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(वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)  
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Ref No. PUR/1/20-21/733/IIP/3332/RRB/LSPD/PO:

Dt 19<sup>th</sup> March 2021

## **TENDER DOCUMENT**

**FOR**

**Supply of DFT/SE Based Simulator Software  
at CSIR-IIP,DEHRADUN**

**बोली-आमंत्रण / निविदा आमंत्रण सूचना**  
**INVITATION FOR BIDS / NIT**

To,  
M/s VASP Software GmbH, Austria  
E-mail: [licensing@vasp.at](mailto:licensing@vasp.at)

Sirs / Madam,

Director, CSIR-INDIAN INSTITUTE OF PETROLEUM, DEHRADUN-248005, UTTRAKHAND, INDIA herein after called as the 'Purchaser' is interested in the purchase of below mentioned material(s). Kindly submit your quotation with detailed terms & conditions alongwith maximum discount applicable to Govt R&D Organization by E-mail at [spant@iip.res.in](mailto:spant@iip.res.in), [rawats@iip.res.in](mailto:rawats@iip.res.in), [muninder@iip.res.in](mailto:muninder@iip.res.in) on or before **25.03.2021, 1100 hrs (IST)**.

S.No	Description	Qty
1	<p>DFT/SE based Simulator Software</p> <p><b>Specifications:</b></p> <p>The Vienna Ab initio Simulation Package (VASP) is required to perform ab-initio quantum mechanical molecular dynamics (MD) simulations using pseudopotentials and projector augmented wave method (PAW) and a plane wave basis set. It is a computer program for atomic-scale materials modelling, e.g. electronic structure calculations and quantum-mechanical molecular dynamics, from first principles.</p> <p>1. The approach implemented in VASP is based on the (finite-temperature) local-density approximation with the free energy as variational quantity and an exact evaluation of the instantaneous electronic ground state at each MD time step.</p> <p>2. Algorithm for efficient matrix diagonalization and efficient Pulay/Broyden charge density mixing for evaluating the self-consistent solution of the Kohn-Sham functional should be based on</p> <p>i. The conjugate gradient method</p> <p>ii. Block Davidson scheme</p> <p>iii. Residual minimization scheme</p> <p>3. The package should also include:</p> <ul style="list-style-type: none"> <li>• Surface and bulk calculations</li> <li>• Calculations of forces and full stress tensor</li> <li>• Calculate force constant and vibrational frequencies using finite differences</li> <li>• Support for Van der Waals (vdW) calculations (necessary for clusters calculations and calculations related to adsorption of nanostructure materials on the surfaces)</li> <li>• Support for density functional theory based phonon calculations</li> <li>• Provision for advanced MD techniques</li> <li>• Support for TD-HF and TD-hybrid functionals by solving the Casida equation (non-spin polarized only, Tamm-Dancoff approximation)</li> <li>• Interface to the solvation model code VASPsol of Mathew and Hennig</li> <li>• Enhancements to symmetry detection of arbitrary configurations automatically</li> <li>• Better support for hybrid functional calculations (NCORE≠1)</li> <li>• Improved macroscopic dielectric properties calculations</li> <li>• Improvements to hybrid calculations: less memory use when run at large scale</li> <li>• New gradient corrected functionals</li> </ul> <p>- AM05</p> <p>- PBEsol</p> <p>- new functionals can be applied using standard PBE POTCAR files (improved one-center treatment)</p>	01 No

	<ul style="list-style-type: none"> <li>• Exact non-local exchange and hybrid functionals <ul style="list-style-type: none"> <li>- Hartree-Fock method</li> <li>- hybrid functionals, specifically PBE0 and HSE06</li> <li>- screened exchange</li> <li>- Experimental: simple model GW-COHSEX (applies empirically screened exchange kernels)</li> <li>- Experimental: hybrid functional B3LYP</li> </ul> </li> <li>• A new build system, which simplifies the compilation of VASP</li> <li>• Less memory demanding on massively parallel machines.</li> <li>• VASP runs equally well on super-scalar processors, vector computers and parallel computers. Support for the following platforms: <ul style="list-style-type: none"> <li>– Pentium Duo, Intel(R) Core(TM)2, Intel(R), i-7(TM).</li> <li>– Athlon64(TM) and Opteron(TM) based PC's under LINUX.</li> <li>– Presently, only the Intel(R) Fortran compilers are supported.</li> <li>– MPI bases parallelization, with excellent scaling on multicore machines (Nehalem(TM), Opteron(TM), Intel Core(TM)2 Quad core, INTEL i-7(TM)).</li> </ul> </li> </ul>	
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**TERMS & CONDITIONS**

