



Bharat Heavy Electricals Limited

(A Government of India Undertaking)

Electric & Photo Voltaic Division

Prof. CNR Rao Circle, Indian Institute of Science Post, Malleshwaram
BANGALORE – 560 012, Karnataka, INDIA

☎ Phone No.080-22182269, 📠 Fax No.080-23345604

SPV Process & Product Engineering

REF No. SPVE0019/Z/IEC-NIT/001 dt. 07.05.2020

TENDER DUE DATE
BY 14:30 Hr. (IST)

Dear Sir / Madam,

Sub: Type Test of Solar PV Modules as per IEC 61215-1, 61215-1-1, 61215-2 : 2016 & IEC 61730 part 1 & 2 : 2016, IS 14286 : 2010 & IS / IEC 61730 (Part 1 & 2) : 2004 & Fire Test, IEC 62804-1 : 2015, IEC 61701 : 2011-12, IEC 61853-1, IEC 62716 : 2013, IEC 60068-2-68, IEC 62759-1 : 2015 Standards

BHEL invites offer from accredited testing labs for entering into a Framework Agreement for conducting the below described tests on Solar Photovoltaic (SPV) modules. The scope of work involve testing & test certification of BHEL Solar Photovoltaic Modules as per IS / IEC Standard.

Pre-Qualification requirement (PQR):

SL No.	Pre-Qualification requirement	Laboratories Confirmation
1.	Testing laboratories shall be NABL accredited.	Laboratory shall provide copy of NABL accreditation letter for all the tests.

Details of each BOM for Solar PV Module is available in **Annexure-3**.

Scope of Work:

Tests are to be conducted as per following IEC/IS standards.

Sl. No.	IEC Std. no.	IEC Test Description	Variant in BOMs of Solar PV Module
1	IEC 61215-1, 61215-1-1, 61215-2 : 2016 & IEC 61730 Part 1 & 2: 2016. (Test report for IS 14286 : 2010, IS/IEC 61730-1 & 2: 2004 & Fire test shall also be provided along with IEC test reports.), CB Certificate shall also be provided.	Terrestrial photovoltaic (PV) modules – Design qualification and type approval & Photovoltaic (PV) module safety qualification along with Fire test	Twelve (12) BOM
2	IS 14286 : 2010, IS/IEC 61730-1 & 2 : 2004	Terrestrial photovoltaic (PV) modules – Design qualification and type approval & Photovoltaic (PV) module safety qualification along with Fire test	One (1) BOM



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3	IEC 62804-1 : 2015	Potential induced degradation – Part 1: Crystalline silicon (PID) - Test for (288 Hr) as per MNRE	Five (5) BOM
4	IEC 61701 : 2011-12	Salt mist corrosion testing of photovoltaic (PV) modules - Severity level-1	Five (5) BOM
5	IEC 61853-1 : 2011 & PAN File of latest version	Irradiance and temperature performance measurements and power rating (PAN file to be provided)	Five (5) BOM
6	PAN File	PAN file for alternative Wattage of SPV module	Six (6) BOM
7	IEC 62716 : 2013	Ammonia Corrosion (NH ₃)	Four (4) BOM
8	IEC 60068-2-68 of latest version	Dust test & Sand Abrasion	One (1) BOM
9	IEC 62759-1 : 2015	Transportation testing	One (1) BOM

The certifying agency shall provide the test reports and relevant documentation for each of the above mentioned SPV Modules.

SPV module shall be tested for pollution degree-2 and Material group-I for test mentioned as per IEC 61215-1 & 1-1 & 2 & IEC 61730-1 & 2.

If any of the above tests are to be performed from the above table at overseas, The SPV Modules sending from India to respective overseas labs shall be in the scope of participating testing lab. However, sending sample modules to lab within India will be in BHEL scope. Transport, custom clearance, seaworthy packing of SPV Modules etc. charges if required, to be included in the above test charges considering transport of sample modules individually / separately for all the above mentioned tests.

Seaworthy packing if required to be arranged at your premises and quote will be inclusive of any charges required for the same.

Testing agencies are requested to provide their best quotation / offer for the above requirements, complying with our terms & condition as given below. Offer can be submitted either by person or by Courier / Registered post to the following address.



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BHEL –EPD Tender Box (at Reception of BHEL -EPD)

Raj Kumar Pradhan
SPV Engineering
Electric & Photo Voltaic Division,
Prof. CNR Rao Circle,
Indian institute of Science Post, Malleshwaram, Bengaluru – 560 012
Ph. No.: 080 22182347 (Office)

It shall be responsibility of bidder to ensure that the tender document is delivered on or before 13:30 hr on due date mentioned above. **The offer has to be deposited in tender box only.** Part-I bids shall be opened at 14:30 hr on due date in the presence of authorized representatives of bidders, who may like to be present.

