatsoever on the part of JREDA consequently.

SECTION – II

INSTRUCTION TO BIDDERS (INB)

Jharkhand Renewable Energy Development Agency

Ranchi, Jharkhand

A. INTRODUCTION

1. General Instruction

The JREDA, (implementer of the project on behalf of REC) hereinafter called JREDA/ 'Employer' will receive bids in respect of equipment to be furnished and erected as set-forth in the accompanying Specifications. All bids shall be prepared and submitted in accordance with these instructions.

2. Qualifying Requirements of Bidders

2.1. This bidding is open to any manufacturer or erector who provides satisfactory evidence concerning the following that he:

a. is a qualified manufacturer or erector who regularly manufactures or installs the equipment of the type specified and has adequate technical knowledge and practical experience;

b. does not anticipate change in the ownership during the proposed period of work (if such a change is anticipated, the scope and effect thereof shall be defined);

c. has adequate financial stability and status to meet the financial obligation pursuant to the scope of the works (the Bidders should their profit and loss account and balance sheet for the last five years);

d. (i) For Manufacturer:

The bidder should be MNRE approved Channel Partner/ MNRE approved manufacturer/ MNRE approved PV System integrator/A registered manufacturing company/Firm/Corporation in India (including MSME of Jharkhand).

The Manufacturer has adequate plant and manufacturing capacity available to perform the works properly and expeditiously within the time period specified. The evidence shall consist of written details of the installed manufacturing capacities and present commitments (excluding the work under this Specification) of the Bidder or his principal. If the present commitments are such that the installed capacity results in inadequacy of the manufacturing capacities to meet the requirement of equipment corresponding to this bid, then the details of alternative arrangements to be organized by the Bidder for this purpose and which shall meet the Employer's approval, shall also be furnished;

(ii) For Erector:

has adequate capacity for erection and installation to perform the works properly and expeditiously within the time period specified. The evidence shall consist of written details of the capacities and present commitments (excluding the work under this specification) of the Bidder or its principal. If the present commitments are such that may result in inadequacy to undertake the works corresponding to this bid (work under this specification), then the details of the alternative arrangements to be organized by the Bidder for this purpose and which shall meet the Employer's approval, shall also be furnished;

Must have adequate field services organisation to provide the necessary field erection and management services required to successfully erect, test and commissioning the equipments as required by the specification and documents, and

Must have established quality assurance systems and organisation designed to achieve high level of equipment reliability, both during his manufacturing and field installation activity

2.2. Majority publicly owned enterprises domiciled in India may be eligible to qualify if, in addition to meeting all the qualifying requirements, they also:

a. are commercially oriented legal entities distinct from JREDA, and are not a government of department;

b. are financially autonomous, as demonstrated by requirements in their constitutions to provide separate audited accounts and return on capital, powers to raise loans and obtain revenues through the sale of goods or services; and

c. are managerially autonomous

2.3. In addition, the qualifying requirement stated in the accompanying 'Qualifing Requirement in Special Conditions of Contract' shall also apply.

2.4. The above stated requirements are a minimum and JREDA reserves the right to request for any additional information and also reserves the right to reject the Proposal of any Bidder, if in the opinion of JREDA, the qualification data is incomplete or the Bidder is found not qualified to satisfactorily perform the Contract.

3. Details of RfP

3.1. Bids are invited in the prescribed Bid Formats as defined under Section VI: Forms and Formats, for the Scope of Work described in the RfP document. Following are the details:

Item	**Description**
Brief description of the Project	Request for Proposal (RfP) for Rural Electrification Works of 363 Villages in districts of Chatra, Latehar, Garhwa, Palamu, West Singhbhum, Simdega, Sahibganj, Gumla, Hazaribagh & Pakur in Jharkhand through Solar Photovoltaic Power Plants (Mini/Micro grid) with distribution network & connection to households, along with 5 years CMC, under Decentralized Distributed Generation (DDG) Scheme of Deendayal Upadhyay Gram Jyoti Yojana (DDUGJY)
Date of Publication of NIT	05/04/2016
Date & time of Pre-Bid Meeting and Venue	18/04/2016 at 12:00 hrs at JREDA, Jharkhand
Last date and time for submission of Bids	26/04/2016 at 17:00 hrs
Date of opening of Techno-commercial Bid	28/04/2016 at 15:00 hrs at JREDA, Jharkhand
Bid validity	6 months from the date of opening of Techno-Commercial bid
Bid Document Fees	INR 10,000/- (Rupees Ten Thousand only) Nil for MSME of Jharkhand
Bid Security (in form of BG/DD only)	2% (rounded up to nearest lakh Rs.) of the project estimated cost Nil for MSME of Jharkhand
Bid Security validity	210 days from the date of opening of Techno – Commercial Bid
Performance bank guarantee for EPC Contract and Operation & Maintenance	The Contractor shall furnish within 30 days from the date of Notice/Letter of Award of Contract, an unconditional and irrevocable bank guarantee for due Performance as per Format attached and which shall be for 10% of the total Contract Value (i.e., total sum of all the supply contract, erection contract and civil works contract) and valid upto ninety (90) days after the end of the warranty period. The Contractor shall furnish within 30 days from the date of

Item	Description
	issue of Notice/Letter of Award, an unconditional and irrevocable bank guarantee for due Performance as per Format attached and which shall be for 20% of the total Contract Value (i.e., total sum of all the supply contract, erection contract and civil works contract) and valid for 60 months from the schedule date of commissioning.
Address for correspondence	Director, Jharkhand Renewable Energy Development Agency (JREDA) 3rd Floor, S.L.D.C. Building, Kusai Colony, Doranda, Ranchi-834002 (Jharkhand) Tel: 0651-2491161 Fax: 0651-2491165, E-mail: info@jreda.com Website: www.jreda.com

4. Cost of Bidding

The Bidder shall bear all costs and expenses associated with preparation and submission of its bid including post-bid discussions, technical and other presentations etc., and JREDA will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

B. THE BIDDING DOCUMENTS

5. Contents of Bidding Document

The goods and services required, bidding procedures and Contract terms are prescribed in the Bidding Document.

In addition to the Invitation to Bids, the Bidding Document is a compilation of the following Sections:

a. Invitation to Bid

b. Instructions to Bidders

c. General Terms and Conditions of Contract

d. Erection Conditions of Contract

e. Special Conditions of Contract

f. General Technical Conditions for Supply cum Erection package

g. Annexures

h. Bid Proposal Forms

i. Technical Specifications

6. Understanding of Bid Documents

A prospective Bidder is expected to examine all instructions, forms, terms and specifications in the Bid documents and fully inform himself as to all the conditions and matters which may in any way affect the scope of work or the cost thereof. Failure to furnish all information required by the Bid document or submission of a Bid not substantially responsive to the Bid document in every respect will be at the Bidder's risk and may result in the rejection of its bid.

7. Clarifications on Bid Documents

7.1. If the prospective Bidder finds discrepancies or omissions, in specifications and document or is in doubt as to the true meaning of any part, he shall at once make a request, in writing before the last date for submission of Pre-Bid queries as provided in INB Clause 3.1, for an interpretation/ clarification, to JREDA. The JREDA, then, will issue interpretation(s) and clarification(s) as he may think fit in writing in shape of corrigendum. After receipt of such interpretation(s) and clarification(s), the Bidder may submit his bid but within the time and date as specified in the Invitation to Bid. All such interpretations and clarifications shall form a part of the Bidding Document and shall accompany the Bidder's Proposal.

7.2. Verbal clarification and information given by JREDA or his employee(s) or his representative(s) shall not in any way be binding on JREDA.

8. Amendment to Bidding Document

8.1. At any time prior to the deadline for submission of bids, JREDA may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the Bidding Document by amendment(s).

8.2. The amendment will be uploaded on the JREDAs website and no individual communication with the prospective bidders in writing or by telex or email etc will be made by JREDA. All the prospective Bidders have to remain updated on the RfP and its amendment at JREDAs website.

8.3. In order to afford prospective Bidders reasonable time in which to take the amendment into account in preparing their bids, JREDA may, at its discretion, extend the deadline for the submission of bids.

8.4. Such amendments, clarifications, etc., shall be binding on the Bidders and will be given due consideration by the Bidders while they submit their bids and invariably enclose such documents as a part of the bid.

C. PREPARATION OF BIDS

9. Language of Bid

9.1. The bid prepared by the Bidder and all correspondences and documents relating to the bid, exchanged by the Bidder and JREDA shall be written in the English language, provided that any printed literature furnished by the Bidder may be written in another language so long as accompanied by an English translation of its pertinent passages. Failure to comply with this may disqualify a bid. For purposes of interpretation of the bid, the English translation shall govern.

10. Local Conditions

10.1. It will be imperative on each Bidder to fully inform himself of all local conditions and factors, which may have any effect on the execution of the Contract covered under these documents and specifications. JREDA shall not entertain any request for clarifications from the Bidders, regarding such local conditions.

10.2. It must be understood and agreed that such factors have properly been investigated and considered while submitting the Proposals. No claim for financial adjustment to the Contract, awarded under these specifications and documents, will be entertained by JREDA. Neither any change in the time schedule of the Contract nor any financial adjustments arising thereof shall be permitted by the Employer, which are based on the lack of such clear information or its effect on the cost of the Works to the Bidder.

11. Documents Comprising the Bid

A. <u>Technical Bid – (Fee/Pre-Qualification/Technical Cover)</u>

1) Bid Security/EMD & Tender Fee

a) Scanned Copy of Demand draft drawn in favour of "DIRECTOR, JREDA", payable at Ranchi towards Cost of Tender Fee and Bank Guarantee/Demand Draft in form of Bid Security/ Earnest Money Deposit EMD issued from any bank specified in the "**Error! Reference source not found.**" in favour of "Director, JREDA as specified in the Notice Inviting Bid.

b) The tender fee and EMD/Bid Security has been kept NIL for MSME Jharkhand. MSME seeking exemption from Bid fee & EMD, shall submit documentary evidence supporting the exemption.

2) Pre-Qualification Details

a) Scanned Copy of Certificate for availability of Credit Facility for 10% of Tendered Amount from any Scheduled Commercial Bank.

3) Technical Details & Declaration

a) Proposed work programme (work method, time schedule and financial flow), description, and charts as necessary (Duly to be signed digitally) to comply with the requirement of the Bidding Document.

b) Scanned copy of an Affidavit by the Bidder that he/she has accepted the RfP.

4) Technical Details of documents

Scanned copies/Prescribed Formats of Documents to be uploaded in .pdf format file duly digitally signed by the bidder.

a) Income Tax clearance certificate/PAN Card.

b) Sale Tax/VAT clearance certificate.

c) Proof of completion of similar works during the last 7 years and list of similar works in hand in the prescribed formats in the ITB duly signed by the competent authority of the issuing Department (in format given in ITB).

d) List of works for which bids already submitted (in format given in ITB).

e) Financial Report for the last 3 years (upto 31/3/2015) certified by chartered Accountant.

f) Annual Turn over Details certified by Chartered Accountant.

g) Net worth certificate certified by Chartered Accountant.

h) List of current litigant cases in which the bidder is involved (in format given in ITB).

i) An affidavit for non-engagement of related persons.

j) Proof of test certificates solar PV module, batteries and latest test certificate should confirm that Solar PV system and distribution system are as per MNRE specifications. The test certificate issued before 1st April 2013 will lead to outright rejection of the BID

k) Details of the bidder as per instruction as per Annexure of Bid should be duly digitally signed.

l) Undertaking of Bidder that he is able to invest minimum of cash upto 10% as defined in ITB.

m) Undertaking for validity of bid for 6 months.

n) Any other documents as required in the Clause 2 of the INB.

B. <u>Financial Bid – (Finance Cover)</u>

a) Duly Quoted & digitally signed Bill of Quantity (BOQ) in the file supplied by JREDA in .xls format shall be uploaded.

NOTE: All the documents should be digitally signed.

12. Scope of the Proposal

12.1. The scope of the Proposal shall be on the basis of a single Bidder's responsibility, completely covering all the equipment and their erection specified under the accompanying Technical Specifications. It will include the following:

a) detailed design of the equipment;

b) complete manufacture including shop testing;

c) providing Engineering drawing, data, operational manual, etc. for the JREDA's approval;

d) packing and transportation from the manufacturer's works to the site;

e) receipt, storage, preservation and conservation of equipment at the site;

f) pre-assembly, if any, erection, testing and commissioning of all the equipment; and

g) reliability tests and performance and guarantee tests on completion of commissioning.

h) quality assurance certificate of the equipment

12.2. Bids containing deviations from provisions relating to the following clauses will be considered as nonresponsive:

a) **Bid Guarantee:** Clause 22, Section INB, Conditions of Contract.

b) **Price Basis and Payments:** Clause 15, Section INB, Conditions of Contract.

c) **Contract Performance Guarantee:** Clause 37, Section INB, Conditions of Contract.

d) **Liquidated damages:** Clause 14, Section GCC, Conditions of Contract.

e) **Guarantee:** Clause 15, Section GCC, Conditions of Contract.

f) **Payment:** Clause 33, Section GCC, Conditions of Contract.

JREDA's determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.

12.3. Bids not covering the above entire scope of Works shall be treated as incomplete and hence rejected.

13. Bid Price

13.1. The appropriate Price Schedules furnished in the Bidding Documents as indicated therein, shall be uploaded on the web portal.

13.2. Separate numbers of Schedules shall be up-loaded for each of the following elements. The total amount for Schedule 2 shall be summarized in a grand summary of Price Proposal (Schedule - 2) giving the total bid price(s) to be entered in the Bid – Form.

Schedule -2: A. Plant and Equipment to be supplied shall include

A.1: Cost of Solar Power Plant including module, battery, PCU etc. (All plant equipment and auxiliary systems and accessories required for power plant operation)

A.2: Cost of Power Distribution Network (PDN) with necessary control equipment including data logging facility between panel and batteries.

A.3: Cost of providing connection and fitting to Households & Street Lights

A.4: Cost of Civil Work

Schedule -2: B. Installation & Erection, Testing and Commission shall include

B.1 Cost of Installation & Commissioning of Solar Power Plant including module, battery, PCU etc. (All plant equipment and auxiliary systems and accessories required for power plant operation)

B.2 Cost of erection of PDN with necessary control equipment including data logging facility between panel and batteries.

B.3 Cost of providing connection and fitting to Households & Street Lights

B.4 Cost of Civil Work

Schedule-2: C. Cost of spare parts for 5 years after commissioning of the systems

Schedule-2: D. Cost of providing power in village for 5 years including operation & maintenance of DDG power plant, power distribution network & providing power for 6-8 hrs. per day after taking into account the recovery from end users as per tariff.

Schedule-2: E. Grand Summaries (Schedule Nos. 1)

14. Price Basis and Payments

14.1. The Bidders shall quote in their Proposals for the entire scope of works covered under the Technical Specifications as required in the Bid Proposal Sheets on a base price unless otherwise specified in the Special Conditions of Contract. Bidders quoting a system of pricing other than that specified shall be rejected.

14.2. Bidder shall indicate bid prices in Indian Rupees only.

15. Taxes and Duties

15.1. All customs duties, excise duties, sales taxes and other statutory levies payable by the Bidders

in respect of the transaction between the Bidders and their vendors/ sub-suppliers while procuring any components, subassemblies, raw materials and equipment shall be included in the bid price and no claim on this behalf will be entertained by JREDA.

In respect of brought out finished items, which shall be dispatched directly from the sub-vendor's works to the project site, the Ex-work **price is inclusive of all costs as well as duties and taxes (the custom duty & levies, duties on taxes /VAT etc.)** paid or payable and such taxes, duties, levies, additionally payable will be to the contractor's account and no claim on this behalf will be entertained by JREDA. **No concessional 'C' form will be issued by the Department. The contractor has to arrange accordingly**.

Further, service tax as applicable on services that are not provided directly by the Contractor to JREDA viz. transportation & insurance shall be included in the bid price and any such taxes additionally payable will be to the Contractor's account and no separate claim on this behalf will be entertained by JREDA.

15.2. Sales tax, excise duties, local taxes and other levies in respect of the transactions between JREDA and the Contractor under the Contract, if any, shall not be included in the bid price but they should be indicated separately wherever applicable in the Bid Proposal Sheets.

Whenever ex-works price is quoted exclusive of Excise duty applicable on the transaction between JREDA and the Contractor, then the due credit under the MODVAT (Modified Value Added Tax) scheme, as per the relevant Government policies wherever applicable, shall be taken into account by the Bidder while quoting bid price.

15.3. In respect of transactions solely between JREDA and the Contractor (for dispatches made from the Contractor's works under the Supply Part), Sales Tax, Excise Duties, local taxes and other levies shall be paid/ reimbursed by JREDA at the applicable rate at the time of dispatch, scheduled or actual, whichever is lower. However, in case of advancement of supplies solely at the request of JREDA, taxes and duties prevailing at the time of dispatch, shall be payable by JREDA.

15.4. Concessional Sales Tax declaration forms, as admissible, would be issued to the Contractor, on request, for all items (as identified in the price schedule of the bid) to be supplied directly by the Contractor as well as for the items to be supplied by the sub- suppliers as sale in transit.

15.5. Sales Tax on goods incorporated in the Works:

The Bidder shall include the Sales Tax on Works Contract, Turnover Tax or any other similar taxes under the Sales Tax Act, as applicable in their quoted bid price and JREDA would not bear any liability on this account. JREDA shall, however, deduct such taxes at source as per the rules and issue TDS Certificate to the Contractor.

15.6. For payment/ reimbursement of Sales Tax, in respect of dispatches made directly from Contractor's works, invoices raised by the Contractor shall be accepted as documentary evidence. Similarly, pre-numbered invoices duly signed by authorized signatory will be considered as evidence for payment of Excise Duty.

15.7. As regards the Income Tax, surcharge on Income Tax and other corporate taxes the Bidder shall be responsible for such payment to the concerned authorities.

16. Time Schedule

16.1. The basic consideration and the essence of the Contract shall be strict adherence to the time schedule for performing the specified Works.

16.2. JREDA's requirement of completion schedule for the Works is mentioned in the accompanying Special Conditions of Contract.

16.3. The completion schedule as stated in the Special Conditions of Contract shall be one of the major factors in consideration of the bids.

16.4. JREDA reserves the right to request for a change in the work schedule during pre-award discussions with successful Bidder.

16.5. The successful Bidder will be required to prepare detailed PERT network and finalize the same with JREDA as per the requirement of Clause 12, Section GCC.

17. Contract Quality Assurance

17.1. The Bidder shall include in his Proposal the Quality Assurance Programme containing the overall quality management and procedures, which he proposes to follow in the performance of the Works during various phases as detailed in relevant clause of the General Technical Conditions.

17.2. At the time of Award of Contract, the detailed Quality Assurance Programme to be followed for the execution of the Contract will be mutually discussed and agreed to and such agreed Programme shall form a part of the Contract.

18. Insurance

18.1. The Bidder's insurance liabilities pertaining to the scope of Works are detailed out in Clauses titled 'Insurance' in General Terms and Conditions of Contract and in Erection. Bidder's attention is specifically invited to these clauses. Bid price shall include all the cost in pursuance of fulfilling all the insurance liabilities under the Contract.

19. Maintenance Tools & Tackles

19.1. The Proposal shall include all special tools and tackles required for the operation and maintenance of the equipment in each equipment package. The Bidder shall indicate all the above items in the Proposal sheets in the form of a schedule given therein and the description and the quantity of each item. The lump sum price to be quoted by the Bidder shall include prices of these tools and tackles. These tools and tackles shall be delivered at site along with the last consignment of equipment and in no case earlier than this, unless otherwise specified in the Special Conditions of Contract and/ or Technical Specifications.

20. Erection Tools & Tackles

20.1. The Bidder, under a separate schedule, in his Proposal shall include a list of all special equipment, tools & tackles etc. which he proposes to bring to site for the purpose of erection, handling, testing and commissioning including performance & guarantee tests of the equipment. If any such equipment is listed anywhere else in the Proposal and not specially mentioned in the above schedule, it shall be deemed to have been included in the Bidder's proposed scope of supply.

21. Brand Names

21.1. The specific reference in these specifications and documents to any material/ equipment by brand name, make or catalogue number shall be construed as establishing standards of quality and performance and not as limiting competition. However, Bidders may offer other similar material/ equipment provided they meet the specified standard, design and performance requirements. The Bidder shall furnish adequate technical information about such alternative material/ equipment to enable JREDA to determine its acceptability. JREDA shall be the sole judge on the acceptability or otherwise of such alternative material/ equipment.

21.2. The Bidder shall note that standards for workmanship, material and equipment and reference to brand names or catalogue numbers designated by JREDA in its Technical Specifications are intended to be descriptive only and not restrictive. The Bidder may substitute alternative standards, brand name and/ or catalogue numbers in its bid, provided that it demonstrates to JREDA's satisfaction that the substitutions are substantially equivalent or superior to those

designed in the Technical Specifications.

22. Bid Guarantee

22.1. The Bidder shall furnish, as part of its bid, bid guarantee for an amount as specified in the accompanying Special Conditions of Contract. The bid guarantee shall be valid for a period of **210 days from the date of opening of bids**.

22.2. The bid security is required to protect JREDA against the risk of Bidder's conduct, which would warrant the guarantee forfeiture, pursuant to Clause

22.3. The bid guarantee shall be made payable to JREDA without any condition whatsoever.

22.4. The bid guarantee shall be denominated in Indian Rupees only and shall be in one of the following forms:

a. Crossed Bank draft in favour of "Director, JREDA", payable at Ranchi, from a reputed commercial Bank/ Scheduled commercial Bank.

b. A cheque certified by the Banker as good for payment drawn in favour of "Director, JREDA", payable at Ranchi on a reputed commercial Bank/ Scheduled commercial Bank.

c. An irrevocable Bank Guarantee issued by a reputed commercial Bank/ Scheduled commercial Bank in favour of "Director, JREDA", payable at Ranchi Performa for the Bank Guarantee is enclosed as Annexure-I to this Volume-I.

22.5. Any bid not secured in accordance with Clause 21 above will be rejected by JREDA as non-responsive.

22.6. Unsuccessful Bidder's bid guarantee will be discharged/ returned as promptly as possible but not later than 60 days after the expiration of the period of bid validity prescribed by JREDA.

22.7. The successful Bidder's bid guarantee will be discharged upon the Bidder's executing the Contract and furnishing the Performance Guarantee pursuant to Clause 37.

22.8. The bid guarantee may be forfeited:

a. If a Bidder withdraws/ modifies its bid during the period of bid validity specified by the Bidder on the Bid Form; or

b. In case the Bidder does not withdraw the deviations proposed by him, if any, at the cost of withdrawal stated by him in the bid; or

c. If a Bidder does not accept the corrections to arithmetical errors identified during preliminary evaluation of his bid pursuant to Clause 30, Section-INB; or

d. If, as per the Qualifying Requirements the Bidder has to submit a Deed of Joint Undertaking and he fails to submit the same, duly attested by Notary Public of the place(s) of the respective executants (s) or registered with the Indian Embassy/ High Commission in that country, within ten days from the date of intimation of post-bid discussion; or

e. In case of a successful Bidder, if the Bidder fails to sign the Contract; or

f. In case of a successful Bidder, if the Bidder fails to furnish the Performance Guarantee.

22.9. The bid guarantee shall be submitted along with the bid in separate sealed envelope in one original and two copies. Any bid not accompanied by the required bid security in accordance with provisions of this clause will be rejected and shall not be opened.

22.10. No interest shall be payable by JREDA on the above bid security.

23. Period of Validity of Bids

23.1. Bids shall remain valid for 6 (six) calendar months after the date of bid opening prescribed by JREDA unless otherwise specified in the accompanying Special Conditions of Contract. A bid valid for a shorter period will be rejected as non-responsive.

23.2. In exceptional circumstances, JREDA may solicit the Bidder's consent to an extension of the period of validity. The request and the response thereto shall be made in writing (including cable or telex). The bid security provided under Clause 22 shall also be extended by the same period as the extension in the validity of the Bid. A Bidder may refuse the request without forfeiting his bid security. A Bidder granting the request will not be required or permitted to modify its bid.

D. SUBMISSION OF BIDS

24. Sealing and Marking of Bids

24.1. The Bidder shall place the two separate files (File I) marked "Technical Bid" and "Financial Bid" (File –II). The file will have markings as follows:

Technical Bid: To be opened on (date and time of Technical Bid opening as per Clause 3.1 of INB)

Financial Bid: Not to be opened except with the approval of JREDA.

The contents of the Technical and Financial Bids shall be as specified in Clause 12.1 of INB. All documents are to be signed digitally by the bidder.

24.2. The tender document fee and Bid Security shall a) be addressed to the JREDA at the address provided in the Notice Inviting Bid b) bear the name and identification number of the Contract as defined in clause 1 of ITV.

25. Deadline for Submission of Bids

25.1. Complete Bids (including Technical and Financial) must be received by the JREDA at the address specified in the Notice Inviting Bid not later than the date and time indicated in the Notice Inviting Bid.

25.2. The JREDA may extend the deadline for submission of bids by issuing an amendment in accordance with Clause 3.1 of INB, in which case all rights and obligations of the JREDA and the bidders previously subject to the original deadline will then be subject to the new deadline.

26. Information Required with the Proposal

26.1. The bids must clearly indicate the name of the manufacturer, the type of model of each principle item of equipment proposed to be furnished and erected. The bid should also contain drawings and descriptive materials indicating general dimensions, materials from which the parts are manufactured, principles of operation, the extent of pre-assembly involved, major construction equipment proposed to be deployed, method of erection and the proposed erection organizational structure.

26.2. The above information shall be upload along with the technical bid by the Bidder in the form of separate sheets, drawings, catalogues, etc.

26.3. Any bid not containing sufficient descriptive material to describe accurately the equipment proposed may be treated as incomplete and hence rejected. Such descriptive materials and drawings submitted by the Bidder will be retained. Any major departure from these drawings and descriptive material submitted will not be permitted during the execution of the Contract without specific written permission of JREDA.

26.4. Oral statements made by the Bidder at any time regarding quality, quantity or arrangement of the equipment or any other matter will not be considered.

26.5. Standard catalogue and other documents scanned or soft copy may be used in the bid to provide additional information and data as deemed necessary by the Bidder.

26.6. The Bidder, along with his Proposal, shall submit a list of recommended erection equipment and materials which will be required for the purpose of erection of equipment and materials supplied under the Contract.

26.7. In case the 'Proposal' information contradicts specification requirements, the specification requirements will govern.

E. BID OPENING AND EVALUATION

27. Opening of Bids

27.1. The JREDA will open the bids received (except those received late). In the event of the specified date for the submission of bids being declared a holiday for JREDA, the Bids will be opened at the appointed time and location on the next working day.

27.2. The files containing the technical bid shall be opened. The document marked "cost of bidding document" will be opened first and if the cost of the bidding documents is not there, or incomplete, the remaining bid documents will not be opened, and bid will be rejected.

27.3. In all other cases, the amount of Earnest Money, forms and validity shall be announced. Thereafter, the bidders' names and such other details as the JREDA may consider appropriate, will be announced by the JREDA at the opening.

27.4. The JREDA will prepare minutes of the Bid opening, including the information disclosed to those present.

27.5. Evaluation of the technical bids with respect to bid security, qualification information and other information furnished in Part I of the bid in pursuant to Clause 9 of INB Clause 23 of SCC, shall be taken up and completed and a list will be drawn up of the responsive bids whose financial bids are eligible for consideration.

27.6. The JREDA shall inform, by email, telegram or fascimal, the bidders, whose technical bids are found responsive, date, time and place of opening as stated in the RfP. In the event of the specified date being declared a holiday for the JREDA, the bids will be opened at the appointed time and location on the next working day through they or their representative, may attend the meeting of opening of financial bids.

27.7. At the time of the opening of the 'Financial Bid', the names of the bidders whose bids were found responsive in accordance with Clause 27 of INB will be announced. The financial bids of only these bidders will be opened. The remaining bids will be returned unopened to the bidders. The responsive bidders' names, the Bid prices, the total amount of each bid, and such other details as the JREDA may consider appropriate will be announced by the JREDA at the time of bid opening. Any Bid price which is not read out and recorded, will not be taken into account in Bid Evaluation

27.8. The JREDA shall prepare the minutes of the opening of the Financial Bids.

28. Process to be Confidential

28.1. Information relating to the examination, clarification, evaluation, and comparison of bids and recommendations for the award of a contract shall not be disclosed to bidders or any other persons not officially concerned with such process until the award to the successful Bidder has been announced. Any attempt by a Bidder to influence the JREDA's processing of bids or award decisions may result in the rejection of his Bid

29. Clarification of Bids and Contacting the JREDA

29.1. No Bidder shall contact the JREDA on any matter relating to its bid from the time of the bid opening to the time the contract is awarded.

29.2. Any attempt by the bidder to influence the JREDA's bid evaluation, by any means, bid evaluation, bid comparison or contract award decision may result in the rejection of his bid.

30. Examination of Bids and Determination of Responsiveness

30.1. During the detailed evaluation of "Technical Bids", the JREDA will determine whether each Bid (a) meets the eligibility criteria defined in Clauses 23 of SCC; (b) has been properly

signed; (c) is accompanied by the required securities; and (d) is substantially responsive to the requirements of the bidding documents. During the detailed evaluation of the "Financial Bids", the responsiveness of the bids will be further determined with respect to the remaining bid conditions, i.e., priced bill of quantities, technical specifications and drawings.

30.2. A substantially responsive "Financial Bid" is one, which conforms to all the terms, conditions, and specifications of the bidding documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the Works; (b) which limits in any substantial way, inconsistent with the bidding documents, the JREDA's rights or the Bidder's obligations under the Contract; or (c) whose rectification would affect unfairly the competitive position of other bidders presenting substantially responsive bids.

30.3. If a "Financial Bid" is not substantially responsive, it will be rejected by the JREDA, and may not subsequently be made responsive by correction or withdrawal of the nonconforming deviation or reservation.

31. Corrections of Errors

31.1. Bids determined to be substantially responsive, will be checked by the JREDA for any arithmetic errors. Errors will be corrected by the JREDA as follows:

a) where there is a discrepancy between the rates in figures and in words, the rate in words will govern; and

b) where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern.

31.2. The amount stated in the Bid will be adjusted by the JREDA 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 in accordance with Clause 28 of ITB.

32. Evaluation and Comparison of Bids

32.1. The JREDA will evaluate and compare only the bids determined to be substantially responsive in accordance with Clause 30 of INB.

32.2. In evaluating the bids, the JREDA will determine for each Bid the evaluated Bid price by adjusting the Bid price by making correction, if any, for errors pursuant to Clause 31 of INB.

32.3. The bids shall be compared on the basis of quoted prices (i.e. for supply portion and prices for services to be rendered as quoted by the Bidder) for the entire scope of the Proposal as defined in the Bidding Document.

32.4. For comparison purposes all the evaluated bid prices shall be in Indian Rupees as under: -

W= M

Where;

W= Total Comparison Price

M= Bid price in Indian Rupees (Ex-works value of equipment + Components of erection cost + mandatory spares and other components, if any)

32.5. All evaluated bid prices of all the Bidders shall be compared among themselves to determine the lowest evaluated bid and, as a result of this comparison, the lowest Bid will be selected for the award of the Contract.

F. AWARD OF CONTRACT

33. Award Criteria

33.1. JREDA will award the Contract to the successful Bidder whose bid has been determined to be substantially responsive and has been determined as the lowest evaluated bid, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily. JREDA shall be the sole judge in this regard.

33.2. Further, the Employer reserves the right to award separate Contracts to two or more parties in line with the terms and conditions specified in the accompanying Technical Specifications.

33.3. However, a Bidder can participate in all the packages JREAD will award maximum two packages to one Bidder, in a case a bidder becomes lowest (L1) in more than two packages, then the L1 Bidder gets the choice to opt any two of the packages. And JREDA will give the option to L2 bidder to match the price of L1 of particular package, and in subsequent manner to L3, L4 and so on.

34. Right to Accept any Bid and to Reject any or all Bids

34.1. JREDA reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for JREDA's action.

35. Notification of Award

35.1. Prior to the expiration of the period of bid validity and extended validity period, if any, JREDA will notify the successful Bidder in writing by registered letter or by cable/ telex/ fax, to be confirmed in writing by registered letter that its bid has been accepted.

35.2. The notification of award will constitute the formation of the Contract 36.3 Upon the successful Bidder's furnishing of Contract Performance Guarantee pursuant to Clause 37, JREDA will promptly notify each unsuccessful Bidder and will discharge its bid security, pursuant to Clause 23.

36. Signing of Contract

36.1. At the same time, as JREDA notifies the successful Bidder that its bid has been accepted, JREDA will send the Bidder the detailed Letter of Award, incorporating all agreements between the parties.

36.2. Within 15 days of receipt of the detailed Letter of Award, the successful Bidder shall sign the copy of same and return it to JREDA as acceptance.

36.3. The Bidder will prepare the Contract Agreement as per the proforma enclosed at Annexure-IX to this Volume I and the same will be signed within 30 (thirty) days of Notification of Award.

37. Contract Performance Guarantee (Security Deposit)

37.1. As a Contract Performance Guarantee, the successful Bidder, to whom the work is awarded, shall be required to furnish a Performance Guarantee from any bank specified in the "Schedule 1: List of Banks" in favour of "Director, JREDA". The guarantee amount shall be equal to ten percent (**10%**) of the Estimated Cost (as defined in SCC section 2.4) and it shall guarantee the faithful performance of the Contract in accordance with the terms and conditions specified in these documents and specifications. The said bank guarantee shall be valid up to successful commissioning and Performance Guarantee testing of the project. The Contract Performance Guarantee shall be return to the developer after successful completion

of Performance Guarantee testing of the project.

37.2. The Performance Guarantee shall cover additionally the following guarantees:

a) The successful Bidder guarantees the successful and satisfactory operation of the equipment furnished and erected under the Contract, as per the specifications and documents.

b) The successful Bidder further guarantees that the equipment provided and installed by him shall be free from all defects in design, material and workmanship and shall upon written notice from JREDA fully remedy free of expenses such defects as developed under the normal use of the said equipment within the period of guarantee specified in the relevant clause of the General Terms and Conditions in this Volume I/ Special Conditions of Contract.

37.3. The Contract Performance Guarantee is intended to secure the performance of the entire Contract. However, it is not to be construed as limiting the damages under clause entitled "Equipment Performance Guarantee" in Technical Specifications, and damages stipulated in other clauses in the Bid documents.

37.4. The Performance Guarantee will be returned to the Contractor without any interest after successful completion of Performance Guarantee Testing of the project, unless otherwise specified in the Special Conditions of Contract.

38. Project Operation Guarantee (POG)

38.1. As an Operation Guarantee of the system, the successful Bidder, to whom the work is awarded, shall be required to furnished a Project Operation Guarantee from any bank specified in the "Schedule 1: List of Banks" in favour of "Director, JREDA" The guarantee amount shall be equal to twenty percent (20%) of the Capital Cost and it shall be valid up 60 months from schedule date of commissioning of the project. The Project Operation Guarantee (POG) shall be return to the developer on completion of 5 years successful completion of O&M of the project from the date of commissioning of the project.

SECTION – III

GENERAL TERMS & CONDITIONS OF CONTRACT (GCC)

Jharkhand Renewable Energy Development Agency

Ranchi, Jharkhand

A. INTRODUCTION

1. Definition of Terms

1.1. 'Contract' means the agreement entered into between the Employer and the Contractor as per the Contract Agreement signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.

1.2. 'Employer' shall mean JREDA (entrusted by the REC with the concurrence of Government of Jharkhand) and shall include its legal representatives, successors and assigns.

1.3. 'Contractor' or 'Manufacturer' shall mean the Bidder whose bid will be accepted by the Employer for the award of the Works and shall include such successful Bidder's legal representatives, successors and permitted assigns.

1.4. 'Sub-Contractor' shall mean the person named in the Contract for any part of the Works or any person to whom any part of the Contract has been sublet by the Contractor with the consent in writing of the Engineer and will include the legal representatives, successors and permitted assigns of such person.

1.5. 'Engineer' shall mean the officer appointed in writing by the Employer to act as Engineer from time to time for the purpose of the Contract.

1.6. 'Consulting Engineer'/'Consultant' shall mean any firm or person duly appointed as such from time to time by the Employer.

1.7. The terms 'Equipment', 'Stores' and 'Materials' shall mean and include equipment, stores and materials to be provided by the Contractor under the Contract.

1.8. 'Works' shall mean and include the furnishing of equipment, labour and services, as per the Specifications and complete erection, testing and putting into satisfactory operation including all transportation, handling, unloading and storage at the Site as defined in the Contract.

1.9. 'Specifications' shall mean the Specifications and Bidding Document forming a part of the Contract and such other schedules and drawings as may be mutually agreed upon.

1.10. 'Site' shall mean and include the land and other places on, into or through which the works and the related facilities are to be erected or installed and any adjacent land, paths, street or reservoir which may be allocated or used by the Employer or Contractor in the performance of the Contract.

1.11. The term 'Contract Price' shall mean the price quoted by the Contractor in his bid with additions and/ or deletions as may be agreed and incorporated in the Letter of Award, for the entire scope of the works.

1.12. The term 'Equipment Portion' of the Contract price shall mean the ex-works value of the equipment.

1.13. The term 'Erection Portion' of the Contract price shall mean the value of field activities of the works including erection, testing and putting into satisfactory operation including successful completion of performance and guarantee tests to be performed at Site by the Contractor including cost of insurances.

1.14. 'Manufacturer's Works' or 'Contractor's Works', shall mean the place of work used by the manufacturer, the Contractor, their collaborators/ associates or Sub-Contractors for the performance of the Contract.

1.15. 'Inspector' shall mean the Employer or any person nominated by the Employer from time to time, to inspect the equipment; stores or Works under the Contract and/ or the duly authorized representative of the Employer.

