



ANNEXURE II

Electronic Funds Transfer (EFT) OR Paylink Direct Credit Form

Please Fill up the form in **CAPITAL LETTERS** only.

TYPE OF REQUEST(Tick one): ☐ CREATE ☐ CHANGE

BHEL Vendor / Supplier Code:	
Company Name :	
Permanent Account Number(PAN):	
Address	

City:		PINCODE		STATE	
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Contact Person(s)	
Telephone No:	
Fax No:	
e-mail id:	

1 Bank Name:	
2 Bank Address:	
3 Bank Telephone No:	
4 Bank Account No:	
5 Account Type: Savings/Cash Credit	
6 9 Digit Code Number of Bank and branch appearing on MICR cheque issued by Bank	
7 Bank swift Code(applicable for EFT only)	
8 Bank IFSC code(applicable for RTGS)	
9 Bank IFSC code(applicable for NEFT)	

- A I hereby certify that the particulars given above are true, correct and complete and that I, as a representative for the above named Company, hereby authorise BHEL, EDN, Bangalore to electronically deposit payments to the designated bank account.
- B If the transaction is delayed or not effected at all for reasons of incomplete or incorrect information, I would not hold BHEL / transferring Bank responsible.
- C This authority remains in full force until BHEL, EDN, Bangalore receives written notification requesting a change or cancellation.
- D I have read the contents of the covering letter and agree to discharge the responsibility expected of me as a participant under ECS / EFT.

Date:

Authorised Signatory:

Designation:

Telephone NO. with STD Code

Company Seal

Bank Certificate

We certify that _____ has an Account No _____ with us and we confirm that the bank details given above are correct as per our records.

Date:

(.....)

Place:

Signature

Please return completed form along with a blank cancelled cheque or photocopy thereof to:

Bharath Heavy Electricals Ltd,

Attn:

Electronics Division, Mysore Road,

BANGALORE - 560 026

In case of any Query, please call : 080-26998xxx / 2674xxxx or fax no. 080-2674xxxx



ANNEXURE-III

UNDERTAKING BY THE TENDERER(S)

We _____ (Name of the Tenderer) hereby declare that we have fully read and thoroughly understood the tender requirements and accept all terms and conditions of the tender. Our offer is in confirmation to all the terms and conditions of the tender.

We also confirm that if once work is awarded to us, we are responsible for making the due payment of wage/salary to all our Labourers/staff along with all statutory payments in timely manner. In case of any default from our side in making payment as mentioned above, BHEL may make the salary/wage/lump sum payment directly to our labourers/staff deployed by us and is authorized to recover the expenditure so incurred with processing charges from our Security Deposit/Bank Guarantee/ Running Bills. We further confirm that, we will be responsible for all statutory obligations (like Minimum wages, PF, ESI and Bonus etc.) towards our deployed manpower.

We also hereby agree that, at the end of every wage month, we will submit the wage details due to the manpower deployed by us to BHEL before 10th of next month.

Date:

Bidder sign with seal

Note: This undertaking on letter head is mandatory for technical qualification of the bid.



Annexure-IV

DECLARATION BY THE BIDDER

We _____ (Name of the Bidder) hereby declare that we will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

In case, we will found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/ guidelines.

Date:

Bidder sign with seal

Note: This declaration on letter head is mandatory for technical qualification of the bid.



Additional Clauses for GST:

1. BHEL GST Number of Nodal Agency:

Nodal Unit Registered as Supplier of Goods/Services in GST:

GSTIN of Nodal Unit: Will be intimated later after award of work.

2. HSN (Harmonized System of Nomenclature) / SAC (Services Accounting Code) to be mandatorily mentioned in all quotations & invoices submitted.
3. Invoice submitted should be in the format as specified under GST Laws viz. all details as mentioned in Invoice Rules like GSTN registration number, invoice number, quantity, rate, value, taxes with nomenclature – CGST, SGST, IGST mentioned separately, HSN Code / SAC Code etc.
4. Payment of GST to vendors as applicable will be made only if it is matching with data uploaded by Vendors.
5. Vendors to give undertaking that GST as mentioned in the Invoice has been paid/will be paid either through cash or admissible input credit and also file the returns
6. For invoices paid on Reverse charge basis – that it is “payable on reverse charge basis” to be mentioned on the invoice.
7. With respect to supplies, vendor should intimate BHEL immediately on dispatch for parallel billing on customer
8. Vendor should get GST registration (if not available), immediately after placement of order.

