



NATIONAL INSTITUTE OF SOLAR ENERGY
An autonomous Institute of Ministry of New & Renewable Energy)
GURGAON

**NOTICE INVITING TENDER FOR SUPPLY & INSTALLATION OF “SALT
SPRAY CHAMBER” WITH COMPLETE ACCESSORIES**

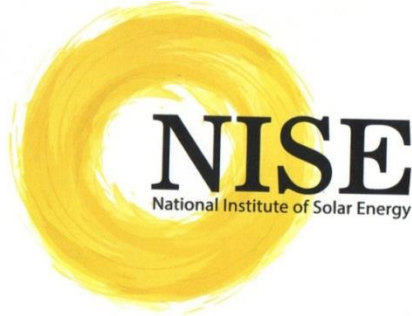
Sealed Tenders are invited by office of the Director General, National Institute of Solar Energy (NISE) Gurgaon for Supply & Installation of “Salt Spray Chamber” with complete accessories. The tender document and detailed technical specifications along with tender terms and conditions may be downloaded from the website of Ministry of New & Renewable Energy or that of the Institute: www.mnre.gov.in or www.nise.res.in.

Sealed tenders should be submitted in two parts i.e. Part-I and Part-2. Part-1 should contain Technical Bid along with Demand Draft for EMD and should be kept in a sealed envelope super scribed as technical bid. Part-II should contain the commercial invoice and should be kept in a separate sealed envelope super scribed as Commercial bid. Both the envelope should be kept in another envelope super scribed as Tender for Salt Spray Chamber, addressed to: The Deputy Director General (SPV), National Institute of Solar Energy, Faridabad- Gurgaon Road, Gwal Pahari, Gurgaon, Haryana, India. The bidders may submit their tenders by post or by dropping it in the tender drop box located at the reception counter of NISE Gurgaon by 12.00 P.M. 4th January, 2016.

Tender DOCUMENT

For

Supply & Installation of “Salt Spray Chamber” Supplies with complete accessories



NIT NO: 01/01(05)/2015/NISE-PVTF

Closing Date: 04/01/2016

At

NATIONAL INSTITUTE OF SOLAR ENERGY

19th Milestone, Institutional Area,

Gurgaon-Faridabad Road, Gwalpahari, Gurgaon, Haryana,

INDIA

Telefax No. : +91-124-2579207

File No: 01/01(05)/2015/NISE-PVTF

National Institute of Solar Energy

**Faridabad-Gurgaon Road
Gwalpahari, Gurgaon-122003 Haryana**

TENDER NOTICE

**Subject: Supply & Installation of “Salt Spray Chamber” with complete accessories
At National Institute of Solar Energy, Gurgaon.**

On behalf Office of Director General, National Institute of Solar Energy sealed tenders are invited from reputed agencies in two parts (Technical and Commercial separately) for supply, installation of “Salt Spray Chamber” with complete accessories at National Institute of Solar Energy, Gwal Pahari, Gurgaon, Haryana, India. The important dates and information are given below in the table:

Tender Details

Sl.No.	Description	Details
1	Notice Inviting Bid(NIT) No	<u>01/01(05)/2015/NISE-PVTF</u>
2	Scope of work	Supply, Installation and warranty for min 1 year after commissioning, of “Salt Spray Chamber” with complete accessories at NISE.
3	“Salt Spray Chamber”	AS Per Standards IEC 61701, IEC 60068-2-11-Ka, IEC 60068-2-52-Kb.
4	Place of issue & submission of bid document and address for communication # The Envelop should be superscribed as Tender form “Salt Spray Chamber”	NATIONAL INSTITUTE OF SOLAR ENERGY Gurgaon-Faridabad Road, Gwal Pahari, Gurgaon,Haryana-122003, India
5	Availability of Tender Document	The Tender document can be downloaded from NISE website: www.nise.res.in
6	Last date & time of	04/01/2016 <u>at12.00PM</u>

	submission of bid	
7	Earnest Money (Refundable)	Rs. 1 lakh /-
8	Time of supply	Maximum six week, after issue of P.O.
9	Validity of offer	The offer will remain valid for 4 months from the date of tender publication date
10	Validity of earnest money	The earnest money shall be submitted by the bidder in the form of CDR/FDR/BG from any bank operations in India pledged to the Director General NISE. This shall remain valid for 12 months from the date of submission of bids.

DETAILED TENDER NOTICE

Name of Work: Supply and Installation of “*Salt Spray Chamber*” with complete accessories at NISE.