1.16. 'Notice of Award of Contract'/'Letter of Award'/'Telex of Award' shall mean the official notice issued by the Employer notifying the Contractor that his bid has been accepted.

1.17. Date of Contract' shall mean the date on which Notice of Award of Contract/ Letter of Award has been issued.

1.18. 'Month' shall mean the calendar month. 'Day' or 'Days' unless herein otherwise expressly defined shall mean calendar day or days of 24 hours each. A 'Week' shall mean continuous period of seven (7) days.

1.19. 'Writing' shall include any manuscript, type written or printed statement, under or over signature and/ or seal as the case may be.

1.20. When the words 'Approved', 'Subject to Approval', 'Satisfactory', 'Equal to', 'Proper', 'Requested', 'As Directed', 'Where Directed', 'When Directed', 'Determined by', 'Accepted', 'Permitted', or words and phrases of like importance are used the approval, judgment, direction etc. is understood to be a function of the Employer/ Engineer.

1.21. Test on completion shall mean such tests as prescribed in the Contract to be performed by the Contractor before the work is taken over by the Employer.

1.22. 'Start up' shall mean the time period required to bring the equipment covered under the Contract from an inactive condition, when construction is essentially complete, to the state ready for trial operation. The start-up period shall include preliminary inspection and check-out of equipment and supporting sub-system, initial operation of the complete equipment covered under the Contract to obtain necessary pre-trial operation data, perform calibration and corrective action, shut- down, inspection and adjustment prior to the trial operation period.

1.23. Operation' shall mean the integral operation of the complete equipment covered under the Contract with the sub-system and supporting equipment in service or available for service. The length of operation shall be as determined by the Engineer, unless otherwise specified elsewhere in the Contract.

1.24. 'Performance and Guarantee Tests', shall mean all operational checks and tests required to determine and demonstrate capacity, efficiency, and operating characteristics as specified in the Contract Documents.

1.25. The term 'Final Acceptance'/'Taking Over' shall mean the Employer's written acceptance of the Works performed under the Contract, after successful commissioning/ completion of Performance and Guarantee Tests, as specified in the accompanying Technical Specifications or otherwise agreed in the Contract.

1.26. 'Commercial Operation' shall mean the condition of operation in which the complete equipment covered under the Contract is officially declared by the Employer to be available for continuous operation at different loads upto and including rated capacity. Such declaration by the Employer, however, shall not relieve or prejudice the Contractor of any of his obligations under the Contract.

1.27. 'Guarantee Period'/'Maintenance Period' shall mean the period during which the Contractor shall remain liable for repair or replacement of any defective part of the works performed under the Contract.

1.28. 'Latent Defects' shall mean such defects caused by faulty designs, material or work-man-ship which cannot be detected during inspection, testing etc., based on the technology available for carrying out such tests.

1.29. Drawing', 'Plans, shall mean all:

a. Drawings furnished by the Employer/ Consultant as a basis of Bid/ Proposals.

b. Supplementary drawings furnished by the Employer/ Consultant to clarify and to define in greater detail the intent of the Contract.

c. Drawings submitted by the Contractor with his bid provided such drawings are acceptable to the Employer/ Consultant.

d. Drawings furnished by the Employer/ Consultant to the Contractor during the progress of the work; and

e. Engineering data and drawings submitted by the Contractor during the progress of the work provided such drawings are acceptable to the Engineer/ Employer

1.30. 'Codes' shall mean the following including the latest amendments and/ or replacements, if any:

a. Indian Electricity Act, 2003 and Rules and Regulations made thereunder.

b. Indian Factory Act, 1948 and Rules and Regulations made thereunder.

c. Indian Explosives Act, 1884 and Rules and Regulations made thereunder.

d. Indian Petroleum Act, 1934 and Rules and Regulations made thereunder.

e. A.S.M.E. Test Codes.

f. A.I.E.E. Test Codes.

g. American Society of Materials Testing Codes.

h. Standards of the Indian Standards Institution.

i. Other Internationally approved standards and/or rules and regulations touching the subject matter of the Contract.

1.31. Words imparting the singular only shall also include the plural and vice –versa where the context so requires.

1.32. Words imparting 'Person' shall include firms, companies, corporations and associations or bodies of individuals, whether incorporated or not.

1.33. Terms and expressions not herein defined shall have the same meaning as are assigned to them in the Indian Sale of Goods Act (1930), failing that in the Indian Contract Act (1872) and failing that in the General Clauses Act (1897) including amendments thereof, if any.

The various Acts and Regulations are normally available for sale from the following addresses:

1. Deputy Controller
   Publication Department
   Government of India
   Civil Lines, DELHI-110 006

2. Department of Publication
   (Government of India),
   Kitab Mahal, Unit No.21, Emporia Building,
   Baba Kharak Singh Marg,
   NEW DELHI – 110 001

   Or

   With leading authorised Government of Indian Book –Sellers.

1.34. In addition to the above the following definitions shall also apply:

a. 'All equipment and materials' to be supplied shall also mean 'Goods'.

b. 'Constructed' shall also mean 'erected and installed'.

c. 'Contract Performance Guarantee' shall also mean 'Contract Performance Security'.

2. Application

These General Conditions shall apply to the extent that they are not superseded by provisions in other parts of the Contract.

3. Standards

The goods supplied under this Contract shall conform to the standards mentioned in the Technical Specifications, and, when no applicable standard is mentioned, to the authoritative standard appropriate to the goods and such standards shall be the latest issued by the concerned institution.

4. Language and Measures

All documents pertaining to the Contract including specifications, schedules, notices, correspondences, operating and maintenance instructions, drawings or any other writing shall be written in English language. The Metric System of measurement shall be used exclusively in the Contract.

5. Contract Documents

5.1. The term Contract Documents shall mean and include the following, which shall be deemed to form an integral part of the Contract:

a. Invitation to Bid including letter forwarding the Bidding Documents, Instructions to Bidders, General Terms and Conditions of Contract and all other documents included under Volume- I, and the Special Conditions of Contract.
b. Specifications of the equipment to be furnished and erected under the Contract as brought out in the accompanying Technical Specifications.
c. Contractor's Bid Proposal and the documents attached there to including the letters of clarifications thereto between the Contractor and the Employer/ Consultant prior to the Award of Contract except to the extent of repugnancy.
d. All the materials, literature, data and information of any sort given by the Contractor along with his bid, subject to the approval of the Employer/ Consultant.
e. Letter of Award and any agreed variations of the conditions of the documents and special terms and conditions of Contract, if any.

5.2. In the event of any conflict between the above mentioned documents, the matter shall be referred to the Engineer whose decision shall be considered as final and binding upon the parties.

6. Use of Contract Documents and Information

6.1. The Contractor shall not, without the Employer's prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample or information furnished by or on behalf of the Employer in connection therewith, to any person other than a person employed by the Contractor in the performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for the purpose of such performance.

6.2. The Contractor shall not, without the Employer's prior written consent, make use of any document or information enumerated in various Contract documents except for the purpose of performing the Contract.

6.3. The Contractor shall not communicate or use in advertising, publicity, sales releases or in any other medium, photographs or other reproduction of the Works under this Contract, or descriptions of the site, dimensions, quantity, quality or other information, concerning the works unless prior written permission has been obtained from the Employer.

6.4. Any document, other than the Contract itself, enumerated in various Contract documents shall remain the property of the Employer and shall be returned (in all copies) to the Employer on completion of the Contractor's performance under the Contract if so required by the Employer.

7. Construction of the Contract

7.1. The award shall be made as one single contract containing the following parts:

a. Supply Part: For Ex-works supply of all equipment and materials including applicable taxes and duties.

b. Erection/ Service Part: For providing all other services like inland transportation, insurance for delivery at site, unloading, storage, handling at site, installation, testing and commissioning including performance testing in respect of all the equipment supplied under the "Contract" and any other services specified in the Bid Documents.

c. Both these parts will contain a cross fall breach clause specifying that breach of one will constitute breach of the other.

d. Notwithstanding anything contained otherwise, the segregation of the turnkey contract as "Supply" and "Erection/ Service" Parts is only for internal purposes. The Contract shall be single responsibility turnkey contract and taxes, levies, duties, etc. shall be made applicable accordingly.

7.2. In case of divisible supply and erection Contract, or where the Employer hands over his equipment to the Contractor for executing, then the Contractor shall at the time of taking delivery of the equipment/ dispatch documents be required to execute an Indemnity Bond in favour of the Employer in the form acceptable to the Employer for keeping the equipment in safe custody and to utilise the same exclusively for the purpose of the said Contract. Samples of preformat for the Indemnity Bond are enclosed as Annexure –VII & VIII.

7.3. The Contract shall in all respects be construed and governed according to Indian Laws.

7.4. It is clearly understood that the total consideration for the Contract(s) has been broken up into various components only for the convenience of payment of advance under the Contract(s) and for the measurement of deviations or modifications under the Contract(s).

8. Jurisdiction of Contract

8.1. The laws applicable to the Contract shall be the laws in force in India. The Courts of Ranchi shall have exclusive jurisdiction in all matters arising under this Contract.

9. Manner of Execution of Contract

9.1. The Employer, after the issue of the Letter of Award to the Contractor, will send one copy of the final agreement to the Contractor for his scrutiny and approval.

9.2. The Agreement, unless otherwise agreed to, shall be signed within 30 days of the acceptance of the Letter of Award, at the office of the Employer on a date and time to be mutually agreed. The Contractor shall provide for signing of the Contract, Performance Guarantee six copies, appropriate power of attorney and other requisite materials. In case the Contract is to be signed beyond the stipulated time, the Bid Guarantee submitted with the Proposal will have to be extended accordingly.

9.3. The Agreement will be signed in six originals and the Contractor shall be provided with one signed original and the rest will be retained by the Employer.

9.4. The Contractor shall provide free of cost to the Employer all the Engineering data, drawings, and descriptive materials submitted with the bid, in at least six (6) copies to form a part of the Contract immediately after issue of Letter of Award

9.5. Subsequent to signing of the Contract, the Contractor at his own cost shall provide the Employer with at least thirty (30) true copies of agreement within thirty (30) days after the signing of the Contract.

10. Enforcement of Terms

10.1. The failure of either party to enforce at any time any of the provisions of this Contract or any rights in respect thereto or to exercise any option therein provided, shall in no way be construed to be a waiver of such provisions, rights or options or in any way to affect the validity of the Contract. The exercise by either party of any of its rights herein shall not preclude or prejudice either party from exercising the same or any other right it may have under the Contract.

11. Completion of Contract

11.1. Unless otherwise terminated under the provisions of any other relevant clause, this Contract shall be deemed to have been completed on the expiry of the guarantee period as provided for under the clause entitled 'Guarantee' in this section.

B. GUARANTEES & LIABILITIES

12. Time – The Essence of Contract

12.1. The time and the date of completion of the Contract as stipulated in the Contract by the Employer without or with modifications, if any, and so incorporated in the Letter of Award, shall be deemed to be the essence of the Contract. The Contractor shall so organize his resources and perform his work as to complete it not later than the date agreed to.

12.2. The Contractor shall submit a detailed PERT network/ bar chart within the time frame agreed consisting of adequate number of activities covering various key phases of the work such as design, procurement, manufacturing, shipment and field erection activities within fifteen (15) days of the date of Notification of Award. This network shall also indicate the interface facilities to be provided by the Employer and the dates by which such facilities are needed. The Contractor shall discuss the network so submitted with the Employer and the agreed network shall form part of the Contract documents. As provided in the clause of Terms of Payment in this Section, finalization of the network/ bar charts will be precondition to release of any initial advance to the Contractor. During the performance of the Contract, if in the opinion of the Engineer, proper progress is not maintained, suitable changes shall be made in the Contractor's operations to ensure proper progress without any cost implication to the Employer. The interface facilities to be provided by the Employer in accordance with the agreed network shall also be reviewed while reviewing the progress of the Contractor.

12.3. Based on the above agreed network/ bar chart monthly reports shall be submitted by the Contractor as directed by the Engineer.

12.4. Subsequent to the finalization of the network, the Contractor shall make available to the Engineer a detailed manufacturing programme in line with the agreed Contract network. Such manufacturing programme shall be reviewed, updated and submitted to the Engineer once every two months thereafter.

12.5. The above bar charts/ manufacturing programme shall be compatible with the Employer's computer environment and furnished to the Employer on such media as may be desired by the Employer.

13. Effectiveness of Contract

13.1. The Contract shall be considered as having come into force from the date of the notification of award unless otherwise provided in the notification of award.

14. Liquidated Damages

14.1. For Equipment Portion

14.1.1. If the Contractor fails to successfully complete the commissioning within the time fixed under the Contract, the Contractor shall pay to the Employer as liquidated damages and not as penalty a sum specified for each specified period of delay. The details of such liquidated damages are brought out in the accompanying Special Conditions of Contract.

14.1.2. Equipment and materials shall be deemed to have been delivered only when all its components, parts are also delivered. If certain components are not delivered in time the equipment and materials will be considered as delayed until such time the missing parts are also delivered.

14.1.3. Total amount of liquidated damages for delay under the Contract will be subject to a maximum of 10% of the Contract price.

14.2. Liquidated damages for not meeting performance guarantee during the performance and guarantee tests shall be assessed and recovered from the Contractor as detailed in Technical Specifications/ Special Conditions of Contract. Such liquidated damages shall be without any

limitation whatsoever and shall be in addition to damages, if any, payable under any other clause of Conditions of Contract.

15. Guarantee

15.1. The Contractor shall warrant that the equipment will be new, unused and in accordance with the Contract documents and free from defects in material and workmanship for a period of twelve (12) calendar months commencing immediately upon the satisfactory commissioning. The Contractor's liability shall be limited to the replacement of any defective parts in the equipment of his own manufacture or those of his Sub-Contractors under normal use and arising solely from faulty design, materials and/ or workmanship provided always that such defective parts are repairable at the site and are not in meantime essential in the commercial use of the equipment. Such replaced/ defective parts shall be returned to the Contractor unless otherwise arranged. No repairs or replacement shall normally be carried out by the Engineer when the equipment is under the supervision of the Contractor's supervisory Engineer.

15.2. In the event of any emergency where in the judgment of the Engineer, delay would cause serious loss or damages, repairs or adjustment may be made by the Engineer or a third party chosen by the Engineer without advance notice to the Contractor and the cost of such work shall be paid by the Contractor. In the event such action is taken by the Engineer, the Contractor will be notified promptly and he shall assist wherever possible in making necessary corrections. This shall not relieve the Contractor of his liabilities under the terms and conditions of the Contract.

15.3. If it becomes necessary for the Contractor to replace or renew any defective portions of the works the provision of this clause shall apply to portion of the works so replaced or renewed until the expiry of twelve (12) months from the date of such replacement or renewal. If any defects are not remedied within a reasonable time, the Engineer may proceed to do the work at the Contractor's risk and cost but without prejudice to any other rights, which the Employer may have against the Contractor in respect of such defects.

15.4. The repaired or new parts will be furnished and erected free of cost by the Contractor. If any repair is carried out on his behalf at the site, the Contractor shall bear the cost of such repairs.

15.5. The cost of any special or general overhaul rendered necessary during the maintenance period due to defects in the equipment or defective work carried out by the Contractor, the same shall be borne by the Contractor.

15.6. The acceptance of the equipment by the Engineer shall in no way relieve the Contractor of his obligations under this clause

15.7. In the case of those defective parts, which are not repairable at site but are essential for the commercial operation of the equipment, the Contractor and the Engineer shall mutually agree to a programme of replacement or renewal, which will minimize interruption to the maximum extent in the operation of the equipment.

15.8. At the end of the guarantee period, the Contractor's liability ceases except for latent defects. For latent defects, the Contractor's liability as mentioned in Clauses 15.1 through 15.7 above, shall remain till the end of 5 years from the date of completion of guarantee period.

In respect of goods supplied by Sub-Contractors to the Contractor, where a longer guarantee (more than 12 months) is provided by such Sub-Contractor, the Employer shall be entitled to the benefits of such longer guarantee.

15.9. The provisions contained in this clause will not be applicable:

a. If the Employer has not used the equipment according to generally approved industrial practice and in accordance with the conditions of operations specified and in accordance with operating manuals, if any.

b. In cases of normal wear and tear of the parts to be specifically mentioned by the Contractor in the offer.

16. Taxes, Permits & Licences

The Contractor shall be liable and pay all non-Indian taxes, duties, levies lawfully assessed against the Employer or the Contractor in pursuance of the Contract. In addition the Contractor shall be responsible for payment of all Indian duties, levies and taxes lawfully assessed against the Contractor for his personal income & property only. This clause shall be read in conjunction with Clause 14.0 of Section INB of this Volume I.

17. Replacement of Defective Parts and Materials

17.1. If during the performance of the Contract, the Engineer shall decide and inform in writing to the Contractor that the Contractor has manufactured any equipment, material or part of equipment unsound and imperfect or has furnished any equipment inferior to the quality specified, the Contractor on receiving details of such defects or deficiencies shall at his own expense within seven (7) days of his receiving the notice, or otherwise, within such time as may be reasonably necessary for making it good, proceed to alter, reconstruct or remove such works and furnish fresh equipment/ materials upto the standards of the specifications. In case, the Contractor fails to do so, the Engineer may on giving the Contractor seven (7) days' notice in writing of his intentions to do so, proceed to remove the portion of the works so complained of and at the cost of the Contractor perform all such Works or furnish all such equipment/ material provided that nothing in this clause shall be deemed to deprive the Employer of or affect any rights under the Contract which the Employer may otherwise have in respect of such defects and deficiencies.

17.2. The Contractor's full and extreme liability under this clause shall be satisfied by the payment to the Employer of extra cost, of such replacement procured including erection as provided for in the Contract, such extra cost being the ascertained difference between the price paid by the Employer for such replacements and the Contract Price by portion for such defective equipment/ materials/ works and repayments of any sum paid by the Employer to the Contractor in respect of such defective equipment/ material. Should the Employer not so replace the defective equipment/ materials the Contractor's extreme liability under this clause shall be limited to repayment of all sums paid by the Employer under the Contract for such defective equipment/ materials.

18. Patent Rights and Royalties

18.1. Royalties and fees for patents covering materials, articles, apparatus, devices, equipment or processes used in the works shall be deemed to have been included in the Contract Price. The Contractor shall satisfy all demands that may be made at any time for such royalties or fees and he alone shall be liable for any damages or claims for patent infringements and shall keep the Employer indemnified in that regard. The Contractor shall, at his own cost and expense, defend all suits or proceedings that may be instituted for alleged infringement of any patents involved in the Works, and, in case of an award of damages, the Contractor shall pay for such award. In the event of any suit or other proceedings instituted against the Employer, the same shall be defended at the cost and expense of the Contractor who shall also satisfy/ comply with any decree, order or award made against the Employer. But it shall be understood that no such machine, plant, work, material or thing has been used by the Employer for any purpose or any manner other than that for which they have been furnished and installed by the Contractor and specified under these specifications. Final payment to the Contractor by the Employer will not be made while any such suit or claim remains unsettled. In the event any apparatus or equipment, or any part thereof furnished by the Contractor, is in such suit or proceedings held to constitute infringement, and its use is enjoined, the Contractor shall at his option and at his own expense, either procure for the Employer, the right to continue the use of said apparatus, equipment or part thereof, replace it with non-infringing apparatus or equipment or modify it, so it becomes non-infringing.

19. Defence of Suits

19.1. If any action in court is brought against the Employer or Engineer or an officer or agent of the Employer, for the failure, omission or neglect on the part of the Contractor to perform any acts, matters, covenants or things under the Contract, or for damage or injury caused by the alleged omission or negligence on the part of the Contractor, his agents, representatives or his Sub-Contractors, or in connection with any claim based on lawful demands of Sub-Contractors, workmen, suppliers or employees, the Contractor shall in all such cases indemnify and keep the Employer, and the Engineer and/ or his representative, harmless from all losses, damages, expenses or decrees arising of such action.

20. Limitation of Liabilities

20.1. The final payment by the Employer in pursuance of the Contract shall mean the release of the Contractor from all his liabilities under the Contract. Such final payment shall be made only at the end of the Guarantee/ Warranty period, and till such time as the Contractual liabilities and responsibilities of the Contractor, shall prevail. All other payments made under the Contract shall be treated as on-account payments.

21. Engineer's Decision

21.1. In respect of all matters which are left to the decision of the Engineer including the granting or with-holding of the certificates, the Engineer shall, if required to do so by the Contractor, give in writing a decision thereon.

21.2. If, in the opinion of the Contractor, a decision made by the Engineer is not in accordance with the meaning and intent of the Contract, the Contractor may file with the Engineer, within fifteen (15) days after receipt of the decision, a written objection to the decision. Failure to file an objection within the allotted time will be considered as an acceptance of the Engineer's decision and the decision shall become final and binding.

21.3. The Engineer's decision and the filing of the written objection thereto shall be a condition precedent to the right to request arbitration. It is the intent of the Agreement that there shall be no delay in the execution of the works and the decision of the Engineer as rendered shall be promptly observed.

22. Power to Vary or Omit Work

22.1. No alterations, amendments, omissions, suspensions or variations of the Works (hereinafter referred to as 'variation') under the Contract as detailed in the Contract Documents, shall be made by the Contractor except as directed in writing by the Engineer, but the Engineer shall have full powers subject to the provisions hereinafter contained, from time to time during the execution of the Contract, by notice in writing to instruct the Contractor to make such variation without prejudice to the Contract. The Contractor shall carry out such variation and be bound by the same conditions as far as applicable as though the said variations occurred in the Contract Documents. If any suggested variations would, in the opinion of the Contractor, if carried out, prevent him from fulfilling any of his obligations or guarantees under the Contract, he shall notify the Engineer thereof in writing and the Engineer shall decide forthwith whether or not, the same shall be carried out and if the Engineer confirms his instructions, the Contractor's obligations and guarantees shall be modified to such an extent as may be mutually agreed. Any agreed difference in cost occasioned by any such variation shall be added to or deducted from the Contract Price as the case may be.

22.2. In the event of Engineer requiring any variation, a reasonable and proper notice shall be given to the Contractor to enable him to work his arrangement accordingly, and in cases where goods or materials are already prepared or any design, drawings or pattern made or work done requires to be altered, a reasonable and agreed sum in respect thereof shall be paid to the Contractor.

22.3. In any case in which the Contractor has received instructions from the Engineer as to the requirement of carrying out the alterations or additional or substituted work which either then or later on, will in the opinion of the Contractor, involve a claim for additional payment, the Contractor shall immediately and in no case later than thirty (30) days, after receipt of the instructions aforesaid and before carrying out the instructions, advise the Engineer to that effect. But the Engineer shall not become liable for payment of any charges in respect of any such variations, unless the instructions for the performance of the same shall be confirmed in writing by the Engineer.

22.4. If any variation in the Works results in reduction of Contract Price, the parties shall agree, in writing, so to the extent of any change in the price, before the Contractor proceeds with the change.

22.5. In all the above cases, in the event of a disagreement as to the reasonableness of the said sum, the decision of the Engineer shall prevail.

22.6. Notwithstanding anything stated above in this clause, the Engineer shall have the full power to instruct the Contractor, in writing, during the execution of the Contract to vary the quantities of the items or groups of items in accordance with the provisions of clause entitled 'Change of Quantity' in section GCC. The Contractor shall carry out such variations and be bound by the same conditions as though the said variations occurred in the Contract Documents. However, the Contract Price shall be adjusted at the rates and the prices provided for the original quantities in the Contract.

23. Assignment and Sub-Letting of Contract

23.1. The Contractor may, after informing the Engineer and getting his written approval, assign or sub-let the Contract or any part thereof other than for raw material, for minor details or for any part of the plant for which makes are identified in the Contract. Suppliers of the equipment not identified in the Contract or any change in the identified suppliers shall be subjected to approval by the Engineer. The experience list of equipment vendors under consideration by the Contractor for this Contract shall be furnished to the Engineer for approval prior to procurement of all such items/equipment. Such assignment/sub-letting shall not relieve the Contractor of any obligation, duty or responsibility under the Contract. Any assignment as above, without prior written approval of Engineer, shall be void.

23.2. For components/equipment procured by the Contractor for the purposes of the Contract, after obtaining the written approval of the Employer, the Contractor's purchase specifications and enquiries shall call for quality plan to be submitted by the suppliers along with their Proposals. The quality plans called for from the Vendors shall set out, during the various stages of manufacture and installation, the quality practices and procedures followed by the Vendors' quality control organization, the relevant reference document/standard used, acceptance level, inspection documentation raised, etc. Such quality plans of the successful vendors shall be discussed and finalized in consultation with the Engineer and shall form a part of the Purchase Order/Contract between the Contractor and the Vendor. Within three weeks of the release of the Purchase Orders/Contracts for such bought out items/ components a copy of the same without price details but together with detailed purchase specifications, quality plans and delivery conditions shall be furnished to the Engineer by the Contractor.

24. Change of Quantity

24.1. During the execution of the Contract, the Employer reserves the right to increase or decrease the quantities of items under the Contract but without any change in unit price or other terms & conditions. Such variations unless otherwise specified in the accompanying Special Conditions of Contract and/or Technical Specifications, shall be subject to the specific provision for the individual items but the total variations in all such items under the Contract shall be limited to a percentage of the Contract price as specified in the Special Conditions of Contract.

24.2. The Contract price shall accordingly be adjusted based on the unit rates available in the Contract for the change in quantities as above. The base unit rates, as identified in the Contract shall however remain constant during the currency of the Contract, except as provided for in Clause 33.0 below. In case the unit rates are not available for the change in quantity, the same shall be subjected to mutual agreement.

25. Packing, Forwarding and Shipment

25.1. The Contractor, wherever applicable, shall after proper painting, pack and crate all equipment in such a manner as to protect them from deterioration and damage during rail and road transportation to the Site and storage at the Site till the time of erection. The Contractor shall be held responsible for all damages due to improper packing.

25.2. The Contractor shall notify the Employer of the date of each shipment from his works, and the expected date of arrival at the Site for the information of the Employer.

25.3. The Contractor shall also give all shipping information concerning the weight, size and content of each packing including any other information the Employer may require.

25.4. The following documents shall be sent by registered post to the Employer within three days from the date of shipment, to enable the Employer to make progressive payments to the Contractor:-

a. Application for payment in the standard format of the Employer (3 copies)

b. Invoice (6 copies)

c. Packing list (6 copies)

d. Pre-dispatch clearance certificate, if any (3 copies)

e. Test Certificate, wherever applicable (3 copies)

f. Insurance Certificate (3 copies)

25.5. The Contractor shall prepare detailed packing list of all packages and containers, bundles and loose materials forming each and every consignment dispatched to Site.

The Contractor shall further be responsible for making all necessary arrangements for loading, unloading and other handling right from his works up to the Site and also till the equipment is erected, tested and commissioned. He shall be solely responsible for proper storage and safe custody of all equipment.

26. Cooperation with Other Contractors and Consulting Engineers

26.1. The Contractor shall agree to cooperate with the Employer's other Contractors and Consulting Engineers and freely exchange with them such technical information as is necessary to obtain the most efficient and economical design and to avoid unnecessary duplication of efforts. The Engineer shall be provided with three copies of all correspondence addressed by the Contractor to other Contractors and Consulting Engineers of the Employer in respect of such exchange of technical information.

27. No Waiver of Rights

27.1. Neither the inspection by the Employer or the Engineer or any of their officials, employees, or agents nor any order by the Employer or the Engineer for payment of money or any payment for or acceptance of, the whole or any part of the Works by the Employer or the Engineer, nor any extension of time, nor any possession taken by the Engineer shall operate as a waiver of any provision of the Contract, or of any power herein reserved to the Employer or any right to damages herein provided nor shall any waiver of any breach in the Contract be held to be a waiver of any other or subsequent breach.

28. Certificate not to Affect Right of Employer and Liability of the Contractor

28.1. No interim payment certificate of the Engineer, nor any sum paid on account by the Employer, nor any extension of time for execution of the Works granted by the Engineer shall affect or prejudice the rights of the Employer against the Contractor or relieve the Contractor of his obligation for the due performance of the Contract, or be interpreted as approval of the Works done or of the equipment furnished and no certificate shall create liability for the Employer to pay for alterations, amendments, variations or additional works not ordered, in writing , by the Engineer or discharge the liability of the Contractor for the payment of damages whether due, ascertained, or certified or not or any sum against the payment of which he is bound to indemnify the Employer, nor shall any such certificate nor the acceptance by him of any sum paid on account or otherwise affect or prejudice the rights of the Employer against the Contractor.

29. Training of Employer's Personnel

29.1. The Contractor shall undertake to train free of cost, Engineering personnel selected and sent by the Employer at the works of the Contractor unless otherwise specified in the Technical Specifications. The period and the nature of training for the individual personnel shall be agreed upon mutually between the Contractor and the Employer. These Engineering personnel shall be given special training in the shops, where the equipment will be manufactured and/ or in their Collaborator's works and where possible, in any other plant where equipment manufactured by the Contractor or his collaborator is under installation, operation, or testing to enable those personnel to become familiar with the equipment being furnished by the Contractor. The details of the number of persons to be trained, period of training, nature of training etc. shall be as outlined in accompanying Technical Specifications/ Special Conditions of Contract.

29.2. All traveling and living expenses for the Engineering personnel to be trained during the total period of training will be borne by the Employer. These Engineering personnel, while undergoing training, shall be responsible to the Contractor for discipline.

29.3. The Employer shall not be entitled for any rebate, whatsoever, on any account in the event of his failing to avail of the training facilities, for any reason.

30. Progress Reports and Photographs

30.1. During the various stages of the work in pursuance of the Contract, the Contractor shall at his own cost submit periodic progress reports as may be reasonably required by the Engineer with such materials as, charts, networks, photographs, test certificates, etc. Such progress reports shall be in the form and size as may be required by the Engineer and shall be submitted in at least three (3) copies.

31. Taking Over

Upon successful completion of all the tests to be performed at Site on equipment furnished and erected by the Contractor, the Engineer shall issue to the Contractor a Taking Over Certificate as a proof of the final acceptance of the equipment. Such certificate shall not unreasonably be withheld nor will the Engineer delay the issuance thereof on account of minor omissions or defects, which do not affect the commercial operation and/ or cause any serious risk to the equipment. Such certificate shall not relieve the Contractor of any of his obligations which otherwise survive, by the terms and conditions of the Contract after issue of such certificate.

C. CONTRACT SECURITY AND PAYMENTS

32. Contract Performance Guarantee

32.1. The Contractor shall furnish Contract Performance Guarantee(s) for the proper fulfillment of the Contract in the prescribed form within thirty (30) days of "Notice of Award of Contract". The performance guarantee(s) shall be as per terms prescribed in Section INB, Conditions of Contract and/ or Special Conditions of Contract

33. Payment

33.1. The payment to the Contractor for the performance of the works under the Contract will be made by the Employer as per Clause No.7.0, Section – V, SCC. All payments made during the Contract shall be on account payments only. The final payment will be made on completion of all Works and on fulfillment by the Contractor of all his liabilities under the Contract.

33.2. Currency of Payment

All payments under the Contract shall be in Indian Rupees only.

33.3. Due Dates for Payments

The initial advance amount shall be payable after fulfillment of all the conditions laid down in the Special Conditions of Contract, Clause 34.7.1 below and receipt of the Contractor's invoice along with all necessary supporting documents for such advance payment. The price component of the initial advance amount will become due for payment within thirty (30) days of receipt of the Contractor's invoice. The Employer will make progressive payment as and when the payment is due as per the terms of payment set forth in the accompanying Special Conditions of Contract. Progressive payments other than those under the letter of credit will become due and payable by the Employer within thirty (30) days of the date of receipt of Contractor's bill/ invoice/ debit note by the Employer provided the documents submitted are complete in all respects.

33.4. Payment Schedule

The Contractor shall prepare and submit to the Engineer for approval, a break -up of the Contract Price. This Contract Price break-up shall be interlinked with the agreed detailed PERT network of the Contractor setting forth his starting and completion dates for the various key phases of Works prepared as per conditions in Clause 12.0 of this Section GCC. Any payment under the Contract shall be made only after the Contractor's price break up is approved by the Engineer. The aggregate sum of the Contractor's price break up shall be equal to the lump sum Contract Price. **A price break-up over valuing those items of supply, which will be shipped first will not be accepted**.

33.5. Application for Payment

33.5.1. The Contractor shall submit application for the payment in the prescribed proforma of the Employer. Proforma for application for payment is enclosed as Annexure-V.

33.5.2. Each such application shall state the amount claimed and shall set forth in detail, in the order of the Payment Schedule, particulars of the Works including the Works executed at Site and of the equipment shipped/ brought on to the site pursuant to the Contract upto the date mentioned in the application and for the period covered since the last preceding certificate, if any.

33.5.3. Every interim payment certificate shall certify the Contract value of the Works executed upto the date mentioned in the application for the payment certificate, provided that no sum shall be included in any interim payment certificate in respect of the works that, according to the decision of the Engineer, does not comply with the Contract or has been performed, at the date of certificate prematurely.

33.6. Mode of Payment

33.6.1. Payment due on dispatch of equipment shall be made by the Employer through the Employer's Bank or directly to the Contractor as per the payment schedule.

33.6.2. The payment of the advance, test charges, if any, price adjustment, any other supply payment, taxes and duties (whenever admissible) inland transportation (including port handling), insurance and the erection portion of the Works shall be made direct to the Contractor by the Employer.

33.7. Terms of Payment:

The terms of payments for various activities under the Contract are as under.

33.7.1. Ex-works Price and Erection

The terms of payments for Ex-works price-components of the equipment and erection are detailed in Special Conditions of Contract, for each equipment package. A certain percentage of the equipment and erection costs of each package shall be paid as initial advance on fulfillment of the following by the Contractor.

i. For Ex-works price component of Equipment

a. Acknowledgement of Letter of Award.

b. Submission of an unconditional Bank Guarantee from any bank specified in the "Schedule 1: List of Banks" in favour of "Director, JREDA", covering the advance amount which shall be initially kept valid till 90 days after the schedule date for successful completion of Commissioning. The proforma of Bank Guarantee for advance is enclosed as Annexure-VI. The value of the Bank guarantee for advance shall be allowed to be reduced every six months after the first running account bill/stage payment under the Contract if the validity of the Bank guarantee is more than one year. The cumulative amount of reduction at any point of time shall not exceed seventy five (75%) of the advance corresponding the cumulative value of supplies (work completed) as per a certificate to be issued by the Engineer- in-Charge. It should be clearly understood that the reduction in the value of the advance Bank guarantee or other security as above shall not in any way dilute the Contractor's responsibilities & liabilities under the Contract including in respect of supplies/ work for which the reduction in the value of the Bank guarantee is allowed.

c. Submission of an unconditional Bank Guarantee towards Contract Performance Guarantee valid upto ninety (90) days after the end of the warranty period, in accordance with Clause 37 of Section INB.

d. Submission of a detailed PERT network/ bar chart based on the work schedule stipulated in the Letter of Award and its approval by the Employer.

ii. For Erection Component

a. On establishing his office at site preparatory to mobilization of his erection establishment, and

b. Submission of an unconditional Bank Guarantee from any bank specified in the "Schedule 1: List of Banks" in favour of "Director, JREDA" for an equivalent amount, which shall be initially kept valid till expiry of 3 months after the schedule date for successful completion of commissioning. The proforma of Bank Guarantee for advance is enclosed as Annexure-VI to this Volume-I.

33.7.2. All further payments under the Contract shall be made as stipulated in the Special Conditions of Contract after signing the Contract Agreement. The payments linked with the dispatch of materials shall only be made after production of all dispatch documents as

specified in L/C conditions and/or in the relevant Contract conditions which will inter-alia include the **Material Inspection Clearance Certificate (MICC)** issued by the Employer's Corporate **QA&I representatives**.

Progressive payments linked with erection shall only be made after the issue of certificates by the Engineer/ field officials for the quantum of work completed successfully involved in the quantum of work billed.

33.7.3. Inland Transportation & Insurance Inland transportation (including port handling) and inland insurance charges shall be paid to the Contractor on pro-rata to the value of the equipment received at site and on production of the invoices by the Contractor. However, wherever equipment wise inland transportation charges have been called for in the 'Bid Proposal Sheets' and have been furnished by the Contractor, the payment of inland transportation charges shall be made after receipt of equipment at site based on the charges thus identified by the Contractor in his Proposal and incorporated in the Contract. The aggregate of all such pro-rata payments shall however not exceeds the total amount quoted by the Bidder in his bid and incorporated in the Contract.

34. Deductions from Contract Price

All costs, damages or expenses which the Employer may have paid, for which under the Contract the Contractor is liable, will be claimed by the Employer. All such claims shall be billed by the Employer to the Contractor regularly as and when they fall due. Such bills shall be supported by appropriate and certified vouchers or explanations, to enable the Contractor to properly identify such claims. Such claims shall be paid by the Contractor within thirty (30) days of the receipt of the corresponding bills and if not paid by the Contractor within the said period, the Employer may then deduct the amount, from any moneys due or becoming due by him to the Contractor under the Contract or may be recovered by sections of Law or otherwise.

D. RISK DISTRIBUTION

35. Transfer of Title

35.1. Transfer of title in respect of equipment and materials supplied by the Contractor to the Employer pursuant to the terms of the Contract shall pass on to the Employer with negotiation of dispatch documents.

35.2. This Transfer of Title shall not be construed to mean the acceptance and the consequent "Taking Over" of equipment and materials. The Contractor shall continue to be responsible for the quality and performance of such equipment and materials and for their compliance with the specifications until "Taking Over" and the fulfillment of guarantee provisions of this Contract.

35.3. This Transfer of Title shall not relieve the Contractor from the responsibility for all risks of loss or damage to the equipment and materials as specified under the clause entitled "Insurance" of this Section.

