



CENTRAL SCIENTIFIC INSTRUMENTS ORGANISATION

Sector - 30/C, Chandigarh - 160 030 (India)

Telefax: 0172-2652651

CSIO

OPEN TENDER NOTICE

The Director, Central Scientific Instruments Organisation, Chandigarh invites sealed tenders on two bid system from reputed Indian/foreign Manufacturers and their Authorised Agents/Distributors for the supply, installation & commissioning of the following at CSIO, Chandigarh (India):-

S. No	Tender No.	Description of material	Qty	EMD (Indian Rupees)	Tender Document Fee (Indian Rupees)	Type of Bid	Date & time for submission of Tenders	Date & Time for opening of tenders
1.	3(817)/Pur	Process Control Lab Equipment	One Set	80,000/-	300/-	Two bid system (Technical & commercial)	16.03.2011 Upto 2.30 P.M.	16.03.2011 At 3.30 P.M.

The details terms & conditions of Tender are available in the Notice Inviting Tender which can be downloaded from our website_“<http://csio.res.in>”. **No Tender Document Fee will be leviable for Tender documents downloaded from our website.**

Stores & Purchase Officer

CHAPTER 1

INSTRUCTIONS TO BIDDER

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A. Introduction

1.1. Eligible Bidders

1.1.1. This Invitation for Bids is open to all suppliers.

1.1.2 Bidders should not be associated, or have been associated in the past, directly or indirectly, with a firm or any of its affiliates which have been engaged by the Purchaser to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the goods to be purchased under this Invitation of Bids.

1.2. Cost of Bidding

1.2.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and "the Purchaser", will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

1.3. Fraud and corruption:

1.3.1 The purchaser requires that the *bidders* suppliers and contractors observe the highest standard of ethics during the procurement and execution of such contracts. In pursuit of this policy, the following are defined:

"corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the procurement process or in contract execution;

"fraudulent practice" means a misrepresentation or omission of facts in order to influence a procurement process or the execution of a contract;

"collusive practice" means a scheme or arrangement between two or more bidders, with or without the knowledge of the purchaser, designed to establish bid prices at artificial, noncompetitive levels; and

"coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of a contract;

1.3.2 The purchaser will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for the Contract in question;

B. The Bidding Documents

1.4. Cost of Bidding Documents

1.4.1 Interested eligible bidders may purchase the bidding documents on payment of the cost of bidding documents as indicated in the invitation for bids/NIT or alternatively, the bidding documents can be downloaded from our Website as indicated in the Invitation for Bids/NIT free of cost.

1.5. Content of Bidding Documents

1.5.1 The goods required, bidding procedures and contract terms are prescribed in the bidding documents which should be read in conjunction. The bidding documents, apart from the invitation for bids have been divided into 8 chapters as under:

- Chapter 1 : Instructions to Bidder (ITB)
- Chapter 2: General Conditions of Contract (GCC) and Special Conditions of Contract (SCC)
- Chapter 3 : Schedule of Requirements
- Chapter 4: Specifications and Allied Technical Details
- Chapter 5 : Price Schedule Forms
- Chapter 6 : Qualification requirements
- Chapter 7 : Contract Form
- Chapter 8 : Other Standard Forms comprising:
 - (a) Bidder Information Form
 - (b) Manufacturer's Authorization Form (MAF);
 - (c) Bid Security Form
 - (d) Performance Statement form
 - (e) Deviation Statement Form;
 - (f) Service Support details;
 - (g) Bid form
 - (h) Performance Security Form;
 - (i) Acceptance Certificate Form
 - (j) Integrity pact