1. In case the prices quoted in foreign currency then the prices should be DDU, Dehradun /FOB and the components of ~ air freight and insurance should be specified in the offer separately if any.
  2. Kindly fill all the forms as enclosed with the tender and provide along with your quotation.
  3. Price reasonability certificate may be given as per format attached
  4. The taxes applicable should be specified separately, if need be.
  5. In case of import, our standard mode of payment is through irrevocable Letter of Credit which shall be opened through State Bank of India, Main Branch, Dehradun. Please specify any other payment terms, if so desired
  6. Indian agents if any, the nature of service they will render and percentage of agency commission to be paid should be indicated.
  7. Please furnish full specifications and other information regarding manufacturers name, model, grade, packing, warranty etc., for items quoted along with illustrated Leaflet and drawing.
  8. The quotation must be in the form furnished by the Purchaser and should be free from corrections/erasures. In case there is any unavoidable correction it should be properly attested. If not the quotation will not be considered. Hand written Quotations will not be considered.
  9. Complete specifications with manufacturer's Name and address should be given while quoting. Literature / brochures / pamphlets / technical data sheets / drawings must be enclosed with the quotation wherever applicable.
  10. Net/Gross weight of material should be specified.
  11. Validity of offer should be for a period of 120 days.
  12. Minimum / Maximum delivery period should be specified.
- Note: where there is no mention of Packing & Forwarding, Freight, Insurance, taxes etc such offers shall be rejected as incomplete.**
13. **KINDLY MENTION THE NAME AND ADDRESSES OF THE CUSTOMERS YOU HAVE SUPPLIED THE ABOVE MENTIONED ITEM/INSTRUMENT/EQUIPMENT. (specially offered model client list)**
  14. The price quoted shall remain fixed during the contract period and shall not vary on any account
  15. The acceptance of quotations rests with Director, IIP who does not bind himself to accept the lowest offer and reserves the right to himself to reject or partially accept any or all the quotations without assigning any reason.

**For and on behalf of CSIR  
Sd/--  
Controller of Stores & Purchase**

**Form-1**

**Price Reasonability certificate**

This is to certify that the prices quoted for <name of the Instrument> are best and minimum and we have not quoted the same on lesser rates than those being offered to CSIR-IIP, Dehradun to any customer nor we will do till the validity of offer or execution of Purchase Order.

Signature of Bidder \_\_\_\_\_

Name \_\_\_\_\_

Business Address \_\_\_\_\_

## Form-2

### Bidder Information Form

(a) The Bidder shall fill in this Form in accordance with the instructions indicated below. No alterations to its format shall be permitted and no substitutions shall be accepted. This should be done of the letter head of the firm]

Date: [insert date (as day, month and year) of Bid Submission]

Tender No.: [insert number from Invitation for bids]

Page 1 of \_\_\_\_\_ pages

01.	Bidder's Legal Name [insert Bidder's legal name]
02.	In case of JV, legal name of each party: [insert legal name of each party in JV]
03.	Bidder's actual or intended Country of Registration: [insert actual or intended Country of Registration]
04.	Bidder's Year of Registration: [insert Bidder's year of registration]
05.	Bidder's Legal Address in Country of Registration: [insert Bidder's legal address in country of registration]
06.	NAME AND ADDRESS OF BANK: BANK ACCOUNT NUMBER: TYPE OF ACCOUNT: IFSC CODE:
07.	Bidder's Authorized Representative Information Name: [insert Authorized Representative's name] Address: [insert Authorized Representative's Address] Telephone/Fax numbers: [insert Authorized Representative's telephone/fax numbers] Email Address: [insert Authorized Representative's email address]
08.	COUNTRY OF ORIGIN OF PRODUCT (S):
09.	ADDRESS OF THE PLACE OF MANUFACTURE / FACTORY / PLACE WHERE LOCAL CONTENT VALUE ADDITION IS DONE BY MANUFACTURER:
10.	If item is imported and is from a country sharing land border with India, then Registration certificate details like number, date and validity date:
11.	Attached are copies of original documents of: [check the box(es) of the attached original documents] Articles of Incorporation or Registration of firm named in 1, above.