36. Insurance

36.1. The Contractor at his cost shall arrange, secure and maintain all insurance as may be pertinent to the Works and obligatory in terms of law to protect his interest and interests of the Employer against all perils detailed herein. The form and the limit of such insurance as defined herein together with the under-writer in each case shall be acceptable to the Employer. However, irrespective of such acceptance, the responsibility to maintain adequate insurance coverage at all time during the period of Contract shall be of Contractor alone. The Contractor's failure in this regard shall not relieve him of any of his contractual responsibilities and obligations. **The insurance covers to be taken by the Contractor shall be in the joint name of the Employer and the Contractor. The Contractor shall, however, be authorized to deal directly with Insurance Company or Companies and shall be responsible in regard to maintenance of all insurance covers**. Further the insurance should be in freely convertible currency.

36.2. Any loss or damage to the equipment during handling, transportation, storage, erection, putting into satisfactory operation and all activities to be performed till the successful completion of commissioning of the equipment shall be to the account of the Contractor. The Contractor shall be responsible for preference of all claims and make good the damages or loss by way of repairs and/or replacement of the equipment, damaged or lost. The transfer of title shall not in any way relieve the Contractor of the above responsibilities during the period of Contract. **The Contractor shall provide the Employer with copy of all insurance policies and documents taken out by him in pursuance of the Contract. Such copies of documents shall be submitted to the Employer immediately after such insurance coverage**. The Contractor shall also inform the Employer in writing at least sixty (60) days in advance regarding the expiry/ cancellation and/ or change in any of such documents and ensure revalidation, renewal etc., as may be necessary well in time.

36.3. The perils required to be covered under the insurance shall include, but not be limited to fire and allied risks, miscellaneous accidents (erection risks) workman compensation risks, loss or damage in transit, theft, pilferage, riot and strikes and malicious damages, civil commotion, weather conditions, accidents of all kinds, etc. The scope of such insurance shall be adequate to cover the replacement/ reinstatement cost of the equipment for all risks upto and including delivery of goods and other costs till the equipment is delivered at Site. The insurance policies to be taken should be on replacement value basis and/ or incorporating escalation clause. Notwithstanding the extent of insurance cover and the amount of claim available from the underwriters, the Contractor shall be liable to make good the full replacement/ rectification value of all equipment/materials and to ensure their availability as per project requirements.

36.4. All costs on account of insurance liabilities covered under the Contract will be on Contractor's account and will be included in Contract Price, However, the Employer may from time to time, during the pendency of the Contract, ask the Contractor in writing to limit the

insurance coverage, risks and in such a case, the parties to the Contract will agree for a mutual settlement, for reduction in Contract price to the extent of reduced premium amount. The Contractor, while arranging the insurance shall ensure to obtain all discounts on premium, which may be available for higher volume or for reason of financing arrangement of the project.

36.5. The clause entitled 'Insurance' under the section ECC, covers the additional insurance requirements for the portion of the works to be performed at the Site.

37. Liability for Accidents and Damages

Under the Contract, the Contractor shall be responsible for loss or damage to the plant until the successful completion of commissioning as defined elsewhere in the Bid document.

38. Delays by Employer or His Authorised Agents

38.1. In case the Contractor's performance is delayed due to any act of omission on the part of the Employer or his authorized agents, then the Contractor shall be given due extension of time for the completion of the Works, to the extent such omission on the part of the Employer has caused delay in the Contractor's performance of the Contract. Regarding reasonableness or otherwise of the extension of time, the decision of the Engineer shall be final.

38.2. In addition, the Contractor shall be entitled to claim demonstrable and reasonable compensation if such delays have resulted in any increase in cost. The Employer shall examine the justification for such a request for claim and if satisfied, the extent of compensation shall be mutually agreed depending upon the circumstances at the time of such an occurrence.

39. Demurrage, Wharfage, Etc.

39.1. All demurrage, wharfage and other expenses incurred due to delayed clearance of the material or any other reason shall be to the account of the Contractor.

40. Force Majeure

40.1. Force majeure is herein defined as any cause which is beyond the control of the Contractor or the Employer as the case may be, which they could not foresee or with a reasonable amount of diligence could not have foreseen and which substantially affects the performance of the Contract, such as:

a. Natural phenomena, including but not limited to floods, droughts, earthquakes and epidemics;

b. Acts of any Government, domestic or foreign, including but not limited to war, declared or undeclared, priorities, guarantees, and embargoes. Provided either party shall within fifteen (15) days from the occurrence of such a cause notify the other in writing of such causes.

40.2. The Contractor or the Employer shall not be liable for delays in performing his obligations resulting from any force majeure cause as referred to and/ or defined above. The date of completion will, subject to hereinafter provided, be extended by a reasonable time even though such cause may occur after Contractor's performance of obligation has been delayed due to other causes.

41. Suspension of Work

41.1. The Employer reserves the right to suspend and reinstate execution of the whole or any part of the Works without invalidating the provisions of the Contract. Orders for suspension or reinstatement of the Works will be issued by the Engineer to the Contractor in writing. The time for completion of the works will be extended for a period equal to duration of the suspension.

41.2. Any necessary and demonstrable cost incurred by the Contractor as a result of such suspension

of the works will be paid by the Employer, provided such costs are substantiated to the satisfaction of the Engineer. The Employer shall not be responsible for any liabilities if suspension or delay is due to some default on the part of the Contractor or his Sub-Contractor.

42. Contractor's Default

42.1. If the Contractor shall neglect to execute the works with due diligence and expedition or shall refuse or neglect to comply with any reasonable order given to him, in writing by the Engineer in connection with the works or shall contravene the provisions of the Contract, the Employer may give notice in writing to the Contractor to make good the failure, neglect or contravention complained of. Should the Contractor fail to comply with the notice within thirty (30) days from the date of serving the notice, then and in such case the Employer shall be at liberty to employ other workmen and forthwith execute such part of the works as the Contractor may have neglected to do or if the Employer shall think fit, without prejudice to any other right he may have under the Contract to take the work wholly or in part out of the Contractor's hands and re-contract with any other person or persons to complete the works or any part thereof and in that event the Employer shall have free use of all Contractor's equipment that may have been at the time on the Site in connection with the works without being responsible to the Contractor for fair wear and tear thereof and to the exclusion of any right of the Contractor over the same, and the Employer shall be entitled to retain and apply any balance which may otherwise be due on the Contract by him to the Contractor, or such part thereof as may be necessary, to the payment of the cost of executing the said part of the Works or of completing the Works as the case may be. If the cost of completing of works or executing part thereof as aforesaid shall exceed the balance due to the Contractor shall pay such excess. Such payment of excess amount shall be independent of the liquidated damages for delay, which the Contractor shall have to pay if the completion of works is delayed.

42.2. In addition, such action by the Employer as aforesaid shall not relieve the Contractor of his liability to pay liquidated damages for delay in completion of Works as defined in Clause 14.0 of this Section.

42.3. Such action by the Employer as aforesaid the termination of the Contract under this clause shall not entitle the Contractor to reduce the value of the Contract Performance Guarantee nor the time thereof.

43. Termination of Contract on Employer's Initiative

43.1. The Employer reserves the right to terminate the Contract either in part or in full due to reasons other than those mentioned under clause entitled 'Contractor's Default'. The Employer shall in such an event give fifteen (15) days' notice in writing to the Contractor of his decision to do so.

43.2. The Contractor upon receipt of such notice shall discontinue the work on the date and to the extent specified in the notice, make all reasonable efforts to obtain cancellation of all orders and Contracts to the extent they are related to the work terminated and terms satisfactory to the Employer, stop all further sub-contracting or purchasing activity related to the work terminated, and assist Employer in maintenance, protection, and disposition of the works acquired under the Contract by the Employer. In the event of such a termination the Contractor shall be paid compensation, equitable and reasonable, dictated by the circumstances prevalent at the time of termination.

43.3. If the Contractor is an individual or a proprietary concern and the individual or the proprietor dies and if the Contractor is a partnership concern and one of the partners dies then unless the Employer is satisfied that the legal representatives of the individual Contractor or of the proprietor of the propriety concern and in the case of partnership, the surviving partners, are capable of carrying out and completing the Contract the Employer shall be entitled to cancel the Contract as to its incomplete part without being in any way liable to payment of any compensation to the estate of deceased Contractor and/ or to the surviving partners of the

Contractor's firm on account of the cancellation of the Contract. The decision of the Employer that the legal representatives of the deceased Contractor or surviving partners of the Contractor's firm cannot carry out and complete the Contract shall be final and binding on the parties. In the event of such cancellation the Employer shall not hold the estate of the deceased Contractor and/ or the surviving partners of the estate of the deceased Contractor and/ or the surviving partners of the Contractor's firm liable to damages for not completing the Contract.

44. Frustration of Contract

44.1. In the event of frustration of the Contract because of supervening impossibility in terms of Section 56 of the Indian Contract Act, parties shall be absolved of their responsibility to perform the balance portion of the Contract, subject to provisions contained in sub-clause 44.3 below.

44.2. In the event of non-availability or suspension of funds for any reasons, whatsoever (except for reason of willful or flagrant breach by the Employer) and/ or Contractor then the works under the Contract shall be suspended.

44.3. Furthermore, if the Employer is unable to make satisfactory alternative arrangements for financing to the Contractor in accordance with the terms of the Contract within three months of the event, the parties hereto shall be relieved from carrying out further obligations under the Contract treating it as frustration of the Contract.

44.4. In the event referred to in sub-clauses 44.1 & 44.2 above the parties shall mutually discuss to arrive at reasonable settlement on all issues including amounts due to either party for the work already done on "Quantum merit" basis, which shall be determined by mutual agreement between the parties.

45. Grafts and Commissions Etc.

45.1. Any graft, commission, gift or advantage given, promised or offered by or on behalf of the Contractor or his partner(s), agent(s), officer(s), director(s), employee(s) or servant(s) or any one on his or their behalf in relation to the obtaining or to the execution of this or any other Contract with the Employer, shall in addition to any criminal liability which it may incur, subject the Contractor to the cancellation of this and all other Contracts and also to payment of any loss or damage to the Employer resulting from any cancellation. The Employer shall then be entitled to deduct the amount so payable from any monies otherwise due to Contractor under the Contract.

E. Resolution of Disputes

46. Settlement of Disputes

46.1. Any dispute(s) or difference(s) arising out of or in connection with the Contract shall, to the extent possible, be settled amicably between the parties.

46.2. If any dispute or difference of any kind, whatsoever, shall arise between the Employer and the Contractor, arising out of the Contract for the performance of the Works whether during the progress of the Works or after its completion or whether before or after the termination, abandonment or breach of the Contract, it shall, in the first place, be referred to and settled by the Engineer, who, within a period of thirty (30) days after being requested by either party to do so, shall give written notice of his decision to the Employer and the Contractor.

46.3. Save as hereinafter provided, such decision in respect of every matters so referred shall be final and binding upon the parties until the completion of the Works and shall forthwith be given effect to by the Contractor who shall proceed with the Works with all due diligence, whether he or the Employer requires arbitration as hereinafter provided or not.

46.4. If after the Engineer has given written notice of his decision to the parties, no claim to arbitration has been communicated to him by either party within thirty (30) days from the receipt of such notice, the said decision shall become final and binding on the parties.

46.5. In the event of the Engineer failing to notify his decision as aforesaid within thirty (30) days after being requested as aforesaid, or in the event of either the Employer or the Contractor being dissatisfied with any such decision, or within thirty (30) days after the expiry of the first mentioned period of thirty days, as the case may be, either party may require that the matters in dispute be referred to arbitration as hereinafter provided.

47. Arbitration

47.1. All disputes or differences in respect of which the decision, if any, of the Engineer has not become final or binding as aforesaid shall be settled by arbitration in the manner hereinafter provided.

47.2. The arbitration shall be conducted by three arbitrators, one each to be nominated by the Contractor and the Employer and the third to be appointed as an umpire by both the arbitrators in accordance with the Indian Arbitration Act. If either of the parties fails to appoint its arbitrator within sixty (60) days after receipt of a notice from the other party invoking the Arbitration clause, the arbitrator appointed by the party invoking the arbitration clause shall become the sole arbitrator to conduct the arbitration.

47.3. The arbitration shall be conducted in accordance with the provisions of the Indian Arbitration Act, 1940 or any statutory modification thereof. The venue of arbitration shall be Ranchi.

47.4. The decision of the majority of the arbitrators shall be final and binding upon the parties. The arbitrators may, from time to time with the consent of all the parties enlarge the time for making the award. In the event of any of the aforesaid arbitrators dying, neglecting, resigning or being unable to act for any reason, it will be lawful for the party concerned to nominate another arbitrator in place of the outgoing arbitrator.

47.5. The arbitrator shall have full powers to review and/ or revise any decision, opinion, direction, certification or valuation of the Engineer in accordance with the Contract, and neither party shall be limited in the proceedings before such arbitrators to the evidence or arguments put before the Engineer for the purpose of obtaining the said decision.

47.6. No decision given by the Engineer in accordance with the foregoing provisions shall disqualify him as being called as a witness or giving evidence before the arbitrators on any matter whatsoever relevant to the dispute or difference referred to the arbitrators as aforesaid.

47.7. During settlement of disputes and arbitration proceedings, both parties shall be obliged to carry out their respective obligations under the Contract.

48. Reconciliation of Accounts

The Contractor shall prepare and submit every six months, a statement covering payments claimed and the payments received vis-à-vis the works executed, for reconciliation of accounts with the Employer. The Contractor shall also prepare and submit a detailed account of Employer Issue materials received and utilized by him for reconciliation purpose in a format to be discussed & finalized with the Employer before the award of Contract.

SECTION – IV

ERECTION CONDITIONS OF CONTRACT (ECC)

Jharkhand Renewable Energy Development Agency

Ranchi, Jharkhand

1. General

1.1. The following shall supplement the conditions already contained in other parts of these specifications and document and shall govern the portion of the work of this Contract to be performed at Site.

1.2. The Contractor upon signing of the Contract shall, in addition to a Project Coordinator, nominate another responsible officer as his representative at Site suitably designated for the purpose of overall responsibility and coordination of the works to be performed at Site. Such person shall function from the Site office of the Contractor during the pendency of Contract.

2. Regulation of Local Authorities and Statutes

2.1. The Contractor shall comply with all the rules and regulations of local authorities during the performance of his field activities. He shall also comply with the Minimum Wages Act, 1948 and the Payment of Wages Act (both of the Government of India) and the rules made there under in respect of any employee or workman employed or engaged by him or his Sub-Contractor.

2.2. All registration and statutory inspection fees, if any, in respect of his work pursuant to this Contract shall be to the account of the Contractor. However, any registration, statutory inspection fees lawfully payable under any statutory laws and its amendments from time to time during erection in respect of the equipment ultimately to be owned by the Employer, shall be to the account of the Employer. Should any such inspection or registration need to be re-arranged due to the fault of the Contractor or his Sub Contractor, the additional fees to such inspection and/or registration shall be borne by the Contractor.

3. Employer's Lien on Equipment

The Employer shall have lien on all equipment including those of the Contractor brought to the Site for the purpose of erection, testing and commissioning of the equipment to be supplied & erected under the Contract. The Employer shall continue to hold the lien on all such equipment throughout the period of Contract. No material brought to the Site shall be removed from the Site by the Contractor and/ or his Sub- Contractors without the prior written approval of the Engineer.

4. Inspection, Testing and Inspection Certificates

The provisions of the clause entitled Inspection, Testing and Inspection Certificates under Technical Specifications; Section GTR shall also be applicable to the erection portion of the Works. The Engineer shall have the right to re-inspect any equipment though previously inspected and approved by him at the Contractor's works, before and after the same are erected at Site. If by the above inspection, the Engineer rejects any equipment, the Contractor shall make good for such rejections either by replacement or modifications/ repairs as may be necessary to the satisfaction of the Engineer. Such replacement will also include the replacements or re-execution of such of those works of other Contactors and/ or agencies, which might have got damaged or affected by the replacements or re-work done to the Contractor's work.

5. Access to Site and Works on Site

5.1. Suitable access to and possession of the Site shall be afforded to the Contractor by the Employer in reasonable time.

5.2. The Employer shall have the necessary foundations to be provided by him ready, as per the agreed schedule for the execution of the individual phases of works

5.3. The works so far as it is carried out on the Employer's premises, shall be carried out at such

time as the Employer may approve and the Employer shall give the Contractor reasonable facilities for carrying out the works.

5.4. In the execution of the works, no person other than the Contractor or his duly appointed representative, Sub- Contractor and workmen, shall be allowed to do work on the Site, except by the special permission, in writing of the Engineer or his representative.

6. Contractor's Site Office Establishment

The Contractor shall establish a Site Office at the site and keep posted an authorized representative for the purpose of the Contract. Any written order or instruction of the Engineer or his duly authorized representative shall be communicated to the said authorized resident representative of the Contractor and the same shall be deemed to have been communicated to the Contractor at his legal address.

7. Co-operation with other Contractors

7.1. The Contractor shall co-operate with all other Contractors or tradesmen of the Employer, who may be performing other works on behalf of the Employer and the workmen who may be employed by the Employer and doing work in the vicinity of the Works under the Contract. The Contractor shall also arrange to perform his work as to minimize, to the maximum extent possible, interference with the work of other Contractors and their workmen. Any injury or damage that may be sustained by the employees of the other Contractors and the Employer, due to the Contractor's work shall promptly be made good at the Contractor's own expense. The Engineer shall determine the resolution of any difference or conflict that may arise between the Contractor and other Contractors or between the Contractor and the workmen of the Employer in regard to their work. If the work of the Contractor is delayed because of any acts of omission of another Contractor, the Contractor shall have no claim against the Employer on that account other than an extension of time for completing his Works.

7.2. The Engineer shall be notified promptly by the Contractor of any defects in the other Contractor's works that could affect the Contractor's Works. The Engineer shall determine the corrective measures, if any, required rectifying this situation after inspection of the works and such decision by the Engineer shall be binding on the Contractor.

8. Discipline of Workmen

The Contractor shall adhere to the disciplinary procedure set by the Engineer in respect of his employees and workmen at Site. The Engineer shall be at liberty to object to the presence of any representative or employee of the Contractor at the Site, if in the opinion of the Engineer such employee has misconducted himself or is incompetent or negligent or otherwise undesirable and then the Contractor shall remove such a person objected to and provide in his place a competent replacement.

9. Contractor's Field Operation

9.1. The Contractor shall keep the Engineer informed in advance regarding his field activity plans and schedules for carrying-out each part of the works. Any review of such plan or schedule or method of work by the Engineer shall not relieve the Contractor of any of his responsibilities towards the field activities. Such reviews shall also not be considered as an assumption of any risk or liability by the Engineer or the Employer or any of his representatives and no claim of the Contractor will be entertained because of the failure or inefficiency of any such plan or schedule or method of work reviewed. The Contractor shall be solely responsible for the safety, adequacy and efficiency of plant and equipment and his erection methods.

9.2. The Contractor shall have the complete responsibility for the conditions of the Worksite including the safety of all persons employed by him or his Sub-Contractor and all the properties under his custody during the performance of the work. This requirement shall apply

continuously till the completion of the Contract and shall not be limited to normal working hours. The construction review by the Engineer is not intended to include review of Contractor's safety measure's in, on or near the Work- Site, and their adequacy or otherwise.

10. Photographs and Progress Report

10.1. The Contractor shall furnish three (3) prints each to the Engineer of progress photographs of the work done at Site. Photographs shall be taken as and when indicated by the Engineer or his representative. Photographs shall be adequate in size and number to indicate various stages of erection. Each photograph shall contain the date, the name of the Contractor and the title of the photograph.

10.2. The above photographs shall accompany the monthly progress report detailing out the progress achieved on all erection activities as compared to the schedules. The report shall also indicate the reasons for the variance between the scheduled and actual progress and the action proposed for corrective measures, wherever necessary.

11. Man-Power Report

11.1. The Contractor shall submit to the Engineer, on the first day of every month, a man hours schedule for the month, detailing the man hours scheduled for the month, skill-wise and area-wise.

11.2. The Contractor shall also submit to the Engineer, on the first day of every month, a man-power report of the previous month detailing the number of persons scheduled to have been employed and actually employed, skill-wise and the areas of employment of such labour.

12. Protection of Work

The Contractor shall have total responsibility for protecting his works till it is finally taken over by the Engineer. No claim will be entertained by the Employer or by the Engineer for any damage or loss to the Contractor's works and the Contractor shall be responsible for complete restoration of the damaged works to original conditions to comply with the specification and drawings, should any such damage to the Contractor's works occur because of any other party not being under his supervision or control. The Contractor shall make his claim directly with the party concerned. If disagreement or conflict or dispute develops between the Contractor and the other party or parties concerned regarding the responsibility for damage to the Contractor's works, the same shall be resolved as per the provisions of the Clause 7.0 above entitled "Cooperation with other Contractors". The Contractor shall not cause any delay in the repair of such damaged works because of any delay in the resolution of such dispute. The Contractor shall proceed to repair the Work immediately and no cause thereof will be assigned pending resolution of such disputes.

13. Employment of Labour

13.1. The Contractor will be expected to employ on the work only his regular skilled employees with experience of his particular work. No female labour shall be employed after darkness. No person below the age of eighteen years shall be employed.

13.2. All traveling expenses including provisions of all necessary transport to and from Site, lodging allowances and other payments to the Contractor's employees shall be the sole responsibility of the Contractor.

13.3. The hours of work on the Site shall be decided by the Employer and the Contractor shall adhere to it. Working hours will normally be eight (8) hours per day-Monday through Saturday.

13.4. The Contractor's employees shall wear identification badges while on work at Site.

13.5. In case the Employer becomes liable to pay any wages or dues to Labour or any Government

agency under any of the provisions of the Minimum Wages Act, Workmen Compensation Act, Contract Labour Regulation Abolition Act or any other law due to act of omission of the Contractor, the Employer may make such payment and shall recover the same from the Contractor's bills.

13.6. Compliance with Labour Regulations

13.6.1. During continuance of the contract, the Contractor and his sub-contractors shall abide at all times by all applicable existing labour enactments and rules made there-under, regulations, notifications and byelaws of the State or Central Government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law in future either by the State or the Central Government or the local authority. The employees of the Contractor and the Sub-contractor in no case shall be treated as the employees of the Employer at any point of time.

13.6.2. The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contravention of any of the provisions of any Act or rules made there under, regulations, or notifications including amendments.

13.6.3. If the Employer is caused to pay under any law as Principal Employer such amount as may be necessary to cause or observe, or for nonobservance of the provisions stipulated in the Notifications/ Byelaws/ Acts/ Rules/ Regulations including amendments, if any, on the part of the Contractor, the Employer shall have the right to deduct any money due to the Contractor under this contract or any other contract with the Employer including his amount of performance security for adjusting the aforesaid payment. The Employer shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer.

13.6.4. Salient features of some major laws applicable to establishments engaged in building and other construction works:

(a) Workmen Compensation Act 1923: The Act provides for compensation in case of injury by accident arising out of and during the course of employment.

(b) Payment of Gratuity Act 1972: Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years' service or more or on death the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees

(c) Employee P.F. and Miscellaneous Provision Act 1952: The Act provides for more contribution by the Employer plus workers @ 10% or 8.33%. The benefits under these are:

(i) Pension or family pension on retirement or death, as the case may be.

(ii) Deposit linked insurance on death in harness of the worker.

(iii) Payment of P.F. accumulation on retirement/ death etc.

(d) Maternity Benefit Act 1951: The Act provides for leave and some other benefit for women employees in case of confinement or miscarriage etc.

(e) Contract Labour (Regulation & Abolition) Act 1970: The Act provides for certain welfare measures to be provided by the Contractor to contract labour and in case contractor fails to provide, the same are required to be provided, by the Principal Employer by law. The Principal Employer is required to take Certification of Registration and the Contractor is required to take license from the designated Officer: The Act applicable to the establishments or contractor of Principal Employer if they employ 20 or more contract labour.

(f) Minimum Wages Act 1948: The Employer is supposed to pay not less than the Minimum Wages fixed by appropriate Govt. as per provision of the Act if the

employment is scheduled employment.

(g) Payment of Wages Act 1936: It lays down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of the workers.

(h) Equal Remuneration Act 1979: The Act provides for payment of equal wages for work of equal nature to male and female workers and for not making discrimination against female employees in the matters of transfer, training and promotions etc.

(i) Payment of Bonds Act 1965: The Act is applicable to all establishments employing 20 or more employees. The Act provides for payments of annual bonus subject to a minimum of 8.33% of wages and maximum of 20% of wages to employees drawing Rs.3500/- per month or less. The bonus is to be paid to employees getting Rs.2500 per month or above upto RS.3500/- per month shall be worked out by taking wages of Rs.2500/- per month only. The Act does not apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. Some of the State Governments have reduced the employment size from 20 to 10 for the purpose of applicability of this Act.

(j) Industrial Dispute Act 1947: The act lays down the machinery and procedure for resolution of industrial disputes, in what situations as strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.

(k) Industrial Employment (Standing Orders) act 1946: It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to 50). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and get the same certified by the designated Authority.

(l) Trade Unions, Act 1926: The Act lays down the procedure for registration of trade unions of workmen and Employers. The Trade Unions registered under the Act have been given certain immunities from civil and criminal liabilities.

(m) Child Labour (Prohibition & Regulation) Act 1986: The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulations of employment of children in all other occupations and processes. Employment of Child Labour is prohibited in building and Construction Industry.

(n) Inter-State Migrant Workmen's (Regulation of Employment & Conditions of Service) Act 1979: The Act is applicable to an establishment which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as; housing, medical aid, traveling expenses from home upto the establishment and back, etc.

(o) The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act of 1996: All the establishments who. Carry on any building or other construction work and employ 10 or more workers are covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be modified by the Government. The Employer of the establishment is required to provide safety measures at the building or construction work and other welfare measures, such as canteens, first-aid facilities, ambulance, housing accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.

(p) Factories Act 1948: The Act lays down the procedure for approval at plans before setting up a factory, health and safety provisions welfare provisions, working hours,

annual earned leave and rendering information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing 10 persons or more with aid of power or 20 or more persons without the aid of power engaged in manufacturing process.

14. Not Used

15. Facilities to be Provided by the Contractor

15.1. Tools, tackles and scaffoldings

The Contractor shall provide all the construction equipment; tools, tackles and scaffoldings required for pre-assembly, erection, testing and commissioning of the equipment covered under the Contract. He shall submit a list of all such materials to the Engineer before the commencement of pre-assembly at Site. These tools and tackles shall not be removed from the Site without the written permission of the Engineer.

15.2. Communication

The Employer will extend the telephone and telex facilities, if available at Site, for purposes of Contract. The Contractor shall be charged at actual for such facilities.

15.3. First-aid

15.3.1. The Contractor shall provide necessary first-aid facilities for all his employees, representatives and workmen working at the Site. Enough number of Contractor's personnel shall be trained in administering first-aid.

15.3.2. The Employer will provide the Contractor, in case of any emergency, the services of an ambulance for transportation to the nearest hospital.

15.4. Cleanliness

15.4.1. The Contractor shall be responsible for keeping the entire area allotted to him clean and free from rubbish, debris etc. during the period of Contract. The Contractor shall employ enough number of special personnel to thoroughly clean his work-area atleast once in a day. All such rubbish and scrap material shall be stacked or disposed off in a place to be identified by the Engineer. Materials and stores shall be so arranged to permit easy cleaning of the area. In areas where equipment might drip oil and cause damage to the floor surface, a suitable protective cover of a flame resistant, oil proof sheet shall be provided to protect the floor from such damage.

15.4.2. Similarly the labour colony, the offices and the residential areas of the Contractor's employees and workmen shall be kept clean and neat to the entire satisfaction of the Engineer. Proper sanitary arrangement shall be provided by the Contractor, in the work-areas, office and residential areas of the Contractor.

16. Lines and Grades

All the works shall be performed to the lines, grades and elevations indicated on the drawings. The Contractor shall be responsible to locate and lay-out the works. Basic horizontal and vertical control points will be established and marked by the Engineer at site at suitable points. These points shall be used as datum for the works under the Contract. The Contractor shall inform the Engineer well in advance of the times and places at which he wishes to do work in the area allotted to him so that suitable datum points may be established and checked by the Engineer to enable the Contractor to proceed with his works. Any work done without being properly located may be removed and/ or dismantled by the Engineer at Contractor's expense.

17. Fire Protection

17.1. The work procedures that are to be used during the erection shall be those, which minimize fire hazards to the extent practicable. Combustible materials, combustible waste and rubbish shall be collected and removed from the Site at least once each day. Fuels, oils and volatile or inflammable materials shall be stored away from the construction and equipment and materials storage areas in safe containers. Untreated materials shall not at all be used at Site for any other purpose unless otherwise specified. If any such materials are received with the equipment at the Site, the same shall be removed and replaced with acceptable materials before moving into the construction' or storage area.

17.2. Similarly, corrugated paper fabricated cartons etc. will not be permitted in the construction area either storage or for handling of materials. All such materials used shall be of waterproof and flame resistant type. All other materials such as working drawings, plans etc., which are combustible but are essential for the works to be executed shall be protected against combustion resulting from welding sparks, cutting flames and other similar fire sources.

17.3. All the Contractor's supervisory personnel and sufficient number of workers shall be trained for firefighting and shall be assigned specific fire protection duties. Enough of such trained personnel must be available at the Site during the entire period of the Contract.

17.4. The Contractor shall provide enough fire protection equipment of the types and numbers for the warehouses, office, temporary structures, labour colony area etc. Access to such fire protection equipment shall be easy and kept open at all times.

18. Security

The Contractor shall have total responsibility for all equipment and materials in his custody/ stores, loose, semi-assembled and/ or erected by him at Site. The Contractor shall make suitable security arrangements including employment of security personnel to ensure the protection of all materials, equipment and works from theft, fire, pilferage and any other damages and loss. All materials of the Contractor shall enter and leave the project site only with the written permission of the Engineer in the prescribed manner.

19. Contractor's Area Limits

The Engineer will mark-out the boundary limits of access roads, parking spaces, storage and construction areas for the Contractor and the Contractor shall not trespass the areas not so marked .out for him. The Contractor shall be responsible to ensure none of his personnel move out of the areas marked out for his operations. In case of such a need for the Contractor's personnel to work out of the areas marked out for him, the same shall be done only with the written permission of the Engineer.

20. Contractor's Co-operation with the Employer

In case where the performance of the erection work by the Contractor affects the operation of the system facilities of the Employer, such erection work of the Contractor shall be scheduled to be performed only in the manner stipulated by the Engineer and the same shall be acceptable at all times to the Contractor. The Engineer may impose such restrictions on the facilities provided to the Contractor such as electricity, water, etc. as he may think fit in the interest of the Employer and the Contractor shall strictly adhere to such restrictions and co-operate with the Engineer. It will be the responsibility of the Contractor to provide all necessary temporary instrumentation and other measuring devices required during start-up and operation of the equipment systems, which are erected by him. The Contractor shall also be responsible for flushing and initial filling of all the oil and lubricants required for the equipment furnished and erected by him, so as to make such equipment ready for operation. The Contractor shall be responsible for supplying such flushing oil and other lubricants unless otherwise specified

elsewhere in the document and specifications.

21. Pre-commissioning Trials and Initial Operations

The pre-commissioning trials and initial operations of the equipment furnished and erected by the Contractor shall be the responsibility of the Contractor as detailed in relevant clauses in Technical Specifications, Section. The Contractor shall provide, in addition, test instruments, calibrating devices, etc. and labour required for successful performance of these trials. If it is anticipated that the above test may prolong for a long time, the Contractor's workmen required for the above test shall always be present at Site during such trials.

22. Materials Handling and Storage

22.1. All the equipment furnished under the Contract and arriving at Site shall be promptly received, unloaded, transported and stored in the storage spaces by the Contractor.

22.2. Contractor shall be responsible for examining all the shipment and notify the Engineer immediately of any damages, storage, discrepancy etc. for the purpose of Engineer's information only. The Contractor shall submit to the Engineer every week a report detailing all the receipts during the week. However, the Contractor shall be solely responsible for any shortages or damages in transit, handling and/ or in storage and erection of the equipment at Site. Any demurrage" wharfage and other such charges claimed by the transporters, railways etc. shall be to the account of the Contractor.

22.3. The Contractor shall maintain an accurate and exhaustive record detailing out the list of all equipment received by him for the purpose of erection and keep such record open for the inspection of the Engineer in charge.

22.4. All equipment shall be handled very carefully to prevent any damage or loss. No bare wire ropes, slings, etc. shall be used for unloading and/ or handling of the equipment without the specific written permission of the Engineer. The equipment stored shall be properly protected to prevent damage either to the equipment or to the floor where they are stored. The equipment from the store shall be moved to the actual location at the appropriate time so as to avoid damage of such equipment at Site.

22.5. All electrical panels, control gears, motors and such other devices shall be properly dried by heating before they are installed and energized. Motor bearings, slip ring, commutators and other exposed parts shall be protected against moisture ingress and corrosion during storage and periodically inspected.

22.6. All the electrical equipment such as motors, generators, etc. shall be tested for insulation resistance at least once in three months from the date of receipt till the date of commissioning and a record of such measured insulation values maintained by the Contractor. Such records shall be opened for inspection by the Engineer.

22.7. The Contractor shall ensure that all the packing materials and protection devices, used for various equipment during transit and storage, are removed before the equipment are installed.

22.8. The consumable and other supplies likely to deteriorate due to storage must be thoroughly protected and stored in a suitable manner to prevent damage or deterioration in quality by storage.

22.9. All the materials stored in the open or dusty location must be covered with suitable weatherproof and flame proof covering material wherever applicable.

22.10. If the materials belonging to the Contractor are stored in areas other than those earmarked for him, the Engineer will have the right to get it moved to the area earmarked for the Contractor at the Contractor's cost.

22.11. The Contractor shall be responsible for making suitable indoor storage facilities to store all equipment, which require indoor storage. Normally all the electrical equipment such as

motors, control gears, generators, exciters and consumables like electrodes, lubricants etc. shall be stored in the closed storage space. The Engineer, in addition, may direct the Contractor to move certain other materials, which in his opinion will require indoor storage, to indoor storage areas, which the Contractor shall strictly comply with.

23. Construction Management

23.1. The field activities of the Contractors working at Site will be coordinated by the Engineer and the Engineer's decision shall be final in resolving any disputes or conflicts between the Contractor and other Contractors and the tradesmen of the Employer regarding scheduling and coordination of work. Such decision by the Engineer shall not be a cause for extra compensation or extension of time for the Contractor.

23.2. The Engineer shall hold weekly meetings of all the Contractors working at Site, at a time and place to be designated by the Engineer. The Contractor shall attend such meetings and take notes of discussions during the meeting and the decision of the Engineer and shall strictly adhere to those decisions in performing his works. In addition to the above weekly meeting, the Engineer may call for other meetings either with individual Contractors or with selected number of Contractors and in such a case the Contractors if called, will also attend such meetings.

23.3. Time is the essence of the Contract and the Contractor shall be responsible for performance of his works in accordance with the specified construction schedule. If at any time, the Contractor is falling behind the schedule, he shall take necessary action to make good for such delays by increasing his work force or by working overtime or otherwise accelerate the progress of the work to comply with the schedule and shall communicate such actions in writing to the Engineer, satisfying that his action will compensate for the delay. The Contractor shall not be allowed any extra compensation for such action.

23.4. The Engineer shall, however, not be responsible for provision of additional labour and/ or materials or supply or any other services to the Contractor except for the coordination work between various Contractors as set out earlier.

24. Field Office Records

The Contractor shall maintain at his Site office up to date copies of all drawings, specifications and other Contract Documents and any other supplementary data complete with all the latest revisions thereto. The Contractor shall also maintain in addition the continuous record of all changes to the above Contract Documents, drawings, specifications, and supplementary data, etc. effected at the field and on completion of his total assignment under the Contract shall incorporate all such changes on the drawings and other Engineering data to indicate as installed conditions of the equipment furnished and erected under the Contract. Such drawings and Engineering data shall be submitted to the Engineer in required number of copies.

25. Contractor's Materials Brought on to Site

25.1. The Contractor shall bring to Site all equipment, components, parts, materials, including construction equipment, tools and tackles for the purpose of the works under intimation to the Engineer. All such goods shall, from the time of their being brought vest in the Employer, but may be used for the purpose of the works only and shall not on any account be removed or taken away by the Contractor without the written permission of the Engineer. The Contractor shall nevertheless be solely liable and responsible for any loss or destruction thereof and damage thereto.

25.2. The Employer shall have a lien on such goods for any sum or sums which may at any time be due or owing to him by the Contractor, under, in respect of or by reasons of the Contract. After giving a fifteen (15) days' notice in writing of his intention to do so, the Employer shall be at liberty to sell and dispose off any such goods, in such manner as he shall think fit including public auction or private treaty and to apply the proceeds in or towards the satisfaction of such

sum or sums due as aforesaid.

25.3. After the completion of the Works, the Contractor shall remove from the Site under the direction of the Engineer the materials such as construction equipment, erection tools and tackles, scaffolding etc. with the written permission of the Engineer. If the Contractor fails to remove such materials, within fifteen (15) days of issue of a notice by the Engineer to do so then the Engineer shall have the liberty to dispose off such materials as detailed under Clause 25.2 above and credit the proceeds thereto to the account of the Contractor.

26. Protection of Property and Contractor's Liability

26.1. The Contractor shall be responsible for any damage resulting from his operations. He shall also be responsible for protection of all persons including members of public and employees of the Employer and the employees of other Contractors and Sub-Contractors and all public and private property including structures, building, other plants and equipment and utility either above or below the ground.

26.2. The Contractor will ensure provision of necessary safety equipment such as barriers, signboards, warning lights and alarms, etc. to provide adequate protections to persons and property. The Contractor shall be responsible to give reasonable notice to the Engineer and the Employer of public or private property and utilities when such property and utilities are likely to get damaged or injured during the performance of his works and shall make all necessary arrangements with such Employers, related to removal and/ or replacement or protection of such property and utilities.