Unprice Bid (Annexure-I)

BOQ OF OPERATION AND MAINTENANCE OF NTPC KADIRI 50MWp SOLAR PV PLANT FOR A PERIOD OF 6 MONTHS

SI No	Activity description	Scope of Work & Remarks	Unit	Qty	Estimate Unit rate excluding GST (Rs)	Estimated Total Amount excluding GST (Rs.)
1	Deployment of O&M Staff-O&M Incharge (1NO)	<p>"Minimum One technical-cum-administrative in-charge having graduation in electrical / electronics engineering and experience in electrical plants with overall responsibility for complete plant operations. The in-charge shall have competence to handle technical and operational / crisis problems. "</p> <p>Major responsibilities of O&M incharge :</p> <p>(i) Allotment of work to all the O&M staff and supervision of O&M works as per schedule approved by BHEL. (ii) Sending Daily, weekly and Monthly reports (i.e. Daily values of solar array strings, weather parameters, Daily energy generation, Events (with date, time) of faults / tripping / breakdown of equipment, Events (with date, time) of grid outage, Events (with date, time) of equipment damages, Activities of module cleaning etc)</p> <p>(iii) Interaction with customer NTPC / HESCOM etc.</p> <p>(iv) Coordinating with sub-station upon grid failures /cable faults and implementing the needful steps to restore the plant to normal operation. Requesting for Line clearances and closing the same after fault is rectified. (v) Monthly downloading of data from ABT meter using HESCOM / as instructed by NTPC. Energy generation / meter reading report to be prepared and submitted to the concerned department. Signatures from NTPC representatives shall be obtained wherever required.</p> <p>(vi) Maintaining plant records and log books, stock register and reporting to BHEL.</p> <p>(vi) Trouble-shooting and Updation of SCADA system if required as instructed by BHEL.</p> <p>(vii) Theft incidents: immediate reporting to BHEL, filing FIRs at police stations on BHEL behalf, coordination for site inspection by insurance companies and clearance of insurance claims, logging of events (date, time) and maintaining records.</p> <p>(viii) Accidents: immediate reporting to BHEL, coordinating with hospitals, logging of events (data, time) and maintaining records.</p> <p>Maintaining O&M Log book and recording daily evenys and works.</p> <p>Payment for Services of O&M in Charge shall be as per attendance records maintained and deductions will be passed in case of non-availability.</p>	Monthly	6	25000.00	150000.00
2	Deployment of O&M Staff: Engineers having graduation/Diploma in electrical /electronics engineering (2 nos.) and O&M Technicians (6 nos.)	<p>One Engineer having graduation/Diploma in electrical /electronics engineering shall be deployed in each shift.</p> <p>"Minimum Six working level O&M Technicians staff (Two in morning 6am shift and 4 in General shift 10am) with ITI / diploma level qualifications in engineering with competence for operating electrical / electronics / mechanical equipment, taking measurements, data logging / maintaining registers, preparation of reports in computer."</p> <p>Note: At least one among the technical personnel shall essentially be a certified / licensed person for HT operations (33KV minimum). This is a mandatory requirement.</p> <p>Technicians(Skilled and Highly skilled) shall perform Plant Operation works such as</p> <p>(i) Logging of DC, AC, grid parameters (current, voltage, power, energy) at PCUs, HT panels, 33KV switchyard, transformer temperatures, equipment tripping/ breakdown, grid outage as per BHEL formats.</p> <p>(ii) SCADA data station / HMI PC operations, trend graphs and urgent reporting to BHEL in case of any problems / anomalies observed with any of the parameters, resolving communication issues between SCADA and other equipment, healthiness of all equipment "</p> <p>Carrying out Preventive and Breakdown maintenance shall be carried out as per O&M schedule / OEM guidelines / maintenance manual such as</p> <p>a) Cleaning, tightness checks, lubrication and other maintenance of equipment -PCUs, HT panels, 33KV Power transformers, Inverter transformers, C&R panels, Auxiliary transformers, ACDB, FCBC, UPS, Battery banks, 33 KV Switchyard equipment, SMBs, SCADA, WMS, CCTV, Fire Alarm, ESE Lightning arresters, earthing, light fitting -indoor and outdoor etc.</p> <p>b) Replacement of Silica gel, gaskets, Rectification of Oil leakages in all transformers and 33KV Switchyard equipment.</p> <p>c) Repair/ replacement of failed 33KV cable inside plant, replacement of failed 33 kV termination/ jointing kits.</p> <p>d) Trouble-shooting of solar array problems as DC earth fault, OFC/ communication cable faults, replacement of damaged PV modules, SMB components etc.</p> <p>e) Checking tightness of MMS and PV Modules</p> <p>(f) Monthly earth resistance measurement and recording value on the Earth chambers and in O&M Log book.</p> <p>(g) Watering of earth pits</p> <p>(h) Inspection of fire extinguishers (weight, pressure indication, physical status etc.) followed by refilling actions, if necessary, based on indications. Report to be submitted as per BHEL approved recording formats.</p> <p>Measurement of Services of Technicians shall be as per attendance records maintained and deductions will be passed in case of non-availability at site.</p>	Monthly	6	176886.09	1061316.56