Signature of Bidder \_\_\_\_\_

Name \_\_\_\_\_

Business Address \_\_\_\_\_

## Form-3

### Bid-Securing Declaration Form

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

Bid No. \_\_\_\_\_

To (insert complete name and address of the purchaser)

I/We. The undersigned, declare that:

I/We understand that, according to your conditions, bids must be supported by a Bid Securing Declaration.

I/We accept that I/We may be disqualified from bidding for any contract with you for a period of one year from the date of notification if I am /We are in a breach of any obligation under the bid conditions, because I/We

- (a) have withdrawn/modified/amended, impairs or derogates from the tender, my/our Bid during the period of bid validity specified in the form of Bid; or
- (b) having been notified of the acceptance of our Bid by the purchaser during the period of bid validity (i) fail or reuse to execute the contract, if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the Instructions to Bidders.

I/We understand this Bid Securing Declaration shall cease to be valid if I am/we are not the successful Bidder, upon the earlier of (i) the receipt of your notification of the name of the successful Bidder; or (ii) thirty days after the expiration of the validity of my/our Bid.

Signed: (insert signature of person whose name and capacity are shown) in the capacity of (insert legal capacity of person signing the Bid Securing Declaration).

Name: (insert complete name of person signing the Bid Securing Declaration)

Duly authorized to sign the bid for an on behalf of : (insert complete name of Bidder)

Dated on \_\_\_\_\_ day of \_\_\_\_\_(insert date of signing)

Corporate Seal (where appropriate)

(Note: In case of a Joint Venture, the Bid Securing Declaration must be in the name of all partners to the Joint Venture that submits the bid)

**Form -4**

**PERFORMANCE STATEMENT FORM**

**(For a period of last 5 years)**

**Name of the Firm.....**

Order Placed by (full address of Purchaser)	Order No. and date	Description and quantity of ordered equipment	Value of order	Date of completion of deliver as per Contract	Date of actual completion of delivery	Remarks indicating reasons for late delivery, if any	Has the equipment been installed satisfactory ? (Attach a certificate from the purchaser/ Consignee)	Contact person along with Telephone No., FAX No. and e-mail address

Signature and Seal of the manufacturer/Bidder .....

Place :

Date :



Form -5

**DEVIATION STATEMENT FORM**

SI.No.	Name of Specifications / Parts / Accessories of Tender Enquiry	Specifications of Quote Model / Part /Accessory	Compliance Whether Yes of No	Deviation, if any to be indicated in unambiguous terms (The compliance / Deviation should be supported by relevant Technical Literature)	Technical justification for the deviation, if any. If specification is superior /inferior than asked for in the enquiry, it should be clearly brought out in the justification
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**Signature of Bidder**

- ✓ If the bidder offers more than one model, then the Compliance Statement must be enclosed for each and every model separately.
- ✓ The technical and commercial deviations should be indicated separately.
- ✓ If the bidder fails to enclose the compliance statement, his bid is likely to be rejected.

Place:

Date:

Signature and seal of the  
Manufacturer/Bidder

**NOTE:**

- 1) Where there is no deviation, the statement should be returned duly signed with an endorsement indicating "No Deviations".

Form -6

**SERVICE SUPPORT FORM**

Sl. No.	Nature of training Imparted	List of similar type of equipment serviced in the past 3 years	Address, Telephone Nos. , Fax Nos. and e-mail address

Signature and Seal of the manufacturer/Bidder.....