27. Painting

All exposed metal parts of the equipment including piping, structures, railing etc. wherever applicable, after installation unless otherwise surface protected, shall be first painted with at least one coat of suitable primer which matches the shop primer paint used, after thoroughly cleaning all such parts of all dirt, rust, scales, grease, oil and other foreign materials by wire brushing, scraping or sand blasting and the same being inspected and approved by the Engineer for painting. Afterwards, the above parts shall be finished painted with two coats of allowed resin machinery enamel paints. The quality of the finish paint shall be as per the standards of ISI or equivalent and shall be of the colour as approved by the Engineer.

28. Insurance

In addition to the conditions covered under the Clause entitled 'Insurance' in General Terms and Conditions of Contract of this Volume-I, the following provisions will also apply to the portion of works to be done beyond the Contractor's own or his Sub- Contractor's manufacturing Works.

28.1. Workmen's Compensation Insurance

This insurance shall protect the Contractor against all claims applicable under the Workmen's Compensation Act, 1948 (Government of India). This policy shall also cover the Contractor against claims for injury, disability, disease or death of his or his Sub-Contractor's employee, which for any reason are not covered under the Workmen's Compensation Act, 1948. The liabilities shall not be less than:

- Workmen's Compensation : As per statutory Provisions
- Employee's liability : As per statutory Provisions

28.2. Comprehensive Automobile Insurance

This insurance shall be in such a form to protect the Contractor against all claims for injuries, disability, disease and death to members of public including the Employer's men and damage to the property of others arising from the use of motor vehicles during, on or off the Site

operations, irrespective of the Employership of such vehicles. The liability covered shall be as herein indicated:

- Fatal Injury : Rs.100,000 each person
- Rs.200,000 each occurrence
- Property Damage : Rs.100,000 each occurrence

28.3. Comprehensive General Liability Insurance

28.3.1. The insurance shall protect the Contractor against all claims arising from injuries, disabilities, disease or death of members of public or damage to property of others, due to any act of omission on the part of the Contractor, his agents, his employees, his representatives and Sub-Contractors or from riots, strikes and civil commotion. This insurance shall also cover all the liabilities of the Contractor arising out of the Clause entitled 'Defence of Suits' under General Terms and Conditions of Contract of this Volume-I.

28.3.2. The hazards to be covered will pertain to all the works and areas where the Contractor, his Sub-Contractors, his agents and his employees have to perform work pursuant to the Contract.

28.4. The above are only illustrative list of insurance covers normally required and it will be the responsibility of the Contractors to maintain all necessary insurance coverage to the extent both in time and amount to take care of all his liabilities either direct or indirect, in pursuance of the Contract.

29. Unfavourable Working Conditions

The Contractor shall confine all his field operations to those works, which can be performed without subjecting the equipment and materials to adverse effects during inclement weather conditions, like monsoon, storms etc. and during other unfavorable construction conditions. No field activities shall be performed by the Contractor under conditions, which might adversely affect the quality and efficiency thereof, unless special precautions or measures are taken by the Contractor in a proper and satisfactory manner in the performance of such Works and with the concurrence of the Engineer. Such unfavorable construction conditions will in no way relieve the Contractor of his responsibility to perform the Works as per the schedule.

30. Protection of Monuments and Reference Points

The Contractor shall ensure that any finds such as relic, antiquity, coins, fossils, etc. which he may come across during the course of performance of his Works either during excavation or elsewhere, are properly protected and handed over to the Engineer. Similarly the Contractor shall ensure that the bench marks, reference points, etc., which are marked either with the help of Engineer or by the Engineer shall not be disturbed in any way during the performance of his Works. If any work is to be performed which disturbs such reference the same shall be done only after these are transferred to other suitable locations under the direction of the Engineer. The Contractor shall provide all necessary materials and assistance for such relocation of reference points etc.

31. Work & Safety Regulations

31.1. The Contractor shall ensure proper safety of all the workmen, materials, plant and equipment belonging to him or to the Employer or to others, working at the Site. The Contractor shall also be responsible for provision of all safety notices and safety equipment required both by the relevant legislations and the Engineer, as he may deem necessary.

31.2. The Contractor will notify well in advance to the Engineer of his intention to bring to the Site any container filled with liquid or gaseous fuel or explosive' or petroleum substance or such

chemicals which may involve hazards. The Engineer shall have the right to prescribe the conditions, under which such container is to be stored, handled and used during the performance of the works and the Contractor shall strictly adhere to and comply with such instructions. The Engineer shall have the right at his sole discretion to inspect any such container or such construction plant/ equipment for which material in the container is required to be used and if in his opinion, its use is not safe, he may forbid its use. No claim due to such prohibition shall be entertained by the Employer and the Employer shall not entertain any claim of the Contractor towards additional safety provisions/ conditions to be provided for/ constructed as per the Engineer's instructions.

Further, any such decision of the Engineer shall not, in any way, absolve the Contractor of his responsibilities and in case, use of such a container or entry thereof into the Site area is forbidden by the Engineer, the Contractor shall use alternative methods with the approval of the Engineer without any cost implication to the Employer or extension of work schedule.

31.3. Where it is necessary to provide and/ or store petroleum products or petroleum mixtures and explosives, the Contractor shall be responsible for carrying-out such provision and/ or storage in accordance with the rules and regulations laid down in Petroleum Act 1934, Explosives Act, 1948 and Petroleum and Carbide of Calcium Manual published by the Chief Inspector of Explosives of India. All such storage shall have prior approval of the Engineer. In case, any approvals are necessary from the Chief Inspector (Explosives) or any statutory authorities, the Contractor shall be responsible for obtaining the same.

31.4. All equipment used in construction and erection by Contractor shall meet Indian/ International Standards and where such standards do not exist, the Contractor shall ensure these to be absolutely safe. All equipment shall be strictly operated and maintained by the Contractor in accordance with manufacturer's Operation Manual and safety instructions and as per Guidelines/ rules of the Employer in this regard.

31.5. Periodical examinations and all tests for all lifting/ hoisting equipment & tackles shall be carried-out in accordance with the relevant provisions of Factories Act 1948, Indian Electricity Act 2003 and associated Laws/ Rules in force from time to time. A register of such examinations and tests shall be properly maintained by the Contractor and will be promptly produced as and when desired by the Engineer or by the person authorized by him.

31.6. The Contractor shall provide suitable safety equipment of prescribed standard to all employees and workmen according to the need, as may be directed by the Engineer who will also have right to examine these safety equipment to determine their suitability, reliability, acceptability and adaptability.

31.7. The Contractor shall be fully responsible for the safe storage of his and his Sub- Contractor's radioactive sources in accordance with Bhabha Atomic Research Centre (BARC)/ Department of Atomic Energy (DAE) Rules and other applicable provisions. All precautionary measures stipulated by BARC/ DAE in connection with use, storage and handling of such material will be taken by the Contractor.

31.8. Where explosives are to be used, the same shall be used under the direct control and supervision of an expert, experienced, qualified and competent person strictly in accordance with the Code of Practice/ Rules framed under Indian Explosives Act pertaining to handling, storage and use of explosives.

31.9. The Contractor shall provide safe working conditions to all workmen and employees at the Site including safe means of access, railings, stairs, ladders, scaffoldings etc. The scaffoldings shall be erected under the control and supervision of an experienced and competent person. For erection, good and standard quality of material only, shall be used by the Contractor.

31.10. The Contractor shall not interfere or disturb electric fuses, wiring and other electrical equipment belonging to the Employer or other Contractors under any circumstances, whatsoever, unless expressly permitted in writing by the Employer to handle such fuses,

wiring or electrical equipment.

31.11. Before the Contractor connects any electrical appliances to any plug or socket belonging to the other Contractor or Employer, he shall:

a. Satisfy the Engineer that the appliance is in good working condition;

b. Inform the Engineer of the maximum current rating, voltage and phases of the appliances;

c. Obtain permission of the Engineer detailing the sockets to which the appliances may be connected.

31.12. The Engineer will not grant permission to connect until he is satisfied that;

a. The appliance is in good condition and is fitted with suitable plug;

b. The appliance is fitted with a suitable cable having two earth conductors, one of which shall be an earthed metal sheath surrounding the cores.

31.13. No electric cable in use by the Contractor/ Employer will be disturbed without prior permission. No weight of any description will be imposed on any cable and no ladder or similar equipment will rest against or attached to it.

31.14. No repair work shall be carried out on any live equipment. The equipment must be declared safe by the Engineer and a permit to work shall be issued by the Engineer before any repair work is carried out by the Contractor. While working on electric lines/equipment, whether live or dead, suitable type and sufficient quantity of tools will have to he provided by the Contractor to electricians/ workmen/ officers.

31.15. The Contractors shall employ necessary number of qualified, full time electricians/electrical supervisors to maintain his temporary electrical installation.

31.16. The Contractor employing more than 250 workmen whether temporary, casual, probationer, regular or permanent or on contract, shall employ at least one full time officer exclusively as safety officer to supervise safety aspects of the equipment and workmen, who will coordinate with the Project Safety Officer. In case of work being carried out through Sub-Contractors, the Sub-Contractor's workmen/ employees will also be considered as the Contractor's employees/ workmen for the above purpose.

The name and address of such Safety Officers of the Contractor will be promptly informed in writing to Engineer with a copy to Safety Officer-In charge before he starts work or immediately after any change of the incumbent is made during currency of the Contract.

31.17. In case any accident occurs during the construction/ erection or other associated activities undertaken by the Contractor thereby causing any minor or major or fatal injury to his employees due to any reason, whatsoever, it shall be the responsibility of the Contractor to promptly inform the same to the Engineer in prescribed form and also to all the authorities envisaged under the applicable laws.

31.18. The Engineer shall have the right at his sole discretion to stop the work, if in his opinion the work is being carried out in such a way that it may cause accidents and endanger the safety of the persons and/ or property, and/ or equipment. In such cases, the Contractor shall be informed in writing about the nature of hazards and possible injury/ accident and he shall comply to remove shortcomings promptly. The Contractor after stopping the specific work can, if felt necessary, appeal' against the order of stoppage of work to the Engineer within three (3) days of such stoppage of work and decision of the Engineer in this respect shall be conclusive and binding on the Contractor.

31.19. The Contractor shall not be entitled for any damages/ compensation for stoppage of work due to safety reasons as provided in clause 31.18 above and the period of such stoppage of work will not be taken as an extension of time for completion of work and will not be the ground for waiver of levy of liquidated damages.

31.20. It is mandatory for the Contractor to observe during the execution of the works, requirements of Safety Rules which would generally include but not limited to following:

Safety Rules

a. Each employee shall be provided with initial indoctrination regarding safety by the Contractor, so as to enable him to conduct his work in a safe manner.

b. No employee shall be given a new assignment of work unfamiliar to him without proper introduction as to the hazards incident thereto, both to himself and his fellow employees.

c. Under no circumstances shall an employee hurry or take unnecessary chance when working under hazardous conditions.

d. Employees must not leave naked fires unattended. Smoking shall not be permitted around fire prone areas and adequate fire-fighting equipment shall be provided at crucial location.

e. Employees under the influence of any intoxicating beverage, even to the slightest degree shall not be permitted to remain at work.

f. There shall be a suitable arrangement at every work site for rendering prompt and sufficient first aid to the injured.

g. The staircases and passageways shall be adequately lighted.

h. The employees when working around moving machinery, must not be permitted to wear loose garments. Safety shoes are recommended when working in shops or places where materials or tools are likely to fall. Only experienced workers shall be permitted to go behind guard rails or to clean around energized or moving equipment. .

i. The employees must use the standard protection equipment intended for each job. Each piece of equipment shall be inspected before and after it is used.

j. Requirements of ventilation in underwater working to licensed and experienced divers, use of gum boots for working in slushy or in inundated conditions are essential requirements to be fulfilled.

k. In case of rock excavation, blasting shall invariably be done through licensed blasters and other precautions during blasting and storage/transport of charge material shall be observed strictly.

31.21. The Contractor shall follow and comply with the Employer's Safety Rules, relevant provisions of applicable laws pertaining to the safety of workmen, employees, plant and equipment as may be prescribed from time to time without any demur, protest or contest or reservations. In case of any discrepancy between statutory requirement and Employer's Safety Rules referred above, the latter shall be binding on the Contractor unless the statutory provisions are more stringent.

31.22. If the Contractor fails in providing safe working environment as per Employer's Safety Rules or continues the work even after being instructed to stop work by the Engineer as provided in clause 31.18 above, the Contractor shall promptly pay to the Employer, on demand by the Employer, compensation at the rate of Rs. 5,000/- per day of part thereof till the instructions are complied with and so certified by the Engineer. However, in case of accident taking place, causing injury to any individual, the provisions contained in clause 31.23 shall also apply in addition to compensation mentioned in this clause.

31.23. If the Contractor does not take all safety precautions and/ or fails to comply with the Safety Rules as prescribed by the Employer or under the applicable law for the safety of the equipment and plant and for the safety of personnel and the Contractor does not prevent hazardous conditions which cause injury to his own employees or employees of other Contractors or Employer's employees or any other person who are at Site or adjacent thereto,

the Contractor shall be responsible for payment of compensation to the Employer as per the following schedule:

a. Fatal injury or accident causing death Rs. 1,00,000/per person

b. Major injuries or accident causing Rs. 20,000/

25% or more permanent disablement per person to Workmen or employees

(*These are applicable for death / injury to any person, whatsoever*)

Permanent disablement shall have same meaning as indicated in Workmen's Compensation Act. The compensation mentioned above shall be in addition to the compensation payable to the workmen/ employees under the relevant provisions of the Workmen's Compensation Act and rules framed there under or any other applicable laws as applicable from time to time. In case the Employer is made to pay such compensation then the Contractor is liable to reimburse the Employer such amount in addition to the compensation indicated above.

31.24. If the Contractor observes all the Safety Rules and Codes, Statutory Laws and Rules during the currency of Contract awarded by the Employer and no accident occurs then the Employer may consider the performance of the Contractor and award suitable 'ACCIDENT FREE SAFETY MERITORIOUS AWARD' as per scheme as may be announced separately from time to time.

32. Code Requirements

The erection requirements and procedures to be followed during the installation of the equipment shall be in accordance with the relevant Codes and accepted good engineering practice, the Engineer's drawings and other applicable Indian recognized codes and laws and regulation of the Government of India.

33. Foundation Dressing & Grouting

33.1. The surfaces of foundation shall be dressed to bring the top surface of the foundation to the required level, prior to placement of equipment/ equipment bases on the foundation.

33.2. All the equipment bases and structural steel base plates shall be grouted and finished as per these specifications unless otherwise recommended by the equipment manufacturer.

33.3. The concrete foundation surfaces shall be properly prepared by chipping and/or grinding as required to bring the type of such foundation to the required level to provide the necessary roughness for bondage and to ensure enough bearing strength. All laitance and surface film shall be removed and cleaned.

33.4. Grouting Mix

The grouting mixture shall be composed of Portland cement, sand and water. The Portland cement to be used shall conform to ISI NO.269 or equivalent. Sand shall conform to' ISI NO.383/2386 or equivalent. The grout proportions for flat bases where the grouting space does not exceed 35 mm shall be 50 Kg bag of cement to 75 Kg of sand. Only the required quantity of water shall be added so as to make the mix quaky and flowable and the mix shall not show excess water on top when it is being puddled in place. For thicker grout beds upto 65 mm, the amount of sand shall be increased to 105 Kg per bag of cement. Bases which are hollow and are to be filled full of grouting shall be filled to a level of 25 mm above the outside rim with a mortar mix in the volumetric proportion of one part of cement and 1.5 part sand and 1.5 part 6 mm granite gravel. An acceptable plasticiser may be added to the grout mixes in a proportion recommended by the plasticiser's manufacturer. All such grouts shall be thoroughly mixed for not less than five minutes in an approved mechanical mixer and shall be used immediately after mixing.

33.5. Placing of Grout

33.5.1. After the base has been prepared, its alignment and level has been checked and approved and before actually placing the grout a low dam shall be set around the base at a distance that will permit pouring and manipulation of the grout. The height of such dam shall be at least 25 mm above the bottom of the base. Suitable size and number of chains shall be introduced under the base before placing the grout, so that such chains can be moved back and forth to push the grout into every part of the space under the base.

33.5.2. The grout shall be poured either through grout holes provided or shall be poured at one side or at two adjacent sides giving it a pressure head to make the grout move in a solid mass under the base and out in the opposite side. Pouring shall be continued until the entire space below the base is thoroughly filled and the grout stands at least 25mm higher all around than the bottom of the base. Enough care should be taken to avoid any air or water pockets beneath the bases.

33.6. Finishing of the Edges of the Grout

The poured grout should be allowed to stand undisturbed until it is well set. Immediately thereafter, the dam shall be removed and grout, which extends beyond the edges of the structural or equipment base plates shall be cut off, flushed and removed. The edges of the grout shall then be pointed and finished with 1:2 cement mortar pressed firmly to bond with the body of the grout and smoothened with a tool to present a smooth' vertical surface. The work shall be done in a clean and scientific manner and the adjacent floor spaces, exposed edges of the foundations, and structural steel and equipment base plates shall be thoroughly cleaned of any spillage of the grout.

33.7. Checking of Equipment after Grouting

After the grout is set and cured, the Contractor shall check and verify the alignment of equipment, alignment of shafts of rotating machinery, the slopes of all bearings, pedestals, centering of rotors with respect to their sealing bores, couplings etc. as applicable and the like items to ensure that no displacement has taken place during grouting. The values recorded prior to grouting shall be used during such post grouting checkup and verification. Such pre and post grout records of alignment details shall be maintained by the Contractor in a manner acceptable to the Engineer.

34. Shaft Alignments

All the shafts of rotating equipment shall be properly aligned to those of the matching equipment to as perfect an accuracy as practicable. The equipment shall be free from excessive vibration so as to avoid overheating of bearings or other conditions, which may tend to shorten the life of the equipment. All bearings, shafts and other rotating parts shall be thoroughly cleaned and suitably lubricated before starting.

35. Dowelling

All the motors and other equipment shall be suitably dowelled after alignment of shafts with tapered machined dowels as per the direction of the Engineer.

36. Check out of Control Systems

After completion of wiring, cabling furnished under separate specification and laid and terminated by the Employer, the Contractor shall check out the operation of all control system for the equipment furnished and installed under these specifications and documents.

37. Cabling

37.1. All cables shall be supported by conduits or cable trays run in air or in cable channels. These shall be installed in exposed runs parallel or perpendicular to dominant surface with right angle turn made of symmetrical bends for fittings. When cables are run on cable trays, they shall be

clamped at minimum intervals of 2000 mm or otherwise as directed by the Engineer.

37.2. Each cable, whether power or control, shall be provided with a metallic or plastic tag of an approved type, bearing a cable reference number indicated in the cable and conduit list (prepared by the Contractor), at every 5 meter run or part thereof and at both ends of the cable adjacent to the terminations. Cable routing is to be done in such a way that cables are accessible for any maintenance and for easy identification.

37.3. Sharp bending and kinking of cables shall be avoided. The minimum radii for PVC insulated cables 1100 V grade shall be 15 D, where D is the overall diameter of the cable. Installation of other cables like high voltage, coaxial, screened compensating, mineral insulated shall be in accordance with the cable manufacturer's recommendations. Wherever cables cross roads and water, oils, sewage or gas lines, special care should be taken for the protection of the cables in designing the cables channels.

37.4. In each cable run some extra length shall be kept at a suitable point to enable one or two straight through joints to be made, should the cable develop fault at a later date.

37.5. Control cable terminations shall be made in accordance with wiring diagrams, using identifying codes subject to Engineer's approval. Multi-core control cable jackets shall be removed as required to train and terminate the conductors. The cable jacket shall be left on the cable, as far as possible, to the point of the first conductor branch. The insulated conductors from which the jacket is removed shall be neatly twined in bundles and terminated. The bundles shall be firmly, but not tightly, tied utilizing plastic or nylon ties or specially treated fungus protected cord made for this purpose. Control cable conductor insulation shall be secure and even.

37.6. The connectors for control cables shall be covered with a transparent insulating sleeve so as to prevent accidental contact with ground or adjacent terminals and shall preferably be terminated in elmex terminals and washers. The insulating sleeve shall be fire resistant and shall be long enough to over pass the conductor insulation. All control cables shall be fanned out and connection made to terminal blocks and test equipment for proper operation before cables are corded together.

38. Construction of Room for Inverter/ Battery

The Contractor shall plan for sufficient no. of appropriately designed rooms for inverters/ Batteries or any other equipment as per the equipment’s operating guidelines. The room(s) thus constructed shall have auxiliary power supply, electrical fixtures with all necessary protections for connection of the equipment inside. All civil work shall strictly follow relevant IS standards and guidelines.

SECTION – V

SPECIAL CONDITIONS OF CONTRACT (SCC)

Jharkhand Renewable Energy Development Agency

Ranchi, Jharkhand

A. GENERAL INFORMATION

1. General Information

1.1. JREDA (A Government of Jharkhand Company) incorporated under the Companies Act, 1956, having its Registered Office at Ranchi (hereinafter called the Employer/ JREDA) has been entrusted with the concurrence of Government of Jharkhand for execution of Rural Electrification Works for electrification of villages and rural households in the 10 districts of Jharkhand.

1.2. JREDA, therefore, invites sealed bids for the following packages of Rural Electrification Works in 10 Nos. of District in Jharkhand on domestic competitive bidding basis:

Packages	District	Block	No of Villages	Capacity kW	Length km	Estimate Cost in Lakhs
Package 1	Pakur		18	129	20.9	129
	Sahebanj		38	319	49.3	880
	Simdea		5	83	13.6	213
	West Singhbhum	Manjhari	1	20	3.4	51
		Tonto	21	267	44.9	706
		Kumardungi	1	59	10	142
		Anandpur	1	30	5	75
		Noamundi	1	7	1.1	20
		Manoharpur	2	52	8.8	131
Package 2	Garhwa	0	12	209	35.4	538
	Palmaw	0	20	546	89.5	1329
	Chatra	Pratappur	12	174	24.7	446
	Chatra	Kunda	19	197	29.4	525
Package 3	West Singhbhum	Goilkera	39	1114	187.2	2773
Package 4	West Singhbhum	Bandhgaon	22	292	47.7	770
	West Singhbhum	Chakradharpur	3	63	10.6	158
	West Singhbhum	Sonua	35	734	124.1	1860
Package 5	Latehar		23	576	93.7	1436
	Gumla		24	501	81	1253
	Chatra	Hunterganj	14	165	22.1	436
Package 6	Chatra	Lawalaung	42	994	134	2455
	Hazaribag		10	142	22.6	369
Total						**16695**

1.3. The project shall be executed by JREDA on turnkey basis with funds made available out of the proceeds of the financial assistance received by Government of Jharkhand from REC and the Ownership of the aforesaid package, (work) shall remain vested with JREDA. All eligible payments against this work shall be made by JREDA under suitable arrangement with REC.

1.4. "Owner" shall mean the JREDA.

For the purpose of execution of the Contract, the contractual activities on the part of the 'Owner', wherever context requires so, shall be performed by Owner, on behalf of Government of Jharkhand except in case where Government of Jharkhand itself is statutorily required to do so.

1.5. Wherever reference to Jharkhand Renewable Energy Development Agency (JREDA) is made in the bidding documents, Contract/ Notification/ Letter of Award (in the event of Award of Contract) or any related papers/documents, it shall be deemed to be "for and on behalf of the Government of Jharkhand.

1.6. The contents of RfP are as indicated under Clause 5, Section INB, Conditions of Contract, of RfP. The requirements, conditions appendices etc., stated in Conditions of Contract, bid Proposal Sheets, Technical Specification and Technical Data Requirements, shall apply to and shall be considered as part of this section, as if bound together. In case of any discrepancy between the provisions of this Section and other Section of the RfP, the provisions of this Section shall prevail.

1.7. Unless brought out clearly, the Bidder shall be deemed to conform strictly to the provisions of RfP. Any discrepancy between Specifications and the Catalogues of the bid will not be considered.

1.8. The respective rights of the Owner and Bidder/ Contractors shall be governed by the RfP/ Contracts signed between the Owner and the Contractor for the respective packages.

2. Scope of Work

2.1. The detailed scope of work covered under the package(s) is specified in the Technical Specifications, and is indicated hereunder:

2.1.1. Design, engineering, testing, supply, erection and commissioning of Solar PV Power Plant (Mini/Micro grid) with distribution network & connection to households, along with 5 years CMC, under Decentralized Distributed Generation (DDG) for the following locations /projects:

Package 1

S.No.	Name of the District	Name of Village	No. of Total House holds	DPR Capacity of the Project (KW)	Total Length for distribution network
1	Pakur	Tetli	25	7	1.1
2	Pakur	Margo	16	4	0.7
3	Pakur	Tatbhitapahar	45	12	1.9
4	Pakur	Jani	65	17	2.8
5	Pakur	Tatbhita Santhali	55	14	2.4
6	Pakur	Bathukundi	50	13	2.2
7	Pakur	Barganwpahar	46	12	2.0
8	Pakur	Kasigora Santhal Tola	15	4	0.6
9	Pakur	Chhota Chetro	15	4	0.6
10	Pakur	Barajara	25	7	1.1
11	Pakur	Narchi	18	5	0.8
12	Pakur	Uparmargo	18	5	0.8
13	Pakur	Madui Chhoti Bandkoi	18	5	0.8
14	Pakur	Bara Bandhkai Sariam	45	12	1.9
15	Pakur	Tamki	15	4	0.6
16	Pakur	Porpara	15	4	0.6
17	Sahibganj	Chaperi	27	7	1.1
18	Sahibganj	Gorakepu	37	10	1.6
19	Sahibganj	Chhota Bhiranda	17	5	0.7
20	Sahibganj	Mir	17	5	0.7
21	Sahibganj	Amjani	15	4	0.5
22	Sahibganj	Garapani	25	7	0.9
23	Sahibganj	Badem	17	5	0.7
24	Sahibganj	Phulijhari	61	16	2.6
25	Sahibganj	Behra	35	9	1.5
26	Sahibganj	Chamdi Bedo	25	7	1.0
27	Sahibganj	Chamdi Mango	25	7	1.0
28	Sahibganj	Godwa	38	10	1.5
29	Sahibganj	Joya	25	7	1.0
30	Sahibganj	Tuti	45	12	1.9
31	Sahibganj	Darwase Bedo	45	12	1.7
32	Sahibganj	Goga	16	4	0.7
33	Sahibganj	Kochori Mago	65	17	2.7
34	Sahibganj	Kasari	17	5	0.7
35	Sahibganj	Muri (Bara)	25	7	1.0
36	Sahibganj	Goalapahar	38	10	1.5
37	Sahibganj	Banapara	38	10	1.6
38	Sahibganj	Chabitok	28	7	1.2
39	Sahibganj	Chengbita (Nagarbita)	50	13	2.1
40	Sahibganj	Dawana	45	12	1.9
41	Sahibganj	Ichapara (Ichanasi)	25	7	1.1
42	Sahibganj	Jirik (Kaji)	21	6	0.9
43	Sahibganj	Jokani Bedo	19	5	0.7
44	Sahibganj	Jokani Maqo	21	6	0.8

S.No.	Name of the District	Name of Village	No. of Total House holds	DPR Capacity of the Project (KW)	Total Length for distribution network
45	Sahibganj	Karkaram	50	13	2.1
46	Sahibganj	Ketekbera	27	7	1.1
47	Sahibganj	Malibita	22	6	0.9
48	Sahibganj	Mansbber a Bera Bans Pahar	17	5	0.7
49	Sahibganj	Manskepu	17	5	0.7
50	Sahibganj	Pakia Bedo	24	6	1.0
51	Sahibganj	Pirpam	24	6	1.0
52	Sahibganj	Rohra	25	7	1.0
53	Sahibganj	Salgachi (sarki)	80	20	3.4
54	Sahibganj	Talme (Panek)	45	12	1.9
55	SIMDEGA	Boranda	60	15	2.4
56	SIMDEGA	Barbera	60	15	2.5
57	SIMDEGA	Semariya	60	15	2.3
58	SIMDEGA	Hardibera	100	25	4.3
59	SIMDEGA	Rengarpani	50	13	2.2
60	West Singhbhum	Manjhari	80	20	3.4
61	West Singhbhum	Tonto	50	13	2.2
62	West Singhbhum	Tonto	70	18	3.0
63	West Singhbhum	Tonto	100	25	4.3
64	West Singhbhum	Tonto	80	20	3.4
65	West Singhbhum	Tonto	60	15	2.6
66	West Singhbhum	Tonto	70	18	3.0
67	West Singhbhum	Tonto	60	15	2.6
68	West Singhbhum	Tonto	40	10	1.7
69	West Singhbhum	Tonto	30	8	1.3
70	West Singhbhum	Tonto	60	15	2.6
71	West Singhbhum	Tonto	55	14	2.4
72	West Singhbhum	Tonto	55	14	2.4
73	West Singhbhum	Tonto	45	12	1.9
74	West Singhbhum	Tonto	18	5	0.8
75	West Singhbhum	Tonto	20	5	0.9
76	West Singhbhum	Tonto	50	13	2.2
77	West Singhbhum	Tonto	55	14	2.4
78	West Singhbhum	Tonto	35	9	1.5
79	West Singhbhum	Tonto	20	5	0.9
80	West Singhbhum	Tonto	25	7	1.1
81	West Singhbhum	Tonto	45	12	1.9
82	West Singhbhum	Manoharpur	170	43	7.3
83	West Singhbhum	Manoharpur	35	9	1.5
84	West Singhbhum	Kumardungi	233	59	10.0
85	West Singhbhum	Anandpur	81	30	5.0
86	West Singhbhum	Noamundi	117	7	1.1

Package 2

S.No.	Name of the District	Name of Village	No.of Total House holds	DPR Capacity of the Project (KW)	Total Length for distribution network
1	Palamu	Kuku Khurd	31	8	1.3
2	Palamu	Raybar	45	12	1.9
3	Palamu	Shivpur	87	22	3.7
4	Palamu	Anata Khurd	192	48	8.2
5	Palamu	Jaspur	65	17	2.8
6	Palamu	Mahari	108	27	3.7
7	Palamu	Bagla	205	52	7.8
8	Palamu	Kosiyara	193	49	8.0
9	Palamu	Dundu	0	0	0.0
10	Palamu	Manjh Gaon	118	30	4.8
11	Palamu	Bharatpur	0	0	0.0
12	Palamu	Pasar	273	69	11.7
13	Palamu	Karma	0	0	0.0
14	Palamu	Sinjo	577	145	24.4
15	Palamu	Tal	0	0	0.0
16	Palamu	Jamuniyadih	0	0	0.0
17	Palamu	Jayadu	0	0	0.0
18	Palamu	Ulman	158	40	6.7
19	Palamu	Pahaldewa	50	13	2.2
20	Palamu	Supha	55	14	2.4
21	Garhwa	Bhajna	80	20	3.4
22	Garhwa	Hesatu	60	15	2.6
23	Garhwa	Khajira	85	22	3.7
24	Garhwa	Khura	90	23	3.9
25	Garhwa	Korwadih	25	7	1.1
26	Garhwa	Madgari	70	18	3.0
27	Garhwa	Saruwat	60	15	2.6
28	Garhwa	Totki	140	35	6.0
29	Garhwa	Tumera	40	10	1.7
30	Garhwa	Turer	100	25	4.3
31	Garhwa	Turer (Chapiya)	50	13	2.2
32	Garhwa	Polpol	23	6	0.9
33	Chatra	Pratappur	31	8	1.1
34	Chatra	Pratappur	44	11	1.7
35	Chatra	Pratappur	72	18	2.6
36	Chatra	Pratappur	40	10	1.7
37	Chatra	Pratappur	60	15	2.6
38	Chatra	Pratappur	38	10	1.5
39	Chatra	Pratappur	15	4	0.6

S.No.	Name of the District	Name of Village	No.of Total House holds	DPR Capacity of the Project (KW)	Total Length for distribution network
40	Chatra	Kunda	22	6	0.9
41	Chatra	Kunda	75	19	2.9
42	Chatra	Kunda	52	13	2.0
43	Chatra	Kunda	24	6	1.0
44	Chatra	Kunda	21	6	0.8
45	Chatra	Kunda	37	10	1.3
46	Chatra	Kunda	35	9	1.4
47	Chatra	Kunda	58	15	2.1
48	Chatra	Kunda	18	5	0.6
49	Chatra	Kunda	28	7	1.0
50	Chatra	Kunda	120	30	4.9
51	Chatra	Kunda	63	16	2.3
52	Chatra	Kunda	20	5	0.7
53	Chatra	Kunda	27	7	1.0
54	Chatra	Kunda	23	6	0.8
55	Chatra	Kunda	19	5	0.7
56	Chatra	Kunda	75	19	3.1
57	Chatra	Kunda	21	6	0.8
58	Chatra	Kunda	26	7	1.0
59	Chatra	Pratappur	40	10	1.3
60	Chatra	Pratappur	35	9	1.2
61	Chatra	Pratappur	120	30	4.0
62	Chatra	Pratappur	135	34	4.5
63	Chatra	Pratappur	60	15	2.0

Package 3

Name of the District	Block	Name of Village	No. of Total House holds	DPR Capacity of the Project (KW)	Total Length for distribution network
West Singhbhum	Goilkera	Banjira	120	30	4.8
West Singhbhum	Goilkera	Buvgua	24	6	1.0
West Singhbhum	Goilkera	Bhaktauli	150	38	6.5
West Singhbhum	Goilkera	Chitir	94	24	4.0
West Singhbhum	Goilkera	Gamariya	167	42	6.9
West Singhbhum	Goilkera	Hindug	135	34	5.8
West Singhbhum	Goilkera	Kajuriya	120	30	5.2
West Singhbhum	Goilkera	Kamsai	112	28	4.7
West Singhbhum	Goilkera	Kara	120	30	5.2

Name of the District	Block	Name of Village	No. of Total House holds	DPR Capacity of the Project (KW)	Total Length for distribution network
West Singhbhum	Goilkera	Katinkel	134	34	5.2
West Singhbhum	Goilkera	Kumartondang	100	25	4.3
West Singhbhum	Goilkera	Popkera	35	9	1.5
West Singhbhum	Goilkera	Rela	105	27	4.5
West Singhbhum	Goilkera	Remar Kocha	47	12	1.9
West Singhbhum	Goilkera	Rerda	180	45	7.7
West Singhbhum	Goilkera	Saitba	150	38	6.5
West Singhbhum	Goilkera	Shawsol	70	18	3.0
West Singhbhum	Goilkera	Sarangda	200	50	8.1
West Singhbhum	Goilkera	Tomdel	106	27	4.5
West Singhbhum	Goilkera	Paral	65	17	2.8
West Singhbhum	Goilkera	Saruda	208	52	8.9
West Singhbhum	Goilkera	Joyoda	95	24	4.0
West Singhbhum	Goilkera	Jilingutu	122	31	5.2
West Singhbhum	Goilkera	Rayam	250	63	10.8
West Singhbhum	Goilkera	Tendana	36	9	1.5
West Singhbhum	Goilkera	Undada	80	20	3.4
West Singhbhum	Goilkera	Derba	222	56	9.4
West Singhbhum	Goilkera	Sarugara	257	65	11.0
West Singhbhum	Goilkera	Sauriuli	100	25	4.3
West Singhbhum	Goelkera	Rayrona	50	13	2.2
West Singhbhum	Goelkera	Kotargare	55	14	2.4
West Singhbhum	Goilkera	Balia	70	18	3.0
West Singhbhum	Goilkera	Sangajata	70	18	3.0
West Singhbhum	Goilkera	Borae (Borne)	170	43	7.3
West Singhbhum	Goilkera	Ambiya (Arabia)	50	13	2.2
West Singhbhum	Goilkera	Lomenta (Lobenta)	80	20	3.4
West Singhbhum	Goelkera	Bangurkia	60	15	2.6
West Singhbhum	Goilkera	Patunsha (Patung)	110	28	4.7
West Singhbhum	Goilkera	Sonva	90	23	3.9

Package 4

S.No.	Name of the District	Block	Name of Village	No.of Total House holds	DPR Capacity of the Project (KW)	Total Length for distribution network
1	West Singhbhum	Bandhgaon	Erkora	26	7	1.1
2	West Singhbhum	Bandhgaon	Jerakel	66	17	2.8
3	West Singhbhum	Bandhgaon	Kukrubaru	49	13	2.1
4	West Singhbhum	Bandhgaon	Birda	17	5	0.7
5	West Singhbhum	Bandhgaon	Manmaru	25	7	1.0