- 1.5.2 The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding documents. Failure to furnish all information required by the bidding documents or submission of a bid not substantially responsive to the bidding documents in every respect will be at the Bidder's risk and may result in rejection of its bid.
- 1.6. Clarification of bidding documents
 - 1.6.1 A prospective Bidder requiring any clarification of the Bidding Documents shall contact the Purchaser in writing at the Purchaser's address specified in the Special Conditions of Contract (SCC). The Purchaser will respond in writing to any request for clarification, provided that such request is received *not* later than ten (10) days prior to the deadline for submission of bids. The Purchaser shall forward copies of its response to all those who have acquired the Bidding Documents directly from it, including a description of the inquiry but without identifying its source. Should the Purchaser deem it necessary to amend the Bidding Documents as a result of a clarification, it shall do so following the procedure under *clause* relating to amendment of Bidding documents and Clause relating to Deadline for Submission of Bids. The clarifications and amendments issued would also be hosted on the website of the purchaser for the benefit of the other prospective bidders.
- 1.7. Amendment of Bidding Documents
 - 1.7.1 At any time prior to the deadline for submission of bids, the Purchaser may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the bidding documents by amendment.
 - 1.7.2 All prospective bidders who have received the bidding documents will be notified of the amendment in writing or by cable or by fax, or by e mail and will be binding on them. The same would also be hosted on the website of the purchaser and all prospective bidders are expected to surf the website before submitting their bids to take cognizance of the amendments.
 - 1.7.3 In order to allow prospective bidders reasonable time to take the amendment into account, *while* in preparing their bids, the Purchaser, at its discretion, may extend the deadline for the submission of bids and host the changes on the website of the purchaser.

Preparation of Bids

- 1.8. Language of Bid
 - 1.8.1 The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Purchaser, shall be written in English language only especially when the details are technical. However of GOI makes it mandatory under Rajbhasha Abhniyam in that case views of Rajbhasha unit of CSIR may be sought.
 - 1.8.2 The Supplier shall bear all costs of translation, if any, to the English language and all risks of the accuracy of such translation, for documents provided by the Supplier.
- 1.9. Documents Comprising the Bid
 - 1.9.1 The bid prepared by the Bidder shall include:
 - (a) Bidder Information Form
 - (b) Bid security as specified in the Invitation to Bids.
 - (c) Service support details form;
 - (d) Deviation Statement Form;
 - (e) Performance Statement Form;
 - (f) Manufacturer's Authorization Form.
 - (g) Documentary evidence establishing that the bidder is eligible to bid and is qualified to perform the contract if its bid is accepted.
 - (h) Bid form.
 - (i) Documents establishing goods eligibility and conformity to bidding documents.
 - (j) Applicable Price Schedule Form.
 - (k) DGS&D Registration certificate in case the items under procurement falls under the restricted category of the current export-import policy of the Govt. of India.
 - 1.10. Bid form and price schedule
 - 1.10.1 The bidder shall complete the Bid Form and the appropriate price schedule form furnished in the bidding documents. These forms must be completed without any alterations to its format and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested.
 - 1.11. Bid Prices
 - 1.11.1 The Bidder shall indicate on the appropriate price schedule form, the unit prices and total bid prices of the goods it proposes to supply under the contract.
 - 1.11.2 Prices indicated on the price-schedule form shall be entered separately in the following manner:
 - (a) For Goods manufactured within India
 - (i) The price of the goods quoted Ex -works including taxes already paid.
 - (ii) VAT and other taxes like excise duty etc. which will be payable on the goods if the contract is awarded.
 - a. The charges for inland transportation, insurance and other local services required for delivering the goods at the desired destination as specified in the price schedule form.
 - b. The installation, commissioning and training charges including any incidental services, if any.
 - (b) For Goods manufactured abroad
 - (i) The price of the goods, quoted on FCA (named place of delivery abroad) or FOB (named port of shipment), as specified in the price schedule form.
 - (ii) The charges for insurance and transportation of the goods to the port/place of destination.
 - (iii) The agency commission charges, if any.
 - (iv) The installation, commissioning and training charges including any incidental services, if any
 - 1.11.3 The terms FOB, FCA, CIF, CIP etc shall be governed by the rules prescribed in the current edition of the Incoterms published by the International Chambers of Commerce, Paris.
 - 1.11.4 Where there is no mention of packing, forwarding, freight, insurance charges, taxes etc. such offer shall be rejected as incomplete.
 - 1.11.5 The price quoted shall remain fixed during the contract period and shall not vary on any account
 - 1.11.5 All lots and items must be listed and priced separately in the Price Schedules. If a Price Schedule shows items listed but not priced, their prices shall be assumed to be included in the prices of other items. Lots or items not listed in the Price Schedule shall be assumed to be not included in the bid.
 - 1.11.6 The purchases made by the purchaser for scientific purpose are exempt from excise duty and Custom Duty at a concessional rate is leviable. The items are required for Educational Purpose,

hence no Custom Duty/excise Duty Exemption Certificate will be provided by CSIO. However the end user can provide a certificate to the effect that items will be used for Education Purpose and the vendor can offer discount,, if applicable based on the said certification.