Place :

Date :

## Form – 7

### Bid Form

*[The Bidder shall fill in this Form in accordance with the instructions indicated No alterations to its format shall be permitted and no substitutions shall be accepted.]*

Date: *[insert date (as day, month and year) of Bid Submission]*

Tender No.: *[insert number from Invitation for Bids]*

Invitation for Bid No.: *[insert No of IFB]*

To: *[insert complete name of Purchaser]*

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda No.: *[insert the number and issuing date of each Addenda]*;
- (b) We offer to supply in conformity with the Bidding Documents and in accordance with the Delivery Schedules specified in the Schedule of Requirements the following Goods and Related Services *[insert a brief description of the Goods and Related Services]*;
- (c) The total price of our Bid, excluding any discounts offered in item (d) below, is: *[insert the total bid price in words and figures, indicating the various amounts and the respective currencies]*;
- (d) The discounts offered and the methodology for their application are:  
**Discounts:** If our bid is accepted, the following discounts shall apply. *[Specify in detail each discount offered and the specific item of the Schedule of Requirements to which it applies.]*
- (e) Our bid shall be valid for the period of time specified in ITB Sub-Clause 1.17.1 from the date fixed for the bid opening, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (f) If our bid is accepted, we commit to obtain a performance security in accordance with ITB Clause 1.43 and GCC Clause 2.13 for the due performance of the Contract and also submit order acceptance within 14 days from the date of contract in accordance with ITB Clause 1.42 and GCC Clause 2.44;
- (g) The following commissions, gratuities, or fees have been paid or are to be paid with respect to the bidding process or execution of the Contract: *[insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity]*

Name of Recipient

Address

Reason

Amount

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Form-8

### Format for declaration by the Bidder for Code of Integrity & conflict of interest (On the Letter Head of the Bidder)

Ref. No: \_\_\_\_\_

Date \_\_\_\_\_

To,

\_\_\_\_\_

\_\_\_\_\_

(Name & address of the Purchaser)

Sir,

With reference to your Tender No. \_\_\_\_\_ dated \_\_\_\_\_ I/We hereby declare that we shall abide by the Code of Integrity for Public Procurement as mentioned under Para 1.3.0 of ITB of your Tender document and have no conflict of interest.

The details of any previous transgressions of the code of integrity with any entity in any country during the last three years or of being debarred by any other Procuring Entity are as under:

- a
- b
- c

We undertake that we shall be liable for any punitive action in case of transgression/contravention of this code.

Thanking you,

Yours sincerely,

Signature

(Name of the Authorized Signatory)

Company Seal

**Form - 9 : PRICE SCHEDULE FORM FOR GOODS BEING OFFERED FROM ABROAD**

Name of the Bidder \_\_\_\_\_

TENDER No. \_\_\_\_\_

1	2	3	4	5	6	7	8	9	10	11	12
Sl. No.	Item Description	Country of origin	Unit	Qty.	Unit price Indicating currency  FOB (named port of shipment or FCA (named place of delivery) <b>(retain only one)</b> )	Total price (5x6)  FOB (named port of shipment) or FCA (named place of delivery) <b>(retain only one)</b>	Charges for Insurance & transportation to port//place of destination	Total price <b>CIF/CIP (retain one only)</b>  (7+8)	Indian Agents Commission as a percent of FOB /FCA price included in the Quoted price	Approx. Shipment weight and volume	Indian Customs Tariff No and HSN No.  (ICT & HSN No.)

**Note:**

Currency \_\_\_\_\_

Total Bid price in foreign currency \_\_\_\_\_

in words \_\_\_\_\_

(a) Indian agents name & address \_\_\_\_\_

(b) Installation, commissioning & training charges,  
if any \_\_\_\_\_

Signature of Bidder \_\_\_\_\_

Name \_\_\_\_\_

(c) Cost of Spares, if any \_\_\_\_\_

Business Address \_\_\_\_\_

(d) The Indian agent's commission shall be paid in Indian Rupees only based on the Exchange Rate prevailing on the date of negotiation of documents in accordance with clause 22.1 of GCC.

(e) The cost of optional items shall be indicated separately.