S.No.	Name of the District	Block	Name of Village	No.of Total House holds	DPR Capacity of the Project (KW)	Total Length for distribution network
6	West Singhbhum	Bandhgaon	Kurjulee	106	27	4.4
7	West Singhbhum	Bandhgaon	Chatma	23	6	1.0
8	West Singhbhum	Bandhgaon	Logora	99	25	4.3
9	West Singhbhum	Bandhgaon	Dudhkundi	94	24	4.0
10	West Singhbhum	Bandhgaon	Pingu	78	20	2.8
11	West Singhbhum	Bandhgaon	Lowahatu	44	11	1.9
12	West Singhbhum	Bandhgaon	Bobonga	42	11	1.8
13	West Singhbhum	Bandhgaon	Dumbari	36	9	1.5
14	West Singhbhum	Bandhgaon	Kopa	46	12	2.0
15	West Singhbhum	Bandhgaon	Bingburu	24	6	1.0
16	West Singhbhum	Bandhgaon	Jankopai	66	17	2.8
17	West Singhbhum	Bandhgaon	Kotagara	80	20	3.3
18	West Singhbhum	Bandhgaon	Shankra	30	8	1.3
19	West Singhbhum	Bandhgaon	Halmad	30	8	1.3
20	West Singhbhum	Bandhgaon	Rogto	25	7	1.1
21	West Singhbhum	Chakradharpur	Guibera	40	10	1.7
22	West Singhbhum	Chakradharpur	Ututua	150	38	6.5
23	West Singhbhum	Chakradharpur	Lanji	59	15	2.5
56	West Singhbhum	Sonua	Baskata	54	14	2.3
57	West Singhbhum	Sonua	Berakayam	70	18	3.0
58	West Singhbhum	Sonua	Bilaita Toli	90	23	3.9
59	West Singhbhum	Sonua	Burukayam	100	25	4.3
60	West Singhbhum	Sonua	Buruwalli	85	22	3.7
61	West Singhbhum	Sonua	Denai	60	15	2.6
62	West Singhbhum	Sonua	Dewan	80	20	3.4
63	West Singhbhum	Sonua	Dindapai	200	50	8.1
64	West Singhbhum	Sonua	Dura	84	21	3.6
65	West Singhbhum	Sonua	Giru	40	10	1.7
66	West Singhbhum	Sonua	Gudri	75	19	3.2
67	West Singhbhum	Sonua	Huilor	250	63	10.8
68	West Singhbhum	Sonua	Jamjui	150	38	6.5
69	West Singhbhum	Sonua	Jatey	80	20	3.4
70	West Singhbhum	Sonua	Joro	90	23	3.9
71	West Singhbhum	Sonua	Karmba	80	20	3.4
72	West Singhbhum	Sonua	Kukrubadi	80	20	3.4
73	West Singhbhum	Sonua	Kundabera	150	38	6.5
74	West Singhbhum	Sonua	Kutipi	20	5	0.9
75	West Singhbhum	Sonua	Lamdar	80	20	3.4
76	West Singhbhum	Sonua	Mundari	68	17	2.9
77	West Singhbhum	Sonua	Nachalda	70	18	3.0
78	West Singhbhum	Sonua	Raigera	70	18	3.0

S.No.	Name of the District	Block	Name of Village	No.of Total House holds	DPR Capacity of the Project (KW)	Total Length for distribution network
79	West Singhbhum	Sonua	Rowansali	60	15	2.6
80	West Singhbhum	Sonua	Saidba	60	15	2.6
81	West Singhbhum	Sonua	Sidma	75	19	3.2
82	West Singhbhum	Sonua	Talan Jira	30	8	1.3
83	West Singhbhum	Sonua	Sidma	60	15	2.6
84	West Singhbhum	Sonua	Bandu	70	18	3.0
85	West Singhbhum	Sonua	Virkal	30	8	1.3
86	West Singhbhum	Sonua	Buru Gulikera	60	15	2.6
87	West Singhbhum	Sonua	Berauruing	90	23	3.9
88	West Singhbhum	Sonua	Munjunia	85	22	3.7
89	West Singhbhum	Sonua	Udhalkam	70	18	3.0
129	West Singhbhum	Bandhgaon	Akir	24	6	1.0
130	West Singhbhum	Bandhgaon	Burunkel	26	26	4.4
133	West Singhbhum	Sonua	Srijang	102	21	3.4

Package 5

S.No.	Name of the District	Name of Village	No. of BPL House holds	DPR Capacity of the Project (KW)	Total Length for distribution network
1	Gumla	Galu	45	166	5.85
2	Gumla	Birgaon	18	90	2.34
3	Gumla	Tebela	55	315	7.15
4	Gumla	Korle	18	90	2.34
5	Gumla	Hisir	40	125	5.2
6	Gumla	Hapad	55	175	7.15
7	Gumla	Akarakona	60	265	7.2
8	Gumla	Barkani	40	210	5.2
9	Gumla	Dumri	58	266	7.3
10	Gumla	Ghagra Pat	65	272	8.3
11	Gumla	Keragani	100	550	12.1
12	Gumla	Kewna	20	120	2.6
13	Gumla	Kochagani	47	284	6.05
14	Gumla	Kolda	53	280	6.89
15	Gumla	Kuiya	39	250	5.07
16	Gumla	Kukurunja	57	283	7.2
17	Gumla	Ladhudera	30	151	3.9
18	Gumla	Marwa	45	265	4.95
19	Gumla	Nichdumri	100	535	12.55

S.No.	Name of the District	Name of Village	No. of BPL House holds	DPR Capacity of the Project (KW)	Total Length for distribution network
20	Gumla	Pakni	40	270	4.6
21	Gumla	Sanaidih	130	640	16
22	Gumla	Sokrahatu	93	485	11.7
23	Gumla	Sursang	460	2400	56.8
24	Gumla	Uparkhatanga	301	1675	36.13
25	Latehar	Barikheta	186	924	23.82
26	Latehar	Gua	105	541	13.65
27	Latehar	Hosir	139	710	17.86
28	Latehar	Haratu	275	1410	32.15
29	Latehar	Opag	119	502	15.17
30	Latehar	Projected Forest (Bari Chattan)	82	451	10.66
31	Latehar	Tatha	96	503	12.39
32	Latehar	Tongari	174	576	22.47
33	Latehar	Gasigarah	21	100	2.73
34	Latehar	Makandpur	72	465	9
35	Latehar	Bandua	178	862	21.31
36	Latehar	Pailabathd	23	130	2.81
37	Latehar	Betala	72	185	9.09
38	Latehar	Adhe	61	300	7.54
39	Latehar	Belwar	85	309	10.72
40	Latehar	Gasi Budani	147	820	18.75
41	Latehar	Kabrapath	24	103	2.88
42	Latehar	Korgi	27	141	3.42
43	Latehar	Kukud	101	578	11.99
44	Latehar	Madruwa	42	264	5.34
45	Latehar	Naina	26	150	3.17
46	Latehar	Gwal Khand	50	580	5.6
47	Latehar	Sarkai/ Surkaim	161	847	20.39
48	Chatra	Hunterganj	21	19.15	0.82
49	Chatra	Hunterganj	27	27.54	0.82
50	Chatra	Hunterganj	44	34.18	0.82
51	Chatra	Hunterganj	4	19.4	0.82
52	Chatra	Hunterganj	26	24.08	0.82
53	Chatra	Hunterganj	7	16.77	0.82
54	Chatra	Hunterganj	15	14.25	0.82
55	Chatra	Hunterganj	0	7.48	0
56	Chatra	Hunterganj	0	8.1	0
57	Chatra	Hunterganj	0	6.09	0
58	Chatra	Hunterganj	0	7.18	0

S.No.	Name of the District	Name of Village	No. of BPL House holds	DPR Capacity of the Project (KW)	Total Length for distribution network
59	Chatra	Hunterganj	0	27.8	0
60	Chatra	Hunterganj	0	6.86	0
61	Chatra	Hunterganj	0	17.86	0

Package 6

S. No	Name of the District	Name of Village	No. of Total House holds	No. of BPL House holds	DPR Capacity of the Project (KW)	Total Length for distribution network
1	Chatra	Lawalaung	Serka	36	130	4.29
2	Chatra	Lawalaung	Banwar	170	1070	19.1
3	Chatra	Lawalaung	Sildag	256	1200	28.6
4	Chatra	Lawalaung	Bhangia	30	85	3.45
5	Chatra	Lawalaung	Nawadih	86	432	9.2
6	Chatra	Lawalaung	Lorga	18	101	2.19
7	Chatra	Lawalaung	Hardipur	36	200	4.29
8	Chatra	Lawalaung	Naudiha	31	200	3.4
9	Chatra	Lawalaung	Manatu Alias Tikulia	125	540	14.75
10	Chatra	Lawalaung	Sulma	80	275	10.4
11	Chatra	Lawalaung	Lowalang	175	600	22
12	Chatra	Lawalaung	Bisrampur alias rampur	77	0	7.7
13	Chatra	Lawalaung	Jhardag	50	0	5
14	Chatra	Lawalaung	Kanti alias mandhania	266	0	26.6
15	Chatra	Lawalaung	Matti majdiha alias	99	0	9.9
16	Chatra	Lawalaung	Paramatu	136	0	13.6
17	Chatra	Lawalaung	Sehada	41	0	4.1
18	Chatra	Lawalaung	Kolkol Khurd	30	0	3
19	Chatra	Lawalaung	Bishunpur	60	0	6
20	Chatra	Lawalaung	Chano	25	0	2.5
21	Chatra	Lawalaung	Kotari	55	0	5.5
22	Chatra	Lawalaung	Limodih	35	0	3.5
23	Chatra	Lawalaung	Marwa	110	0	11
24	Chatra	Lawalaung	Narainpur	35	0	3.5
25	Chatra	Lawalaung	Teona	50	0	5
26	Chatra	Lawalaung	Barwadih	50	0	5
27	Chatra	Lawalaung	Atra-atu	90	0	5
28	Chatra	Lawalaung	Bandu	270	0	27
29	Chatra	Lawalaung	Bulbul	35	0	3.5

S. No	Name of the District	Name of Village	No. of Total House holds	No. of BPL House holds	DPR Capacity of the Project (KW)	Total Length for distribution network
30	Chatra	Lawalaung	Chani	110	0	11
31	Chatra	Lawalaung	Dunho	45	0	4.5
32	Chatra	Lawalaung	Herum	415	0	41.5
33	Chatra	Lawalaung	Hurdag	16	0	1.6
34	Chatra	Lawalaung	Jobhi	55	0	5.5
35	Chatra	Lawalaung	Jordag	20	0	2
36	Chatra	Lawalaung	Kadhe	50	0	5
37	Chatra	Lawalaung	Kalyanpur	130	0	13
38	Chatra	Lawalaung	Lutu	50	0	5
39	Chatra	Lawalaung	Madandih	150	0	15
40	Chatra	Lawalaung	Pasagam	115	0	11.5
41	Chatra	Lawalaung	Sikni	145	0	14.5
42	Chatra	Lawalaung	Sohawan	55	0	5.5
43	Hazaribag		Pathalgara	100	0	11.6
44	Hazaribag		Sikda	15	0	12.1
45	Hazaribag		Pathalgarwa	28	0	3.64
46	Hazaribag		Bukar	95	0	1.95
47	Hazaribag		Murina	60	0	7.2
48	Hazaribag		Duragara	52	0	6.4
49	Hazaribag		Dhoria	60	0	9.65
50	Hazaribag		Murainia	25	0	5.4
51	Hazaribag		Garmorwa	80	0	3.25
52	Hazaribag		Kaile	45	0	7.2

The detailed scope of work covered under the package(s) is specified in the Technical Specifications, and is indicated hereunder:

2.2. Before proceeding with the work, the contractor shall fully familiarize himself with the site conditions. It shall be the responsibility of the contractor to arrange all inputs required for detailed Engineering and execution. The bidder are advised to visit the site, collect all necessary input and acquaint themselves with the topography, infrastructure etc. The contractor shall be fully responsible for providing all equipment, materials, system and services specified or otherwise which are required to complete the work and successful testing and commissioning.

2.3. All materials required for the civil works shall be supplied by the contractor. Cement and steel shall also be supplied by the contractor.

2.4. Any other items not specifically mentioned in the specifications but which are required for erection, testing, commissioning and satisfactory operations of the entire scope of works are deemed to be included in the scope of this Specification unless specifically excluded.

3. Qualifying Requirements

3.1. The qualifying requirements for the Bidders are given in Clause 23 (SCC).

4. Prices

4.1. The items/ equipments / materials/ works (referred to as 'items' for the sake of brevity) generally required for completion of the scope of work as specified in the (Section II & VIII) and its Technical Specification in (Section IX & X) of RfP, are described and given in schedules of items and price (Price Schedules) forming part of Bid Proposal Sheet (BPS) of RfP. However, the brief descriptions shall not be construed to limit the scope of work, and the same shall be read in conjunction with corresponding sections of TS including amendments/ errata, if any, thereto.

4.2. Bidder shall quote ex-works/ ex-factory/ ex-showroom (refer to as 'Ex-works) price, as applicable and transportation and insurance charges separately, for destination site delivery of all the items indicated in the relevant schedules of Bid Proposal Sheet (BPS) in Volume- I B. Sales Tax, Excise Duty, Local Tax, Octroi/ Entry Tax and order levies, if any, in respect of direct transaction between the Owner and the Contractor under the contract, shall not be included in the quoted price but shall be indicated separately wherever applicable in the BPS. Also Octroi/ Entry Tax, if any, in respect of bought or finished items, which shall be dispatched directly from the sub-vendor works to the Owner's site. (Sale – in – transit), shall not be included in the quoted price but shall be indicated separately, wherever applicable, in BPS.

4.3. Bidder shall quote separately, as per relevant price schedules of BPS the charges for erection, testing and commissioning (which shall be inclusive of charges for unloading, handling, storage, insurance etc.) of all items which are to be supplied and/ or erected at site and charges of associated civil work as specified in TS. These charges together for all equipment/ materials/ spares, as applicable, shall be deemed to be included in the 'erection charges' to be quoted against the items indicated in relevant schedule of BPS. In addition, the cost of all materials required for successful erection, testing and commissioning of the entire scope of work including the associate civil works, not indicated separately in the scheduled of supply item in the BPS but required as per TS shall be deemed to be included in the 'erection charges'.

4.4. Bidder shall include the cost of type test and other test, to be carried out in line with the technical specification, in the bid price of respective equipment and no separate charges for any test and service tax on the same shall be payable to the contractor.

4.5. Service tax, as reimbursable to the Contractor, by the JREDA, in term of the Bidding Documents shall not be included in the quoted price but shall be indicated separately, wherever applicable, in BPS.

5. Taxes & Duties

5.1. Taxes and duties shall be governed by Clause 15.0, Section INB and Clause 16.0, Section GCC, of the RfP.

5.2. The statutory deduction of taxes and duties at source, related to these works, shall be done by the JREDA and TDS so deducted shall be deposited with the relevant tax Authorities & TDS certificates shall be issued by the JREDA using their Permanent A/C number & TDS A/C number. Relevant challans and copies of TDS certificates shall be forwarded to the contractor for filing the necessary returns.

6. Basis of Evaluation & Comparison

6.1. Bidder has to quote for the complete scope of work for the package as specified in the (Section II & VIII) and its Technical Specification in (Section IX & X) and corresponding clauses in the Bid Document. Bids for individual items or incomplete services shall be treated as incomplete and are liable to be rejected.

6.2. The bid evaluation for the package (s) shall be carried out package-wise. The Owner will evaluate and compare bids on the basis of a Bid Package or a combination of Bid Packages or as a total of all Bid Packages in a manner most advantageous to the Owner, and award of

Contract(s) would be made to the bidder (s) for the package (s) on the basis of least evaluated price to the Owner, as per provisions of the Bidding Documents.

Project Developer while quoting the Bid price for each package shall estimate the electricity load and energy required to be generated for five years from the date of commissioning. While computing the load, provision of 200 Watt for each household, 500 Watt for each Non-domestic Productive Load and 500 Watt for each Common facility center 30 Watt LED for Street Light may be considered. Project Developer shall be responsible for collecting the tariff from villagers.

6.3. Conditional discounts/ rebates, if any, offered by the bidder shall not be taken into consideration for evaluation. It shall however, be considered in case of award.

6.4. Bid stipulating commissioning dates beyond that specified under the Clause 9.0 titled 'Work Schedule' in this Volume run the risk of rejection.

6.5. Bids shall be evaluated and compared on the basis of quoted price for the entire scope of work under the each package. The quoted price shall include:-

a. FOR destination (site) price of equipment/ materials, including mandatory spares parts for continuous operation of the plant.

b. Charges for erection, which shall include unloading, handling, storage, insurance, erection, testing & commissioning of the complete scope of works and all associated civil works.

6.6. The Owner's evaluation of a bid, in addition to the total price as per Clause 6.5 above, will take into account the applicable taxes, duties and levies payable/ reimbursable by the Owner to the Contractor.

6.7. The prices of all such item(s) against which bidder has not quoted rates/ amount (viz. items left blank or against which '-'is indicated) in the schedules will be deemed to have been included in other item(s).

6.8. Particulars, Performance & Efficiency of Equipment/ Materials:

a. Bidder shall state the guaranteed technical particulars, performance or efficiency of different equipment/ materials in response to the Technical Specifications. Goods offered shall have minimum acceptable particulars/ performance/ efficiency specified in Technical Specifications to be considered as responsive, otherwise the Bids may be rejected.

7. Terms of Payment

Subject to any deduction which JREDA may be authorized to make under this contract, the contractor shall be entitled to payment as follows:

(a) **60%** of the Contract Price shall be paid against supply and delivery of goods in full and in good condition as certified by Consignee & JREDA Officials after submission of following documents:
   i. Original Commercial invoice raised for the supply made in triplicate (1+2).
   ii. Copy of duly raised delivery challan / transportation challan /lorry receipt.
   iii. Duly filled Annexure–1 should be submitted in three sets (one for Consignee record, one for JREDA Hq. and one for JREDA's field Executive Engineer).
   iv. Copy of Insurance Policy.

(b) **30%** of the Contract Price shall be paid against Installation, Testing & Commissioning after submission of following documents:
   i. Copy of Original Commercial invoice raised at the time of supply in triplicate (1+2).
   ii. Duly filled Annexure–1.

iii. Certificate for minimum seven days of satisfactory performance with photographs of the each installed systems with GPS Co-ordinates in Soft copy (CD).

(c) Rest **10%** of the Contract Price shall be paid after 60 days of completion of commissioning, after submission of following documents:

i. Copy of Original Commercial invoice raised at the time of supply in triplicate (1+2).
ii. Submission of two months project performance report.

The payment for the items to be procured/installed will be released on receipt of the corresponding share as has been provided in the approved scheme of JREDA either from MNRE, Govt. of Jharkhand, beneficiary or other concerned.

7.1. Mode of payment

7.1.1. Payments shall be made promptly by the Owner within 30 days of receipt of contractor's invoice, complete in all respects and supported by the requisite documents and fulfillments of stipulated conditions, if any. All the payments shall be released to the contractor directly.

7.1.2. All invoices under the contract shall be raised by the contractor on the "JREDA" and all payments shall be made to the Contractor by the "JREDA".

7.1.3. In case the Contract is awarded on a Joint Venture, the Advanced Bank Guarantees as well as Contract Performance Guarantees referred above, shall be in the name of the Joint Venture covering all the partners of the Joint Venture and not in the name of the Lead Partner or any Partners(s) of the Joint Venture alone.

8. Quantity Variation

The Quantity of all equipment/ materials given in the Bid Proposal Sheets (Volume – I B) of the Bidding Documents is provisional. The variation in quantity shall be limited to fifty percent (**50%**) for the individual items and the total variations in all such items under the contract shall be limited to twenty percent (20%) of the contract price. For quantity variation of the individual items beyond fifty percent (50%), the matter shall be referred to the competent authority of the implementing agency. The contractor shall be responsible for supply and execution of such final quantities for completion of the entire scope of works and they shall be paid for such finalized quantity at the unit rate indicated in the Letter of Award.

9. Work Schedule

9.1. The bidder shall include in his proposal his programme for furnishing and erecting the equipments covered under the package. The programme shall be in the form of a bar chart/ master network identifying key phases in various areas of total work like procurement of raw materials/ bought out items/ components, manufacturing, type testing, supply of materials and field activities such as foundation, erection, stringing etc. and testing and commissioning of the entire scope of works so as to achieve testing and commissioning of all equipments/ materials under each of the package within 6 months from the date of Letter of Award.

9.2. The schedule shall be reckoned from the date of issue of Letter of Award and within 15 days of issuance of Letter of Award, Contractor shall submit Bar Chart/ PERT Network conforming to the delivery/ erection dates mentioned in letter of Award for review and approval. After approval of Bar Chart/ PERT Network, one reproducible with sufficient number of prints as desired by the JREDA shall be submitted.

9.3. The provisions of liquidated damages livable in case of delay in completion pursuant to clause 11.0 below will also be effective after the period mentioned above for successful completion of testing and commissioning.

10. Contract Performance Guarantee & Project Operation Guarantee

10.1. The successful bidder shall be required to furnish to JREDA a Contract Performance Guarantee

(CPG) for ten percent (**10%**) of the Capital Cost as per conditions stipulated in Clause No. 37, Section INB of Vol.-I, and Clause No. 32, Section-GCC, of Volume-I. **The bid guarantee shall be kept valid by the successful bidder for a period of 6 months beyond schedule commissioning of the project**.

10.2. The successful bidder shall also be required to furnish to JREDA a Project Operation Guarantee (POG) for twenty percent (**20%**) of the Capital Cost. **The bid guarantee shall be kept valid by the successful for a period of sixty (60) months from schedule date of commissioning of the project**.

11. Liquidated Damages for Delay in Completion

11.1. If the contractor fails to perform the work within the specified period given in the letter of award or any extension granted thereof, with respect to successful completion of testing and commissioning of transmission line/ distribution transformer/ power supply, the contractor shall pay to the JREDA as Liquidated Damages and not as penalty, a sum of half % (**0.5%**) of the contract price for each calendar week of delay or part. However, the amount of Liquidated Damages for the contract shall be limited to a maximum of **10% of the total contract Price**.

12. Functional Guarantees, Liquidated Damages for Non-Performance (Applicable for Distribution Transformer)

12.1. The successful developer shall be responsible for supplying the required quantum of power **for 6-8 hours of electricity per day at the identified timings as per the contract**; at least for twenty five (25) days in a month, failing which, the developer shall pay Liquidated Damages (LD) at the rate of the ten percent (10%) of the charges for the short supplied power. This amount may be deducted from the yearly payments to the project developer.

12.2. The project developer is responsible for providing training/ capacity building to villagers for running the power plant.

12.3. After 5 years, Implementing Agencies will have the option to take over the project or handover the project to the same agency or any other agency as approved by the State Government for running the project, either on negotiated rate basis or limited or open tender basis.

12.4. If grid power reaches the village before 5 years then the power produced from the DDG project can be exported to the grid and imported from the grid, as and when required.

12.5. If the guarantees are not established at factory tests then the JREDA at its discretion may reject or accept the equipment after assessing the liquidated damages against the contractor and such amounts shall be deducted from the Contract Price or otherwise recovered from the contractor.

12.6. The guaranteed loss at rated Voltage for each equipment shall be corrected in accordance with the latest issue of IS: 2026, Part I for the purpose of comparison of guaranteed losses with measured losses for levy of liquidated damages. However, the equipment under no circumstances shall be accepted if the measured losses are more than (+) 15% of the guaranteed losses at rated Voltage quoted by the bidder.

12.7. The amount of liquidated damages so recoverable shall be without any ceiling and shall not prejudice the contractor's other liabilities under the contract in any manner. The liquidated damages for shortfall in guaranteed parameters and for delayed completion are independent of each other and shall be applicable separately and concurrently.

13. Indemnity Bonds

13.1. For the materials/ equipment to be provided by the contractor and/ or for the Owner supplied items, it will be the responsibility of the contractor to take the delivery, unload and store the materials at site and execute an indemnity bond as per Performa at Annexure VII/ VIII, Conditions of Contract, in favour of the JREDA against loss, damaged and risks involved for

the full value of the materials. **This indemnity bond shall be furnished by the contractor before commencement of the supplies and shall be valid till the scheduled date of testing, commissioning and handing over the transmission line to the JREDA**.

14. Storage cum Erection Insurance

In addition to conditions specified in Clause No. 30.0 Section GCC following shall also apply:

14.1. All the equipments and materials including spares if any being supplied by the contractor shall be kept completely insured by the contractor at his cost from time of dispatch from the contractor's works/ sub vendors works, up to the completion of erection testing and commissioning at sites and taking over of the entire scope of works by the JREDA in accordance with the contract.

14.2. Further all the equipment/ materials, if any, being supplied by the JREDA for the erection, (as per Technical Specification) shall be kept insured by the contractor against any loss, damage, pilferage, theft, fire, etc. from the point of unloading up to the time of taking over by the JREDA including handling, transportation, storage, erection, testing and commissioning etc. The premium paid to the insurance company by the contractor for such insurance shall be reimbursed by the JREDA to the contractor. The contractor shall obtain competitive quotation for such insurance and shall take prior approval from the JREDA before taking the insurance. The insurable value of equipment being supplied by the JREDA shall be intimated to the contractor for arranging insurance.

14.3. **It will be the responsibility of the contractor to lodge, pursue and settle all claims with insurance company in case of any damage, loss, theft, pilferage or fire during execution of contract and the JREDA shall be kept informed about it**. The contractor shall replace the loss/damaged materials promptly irrespective of the settlement of the claims by the under writers and ensure that the work progress is as per agreed schedules. The losses, if any, in such replacements will have to be borne by the contractor.

15. Power, Water & Communications

15.1. The Contractor shall make his own arrangements for power, water, telephone and other facilities necessary for the construction/ erection of the entire scope of works at his own cost.

16. Land for Contractor's Office, Store, Workshop Etc

16.1. The Contractor shall make his own arrangement for land for construction of his field office, workshop, stores magazines for explosives in isolated locations, assembling yard etc. as required for execution of the contract at his own cost.

17. Progress Reports

17.1. During execution of the Contract, the contractor shall furnish fortnightly progress reports to the JREDA in a format as specified by the JREDA indicating the progress achieved during the period and total progress up to the month against scheduled and anticipated completion dates in respect of activities covered in programmes/ schedules referred to above. If called for by the JREDA Contractor shall also furnish to the JREDA resource data in a specified format and time schedule. The contractor shall also furnish any other information that is necessary to ascertain progress, if called for by the JREDA.

18. Surplus Materials

18.1. On completion of works, all such materials supplied by the JREDA from its own stock, apart from the procurement by the contractor for this project, if any, for erection, that remains unutilized, shall be returned to the Engineer at the expense of the Contractor in the JREDA's store(s), except for the wastage allowed for various line materials in accordance with the

provision of the relevant clause.

18.2. The Contractor, within 2 months, from the taking over of the equipment/ materials under the package, shall return and account for the surplus materials supplied by the JREDA, failing which necessary recoveries will be made from the outstanding bills of the Contractor for the cost of materials left un accounted as decided by the Engineer.

18.3. **The Contractor shall procure the materials as per the procurement clearance issued by the Owner which is based on the requirement projected by the contractor in the actual survey report.** However, the contractor shall procure the materials judiciously such that all materials procured are utilized for the project.

18.4. On completion of works, the materials that have been procured by the contractor in excess of utilisation for the project, shall neither be returned to the Engineer in-charge nor entertained by the Owner for payment. Any advance payment made in such cases shall be recovered from the outstanding bills of the contractor.

19. Latent Defect Warranty

19.1. The period of latent defect warranty in terms of Clause 15.0 Section GCC shall be limited to 10 years from the expiry of Guaranteed Period.

20. First Aid

20.1. To deal with emergency/ accidental eventualities at works site, the Contractor shall make such arrangements necessary such as services of an ambulance etc. for transportation to hospital at his own cost.

21. Submission of Bids

The bid shall be submitted by the bidders as per Clause D of Section INB and as indicated in the Invitation to Bid (INV). However, the bidders are required to prepare and submit the bid online in two separate files (File I) marked “Technical Bid” and “Financial Bid” (File –II).

22. Bid Guarantee

22.1. A Bid Guarantee shall be send in original, separately for each package, for the amount **of 2% (rounded up to nearest lakh Rs.) of the project estimated cost**, in a manner as set forth in clause 22.0 Sec.-INB:

22.2. Any Bid not accompanied by a Bid Guarantee as set forth in Clause 22, Section INB and hereinabove shall not be accepted and shall be rejected without being opened.

22.3. **In case the bid is submitted by a joint venture, the Bid Guarantee shall be in the name of the Joint Venture covering all the partners of the Joint Venture and not in the name of the Lead Partner or any partner(s) of the Joint Venture alone**.

B. QUALIFICATION OF THE BIDDER

23. Qualification Criteria

23.1. Qualification of bidder will be based on meeting the minimum pass/ fail criteria specified in Part-A below regarding the Bidder's technical experience, manufacturing/ construction facilities and financial position as demonstrated by the Bidder's responses in the corresponding Bid Schedules. The bidder shall also be required to furnish the information specified in Part-B in their Bid. **Subcontractors' technical experience and financial resources shall not be taken into account in determining the Bidder's compliance with the qualifying criteria**. The bid can be submitted by an individual firm or by consortium.

23.2. Notwithstanding anything stated hereinabove, the Employer reserves the right to assess the capacity and capability of the bidder, should the circumstances warrant such assessment in an overall interest of the Employer. JREDA reserves the right to waive minor deviations if they do not materially affect the capability of the Bidder to perform the contract.

23.3. Part-A

Bidder shall meet the qualifying requirement stipulated hereunder:

23.3.1. General

23.3.1.1. The Bidder should be a body incorporated in India under the Companies Act, 1956 or 2013 including any amendment thereto and engaged in the business of Solar Power/ Power Projects. A copy of certificate of incorporation shall be furnished along with the bid in support of above.

23.3.1.2. JV/ Consortium of Companies as bidders is allowed for meeting technical / financial requirements.

23.3.1.3. Any domestic bidder, as per Clause 23.3.1.1 above, having their installations in India and abroad are allowed to bid.

23.3.2. Technical Eligibility Criteria (For Individual Firm)

23.3.2.1. The bidder should have designed, supplied, erected and commissioned Solar Photo Voltaic (SPV) based off grid connected (distributed generation) / grid connected power plant(s) of cumulative installed capacity of 250kWp or above, out of which at least one plant should have been of 10 kWp capacity or above in last 7 years. The reference plant of 20 kWp or above capacity must have been in successful operation for at least One (1) year prior to the date of Technical bid opening.

23.3.2.2. Bidder shall submit, in support to the above, the list of projects commissioned along with their work order/ LOI and the commissioning certificates along with the Certificate of Successful Operation/ satisfaction from the plant owner as per the format given under "**Error! Reference source not found.**"

23.3.2.3. In case of bidders qualifying under Clause 23.3.1.3, the experience of domestic bidder with off grid connected installations outside India can also be considered for cumulative installation eligibility only.

23.3.3. Technical Criteria (For Joint Venture)

23.3.3.1. Bids may be submitted by joint venture firms (having not more than three partners with one partner as lead partner) wherein;

All the partners should jointly meet qualification requirements set forth in Clause 23.3.2 above

AND

Successfully erected, tested and commissioned or completed at-least single similar works/

project in last 7 years as on date of bid opening.

23.3.4. Financial Eligibility Criteria (For Individual Firm)

23.3.4.1. Turnover Requirement

The Bidder should have the Minimum Average Annual Turnover (MAAT) of **25% of project estimated cost** derived from the last three financial years ending on 31.03.2015 on the basis of audited annual accounts for SPV Systems for minimum lot size quoted. The bidder submitting the bid for higher nos. of packages will require having average Annual Turnover in same higher proportion (25%).

The certificate should be as per the Performa attached.

23.3.4.2. Net worth Requirement

The Bidder should have Positive Net Worth (PNW) of minimum **10% of cost of minimum lot size** quoted and thereafter in same proportion for higher quantity as on 31.03.2015 on the basis of audited annual accounts.

Net worth certificate should be as per the Performa attached

23.3.5. Financial Eligibility Criteria (For Joint Venture)

23.3.5.1. The figures for each of the partner of the joint venture shall be added together to determine the bidder's compliance with the minimum qualifying criteria set out, however in order for a joint venture to qualify, the partner (s) of joint venture must meet the following minimum criteria:

a) The lead partner shall meet, not less than 40% of the minimum criteria in MAAT and PNW

b) Each of the other partner(s) shall meet not less than 25% of the criteria given in MAAT and PNW

Failure to comply with this requirement will result in rejection of the joint venture's bid. **Sub contractors' experience and resources shall not be taken into account** in determining the bidder's compliance with qualifying criteria.

23.3.5.2. If the company has formed in last 2 years (for company not older than 3 years), total turnover shall be divided (by three) and shall be compared with MAAT requirement of the bid. In the case, turnover so calculated is more than MAAT requirements; agency shall be commercially accepted for participation in the bidding. However, no such relaxation shall be available for Company formed 2 years before.

(a) One of the partners shall be nominated as **lead partner**, and the lead partner shall be authorized to incur liabilities and receive instruction for and on behalf of any and all partner of the joint venture and the entire execution of the contract including receipt of payment shall be done exclusively through the lead partner. This authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all the partners as per Performa in section "Annexure".

(b) All partner of the joint venture shall be liable jointly and severally for the execution of the contract in accordance with the contract terms and a copy of the agreement entered into by the joint venture partners having such a provision shall be submitted with the bid.

A statement to this effect shall be included in the authorization mentioned under (a) above as well as in the Bid Form and in the Contract Form (in case of a successful bid);

23.4. PART-B

23.4.1. The net worth of the Bidder shall be calculated as follows:

Net Worth =		Paid up share capital
	Add:	Free Reserves and surplus
	Subtract:	Miscellaneous Expenditures to the extent not written off and carry forward losses
	Subtract:	Intangible Assets

Free reserves means reserves created out of profits and securities premium account but does not include reserves created out of revaluation of profits, write back of depreciation and amalgamation or any capital reserve. Securities Premium will be considered to be part of net worth only in those cases where it has been realized/received in the form of cash. However, this may not be applicable in case of listed companies.

23.4.2. The Bidder will provide a copy each of audited annual report of previous three financial years for ascertaining their turnover and Net Worth along with Bank Statements for the purpose of verification.

23.4.3. The Net Worth of the Bidder as on the last day of the preceding financial year shall be positive. However, in case, the bidder is subsidiary of a holding company, the net worth of the bidder as on the last day of the preceding financial year shall not be less than 75% of total paid-up share capital and in such case, bidder has to submit a board resolution of the holding company indicating that "holding company shall support the bidder financially or otherwise, to execute the project successfully". Also, the Net Worth of the Holding Company of the Bidder, as on the last day of the receding financial year shall not be less than total paid-up share capital.

23.4.4. In case the bidder is not able to furnish its audited financial statements, the unaudited unconsolidated financial statements of the bidder can be considered acceptable provided the bidder furnishes the following further documents for substantiation of its qualification:

- Copies of the unaudited unconsolidated financial statements of the bidder along with copies of the audited consolidated financial statements of the Holding Company.
- A Certificate from the CEO/CFO of the Holding Company, stating that the unaudited unconsolidated financial statements form part of the Consolidated Annual Report of the company.

In case where audited results for the last preceding financial year are not available, certification of financial statements from a practicing Chartered Accountant shall also be considered acceptable, provided the bidder provides the detailed Financial Statements certified by the Management of the company.

NOTES:

- Paid up share capital will include
  - Paid up equity share capital
  - Fully, compulsorily and mandatorily convertible preferential shares
  - Fully, compulsorily and mandatorily convertible Debentures
- Share premium will form an integral part of the net worth provided it is realized in cash or cash equivalents
- Other income shall not be considered for arriving at annual turnover.

Notwithstanding anything stated above, the Employer reserves the right to assess the capabilities and capacity of the Bidder / his collaborators / associates / subsidiaries / group companies to perform the contract, should the circumstances warrant such assessment in the overall interest of the Employer.

Employer reserves the right to reject any or all bids or cancel/ withdraw the Request for Proposal (RfP) without assigning any reason whatsoever and in such case no bidder/ intending bidder shall have any claim arising out of such action.

Issuance of Bidding Documents to any Bidder shall not construe that such Bidder is considered to be qualified. Bids shall be submitted along with the requisite hard copy (originals) of documents submitted and opened at the address given below in the presence of Bidder's representatives who choose to attend the bid opening.

24. Litigation History

24.1. The bidder should provide detailed information on any litigation or arbitration arising out of contracts completed or under execution by it over the last five years. A consistent history of awards involving litigation against the Bidder or any partner of JV may result in rejection of Bid.

24.2. Notwithstanding anything stated hereinabove, the Employer reserves the right to access the capacity and capability of the bidder, should the circumstances warrant such assessment in an overall interest of the Employer. The Employer reserves the right to waive minor deviations if they do not materially affect the capability of the Bidder to perform the contract.

SECTION – VI

GENERAL TECHNICAL CONDITIONS FOR SUPPLY CUM ERECTION PACKAGE (GTC)

Jharkhand Renewable Energy Development Agency

Ranchi, Jharkhand

1. General Information

1.1. The material/ equipment covered in this specification shall be used for the Construction works under this project, to be executed on turnkey basis.

2. Scope

2.1. The material/ equipment to be supplied on final destination at site basis as covered in this volume shall be designed, manufactured and tested as per the requirements specified. Final Destination shall mean the depots or stores established by the Contractor in the above mentioned electricity distribution circles

2.2. The materials/ equipment covered here under each package shall be supplied complete in all respects, including all components, fittings and accessories which are necessary or are usual for their efficient performance and satisfactory maintenance under the various operating and atmospheric conditions. Such parts shall be deemed to be within the scope of the Contract, whether specifically included or not in the Specification or in the Contract Schedules. The Contractor shall not be eligible for any extra charges for such fittings, etc. The details of the materials/ equipment required for the entire scope of works have been elaborated in the respective volumes of specification. The quantities of the same are mentioned in Bid Proposal Sheets (BPS).

3. Weights and Measures

All weights and measures shall be in System International (S.I.) units. All fasteners shall be of Metric size only.

4. General Technical Conditions

4.1. The following provisions shall supplement all the detailed technical specifications and requirements brought out in the accompanying Technical Specifications. The Bidder's proposal shall be based on the use of equipment and materials complying fully with the requirements, specified herein.

The Bidder shall furnish clause-by-clause commentary (with detailed technical data as required) on the Technical Specifications demonstrating the goods substantial responsiveness to the specifications or deviation and exceptions to the provisions of the Technical Specification unless and until advised contrary to this in the bidding document.

4.2. Equipment Performance Guarantee

4.2.1. The performance requirements of the items are detailed separately in this Specification. These guarantees shall supplement the general performance guarantee provisions covered under General Terms and Conditions of Contract in clause entitled 'Guarantee'.

4.2.2. Liquidated damages for not meeting specified performance shall be assessed and recovered from the Contractor. Such liquidated damages shall be without any limitation whatsoever and shall be in addition to damages, if any payable under any other clause of Conditions of Contract.