Offer can also be submitted through email to email ids specified below only:

PART-A (1) BID i.e. TECHNICAL BID TO technicalbid-epd@bhel.in

PART-B (1) BID i.e. PRICE BID TO pricebid-epd@bhel.in

NOTE:

1. Tender reference & due date to be mentioned in subject of mail.
2. Bidders may adopt this mode at their own risk. BHEL does not own any responsibility / liability for delays in receipt / loss of secrecy of such offers. E-mail offers shall be submitted well in advance to enable BHEL to take print & drop in the tender box in time.

Instruction for quotation:

1. Offer should be submitted in two part bid.
 - a) Techno – commercial i.e., Technical and Un-priced Bid (in one sealed envelope) or mail at email-id technicalbid-epd@bhel.in
 - b) Price bid (in another envelope or mail at email-id pricebid-epd@bhel.in) should contain testing charges, certification fee, other fees if any applicable taxes etc.Both the sealed envelopes shall be kept in another single sealed envelope and superscribed clearly indicating Technical, Un-priced Bid & Price bid with BHEL RFQ No. and DUE DATE on the individual sealed envelopes.
2. Tender reference, RFQ No./ Tender due date & Name of the tests in bold letters should be mentioned on the top of each envelope submitted.
3. Price formats (Annexure-1) & (Annexure-2) is provided along with this tender for Un-priced bid & Price bid offers.



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4. Vendor has to submit duly signed & seal affixed on these price formats without price for their **Un-priced bid offer**. Vendor has to write quoted or not quoted in the price format Annexure-1 & Annexure-2 for Un-priced.
5. Vendor has to submit duly signed & seal affixed on these price formats with price for their **Priced bid offer**.
6. Name and contact details (including mobile no. & email address) of minimum one contact person along with date of submission of offer in cover letter should be submitted.

Your offer must contain below details.

- a) Data / information required to provide us, to be furnished along with SPV modules.
- b) Any specific terms and conditions for test.
- c) The Test scheduling & duration required for each tests.

Our Terms and Conditions are as below:

1. Earnest Money Deposit (EMD), Security deposit and Bank Guarantee are waived off for this tender.
2. Test reports are required as per below schedule from the date of SPV Modules are sent from our factory to Lab.

Sl. No.	IEC Std. no.	IEC Test Description	Report required for each BOM wise from the date of BHEL Clearance
1	IEC 61215-1, 61215-1-1, 61215-2: 2016 & IEC 61730 part 1 & 2: 2016. (Test report for IS 14286 : 2010, IS/IEC 61730-1 & 2 : 2004 & Fire test shall also be provided along with IEC), CB Certificate shall also be provided	Terrestrial photovoltaic (PV) modules – Design qualification and type approval & Photovoltaic (PV) module safety qualification along with Fire Tests.	165 days
2	IS 14286 : 2010, IS/IEC 61730-1 & 2 : 2004	Terrestrial photovoltaic (PV) modules – Design qualification and type approval & Photovoltaic (PV) module safety qualification along with Fire test	98 days



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3	IEC 62804-1 : 2015	Salt mist corrosion testing of photovoltaic (PV) modules - Severity level-1	45 days
4	IEC 61701 : 2011-12	Irradiance and temperature performance measurements and power rating (PAN file to be provided)	45 days
5	IEC 61853-1 : 2011 & PAN File of latest version	Irradiance and temperature performance measurements and power rating (PAN file to be provided)	60 days
6	PAN File	PAN file for alternative Wattage of SPV module.	45 days
7	IEC 62716 : 2013	Ammonia Corrosion (NH ₃).	49 days
8	IEC 60068-2-68 of latest version	Dust test & Sand Abrasion	35 days
9	IEC 62759-1 : 2015	Transportation testing	105 days

7. Quantity of BOM is tentative and are likely to change to large extent (increase / decrease) depending on project requirement during execution of the contract, or some of the BOMs may not be executed at all. The contractor shall have no claim on this account.
8. The award of Work order will be placed in staggered manner, test wise or quantity wise.
9. Price evaluation will be done individually test wise, as per individual tests. Test charge of PAN file (mentioned in above table at Sl. No.-6) & IEC 61853-1 (mentioned in above table at Sl. No.-5) shall be added together for price evaluation.
10. The quantity of BOM and number of test individually may vary from -50% to +30% and limited to the contract value upto +30%.
11. LD will be applicable for delayed period of report submission at the rate of 0.5% per week and maximum 10% of the contract value.
12. The contract will be valid for one and half year on the firm price.
13. As this a service contract, Income tax deduction at source (TDS) at the applicable rate (prevailing rates as applicable at the time of clearance of bills) shall be recovered and remitted to Govt. of India. Income tax deduction certificate shall be issued for the amount of Income Tax deducted.
14. Our payment terms: 100% within 60 days of receipt of test report and invoice from the test agency.
15. PV modules for type testing will be handed over to your laboratory within India.
16. Validity of the vendor offer: 90 days from the tender opening date.