3	Deployment of O&M Staff-O&M UNSKILLED (13NO)	<p>Minimum Six unskilled persons for regular house-keeping (cleaning / mopping etc) and water cleaning of SPV modules (all working in General Shift from 10am)</p> <p>A) Water cleaning of solar modules of approximately 166240 nos. (Two cycles per month, each cycle shall consist of cleaning of entire 166240 Nos modules).</p> <p>B)Grass cutting - maintenance of plant without grass (One cycle per quarterly). Minimum 4 grass cutting machines to be used for grass cutting. Grass cutting machines and its Petrol cost is under vendor scope.</p> <p>C) General maintenance works such as Daily housekeeping activity for Inverter rooms and Control room including toilets, Garbage removal from solar array field, switchyard, roads, drains, pathways, sand buckets, repair of plumbing works, underground water tanks, Sintex tanks, cleaning of sewerage lines, septic tanks, soak pits if required, minor civil repair works such as leakages, doors, windows, rolling shutters, ventilators, floor/ tiles/ wall cracks, cleanning of drains etc. Each of the Unskilled workers shall be eligible for one day off in a week. A reliever shall also be deploled to take care of this requirement such that Minimum numbers of unskilled labour is maintained every day.</p> <p>O&M Contractor shall wages to their labour as per Central Govt. Minimum wages notification.</p> <p>D) Drinking water to be arranged for O&M personnel at site.</p> <p>Measurement of Services of Unskilled labour shall be as per attendance records maintained and deductions will be passed in O&M Contractor Bills in case of non-availability at site.</p>	Monthly	6	195766.33	1174597.96
4	Checking and re-filling of Fire extinguishers and sand buckets as required.	All the fire extinguishers to be checked for healthiness and re-filling to be carried out as and when required. Inspection of fire extinguishers (weight, pressure indication, physical status etc) followed by refilling actions, if necessary, based on indications. Report to be submitted as per BHEL approved recording formats.	Monthly	6	22617.15	135702.90
5	Seasonal tilting of SPV modules	Seasonal tilting of SPV modules as per seasonal tilting chart. All PV Modules installed shall be checked for tightness of bolts, For damages / hot spots on any module. Checking tightness of power cable terminations in SPV modules (MC4), SMBs, electrical panels of control room and switchyard.	Half Yearly	1	280981.91	280981.91
6	Annual maintenance activities	<p>Annual maintenance of all transformers with respect to BDV measurement, Oil filtering as required, tightness of cables, earthing and hardwares, replacement of gasket, silica gel breather, paint touchup, arresting oil leakages and oil topup of all transformers (33KV and aux transformers), CT, PT, lubrication of moving contacts (VCBs) and other related electrical works. Through OEM / competent testing agencies as approved by BHEL. All required tools, tackles, testing and measuring instruments, Oil filtration kit, DG set etc. to be arranged by vendor.</p> <p>The Annual Maintenance activities shall be carried out between November to January and will be measured only when all activities listed above are completed. Payment for any Maintenance not carried out shall be deducted from O&M Contractor Bills.</p>	Yearly	1	226171.51	226171.51
7	Calibration of Weather Monitoring Station equipment	Weather monitoring station equipment to be calibrated at IMD or OEM recommended labs as per calibration period of individual equipment as recommended by OEM.	Yearly	1	33861.84	33861.84
8	Painting of all metal structures (non-galvanized), main gate, rolling shutters, switchyard and transformer yards fencing and gates, earthing chambers and all rusted components etc.	Painting of all metal structures shall be carried out once in every year.	Yearly	1	33926.06	33926.06
9	Internet Charges	Internet lease line of 2 MBPS for remote connectivity of SCADA to be arranged at site round the clock (Including payment of unpaid dues)	Half Yearly	1	29893.88	29893.88
10	Maintenance of Roads and drains	<p>Maintenance of Roads and drains such as:</p> <p>I. Crack repairing of the road surface.</p> <p>II. Pot-holes over the top road surface to be rectify.</p> <p>III. Maintenance of shoulders for the rain cuts or damage due to some external reasons.</p> <p>IV. Before and after the monsoon season the storm water drainage shall be maintained & cleaned for smoother flow of storm water.</p>	Yearly	1	45234.30	45234.30
Total Amount excluding GST (Rs.)						3171687
Total Amount: Rupees Thirty-One Lakhs Seventy-One Thousand Six Hundred and Eighty-Seven, Plus applicable GST						

IMPORTANT NOTE: Monthly/Annual O&M payment to the contractor will be released on comparision of generation as per guaranteed paramenter vis-a-vis Actual generation. The shortfall (if any) w.r.t guaranteed generation shall be duly supported by documentary evidence. Incase of shortfall w.r.t guaranteed generation paramenter, BHEL Engineering department to certifiy that "the reasons submitted by contractor are beyond its reasonable control". The amount equivalent to shortfall in generation may be absorbed by BHEL on exceptional basis.
*Manpower indicated is only minimum requirement. However, vendor to deploy required manpower to complete each activity in specified time duration.
The value of the Contract will remain same throughout contract period and no escalation is allowed. Hence bidder has to quote the price, considering the revision of minimum wages by Central Government notifications from time to time. Further proof of payment to engineer and workmen, ESI, PF payment shall be submitted alongwith invoice.



O&M SPECIFICATION, GROUP: PHOTOVOLTAICS
OPERATION AND MAINTENANCE FOR 50MW SPV POWER PLANT
AT KADRI, ANANTAPUR, ANDHRA PRADESH

Technical Specification
of Operation & Maintenance work
at NTPC 50MWp SPV power plant, KADIRI, AP