4.3. Engineering Data

4.3.1. The furnishing of engineering data by the Contractor shall be in accordance with the appropriate Schedule appended to this document. The review of these data by the Owner shall cover only general conformity of the data to the specifications and drawings. This review by the Owner may not indicate a thorough review of all dimensions, quantities and details of the equipment, materials, any devices or items indicated or the accuracy of the information submitted. This review and/ or approval by the Owner shall not be considered by the Contractor, as limiting any of his responsibilities and liabilities for mistakes and deviations from the requirements, specified under these Specifications and documents.

4.3.2. All engineering data submitted by the Contractor after final process including review and approval by the Owner shall form part of the Contract Document and the entire works performed under these Specifications shall be performed in strict conformity, unless otherwise expressly requested by the owner in writing.

4.4. Drawings

4.4.1. All drawings submitted by the Contractor including those submitted at the time of bid shall be in sufficient detail to indicate the type, size, arrangement, dimensions, material description, Bill of Materials, weight of each component, break-up for packing and shipment, fixing arrangement required, the dimensions required for installation and any other information specifically requested in the Specifications.

4.4.2. Each drawing submitted by the Contractor shall be clearly marked with the name of the Purchaser, the unit designation, the Specification title, the Specification number and the name of the Project. All titles, noting, markings and in writings on the drawing shall be in English. All the dimensions should be to the scale and in metric units.

4.4.3. The drawings submitted by the Contractor shall be reviewed by the Owner as far as practicable within four (4) weeks and shall be modified by the Contractor if any modifications and/ or corrections are required by the Owner in compliance with the Specifications. The Contractor shall incorporate such modifications and or corrections and submit the final drawings for approval. Any delays arising out of failure by the Contractor to rectify the drawings in good time shall not alter the Contract completion date.

4.4.4. The drawings submitted for approval to the Owner shall be in quadruplicate. One print of such drawings shall be returned to the Contractor by the Owner marked “approved"/ approved with corrections”. The Contractor shall thereupon furnish the Owner additional print as stipulated in Technical Specification along with one reproducible in original of the drawings after incorporating all corrections.

4.4.5. Further work by the Contractor shall be strictly in accordance with these drawings and no deviation shall be permitted without the written approval of the Purchaser, if so required.

4.4.6. All manufacturing and fabrication work in connection with the equipment/ material prior to the approval of the drawings shall be at the Contractor’s risk. The Contractor may make any changes in the design which are necessary to make the equipment conform to the provisions and intent of the Contract and such changes shall again be subject to approval by the Owner. Approval of Contractor’s drawing or work by the Owner shall not relieve the Contractor of any of his responsibilities and liabilities under the Contract.

4.4.7. All rights of the design/ drawing shall be strictly reserved with the Owner only and any designs/ drawings/ data sheets submitted by the contractor from time to time shall become the property of the Owner. Under no circumstances, the Contractor shall be allowed to use/ offer above designs/ drawings/ data sheets to any other authority without prior written permission of the Owner. Any deviation to above is not acceptable and may be a cause of rejection of the bid.

4.5. Design Co-ordination

Wherever, the design is in the scope of Contractor, the Contractor shall be responsible for the selection and design of appropriate material/ item to provide the best co-coordinated performance of the entire system. The basic design requirements are detailed out in this Specification. The design of various components, sub-assemblies and assemblies shall be so done that it facilitates easy field assembly and maintenance.

4.6. Manufacturing Schedule

The Contractor shall submit to the Owner his manufacturing, testing and delivery schedules of various items within thirty (30) days from the date of the Letter of Award in accordance with the delivery requirements stipulated. Schedules shall also include the materials and items

purchased from outside Contractors, if any.

4.7. Reference Standards

4.7.1. The Codes and/ or Standards referred to in Specifications shall govern, in all cases wherever such references are made. In case of a conflict between such Codes and/ or Standards and the specifications, latter shall govern. Such Codes and/ or Standards, referred to shall mean the latest revisions, amendments/ changes adopted and published by the relevant agencies.

4.7.2. Other internationally acceptable Standards which ensure equivalent or better performance than those specified shall also be accepted.

4.8. Design Improvements

4.8.1. The Owner or the Contractor may propose changes in the Specification of the equipment or quality thereof and if the parties agree upon any such changes, the Specification shall be modified accordingly.

4.8.2. If any such agreed upon change is such that it affects the price and schedule of completion, the parties shall agree in writing as to the extent of any change in the price and/ or schedule of completion before the Contractor proceeds with the change. Following such agreement, the provision thereof, shall be deemed to have been amended accordingly.

4.9. Quality Assurance

4.9.1. To ensure that the equipment, under the scope of this Contract, manufactured within the Contractor's Works or at his Sub-Contractor's premises, is in accordance with the specifications, the Contractor shall adopt suitable Quality Assurance Programme to control such activities at all points necessary.

Such programme shall be outlined by the Contractor and shall be finally accepted by the Owner after discussions before the award of Contract. A Quality Assurance Programme of the Contractor shall generally cover but not limited to the following:

a. His organization structure for the management and implementation of the proposed Quality Assurance Programme.

b. Documentation of control system.

c. Qualification data for key personnel;

d. The procedure for purchases of materials/parts/components and selection of sub-Contractor's services including vendor analysis, source inspection, incoming raw material inspection, verification of material purchases etc.

e. System for shop manufacturing including process controls.

f. Control of non-conforming items and system for corrective action.

g. Control of calibration and testing of measuring and testing equipments.

h. Inspection and test procedure for manufacture.

i. System for indication and appraisal of inspection status.

j. System for quality audits.

k. System for authorizing release of manufactured product to the Purchaser.

l. System for maintenance of records.

m. System for handling storage and delivery and

n. A Quality Plan detailing out the specific quality control procedure adopted for controlling the quality characteristics of the product.

The Quality Plan shall be mutually discussed and approved by the Owner after incorporating necessary corrections by the Contractor as may be required.

4.9.2. Quality Assurance Documents:

The Contractor shall be required to submit all the Quality Assurance Documents as stipulated in the Quality Plan at the time of Owner's inspection of equipment/ material.

4.9.3. The owner or his duly authorized representatives reserves the right to carry out Quality Audit and Quality surveillance of the systems and procedures of the Contractor's/ his vendor's Quality Management and Control Activities.

4.10. Owner's Supervision

4.10.1. To eliminate delays and avoid disputes and litigation, it is agreed between the parties to the Contract, that all matters and questions shall be resolved in accordance with the provisions of this document.

4.10.2. The manufacturing of the product shall be carried out in accordance with the specifications. The scope of the duties of the Owner, pursuant to the contract, shall include but not be limited to the following:

a) Interpretation of all the terms and conditions of these Documents and Specifications.

b) Review and interpretation of all the Contractor's drawings, engineering data etc.

c) Witness or authorize his representative to witness tests at the manufacturer's works or at site, or at any place where work is performed under the Contract.

d) Inspect, accept or reject any equipment, material and work under the Contract, in accordance with the Specifications.

e) Issue certificate of acceptance and / or progressive payment and final payment certificate.

f) Review and suggest modification and improvement in completion schedules from time to time; and

g) Supervise the Quality Assurance Programme implementation at all stages of the works.

4.11. Inspection, Testing & Inspection Certificate

4.11.1. The Owner, his duly authorized representative and/or outside inspection agency acting on behalf of the Owner shall have at all reasonable times access to the Contractor's premises or Works and shall have the power at all reasonable times to inspect and examine the materials and workmanship of the product during its manufacture and if part of the product is being manufactured or assembled at other premises or works, the Contractor shall obtain from the Owner and/or his duly authorised representative permission to inspect as if the equipment/materials were manufactured or assembled on the Contractor's own premises or works.

4.11.2. The Contractor shall give the Owner or authorized representative or inspecting agency 15 (fifteen) days written notice of any material being ready for testing. Such tests shall be to the Contractor's account except for the expenses of the Inspector. The Owner or his authorized representative or inspecting agency unless witnessing of the tests is virtually waived, shall attend such tests within 15 (fifteen) days of the date of which the equipment is notified as being ready for test/ inspection or on a mutually agreed date, failing which the Contractor may proceed with the test which shall be deemed to have been made in the owners or his authorized representative or inspecting agency's presence and he shall forthwith forward to the owner or his authorized representative or inspecting agency duly certified copies of tests in triplicate.

4.11.3. The Owner or his authorized representative or inspecting agency shall, within 15 (fifteen) days from the date of inspection as defined herein give notice in writing to the Contractor,

of any objection to any drawings and all or any equipment and workmanship which in his opinion is not in accordance with the Contract. The Contractor shall give due consideration to such objections and shall make the modifications that may be necessary to meet the said objections.

4.11.4. When the factory tests have been completed at the Contractor's or Sub-Contractor's works, the Purchaser Inspector shall issue a certificate to this effect within 15 (fifteen) days after completion of tests but if the tests are not witnessed by the Owner or his authorized representative or inspecting agency the certificate shall be issued within fifteen (15) days of receipt of the Contractor's Test certificate by the Owner or his authorized representative or inspecting agency. The completion of these tests or the issue of the certificate shall not bind the Owner to accept the equipment should it, on further tests after erection, be found not to comply with the Contract.

4.11.5. In all cases where the Contract provides for tests whether at the premises or works of the Contractor or of any Sub-Contractor, the Contractor, except where otherwise specified, shall provide free of charge such item as labour, materials, electricity, fuel, water, stores, apparatus and instruments as may be reasonably demanded by the Owner or his authorized representative or inspecting agency to carry out effectively such tests of the equipment in accordance with the Contract and shall give facilities to the Owner or to his authorized representative or inspecting agency to accomplish testing.

4.11.6. The inspection by Owner or his authorized representative or inspecting agency and issue of Inspection Certificate thereon shall in no way limit the liabilities and responsibilities of the Contractor in respect of the agreed Quality Assurance Programme forming a part of the Contract.

5. Technical Description

5.1. The technical description/ specifications of various materials/equipment has been specified the Volume-II.

6. Tests and Standards

6.1. Tests

All equipments to be supplied under this package must have been type tested. The following acceptance and routine tests and tests during manufacture shall be carried-out on the material. For the purpose of this clause:

6.1.1. Acceptance Tests shall mean those tests, which are to be carried out on samples taken from each lot offered for pre-dispatch inspection, for the purposes of acceptance of that lot.

6.1.2. Routine Tests shall mean those tests, which are to be carried out on the material to check requirements, which are likely to vary during production.

6.1.3. Tests during Manufacture shall mean those tests, which are to be carried out during the process of manufacture and end inspection by the Contractor to ensure the desired quality of the end product to be supplied by him.

6.1.4. The norms and procedure of sampling for these tests shall be as per the Quality Assurance Programme to be mutually agreed to by the Contractor and the Owner.

6.1.5. The standards and norms to which these tests shall be carried out are listed against them. Where a particular test is a specific requirement of this Specification, the norms and procedure of the test shall be as specified in Volume-II (Section IX) OR as mutually agreed to between the Contractor and the Owner in the Quality Assurance Programme.

6.1.6. For all acceptance tests, the acceptance values shall be the values specified in this Specification or guaranteed by the Bidder, as applicable. The tests and standards for various materials/ equipment have been specified in the Volume-II.

6.2. Testing Expenses

6.2.1. The entire cost of testing for the acceptance test and routine tests and tests during manufacture specified in the technical specifications for materials/ equipment shall be treated as included in the quoted unit price except for the expenses of the Inspector/ Owner's representative.

6.3. Additional Tests

6.3.1. The Owner reserves the right of having at his own expenses any other test(s) of reasonable nature carried out at contractor's premises, at site, or in any other place in addition to the specified type, acceptance and routine tests to satisfy himself that the materials/ equipment comply with the Specifications.

6.3.2. The Owner also reserves the right to conduct all the tests mentioned in this specification at his own expense on the samples drawn from the site at Contractor's premises or at any other test center. In case of evidence of non compliance, it shall be binding on the part of contractor to prove the compliance of the items to the technical specifications by repeat tests, or correction of deficiencies, or replacement of defective item all without any extra cost to the Owner.

7. Guaranteed Technical Particulars

7.1. The Guaranteed Technical Particulars of the various items shall be furnished by the Bidders. The Bidder is to submit the soft copy of the GTP, in excel file format, along with the bid failing which the bid will be rejected.

In addition, the Bidder may also furnish any other schedule information as in his opinion is needed to give full description and details to judge the item(s) offered by him.

7.2. The data furnished in Guaranteed Technical Particulars should be the minimum or maximum value (as per the requirement of the specification). A Bidder may guarantee a value more stringent than the specification requirement. However, for testing purpose or from performance point of view, the material shall be considered performed successfully if it achieves the minimum/ maximum value required as per the technical specification. No preference whatsoever shall be given to the bidder offering better/ more stringent values than those required as per specification.

8. Service Conditions

8.1. All outdoor/ indoor equipment/ material to be supplied against this specification shall be suitable for satisfactory continuous operation. The requirements are specified in the respective volumes of technical specification.

ANNEXURES

Jharkhand Renewable Energy Development Agency

Ranchi, Jharkhand

Annexure-A: Proforma of Joint Undertaking by Manufacturer Along with the Bidder/Contractor

NON-JUDICIAL STAMP PAPER OF APPROPRIATE VALUE

THIS DEED OF UNDERTAKING executed this day of Two Thousand and .....by ....., a Company incorporated under the laws of and having its Registered Office at ..... (hereinafter called the **"Manufacturer"** which expression shall include its successors, executors and permitted assigns), and a Company incorporated under the laws of .....having its Registered Office at (hereinafter include its successors, executors and permitted assigns).

WHEREAS the Employer invited Bid as per its RfP No. _____ Dt._____ for the execution of Design, engineering, testing, supply, erection and commissioning of -------kW Solar Photovoltaic based Decentralized Distributed Generation Systems under ___ different packages at _____ Nos. of Villages in 10 districts of Jharkhand.

AND WHEREAS Clause No 23.3.1 of forming part of the Bid Documents inter-alia stipulates that the Bidder along-with Manufacturer must fulfill the Qualifying Requirements and be jointly and severally bound and responsible for the quality and timely execution of the project in the event the Bid submitted by the Bidder is accepted by the Employer resulting in a Contract.

AND WHEREAS the Bidder has submitted its Bid to the Employer vide Proposal No_____ dated _____ based on tie up with the Manufacturer for execution of the project/ Package No _____(Specification No_____).

NOW THEREFORE THIS UNDERTAKING WITNESSTH as under:

1.0 In consideration of the award of Contract by the Employer to the Bidder (hereinafter referred to as the "Contract") we, the Manufacturer and the Bidder/ Contractor do hereby declare that we shall be jointly and severally bound unto JREDA, for the execution of the project in accordance with the Contract Specifications.

2.0 Without in any way affecting the generality and total responsibility in terms of this Deed of Undertaking, the Manufacturer hereby agrees to depute their representatives from time to time to the Employer's Project site as mutually considered necessary by the Employer, Bidder/ Contractor and the Manufacturer to ensure proper quality, manufacture, testing and supply on FOR destination delivery at site basis and successful performance of the material in accordance with Contract Specifications. Further, if the Employer suffers any loss or damage on account of nonperformance of the material fully meeting the performance guaranteed as per Bid Specification in terms of the contract. We the Manufacturer and the Contractor jointly and severally undertake to pay such loss or damages to the Employer on its demand without any demur.

3.0 This Deed of Undertaking shall be construed and interpreted in accordance with the laws of India and the Courts in

4.0 As a security, the 'Manufacturer shall apart from the Contractor's performance guarantee (10% of the contract pric **2% of the cost of parts to be supplied by the Manufacturer** as identified in the Contract awarded by the Employer to the Bidder/ Contractor and it shall be part of guarantee towards the faithful performance/ compliance of this Deed of Undertaking in terms of the Contract. The guarantee shall be unconditional, irrevocable and valid for the entire period of the Contract, namely till the end of the warranty period under the Contract. The Bank Guarantee amount shall be payable to the Employer on demand without any reservation or demur.

5.0 We, the Manufacture/ Bidder/ Contractor agree that this Undertaking shall be irrevocable and shall form an integral part of the Contract and further agree that this Undertaking shall continue to be enforceable till the Employer discharges it. It shall become operative from the effective date of Contract.

IN WITNESS WHEREOF the Manufacturer and the Bidder/ Contractor have through their Authorized Representatives executed these presents and affixed.

WITNESS

For Manufacturer

1.

(Signature)
(Name in Block Letter)
(Office Address)

Signature of Authorized
Representative
Name.....
Common Seal of Company

For Bidder

2.

(Name in Block Letter)

Signature of Authorized
(Signature)
Representative
Name (Office Address)
Common Seal of Company

Note

(i) The Deed of Joint Undertaking shall be attested by Notary Public of the place(s) of the respective executants (s).

(ii) In case the bid is submitted by a Joint Venture (JV) of two or more firms as partners, then the Joint deed of undertaking shall be modified accordingly.

Annexure-B: Format for Evidence of Access to or Availability of Credit/ Facilities

BANK CERTIFICATE

(i) ..... This is to certify that M/s ..... (Full Name & Address) , who are su
(ii) ..... to..... against their tender specification vide ref. No ……& date
(iii) ..... is our Customer for the past ..... years.
(iv) Their financial transactions with our Bank have been satisfactory. They enjoy the following fund based and non fund based limits including for guarantees, L/C and other credit facilities with us against which the extent of utilization as on date is also indicated below:

SL. NO	TYPE OF FACILITY	SANCTIONED LIMIT AS ON DATE	UTILISATION AS ON DATE

This letter is issued at the request of M/s ……

Sd/-

Name of Bank

Name of Authorised Signatory

Designation

Phone No.

Address

SEAL OF THE BANK

Annexure-C: Form of Power of Attorney for Joint Venture

(On Non-judicial Stamp Paper of Appropriate value to be purchased in the Name of Joint Venture)

KNOW ALL MEN BY THESE PRESENTS THAT WE, the Partners whose details are given hereunder have formed a Joint Venture under the laws of and having our Registered Office(s)/ Head Office(s) at…….(hereinafter called the 'Joint Venture' which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators and assigns) acting through M/s_____being the Partner in-charge do hereby constitute, nominate and appoint M/s _____a Company incorporated under the laws of and having its Registered/Head Office at _____as our duly constituted lawful Attorney (hereinafter called "Attorney" or" Authorized Representative" or "Partner in-charge") to exercise all or any of the powers for and on behalf of the Joint Venture in regard to Specification No for Construction of Package of JREDA (hereinafter called the "Employer") and the bids for which have been invited by the Employer, to undertake the following acts:

i) To submit proposal and participate in the aforesaid Bid Specification of the Employer on behalf of the "Joint Venture".
ii) To negotiate with the Employer the terms and conditions for award of the Contract pursuant to the aforesaid Bid and to sign the Contract with the Employer for and on behalf of the "Joint Venture".
iii) To do any other act or submit any document related to the above.
iv) To receive, accept and execute the Contract for and on behalf of the "Joint Venture".

It is clearly understood that the Partner in-charge (Lead Partner) shall ensure performance of the Contract(s) and if one or more Partner fail to perform their respective portion of the Contract(s), the same shall be deemed to be a default by all the Partners.

It is expressly understood that this Power of Attorney shall remain valid binding and irrevocable till completion of the Defect Liability Period in terms of the Contract.

The Joint Venture hereby agrees and undertakes to ratify and confirm all the whatsoever the said Attorney/ Authorized Representative/ Partner in-charge quotes in the bid, negotiates and signs the Contract with the Employer and/or proposes to act on behalf of the Joint Venture by virtue of this Power of Attorney and the same shall bind the Joint Venture as if done by itself.

IN WITNESS THEREOF the Partners Constituting the Joint Venture as aforesaid have executed these presents on this day of……under the Common Seal(s) of their Companies.

for and on behalf of
the Partners of Joint
Ventures

The Common Seal of the above Partners of the Joint Venture:
The Common Seal has been affixed there unto in the presence of:

WITNESS

1. Signature

Name.....
Designation .....
Occupation.....

2. Signature
Name.....
Designation .....
Occupation.....

Annexure-D: Form of Joint Venture Agreement

(ON NON-JUDICIAL STAMP PAPER OF APPROPRIATE VALUE TO BE PURCHASED IN THE NAME OF JOINT VENTURE)

PROFORMA OF JOINT VENTURE AGREEMENT

BETWEEN ..... , AND .....,..FOR BID SPECIFICATION NO ..... DATE ..... OF the JREDA.

THIS Joint Venture Agreement executed on this .....day of ..... Two thousand and between M/s ..... a company incorporated under the laws of .....and having its Registered Office at ..... (hereinafter called the "Lead Partner" which expression shall include its successors, executors and permitted assigns), M/s. ..... a company incorporated under the laws of ..... and having its Registered Office at ..... (hereinafter called the "Partner" 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 "Partner" which expression shall include its successors, executors and permitted assigns) for the purpose of
making a bid and entering into a contract (in case of award) against INV No._____ dated _____ for the execution of Design, engineering, testing, supply, erection and commissioning of ------ kW Solar Photovoltaic based Decentralized Distributed Generation Systems under 6 different packages at 409 Nos. of Villages in 10 districts of Jharkhand being executed by the JREDA having its Registered Office at _____ (hereinafter called the ”Employer”).

WHEREAS the Employer invited bids as per the above mentioned Specification for the design, supply, installation,
commissioning and operation for 5 years for decentralized solar power generating plant for _____ , _____ and _____ of ____ District, Jharkhand on BOMT basis in the bidding documents under subject Package for.....

Annexure -A (Qualification Requirement of the Bidder), Section-SCC, Vol.-IA, forming part of the bidding documents, stipulates that a Joint Venture of two or more qualified firms as partners, meeting the requirement of Annexure-A, Section SCC as applicable may bid, provided the Joint Venture fulfills all other requirements of Annexure-A, Section SCC and in such a case, the BID shall be signed by all the partners so as to legally bind all the Partners of the Joint Venture, who will be jointly and severally liable to perform the Contract and all obligations hereunder.

The above clause further states that the Joint Venture agreement shall be attached to the bid and the contract performance guarantee will be as per the format enclosed with the bidding document without any restriction or liability for either party.

AND WHEREAS the bid has been submitted to the Employer vide proposal No..... dated ..... against the Package No ..... (Specification No .....) by Lead Partner based on the Joint Venture agreement between all the Partners under these presents and the bid in accordance with the requirements of Annexure- A (Qualification Requirements of the Bidders), Section -SCC has been signed by all the partners.

NOW THIS INDENTURE WITNESSETH AS UNDER:

In consideration of the above premises and agreements all the Partners to this Joint Venture do hereby now agree as follows:

1. In consideration of the award of the Contract by the Employer to the Joint Venture partners, we, the Partners to the Joint Venture agreement do hereby agree that M/s _____shall act as Lead Partner and further declare and confirm that we shall jointly and severally be bound unto the Employer for the successful performance of the Contract and shall be fully responsible for the design, manufacture, supply, and successful performance of the equipment in accordance with the Contract.

2. In case of any breach of the said Contract by the Lead Partner or other Partner(s) of the Joint Venture agreement, the Partner(s) do hereby agree to be fully responsible for the successful performance of the Contract and to carry out all the obligations and responsibilities under the Contract in accordance with the requirements of the Contract.

3. Further, if the Employer suffers any loss or damage on account of any breach in the Contract or any shortfall in the performance of the equipment in meeting the performance guaranteed as per the specification in terms of the Contract, the Partner(s) of these presents undertake to promptly make good such loss or damages caused to the Employer, on its demand without any demur. It shall not be necessary.

   or obligatory for the Employer to proceed against Lead Partner to these presents before proceeding against or dealing with the other Partner(s).

4. The financial liability of the Partners of this Joint Venture agreement to the Employer, with respect to any of the claims arising out of the performance of non- performance of the obligations set forth in the said Joint Venture agreement, read in conjunction with the relevant conditions of the Contract shall, however, not be limited in any way so as to restrict or limit the liabilities of any of the Partners of the Joint Venture agreement.

5. It is expressly understood and agreed between the Partners to this Joint Venture agreement that the responsibilities and obligations of each of the Partners shall be as delineated in Appendix-I (*To be incorporated suitably by the Partners) to this agreement. It is further agreed by the Partners that the above sharing of responsibilities and obligations shall not in any way be a limitation of joint and several responsibilities of the Partners under this Contract.

6. This Joint Venture agreement shall be construed and interpreted in accordance with the laws of India and the courts of Ranchi shall have the exclusive jurisdiction in all matters arising thereunder.

7. In case of an award of a Contract, We the Partners to the Joint Venture agreement do hereby agree that we shall be jointly and severally responsible for furnishing a contract performance security & Project Operation Guarantee from a bank in favour of the Employer in the forms acceptable to purchaser for value of 10% & 15% of the Contract Price in the currency/currencies of the Contract.

8. It is further agreed that the Joint Venture agreement shall be irrevocable and shall form an integral part of the Contract, and shall continue to be enforceable till the Employer

discharges the same. It shall be effective from the date first mentioned above for all purposes and intents.

IN WITNESS WHEREOF, the Partners to the Joint Venture agreement have through their authorized representatives executed these presents and affixed Common Seals of their companies, on the day, month and year first mentioned above.

Common Seal of For lead Partner

has been affixed in my/ our presence
pursuant to the Board of Director's (Signature of authorized
resolution dated ..... representative)

Name
Signature .....Designation
Name .....Common Seal of the company
Designation .....

- **Common Seal of For other Partners** has been affixed in my/our presence
pursuant to the Board of Director's (Signature of
authorized resolution dated representative)

Signature .....Designation
Name .....Common Seal of the company
Designation .....

WITNESSES:

1. …… 2. ……
(Signature) (Signature)
Name .....Name .....
(Official address) (Official address)

Annexure-I: Proforma of Bank Guarantee for Bid Guarantee

(To be stamped in Accordance with Stamp Act) The non-judicial stamp paper should be in the name of Issuing Bank

Ref. ..... Bank Guarantee No. . . . .

Date .....

To

The Director,
Jharkhand Renewable Energy Development Agency
3rd Floor, SLDC Building, Kusai, Doranda,
Ranchi-834002. Jharkhand INDIA

Dear Sirs,

In accordance with Invitation to Bid as per INV No ..... dated ..... under your

Specification No ..... M/s .....

..... having its Registered/Head Office at ..... .(hereinafter called the

'Bidder') wish to participate in the said Bid or ..... and you, as a special favour have agreed to accept an

irrevocable and unconditional Bank Guarantee for an amount of .....
valid upto ..... on behalf of Bidder in lieu of the Bid deposit required to be made by the Bidder, as a condition precedent for participation in the said Bid. We, the .....Bank at ..(local address) having our

Head Office at .....guarantee and undertake to pay immediately on demand by Jharkhand Renewable Energy Development Agency the amount of..... ... (in words & figures) without any reservation, protest, demur and recourse. Any such demand made by said 'Employer' shall be conclusive and binding on us irrespective of any dispute or difference raised by the Bidder.

This Guarantee shall be irrevocable and -shall remain valid upto and including ..... @ ..... If any

further extension' of this guarantee is required, the same shall be extended to such required period (not exceeding

one year) on receiving instructions from M/s..... on whose behalf this guarantee is issued.

In witness whereof the Bank, through its authorized officer, has set its hand and stamp on this..... day of

.....20 .....at .....

.....

WITNESS.....

(Signature) (Name) (Signature)(Name)

.....

.....

(Official Address) (Designation with Bank Stamp)

.....

..... Attorney as per

Power of Attorney No. .....

Dated ……

@ This date shall be thirty (30) days after the last date for which the bid is valid.

Annexure-II: Proforma of Bank Guarantee for Contract Performance

(To be stamped in accordance with Stamp Act)

Ref. .....Bank Guarantee No.....

Date .....

T o

The Director,
Jharkhand Renewable Energy Development Agency
3rd Floor, SLDC Building, Kusai, Doranda,
Ranchi-834002. Jharkhand INDIA

Dear Sirs,

In consideration of Jharkhand Renewable Energy Development Agency (hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof include its successors, administrators and assigns) having awarded to M/s_____with its Registered/ Head office at_____(hereinafter referred to as the "Contractor" which expression shall unless repugnant to the context or meaning thereof; include its successors, administrators, executors and assigns), a Contract by issue of Employer's Letter of Award No dated and the same having been acknowledged by the Contractor, resulting in a Contract, bearing No dated valued at for (scope of Contract) and the Contractor having agreed to provide a Contract Performance Guarantee for the faithful performance of the entire Contract equivalent to $_____(%) percentage of the said value of the Contract to the Employer.

We.....(Name & Address) having its Head Office at..... (hereinafter referred to as the 'Bank', which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) do hereby guarantee and undertake to pay the Employer on demand any and all monies payable by the Contractor to the extent of as aforesaid at any time upto $$ (days/month/year) without any demur, reservation, contest, recourse or protest and/or without any reference to the Contractor.

Any such demand made by the Employer on the Bank shall be conclusive and binding not withstanding any difference between the Employer and the Contractor or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. The Bank undertakes not to revoke this guarantee during its currency without previous consent of the Employer and further agrees that the guarantee herein contained shall continue to be enforceable till the Employer discharges this guarantee.

The Employer shall have the fullest liberty without affecting in any way the liability of the Bank under this guarantee, from time to time to extend the time for performance of the Contract by the Contractor. The Employer shall have the fullest liberty, without affecting this guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Contractor, and to exercise the same at any time in any manner, and either

to enforce or to forbear to enforce any covenants, contained or implied, in the Contract between the Employer and the Contractor or any other course or remedy or security available to the Employer. The Bank shall not be released of its obligations under these presents by any exercise by the Employer of its liberty with reference to the matters aforesaid or any of them or by reason of any other act of omission or commission on the part of the Employer or any other indulgences shown by the Employer or by any other matter or thing whatsoever which under law would, but for this provision have the effect of relieving the Bank.

The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Contractor and not withstanding any security or other guarantee the Employer may have in relation to the Contractor's liabilities.

Notwithstanding anything contained hereinabove our liability under this guarantee is restricted to and it shall remain in force upto and including and shall be extended from time to time for such period (not
exceeding one year), as may be desired by M/s .....on whose behalf this guarantee has been given.

Dated this..... day of..... 20 ..... at. .....

WITNESS

(Signature) (Name) (Signature) (Name)

(Official Address) (Designation with Bank Stamp)

Attorney as per Power
of Attorney No. .....
Date .....

$ This sum shall be fifteen per cent (10 %) of the Contract price.
$$ The date will be 180 days beyond date of schedule commissioning of the project as specified in the Contract.

NOTE: The stamp papers of appropriate value shall be purchased in the, name of issuing Bank.

Annexure-III: Proforma of Extension of Bank Guarantee

(To be stamped in accordance with Stamp Act)

Ref. .....Date .....

T o

The Director,
Jharkhand Renewable Energy Development Agency
3rd Floor, SLDC Building, Kusai, Doranda,
Ranchi-834002. Jharkhand INDIA

Dear Sirs,

Sub: **Extension of Bank Guarantee No..... for Rs .....favouring yourselves, expiring on .....on account of M/s.....in respect of Contract No ..... dated ..... (hereinafter called original Bank Guarantee).**

At the request of M/s ..... , we .....Bank, branch office at .....and having its Head Office at ..... do hereby extend our liability under the above-mentioned Guarantee No ..... dated ..... for a further period of ..... years/ months from .... to expire on .....Expect as provided above, all other terms and conditions of the original Bank Guarantee No……dated .....shall remain unaltered

Please treat this as an integral part of the original Bank Guarantee to which it would be attached.

Yours Faithfully,
For .....
Manager/Agent
Accountant
Power of Attorney No.....
Dated.....

SEAL OF BANK

NOTE: The non-judicial stamp paper of appropriate value shall be purchased in the name of the Bank which has issued the Bank Guarantee.

Annexure-IV: Proforma of Letter of Undertaking

(To be submitted by the Bidder along with his Bid)
(To be executed on non-judicial stamp paper of requisite value)

Ref.: Date:

To,

The Director,
Jharkhand Renewable Energy Development Agency
3rd Floor, SLDC Building, Kusai, Doranda,
Ranchi-834002. Jharkhand INDIA

Dear Sir,

1. I/We* have read and examined the Bidding Documents relating to site survey, planning, design, engineering, assembly, manufacturing, testing, supply, loading, transportation, unloading, insurance, delivery at site, handling, storage, installation, testing, commissioning of -------- kW Solar Photovoltaic based Decentralized Distributed Generation Systems and documentation of all items/ material required to complete the Electrification works 10 (ten) districts of Jharkhand which interlia include construction of LT Line & Operation & Maintenance of Plant for five years after commissioning.

   a) Invitation to Bid.
   b) Condition of Contract for supply cum Erection, containing section, "Invitation to Bid (INV)", "Instruction to Bidder (INB)", 'General Terms & Conditions of Contract (GCC)" and "General Technical Conditions" and "Erection Conditions".
   c) Special Condition of Contract along with Annexures ..... to
   d) Drawings
   e) Technical Specifications.

2. I/We hereby submit our Bid and undertake to keep our Bid valid for a period of six (6) calendar months from the date of bid i.e. upto I/We hereby further undertake that during the said period I/We shall not vary/ alter or revoke my/ our Bid.

   This undertaking is in consideration of Jharkhand Renewable Energy Development Agency agreeing to open my/our Bid and consider and evaluate the same for the purpose of award of Work in terms of provisions of clause entitled "Award of Contract", Section INB, Conditions of Contract in the Bid Documents.

   Should this Bid be accepted, I/we also agree to abide by and fulfill all the terms & conditions of provisions of the above mentioned bid documents.

Signature along with Seal of Company

(Duly authorised to sign the Bid on behalf of the Contractor)

Name ……
Designation.....
Name of Company..... (in Block Letters)

WITNESS

Signature ..... Date & Postal Address

Date.....

Name & Address.....

Telephone No .....
Fax No.....

*Strike out whichever is not applicable.

Annexure-V: Proforma of Application for Payment

Project:

Equipment package:	Date:
Name of Contractor:	Contract No.:
Contract Value:	Contract Name :
Unit Reference:	Application Serial number

To,

The Director,
Jharkhand Renewable Energy Development Agency
3rd Floor, SLDC Building, Kusai, Doranda,
Ranchi-834002. Jharkhand INDIA Dear Sir,

APPLICATION FOR PAYMENT

Pursuant to the above referred Contract dated .....the undersigned hereby applies for payment of the sum of (Specify amount and currency in which claim is made).

1. The above amount is on account of : [**TICK** (√) whichever is applicable]
   Initial advance (Schedule $$)
   Interim payment as advance (Schedule$$)
   Progressive payment against dispatch of equipment (Schedule$$)
   Progressive payment against receipt of equipment at site (Schedule$$)
   Progressive payment against Erection (Schedule$$)
   Ocean freight & marine insurance (Schedule$$)
   Inland transportation (Schedule$$)
   Inland insurance
   Extra work not specified in Contract
   (Ref. Contract change order No .....)
   Other (specify)
   Final payment (Schedule$$)
   as detailed in the attached Schedule(s) which form an integral part of this application

2. The payment claimed is as per item(s) No.(s) ..... of the payment schedule annexed to the above-mentioned Contract.

3. The application consists of this page, a summary of claim statement (Schedule$$), and the following signed schedule.

   1 .
   2 .
   3 .

The following documents are also enclosed

1 .
2 .

3 .

Signature of
Contractor/
Authorised
Signatory

Application for payment will be made to 'Engineer' to be designated for this purpose at the time of award of the Contract.

$$ Proforma for the Schedules will be mutually discussed and agreed to during the finalization of the Contract Agreement.

Annexure-VI: Proforma of Bank Guarantee for Advance Payment

(To be stamped in accordance with Stamp Act)

Ref ..... Bank Guarantee No .....
Date .....

To,

The Director,
Jharkhand Renewable Energy Development Agency
3rd Floor, SLDC Building, Kusai, Doranda,
Ranchi-834002. Jharkhand INDIA Dear Sir,

In consideration of Jharkhand Renewable Energy Development Agency (hereinafter referred to as the 'Employer', which expression shall, unless repugnant to the context or meaning thereof include its successors, administrators and assigns) having awarded to M/s……(hereinafter referred to as the "Contractor" which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns), a Contract by issue of Employer's Letter of Award No dated……and the same having been acknowledged by the Contractor, resulting in a Contract bearing No……dated valued at.. . .. . for.. . .. .(scope of work) (hereinafter called the 'Contract') and the Employer having agreed to make an advance payment to the Contractor for performance of the above Contract amounting (in words and figures) as an advance against Bank Guarantee to be furnished by the Contractor.

We,..... (Name of the Bank) having its Head Office at(hereinafter referred to as the 'Bank', which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) do hereby guarantee and undertake to pay the Employer, immediately on demand any or, all monies payable by the Contractor to the extent of as aforesaid at any time upto @ without any demur, reservation, contest, 'recourse or protest and/or without any reference to the Contractor. Any such demand made by the Employer on the Bank shall be conclusive and binding notwithstanding any difference between the Employer and the Contractor or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. We agree that the guarantee herein contained shall be irrevocable and shall continue to be enforceable till the Employer discharges this guarantee.

The Employer shall have the fullest liberty without affecting in any way the liability of the Bank under this guarantee, from time to time to vary the advance or to extend the time for performance of the Contract by the Contractor. The Employer shall have the fullest liberty without affecting this guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Contractor, and to exercise the same at any time in any manner, and either to enforce or to forbear to enforce any covenants, contained or implied, in the Contract between the Employer and the Contractor or any other course or remedy or security available to the Employer. The Bank shall not be released of its obligations under these presents by any exercise by the Employer of its liberty with reference to the matters aforesaid or any of them or by reason of any other act or forbearance or other acts of omission or commission on the part of the Employer or any other indulgence shown by the Employer or by any other matter or thing, whatsoever, which under law would, but for this provision have the effect of relieving the Bank.

The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee

against the Bank as a principal debtor, in the first instance without proceeding against the Contractor and notwithstanding any security or other guarantee that the Employer may have in relation to the Contractor's liabilities.

Notwithstanding anything contained hereinabove our liability under this guarantee is limited to and it shall remain in force upto and including..... @ ..... and shall be extended from time to time for such period (not exceeding one year), as may be desired by M/s .....on whose behalf this guarantee has been given.