1. ELIGIBILITY CRITERIA

1.1 The original manufacturers or their authorized suppliers who have past experience of manufacturing, or authorized Indian supplier. A list of clients should be enclosed.

2. Technical Specifications:

SPECIFICATIONS OF SALT SPRAY CHAMBER FOR CAPACITY OF Approx 3000 Liter

SL No	PARAMETERS	SPECIFICATIONS
1.	Useful capacity	Approx 3000 Liters
2.	Internal Dimension/Test Area	Approx 2000mmx1250mmx1250mm (WxDxH)
3.	Temp Range	15 to 40°C
4.	Temperature Accuracy	±2°C
5.	Humidity Range	45-95 %RH approx (Storage period)
6.	Humidity Accuracy	±3% RH
7.	Control Panel and Programming	Touch Screen / interface with computer & Software for monitoring, data-logging and Trend Graphs.
8.	Acoustic alarm	In the absence of utility required to run the test .
9.	Spray Quantity	1.0 to 2.0 ml / 80cm ² / hr
10.	Pressure Gauge	A calibrated pressure gauge shall be provided for measuring inlet air pressure.
11.	Air Regulator	Moisture cum oil filter and air regulator shall be

		provided.
12.	Salt Solution Reservoir	Min 200 liters (Solution Level indicator)
13.	Collecting Receptacle	Funnel shall have a diameter of 100 mm, collecting area of 80 cm ² (At least Two no's shall be provided)
14.	Electricity Supply	1-phase 230V±10% or 3-phase 440V±10%, Frequency: 50Hz (Automatically Resume the test when there is power-cut)
15.	Exhaust & Drain Pipes	Shall be provided
16.	Accessories	pH meter
17.	Additional spares parts for at least 1 year with Warranty.	Shall be provided
18.	Air Compressor	As per requirement to run test (Shall be provided)
19.	Salt solution	Prescribed salt for performing the test Shall be provided
20.	Calibration certificate	From any national/international accredited body.
21.	Safety Protection	<ol style="list-style-type: none"> 1. Reverse phase sequence protection for three phase 2. Shock proof body 3. Emergency stop 4. Door Interlock 5. Protection from over pressure Build up 6. Temperature Protection

Chamber Construction:

Material: Non Corrosive Material (Glass Reinforced Plastic/Stainless Steel, Polypropylene PVC, PVC& Acrylic). The chamber should made-up of rugged, corrosion resistant wall, floor and ceiling panels. So that test chamber can bear test specimen load.

Door: The chamber should be provided with single wing-door and should comply with the chamber design. The door must be provided with a transparent window.

Roof: To avoid dripping onto specimens, the chamber should be provided with a inclined roof preferably >30 degrees ensures that water drops run off towards the lateral walls.

Components of Chamber:

Spray Cabinet: Drops of solution which accumulate on the ceiling or cover of the chamber shall not be permitted to fall on the specimens being tested not be returned to the solution reservoir for re-spraying. The upper parts of the cabinet shall be designed so that drops of sprayed solution formed on its surface do not fall on the specimens being tested .It is necessary to ensure that the conditions of homogeneity and distribution of the spray are met.

Support Structure: Provision of removable Structure (Corrosion Proof) to place the Specimen at an angle of 15-30 degrees with the horizontal plane.

Atomizing: A state of the art zero choke inert material atomizers shall be provided for reliable atomizing. The atomizers used shall be of such design and construction as to produce a finely divided wet and dense fog. Atomizing nozzles shall be made of materials that are non-reactive to the salt solution.

Nozzles: Spraying nozzles should be fixed to the side walls. The salt solution and compressed air should be brought to the nozzle by means of corrosion-resistant pipes. Spraying head as well as all other items built in that come into contact with the salt solution should be made-up of plastics and, should comply with the test specifications.

Control and Operational Elements:

Compressed air for humidification: Various test specifications require the supply of humidified compressed air for spraying the salt solution. For this purpose, the compressed air should be passed through a humidification system, where it should be saturated with humidity.

Salt mist spraying: the acrylic glass nozzle in the spray channel ensures an optimum distribution of the spray fog inside the test space the brine flow volume should be set and monitored at the flow meter which should be integrated in the operating panel. The flow valve should be adjusted.

Refrigeration System: In order to maintain the temperature 15°C even in the summer.

Ventilation Device: the test chamber should be equipped with a ventilation device so that after execution of spray tests with closed door the test chamber is purged with fresh air and the humid air and the salt mist can escape via the air outlet. The required fresh air is sucked in via a pipe fan from the installation room or from a customer-provided ventilation device.