Dated this Day of ..... at.....

WITNESS

(Signature) (Signature)

(Name) (Name)

Designation.....
(Official Address)

(With Bank Stamp)

Attorney as per Power of Attorney No.....
Dated.....

@ The date will be ninety (90) days after the date of completion of the Contract.

NOTE: The non-judicial stamp papers of appropriate value shall be purchased in the name of Bank, which issues the Bank Guarantee.

Annexure-VII: Proforma of Indemnity Bond to be Executed by the Contractor for Equipment Handed Over for Performance of its Contract

(Entire Equipment consignment in one lot)
(On non-Judicial stamp paper of appropriate Value)

INDEMNITY BOND

THIS INDEMNITY BOND is made this .....day of ..... 20 by .....a Company registered under the Companies Act, 1956/Partnership Firm/Proprietary Concern having its Registered Office at ..... (hereinafter called as 'Con tractor' or "Obligor" which expression shall include its successors and permitted assigns) in favour of Jharkhand Renewable Energy Development Agency (JREDA), a Company incorporated under the Companies Act, 1956 having its Registered Office at…….and its project at ……..(hereinafter called "Owne

WHEREAS **Jharkhand Renewable Energy Development Agency (JREDA)** has awarded to the Contractor, a Contract for…….vide its Letter of Award/ Contract No ……..dated……and its
Amendment No. .....and Amendment No…….. (applicable when amendments have been issued) (hereinafter cal

And WHEREAS by virtue of Clause No of the said Contract, the Contractor is required to execute an Indemnity Bond

NOW THEREFORE, This Indemnity Bond witnesses as follows:

1. That in consideration of various equipment as mentioned in the Contract, valued at Rs……(Rupees…….) handed over to the Contractor for the purpose of performance of the Contract, the Contractor hereby undertakes to indemnify and shall keep **Jharkhand Renewable Energy Development Agency** indemnified, for the full value of the Equipment. The Contractor hereby acknowledges receipt of the Equipment as per dispatch title documents handed over to the Contractor duly endorsed in their favour and detailed in the Schedule appended hereto. It is expressly understood by the Contractor that handing over of the dispatch title documents in respect of the said Equipment duly endorsed by **Jharkhand Renewable Energy Development Agency** in favour of the Contractor shall be construed as handing over of the Equipment purported to be covered by such title documents and the Contractor shall hold such Equipment in trust as a Trustee for and on behalf of **Jharkhand Renewable Energy Development Agency**.

2. That the Contractor is obliged and shall remain absolutely responsible for the safe transit/ protection and custody of the Equipment at **Jharkhand Renewable Energy Development Agency** project Site against all risks, whatsoever, till the Equipment are duly used/ erected in accordance with the terms of the Contract and the Plant/ Package duly erected and commissioned in accordance with the terms of the Contract is taken over by **Jharkhand Renewable Energy Development Agency**. The Contractor undertakes to keep **Jharkhand Renewable Energy Development Agency** harmless against any loss or damage that may be caused to the Equipment.

3. The Contractor undertakes that the Equipment shall be used exclusively for the performance/ execution of the Contract strictly in accordance with its terms and conditions and no part of the equipment shall be utilized for any other work or purpose whatsoever. It

is clearly understood by the Contractor that nonobservance of the obligations under this Indemnity Bond by the Contractor shall inter-alia constitute a criminal breach of trust on the part of the Contractor for all intents and purpose including legal/ penal consequences.

4. That **Jharkhand Renewable Energy Development Agency** is and shall remain the exclusive Employer of the Equipment free from all encumbrances, charges or liens of any kind, whatsoever. The Equipment shall at all times be open to inspection and checking by Engineer-in- Charge/Engineer or other employees/agents authorised by him in this regard. Further, **Jharkhand Renewable Energy Development Agency** shall always be free at all times to take possession of the Equipment in whatever form the Equipment may be, if in its opinion the Equipment are likely to be endangered, mis-utilised or converted to uses other than those specified in the Contract, by any acts of omission or commission on the part of the Contractor or any other person or on account of any reason, whatsoever, and the Contractor binds himself and undertakes to comply with the direction of demand of **Jharkhand Renewable Energy Development Agency** to return the Equipment without any demur or reservation.

5. That this indemnity Bond is irrevocable. If at any time any loss or damage occurs to the Equipment or the same or any part thereof is mis-utilised in any manner whatsoever, then the Contractor hereby agrees that the decision of the Engineer-in- Charge/ Engineer of **Jharkhand Renewable Energy Development Agency** as to assessment of loss or damage to the Equipment shall be final and binding on the Contractor. The Contractor binds itself and undertakes to replace the lost and/ or damaged Equipment at its own cost and/ or shall pay the amount of loss of **Jharkhand Renewable Energy Development Agency** without demur, reservation or protest. This is without prejudice to any other right or remedy that may be available to **Jharkhand Renewable Energy Development Agency** against the Contractor under the Contract and under this Indemnity Bond.

6. NOW THE CONDITION of this Bond is that if the Contractor shall duly and punctually comply with terms and conditions of this Bond to the satisfaction of **Jharkhand Renewable Energy Development Agency**, THEN, the above Bond shall be void, but otherwise, it shall remain in full force and virtue.

IN WITNESS WHEREOF, the Contractor has hereunto set its hand through its authorized representative under the common seal of the Company, the day, month and year first above mentioned.

SCHEDULE No. 1

Particulars of the Equipment handed over	Quantity	Particulars of Despatch Title Documents	Value of the Equipment	Signature of Attorney (authorised representative)

For and on behalf of M/s .....

WITNESS

1. 1. Signature .....

2. Name … … …

3. Address……..

4 Designation……...

Authorised representative *

2. 1. Signature .....

2. Name ..... (Common Seal)

3. Address ..... (In case of Company)

* Indemnity Bonds are to be executed by the authorised person and (i) in case of Contracting Company under common seal of the Company or (ii) having the Power of Attorney issued under common seal of the company with authority to execute Indemnity Bonds, (Hi) In case of (ii), the original Power of Attorney if it is specifically for this Contract or a Photostat copy of the Power of Attorney if it is General Power of Attorney and such documents should be attached to Indemnity Bond.

Annexure-VIII: Proforma of Indemnity Bond to be Executed by the Contractor for the Equipment Handed Over in Instalments for Performance of its Contract

(On non-judicial stamp paper of appropriate value)

INDEMNITY BOND

THIS INDEMNITY BOND is made this .....day of ..... 20 by, a Company registered under the Comp **Renewable Energy Development Agency**, a Company incorporated under the Companies Act, 1956 having its Registered Office at…….and its project at……(hereinafter called "Owner" which expression shall include its successors and assigns).

WHEREAS **Jharkhand Renewable Energy Development Agency** has awarded to the Contractor a Contract for vide its Letter of Award/Contract No…….. dated…….and Amendment No…… (applicable when amendments have been issued) (hereinafter called the 'Contract') in terms of Which **Jharkhand Renewable Energy Development Agency** is required to hand over various Equipment to the Contractor for execution of the Contract.

AND WHEREAS by virtue of Clause No. of the said Contract, the Contractor is required to execute an
Indemnity Bond in favour of **Jharkhand Renewable Energy Development Agency** for the Equipment handed over to it by **Jharkhand Renewable Energy Development Agency** for the purpose of performance of the Contract/Erection portion of the Contract hereinafter called the 'Equipment').

NOW THEREFORE, This Indemnity Bond witnesses as follows:

1. That in consideration of various Equipment as mentioned in the Contract, valued at Rs (Rupees) to be handed over to the Contractor in installments from time to time for the purpose of performance of the Contract, the Contractor hereby undertakes to indemnify and shall keep **Jharkhand Renewable Energy Development Agency** indemnified, for the full value of the Equipment. The Contractor hereby acknowledges receipt of the initial installment of the equipment as per details in the Schedule appended hereto. Further, the Contractor agrees to acknowledge receipt of the subsequent installments of the Equipment as required by **Jharkhand Renewable Energy Development Agency** in the form of Schedules consecutively numbered which shall be attached to this Indemnity Bond so as to form integral parts of this Bond. It is expressly understood by the Contractor that handing over the dispatch title documents in respect of the said Equipment duly endorsed by **Jharkhand Renewable Energy Development Agency** in favour of the Contractor shall be construed as handing over the Equipment purported to be covered by such title documents and the Contractor shall hold such Equipment in trust as a Trustee for and on behalf of **Jharkhand Renewable Energy Development Agency**.

2. That the Contractor is obliged and shall remain absolutely responsible for the safe transit/protection and custody of the Equipment at **Jharkhand Renewable Energy Development Agency** project Site against all risks, whatsoever, till the Equipment are duly used/erected in accordance with the terms of the Contract and the Plant/Package duly erected and commissioned in accordance with the terms of the Contract, is taken over by **Jharkhand Renewable Energy Development Agency**. The Contractor undertakes to keep

Jharkhand Renewable Energy Development Agency harmless against any loss or damage that maybe caused to the Equipment.

3. The Contractor undertakes that the Equipment shall be used exclusively for the performance/ execution of the Contract strictly in accordance with its terms and conditions and no part of the equipment shall be utilised for any other work or purpose, whatsoever. 1t is clearly understood by the Contractor that non-observance of the obligations under this Indemnity Bond by the Contractor shall inter-alia constitute a criminal breach of trust on the part of the Contractor for all intents and purpose including legal/ penal consequences.

4. That **Jharkhand Renewable Energy Development Agency** is and shall remain the exclusive Employer of the Equipment free from all encumbrances, charges or liens of any kind, whatsoever. The Equipment shall at all times be open to inspection and checking by Engineer-in- Charge/ Engineer or other employees/ agents authorised by him in this regard. Further, **Jharkhand Renewable Energy Development Agency** shall always be free at all times to take possession of the Equipment in whatever form the Equipment may be, if in its opinion the Equipment are likely to be endangered, misutilised or converted to use other than those specified in the Contract, by any acts of omission or commission on the part of the Contractor or any other person or on account of any reason, whatsoever, and the Contractor binds himself and undertakes to comply with the directions of demand of **Jharkhand Renewable Energy Development Agency** to return the equipment without any demur or reservation.

5. That this Indemnity Bond in irrevocable. If at any time any loss or damage occurs to the Equipment or the same or any part thereof is mis-utilised in any manner whatsoever, then the Contractor hereby agrees that the decision of the Engineer-in-Charge/ Engineer of **Jharkhand Renewable Energy Development Agency** as to assessment of loss or damage to the Equipment shall be final and binding on the Contractor. The Contractor binds itself and undertakes to replace the lost and/or damaged Equipment at its own cost and/ or shall pay the amount of loss to **Jharkhand Renewable Energy Development Agency** without any demur, reservation or protest. This is without prejudice to any other right or remedy that may be available to **Jharkhand Renewable Energy Development Agency** against the Contractor under the Contract and under this Indemnity Bond.

6. NOW THE CONDITION of this Bond is that if the Contractor shall duly and punctually comply with the terms and conditions of this Bond to the satisfaction of **Jharkhand Renewable Energy Development Agency**, THEN above Bond shall be void, but otherwise, it shall remain in' full force and virtue.
IN WITNESS WHEREOF, the Contractor has her eunto set its hand through its authorized representative under the common seal of the Company, the day, month and year first above mentioned

SCHEDULE No. 1

Particulars of the Equipment handed over	Quantity	Particulars of Despatch Title Documents	Value of the Equipment	Signature of Attorney (authorised representative)

For and on behalf of M/s .....

WITNESS

1. 1. Signature .....

   2. Name … … …

   3. Address……..

   4 Designation……...

Authorised representative *

2. 1. Signature .....

   2. Name ..... (Common Seal)

   3. Address ..... (In case of Company)

   * Indemnity Bonds are to be executed by the authorised person and (i) in case of Contracting Company under common seal of the Company or (ii) having the Power of Attorney issued under common seal of the company with authority to execute Indemnity Bonds, (Hi) In case of (ii), the original Power of Attorney if it is specifically for this Contract or a Photostat copy of the Power of Attorney if it is General Power of Attorney and such documents should be attached to Indemnity Bond.

Annexure-IX: Proforma of 'Agreement'

(To be executed on non-judicial stamp paper)

This Agreement made this ..... day of……, two thousand ……..between **Jharkhand Renewable Energy Development Agency (JREDA),** a company incorporated under the Companies Act, 1956, having its Registered Office at……. (hereinafter referred to as the 'Owner' which expression shall include its administrators, successors, executors and permitted assigns) of the one part and M/s……., a company incor executors and permitted assigns] of the other part.

WHEREAS **Jharkhand Renewable Energy Development Agency** desirous to .....* .....
Under ..... ** ..... in ..... *** ..... as per NIT No. .....Dated.....20

AND WHEREAS the Contractor had participated in the above referred Bidding vide their proposal No. .....
dated .....

AND WHEREAS **Jharkhand Renewable Energy Development Agency** awarded the Contract to the Contractor on terms and conditions of the documents referred to therein, which have been acknowledged by the Contractor resulting into a "Contract".

NOW THEREFORE THIS DEED WITNESSETH AS UNDER:-

1.0 Article

1.1 Award of Contract

Jharkhand Renewable Energy Development Agency has awarded the Contract to the Contractor for the work of……. on the terms and conditions as contained in its Letter of Award No…….dated…… and the documents referred to therein. The award has taken effect from the aforesaid date of letter of award. The terms and expressions used in this Agreement shall have the same meaning as are assigned to them in the 'Contract Documents' referred to in the succeeding Article.

2.0 Contract Documents

2.1 The Contract shall be performed strictly as per the terms and conditions stipulated herein and in the following documents attached herewith (hereinafter referred to as "Contract Documents').

i) ..... 's Bidding Documents in respect of Specification No. issu issued vide its letter(s) No.(s)..... dated (Volume-I)

ii) ..... 's Technical Specifications including Amendments issued vide its Letter No dated..... (Volume-II)

iii) "X"s Proposal No ..... dated alon (Volume-III)

iv) Agreed Minutes of the meeting held on ..... between…….and…… "X". (Volume-IV)

v) ..... 's Letter of Award No…….dated ……..Duly acknowledged by "X". (Volume-V)

vi) Quality Plans for manufacturing and field activities entitled 'Quality Plan'. (Volume-VI)

vii) Contract Network (Volume-VII)

All the aforesaid Contract Documents shall form an integral part of this Agreement, in so far as the same or any part conform to the Bidding Documents (Vol. I & II) and what has been specifically agreed to by the **Jharkhand Renewable Energy Development Agency** in its Letter of Award. Any matter inconsistent therewith, contrary or repugnant thereto or any deviations taken by the Contractor in its Proposal (Vol-III) but not agreed to specifically by the **Jharkhand Renewable Energy Development Agency** in its Letter of Award shall be deemed to have been withdrawn by the Contractor. For the sake of brevity, this agreement along with its aforesaid Contract Documents shall be referred to as the 'Agreement'.

3.0 Conditions & Covenants

3.1 The scope of Contract, Consideration, Terms of Payment, Price Adjustment, Taxes wherever applicable, Insurance, Liquidated Damages, Performance Guarantee and all other terms and conditions are contained in **Jharkhand Renewable Energy Development Agency** 's Letter of Award No…….dated……read in conjunction with other aforesaid Contract documents. The Contract shall be duly performed by the Contractor strictly and faithfully in accordance with the terms of the Agreement.

3.2 The scope of work shall also include supply and installation of all such items which are not specifically mentioned in the Contract documents, but which are needed for successful, efficient, safe & reliable operation of the equipment unless otherwise specifically excluded in the Specifications under 'Exclusions' or Letter of Award.

3.3 Time Schedule

3.3.1 Time is the essence of the Contract and schedules shall be strictly adhered to. 'X" shall perform the work in accordance with the agreed schedule as given in Volume - V & VI of Contract documents [clause 2.1 (v & vi) above].

3.4 Quality Plans

3.4.1 The Contractor is responsible for the proper execution of the Quality Plans enclosed in Volume-VI. The work beyond the Customer Inspection Points (CIP) will progress only with the **Jharkhand Renewable Energy Development Agency**'s consent. The **Jharkhand Renewable Energy Development Agency** will also undertake quality 'surveillance and quality audit of the Contractor's/ Sub-Contractor's works, systems and procedures and quality control activities. The Contractor further agrees that any change in the Quality Plan will be made only with the Employer's approval. The Contractor shall also perform all quality control activities, inspection and tests agreed with the **Jharkhand Renewable Energy Development Agency** to demonstrate full compliance with the Contract requirements.

3.4.2 The Contractor also agrees to provide the **Jharkhand Renewable Energy Development Agency** with the necessary facilities for carrying out inspection, quality audit and quality surveillance of Contractor's and its Sub-Contractor's Quality Assurance Systems and manufacturing activities.

These shall include but not limited to the following:

i) Relevant plant standards, drawing and procedures;

ii) Detailed Quality Assurance System manuals for manufacturing activities,

iii) Storage procedures and instructions weld, NOT, heat treatment prior to commencement of manufacture;

iv) Complete set of log sheets (blank) mentioned in the quality plan.

3.4.3 It is expressly agreed to by the Contractor that the quality tests and Inspection by the Employer shall not in any way relieve the Contractor of its responsibilities for quality standards, and performance guarantee and their other obligations under the Agreement.

3.4.4 'X' agrees to submit Quality Assurance Documents package to **Jharkhand Renewable Energy Development Agency** for review and record after completion and within three weeks of dispatch of material.

The package will include the following:

i) Factory test result/inspection reports for testing required by this Contract or applicable codes and standards;

ii) Two copies of inspection reports duly signed by Quality Assurance personnel of both **Jharkhand Renewable Energy Development Agency** and 'X' for the agreed Customer Inspection Points;

3.5 It is expressly agreed to by the Contractor that notwithstanding the fact that the Contract is termed as Supply -cum-Erection Contract or indicates the break -up of the Contract consideration, for convenience of operation and for payment of sales tax on supply portion, it is in fact one composite Contract on single source responsibility basis and the Contractor is bound to perform the total Contract in its entirety and non - performance of any part or portion of the Contract shall be deemed to be a breach of the entire Contract.

3.6 The Contractor guarantees that the equipment supplied under the Contract shall meet the ratings and performance parameters as stipulated in the Technical Specifications and in the event of any deficiencies found in the requisite performance figures, the **Jharkhand Renewable Energy Development Agency** may at its option reject the equipment package or alternatively accept it on the terms and conditions and subject to levy of the liquidated damages in terms of Contract documents. The amount of liquidated damages so leviable shall be in accordance with the Contract documents and without any limitation.

3.7 It is further agreed by the Contractor that the Contract Performance Guarantee shall in no way be construed to limit or restrict the **Jharkhand Renewable Energy Development Agency** 's right to recover the damages/compensation due to short -fall in the equipment performance figures as stated in para 3.6 above or under any other clause of the Agreement. The amount of damages/compensation shall be recoverable either by way of deductions from the Contract price, Contract Performance Guarantee and/or otherwise.

The Contract Performance Guarantee furnished by the Contractor is irrevocable and unconditional and the **Jharkhand Renewable Energy Development Agency** shall have the powers to invoke it notwithstanding any dispute or difference between the Employer and the Contractor pending before any court tribunal, arbitrator or any other authority.

3.8 This Agreement constitutes full and complete understanding between the parties and terms of the presents. It shall supersede any prior correspondence, terms and conditions contained in the Agreement. Any modification of the Agreement shall be effected only by a written instrument signed by the authorised representative of both the parties.

4.0 SETTLEMENT OF DISPUTES

4.1 It is specifically agreed by and between the parties that all the differences or disputes arising out of the Agreement or touching the subject matter of the Agreement shall be decided by the process of Settlement & Arbitration as specified in Clause and of the General Terms & Conditions of the Contract and the provisions of the Indian Arbitration Act, 1940 shall apply and Ranchi Courts alone shall have exclusive jurisdiction over the same.

4.2 Notice of Default

Notice of default given by either party to the other party under Agreement shall be in writing and shall be deemed to have been duly and properly served upon the parties hereto if delivered against acknowledgment or by telex or by registered mail with acknowledgment due addressed to the signatories at the addresses mentioned herein above.

IN WITNESS WHEREOF, the parties through their duly authorised representatives have executed these presents (execution whereof has been approved by the competent authorities of both the parties) on the day, month and year first above mentioned at Ranchi.

WITNESS:

(Owner's signature) (Printed Name)

(Designation) (Company's Stamp)

(Contractor's signature) (Company's Name)

(Designation) (Company's Stamp)

* : Purpose of the Scheme

** : Name of the Scheme

*** : Project Area

Applicable in case single award is placed on one party on Supply-cum-Erection basis. In case two separate awards are placed on single party/ two different parties this clause is to be modified suitably while signing the Contract Agreement to be signed separately for two awards to incorporate cross-fall breach clause.

Annexure-XI: Format of Power of Attorney for Signing Bid

RfP No:

POWER OF ATTORNEY

(To be on non-judicial stamp paper of appropriate value as per Stamp Act relevant to place of execution.)

Know all men by these presents, we .....(name and address of the registered office) 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 attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to our bid for **RfP No: ----------,** including signing and submission of all documents and providing information / Bids to Jharkhand Renewable Energy Development Agency, representing us in all matters before [Insert Name], and generally dealing with Jharkhand Renewable Energy Development Agency in all matters in connection with our bid for the said Project.

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

For

_____ Signature (Name, Designation and Seal)

Accepted by

(Signature) (Name, Designation and Seal)

(Name, Title and Address of the Attorney)

Note: The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, lay down by the applicable law and the charter documents of the executants (s) and when it is so required the same should be under common seal affixed in accordance with the required procedure.

Annexure-XII: 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.	GPS Co-ordinate of Registered Office	
6.	GPS Co-ordinate of Factory Campus	
7.	Name & Designation of Authorized Signatory for Correspondence (Attach Power of Attorney as per Annexure)	
8.	Nature of Firm (Proprietorship/Partnership /Pvt. Ltd./Public Ltd. Co./Public Sector)	
9.	Permanent Account Number (PAN)/TIN (Attach proof)	
10.	Firm's Registration Number (Attach proof)	
11.	Sales Tax/Value Added Tax Registration Number (Attach proof)	
12.	Specify the Item Originally Manufactured by the Bidder (SPV module/Electronics/Battery)	
13.	Registration Number of the firm/co. (Copy of Registration Certificate issued by Industry Department)	
14.	Details of in-house testing facility (Attach Proof)	
15.	Office/ Dealer and Service network in Jharkhand with TIN No.(Give details)	
16.	Particulars of Earnest Money	
17.	Place where Materials will be Manufactured	
18.	Place where Materials will be Available for Inspection	
19.	Other details and remarks, if any	

Yours faithfully,

(Signature of Authorized Signatory)

Name :
Designation :
Company seal :

(Separate sheet may be used for giving detailed information duly signed)

Annexure-XIII: Declaration by the Bidder

RfP No: ----------

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

I/We _____ (here in after referred to as the Bidder) being desirous of tendering for the rate contract for work under the above mentioned tender and having fully understood the nature of the work and having carefully noted all the terms and conditions, specifications etc. as mentioned in the tender document, DO HEREBY DECLARE THAT

1. The Bidder is fully aware of all the requirements of the tender document and agrees with all provisions of the tender document.
2. The Bidder is capable of executing and completing the work as required in the tender.
3. The Bidder accepts all risks and responsibilities directly or indirectly connected with the performance of the tender.
4. The Bidder has no collusion with any employee of JREDA or with any other person or firm in the preparation of the bid.
5. The Bidder has not been influenced by any statement or promises of JREDA or any of its employees, but only by the tender document.
6. The Bidder is financially solvent and sound to execute the work.
7. The Bidder is sufficiently experienced and competent to perform the contract to the satisfaction of JREDA.
8. The information and the statements submitted with the tender are true.
9. The Bidder is familiar with all general and special laws, acts, ordinances, rules and regulations of the Municipal, District, State and Central Government that may affect the work, its performance or personnel employed therein.
10. The Bidder has not been debarred from similar type of work by any SNA/ Government Dept. /PSU.
11. This offer shall remain valid for Six months from the date of opening of the tender.
12. The Bidder gives the assurance to execute the tendered work as per specifications terms and conditions.
13. The Bidder confirms the capability to supply and install required no. of systems per month.
14. The Bidder accepts that the earnest money be absolutely forfeited by JREDA if the Bidder fails to undertake the work or sign the contract within the stipulated period.

(Signature of Authorized Signatory)

Name:

Designation:

Company Seal:

Annexure-XIV: Format for Financial Requirement – Annual Turnover

RfP No: ----------

[On the letterhead of Bidding Company]

To,

The Director,

Jharkhand Renewable Energy Development Agency

3rd Floor, S.L.D.C. Building,

Kusai Colony, Doranda,

Ranchi - 834002

Dear Sir,

Sub: Proposal for site survey, planning, design, engineering, assembly, manufacturing, testing, supply, loading, transportation, unloading, insurance, delivery at site, handling, storage, installation, testing, commissioning of -------- kW of works for Rural Electrification Works of 363 Villages in districts of Chatra, Latehar, Garhwa, Palamu, West Singhbhum, Simdega, Sahibganj, Gumla, Hazaribagh & Pakur in Jharkhand through Solar Photovoltaic Power Plants (Mini/Micro grid) with distribution network & connection to households, along with 5 years CMC, under Decentralized Distributed Generation (DDG) Scheme of Deendayal Upadhyay Gram Jyoti Yojana (DDUGJY)

We certify that the Bidding Company had an average Annual Turnover of Rs. ----------

---------- based on audited annual accounts of the last three years ending 31.03.2015.

Authorised Signatory *Statutory Auditor*

(Power of Attorney holder) *(Stamp & Signature)*

Date:

Annexure-XV: Format For Financial Requirement - Net Worth Certificate

RfP No: ----------

[On the letterhead of Bidding Company]

To,

The Director,

Jharkhand Renewable Energy Development Agency

3rd Floor, S.L.D.C. Building,

Kusai Colony, Doranda,

Ranchi - 834002

Dear Sir,

Sub: : Proposal for site survey, planning, design, engineering, assembly, manufacturing, testing, supply, loading, transportation, unloading, insurance, delivery at site, handling, storage, installation, testing, commissioning of -------- kW of works for Rural Electrification Works of 363 Villages in districts of Chatra, Latehar, Garhwa, Palamu, West Singhbhum, Simdega, Sahibganj, Gumla, Hazaribagh & Pakur in Jharkhand through Solar Photovoltaic Power Plants (Mini/Micro grid) with distribution network & connection to households, along with 5 years CMC, under Decentralized Distributed Generation (DDG) Scheme of Deendayal Upadhyay Gram Jyoti Yojana (DDUGJY)

This is to certify that Net Worth of _____ {insert the name of Bidding Company}, as on 31st March 2015 is Rs _____. The details are appended below..

Particulars	**Amount (In Rs.)**
Equity Share Capital	
Add: Reserves	
Subtract: Revaluation Reserve	
Subtract: Intangible Assets	
Subtract: Miscellaneous Expenditure to the extent not written off and carried forward losses	
Net Worth as on 31st March 2015	

Authorised Signatory
(Power of Attorney holder)
Date:

Statutory Auditor
(Stamp & Signature)

Annexure-XVI: Format For Covering Letter

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

To,

The Director,
Jharkhand Renewable Energy Development Agency
3rd Floor, S.L.D.C. Building,
Kusai Colony, Doranda,
Ranchi - 834002.

Sub: Request for Proposal (RfP) for Rural Electrification Works of **363 Villages** in districts of Chatra, Latehar, Garhwa, Palamu, West Singhbhum, Simdega, Sahibganj, Gumla, Hazaribagh & Pakur in Jharkhand through **Solar Photovoltaic Power Plants (Mini/Micro grid)** with distribution network & connection to households, along with 5 years CMC, under Decentralized Distributed Generation (DDG) Scheme of Deendayal Upadhyay Gram Jyoti Yojana (DDUGJY)..

Sir,

We are hereby submitting our offer in full compliance with the terms and condition of the above NIB No. We have submitted the requisite amount of "Earnest Money" in the form of Bank Guarantee, valid for 210 (two hundred ten) days.

The tender is uploaded on www.jharkhandtenders.gov.in as per the requirement of the website separately Technical Bid & Financial Bid.

We are Appling for the following package:

S. No.	Package	Yes/No
1	Package 1	
2	Package 2	
3	Package 3	
4	Package 4	
5	Package 5	
6	Package 6	

(Signature of Authorized Signatory)
Name:
Designation:
Company Seal:

Annexure-XVII: Format For Check List for Technical bid

Particulars	**Uploaded Yes / No**	**Page No.**
Annexure-A: Proforma of Joint Undertaking by Manufacturer Along with the Bidder/Contractor		
Annexure-B: Format for Evidence of Access to or Availability of Credit/ Facilities		
Annexure-C: Form of Power of Attorney for Joint Venture		
Annexure-D: Form of Joint Venture Agreement		
Annexure-I: Proforma of Bank Guarantee for Bid Guarantee		
Annexure-IV: Proforma of Letter of Undertaking		
Annexure-XI: Format of Power of Attorney for Signing Bid		
Annexure-XII: Information about the Bidding Firm		
Annexure-XIII: Declaration by the Bidder		
Annexure-XIV: Format for Financial Requirement – Annual Turnover		
Annexure-XV: Format For Financial Requirement - Net Worth Certificate		
Annexure-XVI: Format For Covering Letter		
Annexure-XVII: Format For Check List for Technical bid		
Schedule-3: Firm price declaration Schedule		
Schedule-4: Commercial Deviations Schedule		
Schedule-5: Technical Deviation		
Schedule-6: Additional Information Included with this Proposal		
Schedule-7: Qualifying Requirement Data		
Schedule-8: Guarantee Declaration		
Schedule-9: Bought-out & Sub-Contracted Items		
Schedule-10: Work Completion Schedule		
Schedule-11: Checklist Schedule		

SECTION – VIII

BID PROPOSAL FORMS

Jharkhand Renewable Energy Development Agency

Ranchi, Jharkhand

PRICE BID PROPOSAL SCHEDULES

(Price – Bid must be submitted electronically, The appropriate Price Schedules furnish in the Bidding Documents as indicated shall be uploaded on the web portal)

Price Bid Proposal Schedules

(Conditions of Contract)

PROPOSAL

Bidders Name & Address:……
Bid Proposal Reference: No ..... Dated .....
Person to be contacted:
Designation:
Contact No.:
Fax/ e-mail address:

To

The Director,
Jharkhand Renewable Energy Development Agency
3rd Floor, SLDC Building, Kusai, Doranda,
Ranchi-834002. Jharkhand INDIA

Sub.: Request for Proposal (RfP) for Rural Electrification Works of 363 Villages in districts of Chatra, Latehar, Garhwa, Palamu, West Singhbhum, Simdega, Sahibganj, Gumla, Hazaribagh & Pakur in Jharkhand through Solar Photovoltaic Power Plants (Mini/Micro grid) with distribution network & connection to households, along with 5 years CMC, under Decentralized Distributed Generation (DDG) Scheme of Deendayal Upadhyay Gram Jyoti Yojana (DDUGJY)
the RfP No……..dated……for Package No
.....(Specification No.....)

Dear Sir,

1.0 We, the undersigned Bidder, having read and examined in detail the specifications and documents for "site survey, planning, design, engineering, assembly, manufacturing, testing, supply, loading, transportation, unloading, insurance, delivery at site, handling, storage, installation, testing, commissioning of ------ kW Solar Photovoltaic based Decentralized Distributed Generation Systems and documentation of all items/material required to complete the Electrification works 10 (Ten) districts of Jharkhand which interlia include construction of LT Line & Operation & Maintenance of Plant for five years after commissioning" do hereby propose to execute the same under the Package No……..(Specification No…….) as detailed in specification and documents.

2.0 PRICES AND VALIDITY

2.1 All the prices stated in the bid are firm and no price adjustment is applicable in line with the bidding documents. All the prices and other terms and conditions of this proposal are valid for a **period of 6 (six) calendar months after the date of deadline of bid submission**. We further declare that prices stated in our Proposal are in accordance with your "Instruction to Bidders" included in Condition of Contracts, Volume – I of Bid documents.

2.2 We do hereby confirm that our bid prices as quoted in Schedule –1 includes all the import duties and levies including license fees lawfully payable by us on imported items and all taxes, duties and levies applicable on bought-out components, materials, equipment and

other items and confirm that any such taxes, duties and levies additionally payable shall be to our account. We further confirm that no tax & duties (except octori/ entry tax) in any form shall be payable by Owner for bought out items, which are dispatched by our sub-suppliers directly to the project site on sale-in-transit basis. Octroi/ entry tax as applicable for destination site/state on bought finished item, which shall be dispatched directly from our sub vendors works to your site (sale in transit) are not included in the bid price the same has been indicated separately in Schedule-1. We understand that applicable octori/ entry tax in respect of such items of supply would also be reimbursed to us by the employer subject to furnishing of documentary proof.

2.3 The Bid price, the price components of Bid price viz., Ex-works price, Inland Freight and Insurance charges, Erection price component, Other Spares Charges Schedule, etc. are quoted by us in Schedule 1 to 4 of this proposal.

3.0 We have studied clause 14.0 of Section INB, Volume – I relating to Tax and we hereby, declare that if any income-tax, surcharge on income-tax or any other corporate tax is attracted under the law, we agree to pay the same.

4.0 CONSTRUCTION OF THE CONTRACT

4.1 We declare that we are making the offer on the basis of a divisible supply-cum-erection contract on a single source responsibility basis. The supply portion of the contract will relate to supply of equipment/ material on ex-works basis with freight and transportation including insurance and the erection portion will relate to storage, erection, testing and commissioning etc. of equipment/ material as defined in the bidding documents. However, we will have no objection in case owner decides to split the subject package into two separate contracts, one contract for supply of all equipment on ex-works basis with freight and insurance and second contract on erection basis as defined in the bidding documents. We declare that the award of two contracts will not in any way dilute our responsibility for successful completion of the work as per the bidding documents and that both the contracts will have a cross fall breach clause viz. that a breach in one contract will automatically be considered as breach of other contract which will confer on the owner the right to terminate the other contract at our risk and cost.

5.0 BID GUARANTEE

We have enclosed a Bid Guarantee, in the form

of .....

(*Please fill in alternative chosen*)

for a sum of…….

(*Amount in Words & Figures*)

in original and two copies of the original, valid for a period of ..... days beyond the bid validity date, in accordance with documents, for package as per the following details:

Package No & Specification No	Form of Bid Guarantee	Value of Bid Guarantee	Valid upto and including

We have also ensured that the above Bid guarantee furnished by us is in line with the Bid documents and complete in respect of following:

1. Value of non judicial stamp paper purchased in the name of executing bank is as per Stamp Act.

2. Power of Attorney no. and date as well as signature and full name & designation of executant along with Bank's stamp are there.

3. Signature, full name, designation and address of witness are there.

4. Complete mailing address of the Head Office of the Bank is indicated.

6.0 BID PRICE

We declare that our total price in Indian Rupees is given in para D of Schedule-1 for the entire scope of work as specified in your Bidding Documents.

7.0 DEVIATIONS

7.1 We declare that the Works shall be performed strictly in accordance with the specifications and documents except for the variations and deviations, all of which have been detailed out exhaustively in the following Schedules, irrespective of whatever has been stated to the contrary anywhere else in our proposal.

Sl. No.	Schedule	Schedule No.
1	Commercial Deviations Schedule	Schedule – 6
2	Technical Deviations Schedule	Schedule – 7

7.2 We confirm that specified stipulation of following Clauses are acceptable to us and no deviation/ exceptions are taken on any account, whatsoever in the following Clauses.

a)	Terms of Payment
b)	Bid Guarantee
c)	Contract Performance Guarantee & Project Operation Guarantee
d)	Liquidity Damages for Delay
e)	Price basis and Payment
f)	Guarantees

7.3 We have furnished herewith the Guarantee Declaration in Schedule- 8.

8.0 PERFORMANCE GUARANTEE

We declare that the ratings and performance figures of the equipment to be supplied and erected by us for this package are guaranteed.

9.0 BID PRICING

We further, declare that the prices stated in our Proposal are in accordance with your 'Instruction to Bidders' included in Conditions of Contract, Volume – I of Bid documents.

10.0 PRICE BASIS

We declare that our price components are on FIRM BASIS.

11.0 ADDITIONAL INFORMATION

11.1 In addition to the information called for in these Proposal sheets, we have included with this Proposal information as listed in Schedule – 6. We further confirm that such additional information does not imply any additional deviation beyond those covered in Schedule – 6 and in case of any contradiction between these additional information and other provisions of Bid, the latter will prevail.

12.0 QUALIFICATION DATA

We confirm having submitted the Qualification Data in three copies, as required by you in your 'Instruction to Bidders' and 'Special Conditions of Contract' included in Volume – I. Further we have filled in information for qualifying requirement data in Schedule – 7. In case, you require any further information in this regard, we agree to furnish the same in time.

13.0 WORK SCHEDULE

If this proposal is accepted by you, we agree to submit engineering data, provide services and complete the entire work from time to time, in accordance with Schedules indicated in the Proposal. We fully understand that the Work Completion Schedule stipulated in this Proposal is the essence of the Contract, if awarded. The Completion Schedule of various major key phases of the Work is indicated in Schedule – 10.

14.0 CONTRACT PERFORMANCE GUARANTEE & PROJECT OPERATION GUARANTEE

We further agree that if our proposal is accepted, we shall provide an irrevocable

- Contract Performance Guarantee, of value equivalent to ten percent (**10%**) of the Contract Price valid upto 6 months beyond schedule commissioning of the project in the form of Bank Guarantee
- Project Operation Guarantee (POG) of value equivalent twenty **percent (20%)** of the Contract Price valid upto 60 months from schedule date of commissioning in the form of Bank Guarantee in your favour within thirty (30) days from the date of issue of Letter of Award and shall enter into a formal agreement with you within thirty (30) days from the Letter of Award.

15.0 BOUGHT OUT AND SUB-CONTRACTED ITEMS

We are furnishing herewith in Schedule –9, the details of bought out items & sub-contracted items.

16.0 CHECK LIST

We have included a Check List duly filled in, as Schedule – 11.

17.0 We, hereby, declare that only the persons or firms interested in this Proposal as principals are named herein and that no other persons or firms other that those mentioned herein have any interest in this Proposal or in the Contract to be entered into, if we are awarded the Contract, and that this Proposal is made without any connection with any other persons, firm or party likewise submitting a Proposal and that this Proposal is in all respect for and in good faith, without collusion or fraud.

18.0 *** We, the Partners of the Joint Venture whose signatures are appended below, shall be liable jointly & severally for the execution of the Contract, in the event of award, in accordance with the terms of the Contract. The In charge for this bid is M/s……., who is submitting this Bid on behalf of the Joint Venture. The Power of Attorney in favour of M/s …….... is enclosed.

Dated this..... day of.....20 .....

Signature..... in the capacity of .....

..... duly authorised to sign for and on behalf of

(IN BLOCK CAPITALS)

Note: (i) *** Applicable to Joint Venture bids only.

Schedule-1

List of Banks

SCHEDULED COMMERCIAL BANKS	
STATE BANK AND ITS ASSOCIATES	
1. State Bank of India	2. State Bank of Bikaner & Jaipur
3. State Bank of Hyderabad	4. State Bank of Indore
5. State Bank of Mysore	6. State Bank of Patiala
7. State Bank of Travancore	------
NATIONALISED BANKS	
1. Allahabad Bank	2. Andhra Bank
3. Bank of Baroda	4. Bank of India
5. Bank of Maharashtra	6. Canara Bank
7. Central Bank of India	8. Corporation Bank
9. Dena Bank	10. Indian Bank
11. Indian Overseas Bank	12. Oriental Bank of Commerce
13. Punjab & Sind Bank	14. Punjab National Bank
15. Syndicate Bank	16. UCO Bank
17. Union Bank of India	18. United Bank of India
19. Vijaya Bank	-----
OTHER PUBLIC SECTOR BANKS	
1. IDBI Bank	-----
Scheduled Private Sector banks	
1. Axis Bank	2. Federal Bank
3. HDFC Bank	4. ICICI Bank
5. IndusInd Bank	6. Karnataka Bank
7. Kotak Mahindra Bank	8. Yes Bank

Schedule-2

Financial Bid

Price – Bid must be submitted electronically.
The appropriate Price Schedules furnish in the Bidding Documents shall be uploaded on the web portal

Price Schedule
RfP No: ----------

F. Total Package Value

Sl. No	Package No.	Total Number of Villages	Total Package Price (in Rs.)
1			
2			
3			
4			
5			
6			
7			

Note: The Price shall be is inclusive of all costs as well as duties and taxes (the custom duty & levies, duties on taxes /VAT etc.) paid or payable and such taxes, duties, levies, additionally payable will be to the contractor's account.

E. Total Village Value

Sl. No	Village Name	Total A (in Rs.)	Total B (in Rs.)	Total C (in Rs.)	Total D (in Rs.)	Total Village Price (A+B+C+D)(in Rs.)
1		A1	B1	C1	D1	
2		A2				
3		A3				
4						
5						
6						
7						

Note: The Price shall be is inclusive of all costs as well as duties and taxes (the custom duty & levies, duties on taxes /VAT etc.) paid or payable and such taxes, duties, levies, additionally payable will be to the contractor's account.

Part A: Plant and Equipment to be supplied shall include

Sl. No	Village Name	Particular of Items	Total Price	
1		Cost of SPVPP including module, battery, PCU etc. (All plant equipment and auxiliary systems and accessories required for the power plant operation)		
		Cost of PDN with necessary control equipment including data logging facility between panel and batteries.		
		Cost of providing connection and fitting to House- holds& Street lights		
		Cost of Civil work		Total A1
2		Cost of SPVPP including module, battery, PCU etc. (All plant equipment and auxiliary systems and accessories required for the power plant operation)		
		Cost of PDN with necessary control equipment including data logging facility between panel and batteries.		
		Cost of providing connection and fitting to House- holds& Street lights		
		Cost of Civil work		Total A2
3				
…				

Note: The Price shall be is inclusive of all costs as well as duties and taxes (the custom duty & levies, duties on taxes /VAT etc.) paid or payable and such taxes, duties, levies, additionally payable will be to the contractor's account.

Part B: Installation & Erection, Testing and Commission shall include

Sl. No	Village Name	Erection Part	Erection Price	

1		Cost of installation & commissioning of SPVPP including module, battery, PCU etc. (All plant equipment and auxiliary systems and accessories required for the power plant operation)		
		Cost of erection of PDN with necessary control equipment including data logging facility between panel and batteries.		
		Cost of providing connection and fitting to House- holds& Street lights		
		Cost of Civil work		Total B1
2		Cost of installation & commissioning of SPVPP including module, battery, PCU etc. (All plant equipment and auxiliary systems and accessories required for the power plant operation)		
		Cost of erection of PDN with necessary control equipment including data logging facility between panel and batteries.		
		Cost of providing connection and fitting to House- holds& Street lights		
		Cost of Civil work		Total B2
3				
…				

Note: The Price shall be is inclusive of all costs as well as duties and taxes (the custom duty & levies, duties on taxes /VAT etc.) paid or payable and such taxes, duties, levies, additionally payable will be to the contractor's account.

Part C: Cost of spare parts for 5 years after commissioning of the systems

Sl. No	Village Name	Cost of spare parts	Cost of spare parts in Rs	Other levies (Please specify) in Rs	Mention rate of percentage of Other	**Total Price in Rs**
1		Cost of spare parts for 5 years after commissioning of the systems				C1
2		Cost of spare parts for 5 years after commissioning of the systems				C2
3		Cost of spare parts for 5 years after commissioning of the systems				C3
4		Cost of spare parts for 5 years after commissioning of the systems				C4
5		Cost of spare parts for 5 years after commissioning of the systems				
6		Cost of spare parts for 5 years after commissioning of the systems				
7		Cost of spare parts for 5 years after commissioning of the systems				
8		Cost of spare parts for 5 years after commissioning of the systems				
9		Cost of spare parts for 5 years after commissioning of the systems				
10		Cost of spare parts for 5 years after commissioning of the systems				
11		Cost of spare parts for 5 years after commissioning of the systems				
12		Cost of spare parts for 5 years after commissioning of the systems				
13		Cost of spare parts for 5 years after commissioning of the systems				

Note: The Price shall be is inclusive of all costs as well as duties and taxes (the custom duty & levies, duties on taxes /VAT etc.) paid or payable and such taxes, duties, levies, additionally payable will be to the contractor's account.

Part D: Cost of providing power in village for 5 years including operation & maintenance of DDG power plant, power distribution network & providing power for 6-8 hrs. per day after taking into account the recovery from end users as per tariff.

Sl. No	Village Name	Cost of providing power	Cost of providing Power	Other levies (Please specify in Rs)	Mention rate of percentage of Other	**Total Price**
1		Cost of providing power in village for five years including operation & maintenance of DDG power plant, power distribution network & providing power for 6-8 hrs. Per day after taking into account the recovery from end users as per the tariff in Rs.				D1
2		Cost of providing power in village for five years including operation & maintenance of DDG power plant, power distribution network & providing power for 6-8 hrs. Per day after taking into account the recovery from end users as per the tariff in Rs.				D2
3		Cost of providing power in village for five years including operation & maintenance of DDG power plant, power distribution network & providing power for 6-8 hrs. Per day after taking into account the recovery from end users as per the tariff in Rs.				D3
4		Cost of providing power in village for five years including operation & maintenance of DDG power plant, power distribution network & providing power for 6-8 hrs. Per day after taking into account the recovery from end users as per the tariff in Rs.				

Note: The Price shall be is inclusive of all costs as well as duties and taxes (the custom duty & levies, duties on taxes /VAT etc.) paid or payable and such taxes, duties, levies, additionally payable will be to the contractor's account.

Schedule-3

JHARKHAND RENEWABLE ENERGY DEVELOPMENT AGENCY
IMPLEMENTATION OF RURAL ELECTRIFICATION PROJECT FOR DECENTRALIZED DISTRIBUTED GENERATION UNDER DDUGJY SCHEME OF _____DISTRICT

(Firm Price Declaration Schedule)
(Must be submitted in a Separate Envelope)

Bidder's Name & Address:

To
The Director,
Jharkhand Renewable Energy Development Agency
3rd Floor, SLDC Building, Kusai, Doranda,
Ranchi-834002. Jharkhand INDIA

We declare that our price components are on FIRM BASIS.

Date :
Place :

(Signature) .....
(Printed Name) .....
(Designation) .....
(Common Seal) .....

Schedule-4

JHARKHAND RENEWABLE ENERGY DEVELOPMENT AGENCY
IMPLEMENTATION OF RURAL ELECTRIFICATION PROJECT FOR DECENTRALIZED DISTRIBUTED GENERATION UNDER DDUGJY SCHEME OF _____DISTRICT

(Commercial Deviations)

(Must be submitted in a Separate Envelope)

Bidder's Name & Address:

To

The Director,
Jharkhand Renewable Energy Development Agency
3rd Floor, SLDC Building, Kusai, Doranda,
Ranchi-834002. Jharkhand INDIA

Dear Sir,

Sub.: Commercial Deviations for Package "Rural Electrification Works in _____,and _____ in _____ District for DDG Programme " under the DDUGJY in Jharkhand.

The following are the Commercial Deviations and variations from and exceptions to the specifications and documents for the subject package. These deviations and variations are exhaustive. Except these deviations, the entire work shall be performed as per your specifications and documents.

Volume/ Clause	**Reference/ Page No.**	**As specified in the Specification**	**Commercial deviation and variations**

Date :

Place :

(Signature) .....

(Printed Name) .....

(Designation) .....

(Common Seal) .....

Note: Continuation sheets of like size and format may be used as per Bidder's requirements and annexed to this schedule.

Schedule-5

JHARKHAND RENEWABLE ENERGY DEVELOPMENT AGENCY
IMPLEMENTATION OF RURAL ELECTRIFICATION PROJECT FOR DECENTRALIZED DISTRIBUTED GENERATION UNDER DDUGJY SCHEME OF _____ DISTRICT

(Technical Deviations)

Bidder's Name & Address:

To,

The Director,
Jharkhand Renewable Energy Development Agency
3rd Floor, SLDC Building, Kusai, Doranda,
Ranchi-834002. Jharkhand INDIA

Dear Sirs,

Sub : Technical Deviations for Package "Rural Electrification Works in _____ , ,and _____ in _____District for DDG Programme "under the DDUGJY in Jharkhand.

The following are the Technical Deviations and Variations from and Exceptions to the specifications and documents for the subject package. These deviations and variations are exhaustive. Except these deviations, the entire work shall be performed as per your specifications and documents.

Vol./Clause	Ref./Page No.	As specified in the specification	Technical deviation and variations to the

Date :

Place :

(Signature) .....

(Printed Name).....

(Designation) .....

(Common Seal) .....

Note:

1. Continuation sheets of like size and format may be used as per Bidder's requirements and annexed to this schedule.

The deviations and variations, if any, shall be brought out separately for each of the equipment and are to be submitted in five copies.

Schedule-6

JHARKHAND RENEWABLE ENERGY DEVELOPMENT AGENCY

IMPLEMENTATION OF RURAL ELECTRIFICATION PROJECT FOR DECENTRALIZED DISTRIBUTED GENERATION UNDER DDUGJY SCHEME OF _____ DISTRICT

(ADDITIONAL INFORMATION INCLUDED WITH THIS PROPOSAL)

Bidder's Name & Address:

To
The Director,
Jharkhand Renewable Energy Development Agency
3rd Floor, SLDC Building, Kusai, Doranda,
Ranchi-834002. Jharkhand INDIA

We have enclosed with our proposal the following additional information for "Rural Electrification Works in
, _____,and _____ in _____ District for DDG Programme under the DDUGJY" in Jharkhand.

Sl. No.	Brief Description of Information	Ref. & Page No.

Date :

Place :

(Signature) .....

(Printed Name) .....

(Designation) .....

(Common Seal) .....

Note:

1. Continuation sheets of like size and format may be used as per Bidder's requirements and annexed to this schedule.

Schedule-7

JHARKHAND RENEWABLE ENERGY DEVELOPMENT AGENCY

IMPLEMENTATION OF RURAL ELECTRIFICATION PROJECT FOR DECENTRALIZED DISTRIBUTED GENERATION UNDER DDUGJY SCHEME OF _____ DISTRICT

(Qualifying Requirement Data)

Bidder's Name & Address:

To
The Director,
Jharkhand Renewable Energy Development Agency
3rd Floor, SLDC Building, Kusai, Doranda,
Ranchi-834002. Jharkhand INDIA

Dear Sir,

In support of our meeting the Qualifying Requirements for bidders stipulated in Annexure – A of Special conditions of Contract (SCC) of Bidding documents (Bid Ref……), we furnish herewith the details/ documents/ confirmations etc. as follows.

1.0 (Reference: Clause 23 of SCC)

1.1 We meet the Stipulated QR as mentioned at Clause 23 of SCC

FORMAT – A:

The following is the list of orders executed by us for implementation of rural electrification project. The details of which are furnished hereunder in support of Qualifying Requirements:

Sl. No	**Customers / Client**	**Order ref. & Date**	**Name of Line**	**Line length (Kms.)**	**Order value (Rs.**	**Date of commissioning**	**Period of satisfactory operation**	****Role of contractor**	**User's certificate enclosed (YES/NO)**
	Bidder / JV 's partners name:								
1									
2									
3									
4									

Note: 1. ****** Indicate as a sole Contractor/Partner in a joint venture

2. Customer's Certificate to be enclosed by the bidder for the satisfactory operation of equipment

3. Continuation sheets, of like size and format, may be used as per bidder's requirements and shall be annexed to this schedule

FORMAT – B:

The following is the list of orders executed by us for design, supply, installation &Commissioning and maintenance of solar power plant:

The details of which are furnished hereunder in support of Qualifying Requirements:

Sl. No	**Customers / Client**	**Order ref. & Date**	**Name of location**	**Capacity of solar power plant (kW)**	**Order value (Rs. in lakhs)**	**Date of commissioning**	**Period of satisfactory operation**	****Role of contractor**	**User's certificate enclosed (YES/NO)**
	Bidder / JV 's partners name:								
1									
2									
3									

Note: 1. ****** Indicate as a sole Contractor/Partner in a joint venture

2. Customer's Certificate to be enclosed by the bidder for the satisfactory operation of equipment

3. Continuation sheets, of like size and format, may be used as per bidder's requirements and shall be annexed to this schedule

2.0 (Reference: Clause 23 of SCC)

2.1We have submitted our bid as a single firm who meets all the qualification requirement set forth in Clause 23

The following documents are enclosed with our bid as (Annexure/Attachment no. to be indicated) as per/in support of above

We have enclosed the following documents for joint venture/consortium.

i. Joint venture agreement

ii. Power of attorney of the joint venture

3.0 (Reference: Clause 23 of SCC)

3.1 The details / documents , required in regard to average annual turn-over of Bidder or Joint venture Partners or Consortium as per above are included/ furnished in our bid as indicated below

(i) Average annual turnover of the company (Bidder or Lead Partner)for the three best financial yea

(ii) Average annual turnover of the company (other than lead partner) .....for the three best financial years out of last five financial years as annualized is ..... (Delete or omit if not applicable)

(iii) Average annual turnover of the company (other than lead partner) .....for the three best financial years out of last five financial years as annualized is ..... (Delete or omit if not applicable)

(iv) Average annual turnover of the company (other than lead partner) .....for the three best financial years out of last five financial years as annualized is ..... (Delete or omit if not applicable) (In case of more no. of partners, the above turnover data shall be indicated here for all the partners)

4.0 (Reference: Clause 23 of SCC)

The details/ documents, required for qualification requirement are included/ furnished in our bid as indicated below

i. Annual Reports

ii. Profit & Loss statements.

iii. Balance Sheets for the last five years

(These documents must be submitted by the sole bidder or all partners of the joint venture/consortium.)

5.0 Annual Turnover Data for the last five years

i. By the sole bidder

Annual Turnover Data Rs

ii. Joint Venture Partners (in case of JV):

Annual Turnover Data (Indian Rupees)					
Partners Name	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Lead Partner*					
Partner*					
Partner*					
Partner*					
Partner*					

* Partner Name to be indicated

Date : (Signature) .....

Place : (Printed Name).....

(Designation) .....

(Common Seal)

Schedule-8

JHARKHAND RENEWABLE ENERGY DEVELOPMENT AGENCY
IMPLEMENTATION OF RURAL ELECTRIFICATION PROJECT FOR DECENTRALIZED DISTRIBUTED GENERATION UNDER DDUGJY SCHEME OF ……DISTRICT

(GURANTEE DECLARATION)

Bidder's Name & Address:

To,
The Director,
Jharkhand Renewable Energy Development Agency
3rd Floor, SLDC Building, Kusai, Doranda,
Ranchi-834002. Jharkhand INDIA

Dear Sirs,

We declare that the ratings and performance figures of the various equipments furnished by us for "Rural Electrification Works in ……., ……,and……in……District for DDG Programme under the DDUGJY in Jharkhand" are guaranteed.

We further declare that in the event of any deficiencies in meeting the guarantees in respect of the characteristics mentioned in GTP, Volume II as established after conducting the factory test, you may at your discretion, reject or accept the equipment after assessing the liquidated damages as specified in relevant clause of Bid Document.

Date :

Place :

(Signature) .....

(Printed Name) .....

(Designation) .....

(Common Seal)

Schedule-9

JHARKHAND RENEWABLE ENERGY DEVELOPMENT AGENCY
IMPLEMENTATION OF RURAL ELECTRIFICATION PROJECT FOR DECENTRALIZED DISTRIBUTED GENERATION UNDER DDUGJY SCHEME OF _____DISTRICT

(BOUGHT-OUT & SUB-CONTRACTED ITEMS)

Bidder's Name & Address:

To
The Director,
Jharkhand Renewable Energy Development Agency
3rd Floor, SLDC Building, Kusai, Doranda,
Ranchi-834002. Jharkhand INDIA

We hereby furnish the details of the items/sub-assemblies, we propose to buy for the purpose of subject package.

Sl. No	Item Description	Qty. Proposed be bought/ sub contracted	Source of Supply
1			
2			
3			
4			
5			
6			
7			
8			

Date :

Place :

(Signature) .....

(Printed Name) .....

(Designation) .....

(Common Seal)

Schedule-10

JHARKHAND RENEWABLE ENERGY DEVELOPMENT AGENCY
IMPLEMENTATION OF
RURAL ELECTRIFICATION PROJECT FOR
DECENTRALIZED DISTRIBUTED GENERATION
UNDER
DDUGJY SCHEME OF DISTRICT

(Work Completion Schedule)

Bidder's Name & Address:

To
The Director,
Jharkhand Renewable Energy Development Agency
3rd Floor, SLDC Building, Kusai, Doranda,
Ranchi-834002. Jharkhand INDIA

We hereby declare that the following Work Completion Schedule shall be followed by us for the subject package.

Sl. No	Description of Work	Period in Months (from the date of LOA)
1		
2		
3		
4		
5		
6		
7		

Date :

Place :

(Signature) .....

(Printed Name) .....

(Designation) .....

(Common Seal)

Schedule-11

JHARKHAND RENEWABLE ENERGY DEVELOPMENT AGENCY
IMPLEMENTATION OF RURAL ELECTRIFICATION PROJECT FOR DECENTRALIZED DISTRIBUTED GENERATION UNDER DDUGJY SCHEME OF _____ DISTRICT

(Checklist Schedule)

Bidder's Name & Address:

To
The Director,
Jharkhand Renewable Energy Development Agency
3rd Floor, SLDC Building, Kusai, Doranda,
Ranchi-834002. Jharkhand INDIA

Sl. No	Item Description	Reference	Declaration (Strike out whichever is not applicable)
1	Bid Guarantee enclosed (one original& two copies)	Clause 22.0, Section INB, Vol-.I & Clause 22 section SCC, Vol.-I & Annexure-1 of Section – VII, Vol-I	Yes/No
2	Proposal	Vol-IB	Yes/No
3	**Technical specification**		
4	Bid Proposal Sheet – Quoted Price (Price – Bid must be submitted electronically as per the format uploaded on the web portal)	Schedule 1 of BPS, Vol. IB	Yes/No
5	Bid Proposal Sheet – Capital Cost & O&M (Price – Bid must be submitted electronically as per the format uploaded on the web portal)	Schedule 2 of BPS, Vol. IB	Yes/No
6	Firm price declaration Schedule filled in	Schedule 3 of BPS, Vol. IB	Yes/No
7	Commercial Deviations Schedule filled in	Schedule 4 of BPS, Vol. IB	Yes/No
8	Technical Deviations Schedule filled in	Schedule 5 of BPS, Vol. IB	Yes/No
9	Additional Information Schedule filled in	Schedule 6 of BPS, Vol. IB	Yes/No
	Qualifying Requirement Data schedule filled in	Schedule 7 of BPS, Vol. IB	
10	Guarantee Declaration Schedule filled in	Schedule 8 of BPS, Vol. IB	Yes/No
11	Bought out and Sub-contracted items schedule filled in	Schedule 9 of BPS, Vol. IB	Yes/No
12	Work Completion Schedule filled in	Schedule 10 of BPS, Vol. IB	Yes/No
13	Documentary evidence of latest IT & ST clearance		Yes/No
14	Check List Schedule filled in	Schedule 11 of BPS, Vol. IB	Yes/No

SECTION – IX

TECHNICAL SPECIFICATIONS (SPV POWER GENERATION PLANT)

Jharkhand Renewable Energy Development Agency

Ranchi, Jharkhand

SPV MODULES AND BOS INCLUDING POWER CONDITIONERS/ INVERTER, CHARGE CONTROLLER/ MPPT UNITS, STORAGE BATTERIES, CABLES USED IN SPV POWER GENERATION PLANT SHOULD STRICTLY HAVE MINIMAL TECHNICAL REQUIREMENT/ STANDARDS AS PER LATEST JNNSM GUIDELINES

(a) TECHNICAL SPECIFICATION SOLAR PHOTO VOLTAIC MODULES & CELLS – Mono/ Multi-crystalline Silicon Solar Photo-voltaic Modules:

1.1 The PV modules must conform to the latest edition of any of the following IEC/ equivalent BIS Standards for PV module design qualification and type approval:

Crystalline Silicon Terrestrial PV Modules : IEC 61215/ IS14286

1.2 In addition, the modules must conform to IEC61730 Part 1-requirements for construction & Part 2 –requirements for testing, for safety qualification or Equivalent IS (Under Dev.)

(b) OTHER DETAILS OF TECHNICAL SPECIFICATION SOLAR PHOTO VOLTAIC MODULES –

PV modules used in solar power plants/ systems must be warranted for their output peak watt capacity, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years. All specifications refer to the Standard Test Conditions (STC). Above modules should be as per MNRE/ IEC Norms & Tested at Test Centers accredited by MNRE.

1. IDENTIFICATION AND TRACEABILITY

Each PV module must use a RF identification tag (RFID), which must contain the following information:

(i) Name of the manufacturer of PV Module
(ii) Name of the Manufacturer of Solar cells
(iii) Month and year of the manufacture (separately for solar cells and module)
(iv) Country of origin (separately for solar cells and module)
(v) I-V curve for the module
(vi) Peak Wattage, Im, Vm and PF for the module
(vii) Unique Serial No and Model No of the module
(viii) Date and year of obtaining IEC PV module qualification certificate
(ix) Name of the test lab issuing IEC certificate
(x) Other relevant information on traceability of solar cells and module as per ISO 9000 series.

RFID shall be mandatorily placed inside the module laminate

2. POWER CONDITIONING UNIT (PCU):

PCU should comprise of inverter, charge controller, visual display and necessary

protections. Power Conditioners/ Inverters including MPPT and Protections must conform to IEC 61683/ IS 61683, IEC 60068-2 (1, 2, 14, 30)/ Equivalent BIS Std., for Efficiency Measurements and Environmental Testing In case if the Charge controller is in-built in the inverter, no separate IEC test is required and must additionally conform to the relevant national/international Electrical Safety Standards wherever applicable. **The PCU should be design in such a way that if grid power reaches the village before 5 years then the power produced from the DDG project can be exported to the grid and imported from the grid, as and when required.**

2.1. Main Features of the PCU:

The PCU of systems should be equipped **with a data logger** for collecting & recording the hourly data of particular voltage, current of SPV array, battery status, output voltage, load current & frequency, units of energy consumed. It should have data storage capacity **of minimum 3 months period**. There should be a easily accessible emergency stop switch.

2.2. Technical Specification:

Switching elements	IGBT
Type of Charger	MPPT
MPPT Range	AS APPLICABLE
Nominal Inverter / inverters Capacity	As per design to supply the desired power to meet load
output voltage	220 volts 1 phase + 5% or 415 Volt 3-Phase
Battery Bank nom Volt	48V to 240V
Inverter Surge Rating @ 40 deg. C	105 % > 60 sec
Inverter Output Frequency	50+/- 0.5%
Inverter THD	<5%
Inverter Efficiency @ 40 deg. C, nominal	>90%
Operating Ambient Temperature	0 to 50 deg. C
Humidity	95% max. Non condensing
Enclosure	Free standing, IP 21
Cooling	Temperature controlled fan forced
Protections	1. Short Circuit 2. Overload 3. Over Temperature 4. Over voltage 5. Lighting 6. Phase imbalance (in case of three phase output) 7. Reverse polarity

3. PROTECTION & SAFETY:

Specifically the inverter should be three phase static solid state type power conditioning unit. Both AC & DC lines shall have suitable MCB/ MCCB and contractors to allow safe start up and shut down of the system. PCU should have protections for overload, surge current, high Temperature, over/ under voltage and over/ under frequency & reverse polarity. The complete operation process & safety

instructions should printed on the sticker & suitably pasted on the PCU. The inverter shall have provision for input & output isolation (automatic & manual).

Each solid state electronic device shall have to be protected to ensure long life of the inverter as well as smooth functioning of the inverter. Inverter should have safety measures to protect inverter from reverse short circuit current due to lightening or line faults of distribution network.

PCU should be suitably placed in control room on a suitable wooden or concrete platform with complete safety measure as per norms.

4. TECHNICAL SPECIFICATION OF TUBULAR BATTERY –

The batteries must be conforming to the latest edition of any of the following IEC/ equivalent BIS Standards/ MNRE guidelines for design qualification and type approval:

IEC 61427/ IS 1651/ IS 133369.

i) The battery bank capacity should be as specified in the tender document of or VRLA type.
ii) 75% of the rated capacity of the battery should be between fully charged & load cut off conditions
iii) The minimum rating of battery voltage (V) and Ah at C/10 rate of discharge of different villages are already show above.

The general specifications shall be as under:

(A) The battery bank shall consist of required number of deep-discharge electrochemical storage cells, suitably interconnected as required. Parallel connections of storage cells will be discouraged.

(B) The cells shall be capable of deep discharge and frequent cycling with long maintenance intervals and high columbic efficiency. Automotive or car batteries shall not be accepted.

(C) The nominal voltage and capacity of the storage bank shall be selected and specified by the supplier in the bid.

(D) The self-discharge rate of the battery bank or individual cell shall not exceed four (4) percent per month.

(E) The permitted maximum depth of discharge (DOD), shall be specified by the supplier in the bid. Supplier should also specify the expected life of the Battery bank.

(F) The cells shall include explosion proof safety vents.

(G) The cells shall include the required number or corrosion resistant inter-cell required chemicals electrolyte packed in separate containers. Full instructions and technical

details shall be provided for electrolyte filling and battery recharging at site for the first time.

(H) The cells shall preferably be supplied in dry charged condition, complete with all required chemicals electrolyte packed in separate containers. Full instructions and technical details shall be provided for electrolyte filling and battery recharging at site for the first time.

(I) If the cells are supplied in uncharged conditions, then the supplier shall provide full instructions for first time charging including, but not limited to, the following:

- A checklist of all items required: Minimum specification with possible alternatives of the required battery charger for first time charging.
- Instruction of electrolyte filling, battery charging etc. and instructions on the transportation of charged batteries, if required.

(J) Suitable number of corrosion resistant and acid-proof storage racks shall be supplied to accommodate the cells tester and other accessories. The rack design shall be such that minimum space is required, without any way obstructing the maintenance requirements. For metallic racks, standards specified for control panel enclosures and other metallic shall govern.

(K) All the connectors should be insulated except for the end portions.

(L) All technical and other details pertaining to the storage cells shall be supplied including but not limited to the following: -

1. Rated voltage and ampere-hour capacity of each storage cell as the rated discharge rate.
2. Permitted maximum DOD.
3. Self discharge rate.
4. Cycle life of the storage cell and the anticipated life (in years) of the battery bank.
5. Total number of storage cells in use.
6. Details on cell interconnections, if any. All the connectors should be insulated except at both ends from where the connectors are connected to battery terminals. Every cell should have proper numbering marked clearly for its identification. Only pre-insulated connectors should be used.

5. TECHNICAL SPECIFICATION SPV STRUCTURE –

A) MOUNTING STRUCTURE FOR SPV PANELS

These support structure are to be manufactured with Extruded Aluminum/ GI. These structures are to be designed for suitable mounting on RCC structure on Rooftop/ Ground with fixed angle to maximize the power generation. These structures are to be easily transportable, with ease in assembly at site. These structures are to be designed to withstand wind up to 150 Km/hr from backside of the panels, as per specific requirement at Site.

The structures should be designed for either fixed tilt with provision for seasonal adjustment

OR Daily manual tracking three times a day along with seasonal adjustment provision to maximize the power generation –

a. The material should be rust proof and long lasting.

b. Specialized structures compatible for on roof and on ground installation as well (Participant awarded with Work-order for specific location shall visit where the installation is to be done)

c. Easily able to with stand wind speeds upto150kmph

B) Battery Rack:

Placement of battery should be such that maintenance of the battery could be carried out easily. The non-reactive acid proof material should be provided to cover the entire floor space covering the battery rack. Battery rack should compulsorily be placed on the appropriate rubbers pads to avoid the contact of wooden racks with the floor, to protect wooden rack particularly from termite.

6. LIGHTNING AND OVER VOLTAGE PROTECTION:

The SPV Power Plant should be provided with lightening and over voltage protection. The principal aim in this protection is to reduce the over voltage to a tolerable value before it reaches the PV or other subsystems components. The source of over voltage can be lightening or any other atmospheric disturbance. The Lighting Arrestor (LA) is to be made of $1^{1}/_{4}$" diameter (minimum) and 12 feet long GI spike on the basis of the necessary meteorological data of the location of the projects. Necessary foundation for holding the LA is to be arranged keeping in view the wind speed of the site and flexibility in maintenance in future. Each LA shall have to be earthed through suitable size earth bus with earth pits. The earthing pit shall have to be made as per IS 3043. LA should be installed to protect the array field, all machines and control panels installed in the control rooms. Number of LA shall vary with the capacity of SPV Power Plant & location. The LA installations should be got approved from APDC prior to installation.

7. EARTHING PROTECTION:

PV Array structure should be grounded properly. In addition the lightening arrestor/ masts should also be provided inside the array field. Provision should be kept for shorting and grounding of the PV array at the time of maintenance work. All metal casing/ shielding of the plant should be thoroughly grounded in accordance with Indian Electricity Act/ IE rules as amended up to date. After earthing each resistance should be tested in presence of the representative of JREDA by calibrated earth tester. The Participant shall make all testing arrangements. The earthing pit shall have to be made as per IS: 3043. All the array structures, equipments & control systems should be compulsorily connected to the earth. Number of earthing shall vary with the capacity of SPV Power Plant & location. The earthing installations should be approved from JREDA prior to installation.

8. AJB

This shall consist of suitable polycarbonate/ powder coated metal casting. In this box/ boxes

a separate arrangement which shall consist of SPDs and DC connector of suitable specifications for Array which can withstand respective flow of current.

9. DCDB

DCDB with the purpose of providing the option for isolating the battery bank. There shall be copper bus bars of suitable rating. These can either be independent or integrated in the PCU.

10. AC DISTRIBUTION BOARD (ACDB):

This shall consist of box of suitable powder coated metal casting. One feeder per phase shall be provided in ACDB with MCB of suitable capacity installed at each feeder in the ACDB. One Electronic Energy Meter, ISI make, Single/ Three Phase, (as per requirement) of good quality shall also be installed in ACDB suitable placed to measure the consumption of power from SPV Power Plant. Proper rating MCB shall be installed at every feeder (in case of single phase output also, there shall be three feeders) to protect feeders from the short circuit current as per the requirement of the site & instructions of JREDA. A separate dedicated feeder from conventional line to PCU as well as ACDB should also be installed, as per JREDA's instruction.

A separate change over switch of proper rating should also be suitably installed in the ACDB to isolate the existing connected load from the Solar System & cater the power to the existing load from convention power (Mains), in case of emergency. ACDB should be connected between PCU & Load.

11. BATTERY PROTECTION PANEL (BPP):

This shall consist of box of suitable powder coated metal casting. BPP should be installed to make provision to isolate the battery bank. Proper rating HRC fuse & MCCB/ Isolator for DC application should be suitably installed. BPP should be connected between Battery Bank & DCDB. This can be integrated in the PCU.

12. DANGER BOARDS:

Danger boards should be provided as and where necessary as per IE Act/ IE Rules as amended up to date, as per the instructions of JREDA & affixed at various appropriate locations.

13. CABLES/WIRE:

All connections should be properly made through suitable lug/ terminal crimped with use of suitable proper cable glands. The size of cables/ wires should be designed considering the line loses, maximum load on line, keeping voltage drop within permissible limit and other related factors. For normal configuration the minimum suggested sizes of cables are:

Module to module/ AJBs	- minimum 4 sq mm (single core)
AJBs to MJBs	- minimum 10/16 sq mm (two core), with respect to current ratings of designing
MJBs to DCDB	- minimum 25 sq mm (single core) or as per design & rating
DCDB to PCU	- minimum 25 sq mm (single core) or as per design & rating

Battery to BPP	- minimum 25 sq mm (single core) or as per design & rating
BPP to DCDB	- minimum 25 sq mm (single core) or as per design & rating
DCDB to PCU	- minimum 25 sq mm (single core) or as per design & rating
PCU to ACDB	- as per design & rating

The size & rating of the cables may vary depending on the design & capacity of SPV Power Plant. Participant should compulsorily get the design & rating of the cables approved from JREDA prior to the installation.

14. JUNCTION BOXES:

All the Junction Boxes/ Enclosures for Inverters/ Charge Controllers/ Luminaries should be IP 54(for outdoor)/ IP 21(for indoor) as per IEC 529 Junction Boxes for Cables from Solar Array: The junction boxes shall be made up of FRP/ PP/ ABS (with prior approval of) with dust, water and vermin proof. It should be provided with proper locking arrangements.

15. Power Distribution Network

Installation of Power Distribution Network:

To supply, install & commissioning of Power Distribution Network at the site which shall operate on the electrical power produced by the SPV Power plant installed at the concerned site in the following manner:

(a) Installation of minimum three domestic light points - using high power factor of 3 nos. LED lamp of 11 watt & one socket point (60W) & one socket point (100 W) thus a total of 193 W upto 200 W will be taken with proper switching arrangement, in every selected house hold of the village with complete fittings of wiring in proper manner within conduit installed on saddle/ casing capping with prior approval of JREDA. In house wiring should be done with Heavy duty wire/ cable. P.V.C. Insulated twisted bright annealed Copper wire of 1.5 Sq. mm (3core) or 2.5 Sq. mm (2core) size. Make: Finolex or Havells or equivalent make. Every light point & socket point should be provided with individual switch of suitable current rating.

(b) Installation of domestic connection to every household through service pipe as per the standard electrical fittings. Shall use cable of Aluminum wire P.V.C. Insulated sheathed and single core cable, IS694/1990 of 6Sq.mm.

(c) Installation of appropriate load limiting switch/ fuse for controlling domestic/ street lighting connections, as per requirement of the site.

(d) Supply, installation & grouting of MS Poles as per JREDA norms (or if the tenderer has better drawing he may attach the same with additional offer) for overhead/ underground distribution network of cables at village/ site. All the poles/ street lights should be numbered by oil paint in the specified format of JREDA. Two numbers of MS sign boards (each of 2‘ x 2.5‘ size) has to be supplied, painted (in the same manner as pole painting instructions) & clamped on the poles of the PDN as per JREDA’s instructions.

(e) Supply, installation & commissioning of overhead cabling from pole to pole & pole to house. Cabling between pole to pole should be done as per standard norms of JREDA.

(f) Supply, installation & commissioning of cabling from pole to pole & pole to house. Cabling between pole to pole/ pole to house can also be done as per bidders design with prior approval of JREDA.

(g) Supply, installation & commissioning of required numbers of poles with 30 W LED Street light luminary.

(h) Supply & installation of earthing kits, stay wire sets with complete set for poles etc. as per norms where ever required.

Note:

i) All cables should be of copper tested for General Test and Measuring Method PVC insulated cables as per IEC 60227/ IS 694 and IEC 60502/ IS 1554.

ii) All the materials to be consumed in the power distribution network should be of best Quality confirming to specification & should be with prior approval of JREDA.

iii)

16. Operation & Maintenance:

Operation & maintenance of SPV Power Plant along with the Power Distribution Network system installed at site has to be done. Tenderer shall be responsible for supplying required quantum of power for 6-8 hours per day at the identified timing, at least for 25 days in a month for a period of five years. Tenderer shall also be responsible for providing training/ capacity building to villagers/ users for safe usage of power & running of power plant. Tenderer shall also be responsible for collection of tariff from the end users, as per the norms of JREDA/ MoP, GOI. Reporting of the progress of the project has to be submitted in the prescribed format to JREDA every month during the BOMT period.