Control & Programming: Chamber should have measuring and control system. Chamber should have either the Touch display/ Interface with computer to check the operation of the chamber. There should be provision to monitor actual temperature and humidity in the unit. Function keys should be available for direct switching ON and OFF of testing and test chamber lighting. It should have alarm display and acoustic alarm. Set points and actual values should be recorded in provided memory console. It should

also include the facility of trend graph and data logging. All the functions should be adjustable and monitored the with the user interface. Memory Capacity shall be provided to store the programmes

Testing Conditions:

AS per standards: IEC60068-2-52, IEC60068-2-11-Ka, IEC 61701.

Safety Considerations

Electrical safety: Chamber should have complete set of electrical section with fuses protection, switch-control, and regulation appliances as well as operation, monitoring and alarm elements. Each functional circuit is equipped with its own safety device and in the event of trouble, turns off the affected circuit or entire chamber. Wiring and electrics should be governed by the latest technology and strictly conform to safety regulations for electrical installations and materials as well as to relevant regulations.

Temperature Safety: Chamber should have protection for heaters by a safety thermostat with an additional temperature limiter. Safety thermostat with restart locking should switch-off the entire chamber in case of failures. The saturators for compressed air should be secured by permanently memorized overheating safety thermostats.

Training, Installation and Commissioning:

1. Operation & Maintenance training should be provided at NISE Campus.
2. Installation & Commissioning should be at NISE Campus.

3. EARNEST MONEY DEPOSIT (EMD)

A sum of Rs 1 lakh /- should be submitted as Earnest Money Deposit (EMD) **along with the technical bid** in the form of **bank demand draft/Bank Guarantee** drawn in favor of “National Institute of Solar Energy” and payable at Gurgaon, Haryana”. The EMD of the accepted tender will be retained as Security Deposit and the EMD of other unsuccessful bidders would be returned.

4. RATES:

The rates should be quoted specifically on the following lines:

- a. Firm and final cost of the “*Salt Spray Chamber*” as per the above specifications and features along with costs of the installation charges as per the above specifications and features, should be provided.
- b. Taxes and freight etc. if any applicable should be indicated separately and clearly.

5. **DELIVERY PERIOD:** “*Salt Spray Chamber*” with complete accessories should be delivered in a single consignment at the site/consignee within 6 to 8 weeks from the date of issue of confirmed supply order.
6. **INSPECTION:** The supplier should satisfy himself/herself that “*Salt Spray Chamber*” with complete accessories at NISE is as per the above specifications and features along with options, accessories, conform to the specifications by carrying out complete pre-inspection of each component before dispatch.
7. **CONSIGNEE:** Director (SPV)/ Store Keeper, National Institute of Solar Energy, Ministry of New and Renewable Energy, Gwal Pahari, Gurgaon, 122003 Haryana, India.
8. **GUARANTEE/WARRANTY:** Measuring instruments supplied should be covered by standard terms of warranty for a period of min12 months from the date of installation.
9. **PENALTY:**
 - i. The supplier shall supply the stores in accordance with the particulars as expressly specified at the time/times and at the place/places only.
 - ii. The time for and the date of the stores stipulated shall be deemed to be the essence of the supply/work order.
 - iii. If for any reasons the contractor is unable to adhere to the contract delivery dates, he may seek extension in delivery/completion dates well in time by sending a request in writing in this regard to the office issuing the contract/supply order. The purchaser reserves the right to allow the extension of delivery period subject to such conditions as he may think fit. However, the decision of the purchaser shall be final and binding.
10. **DISPUTES:** In case of any dispute the decision of the Director General, National Institute of Solar Energy will be final and binding on both parties. Further dispute, if any will be settled in the Court of Law at New Delhi jurisdiction only.
11. **VALIDITY:** The Tenders should be valid for 180 days from the date of opening.
12. **REJECTION:** Incomplete, conditional, fax, late tenders and tenders without EMD will be rejected summarily. Director General, National Institute of Solar Energy reserves the right to reject any or all the tenders at his discretion without assigning any reason whatsoever.

13. SUBMISSION OF TENDERS : Sealed tenders are to be submitted in two parts i.e. **Part-I containing Technical competence/literature along with Demand Draft for EMD, and Part-II containing only commercial invoice in a separate sealed envelope, super scribed as commercial bid.** Both the technical and commercial envelopes should be kept in large size sealed envelope super-scribed "***Salt Spray Chamber***" and addressed to: Director (SPV), National Institute of Solar Energy, Gurgaon – Faridabad Road, Gwal Pahari, Gurgaon 122003, Haryana, India.