1.12. Bid Currencies

1.12.1 Prices shall be quoted in Indian Rupees for offers received for supply within India and in freely convertible foreign currency in case of offers received for supply from foreign countries.

1.13. Documents Establishing Bidder's Eligibility and qualifications

1.13.1 The bidder shall furnish, as part of its bid, documents establishing the bidders' eligibility to bid and its qualification to perform the contract if its bid is accepted.

1.13.2 The documentary evidence of the bidders qualification to perform the contract if the bid is accepted shall establish to the purchasers satisfaction that;

(a) The bidder meets the qualification criteria listed in bidding documents, if any.

(b) Bidder that doesn't manufacture the goods it offers to supply shall submit to Manufacturers' Authorization Form (MAF) using the form specified in the bidding document to demonstrate that it has been duly authorized by the manufacturer of the goods to quote and/or supply the goods.

(c) In case a bidder not doing business within India, it shall furnish the certificate to the effect that the bidder is or will be represented by an agent in India equipped and able to carry out the supply, maintenance, repair obligations etc. during the warranty and postwarranty period or ensure a mechanism at place for carrying out the supply, maintenance, repair obligations etc. during the warranty and post-warranty period.

1.13.3 Conditional tenders shall not be accepted

1.14. Documents Establishing Goods' Eligibility and Conformity to Bidding Documents

1.14.1 To establish the goods' eligibility, the documentary evidence of the goods and services eligibility shall consist of a statement on the country of origin of the goods and services offered which shall be confirmed by a certificate of origin at the time of shipment.

1.14.2 To establish the conformity of the goods and services to the specifications and schedule of requirements of the bidding document, the documentary evidence of conformity of the goods and services to the bidding documents may be in the form of literature, drawings and data, and shall consist of:

(a) A detailed description of the essential technical and performance characteristics of the goods;

(b) A list giving full particulars, including available sources and current prices, of spare parts, special tools, etc., necessary for the proper and continuing functioning of the goods during the warranty period following commencement of the use of the goods by the Purchaser in the Priced- bid ; and

(c) An item-by-item commentary on the Purchaser's Technical Specifications demonstrating substantial responsiveness of the goods and services to those specifications or a statement of deviations and exceptions to the provisions of the Technical Specifications.

1.14.3 For purposes of the commentary to be furnished pursuant to above, the Bidder shall note that standards for workmanship, material and equipment, designated by the Purchaser in its Technical Specifications are intended to be descriptive only and not restrictive. The Bidder may substitute these in its bid, provided that it demonstrates to the Purchaser's satisfaction that the substitutions ensure substantial equivalence to those designated in the Technical Specifications.

1.15. Bid Security

1.15.1 The Bidder shall furnish, as part of its bid, a bid security (BS) for an amount as specified in the Invitation for Bids. In the case of foreign bidders, the BS shall be submitted either by the principal or by the Indian agent and in the case of indigenous bidders, the BS shall be submitted by the manufacturer or their specifically authorized dealer/bidder.

1.15.2 The bid security is required to protect the Purchaser against the risk of Bidder's conduct, which would warrant the security's forfeiture.

1.15.3 The bid security shall be in Indian Rupees for offers received for supply within India and denominated in the currency of the bid or in any freely convertible foreign exchange in the case of offers received for supplies from foreign countries in equivalent Indian Rupees. The bid security shall be in one of the following forms at the bidders' option:

(a) A bank guarantee issued by a Nationalized/Scheduled bank/Foreign Bank operating in India in the form provided in the bidding documents and valid for 45 days beyond the validity of the bid. In case a bidder desires to submit a BG issued from a foreign bank, then the same should be confirmed by a Nationalised/Scheduled Indian bank; or

(b) Fixed Deposit receipt pledged in favor of the Lab./Institute.

(c) A Banker's cheque or demand draft in favour of the purchaser issued by any Nationalised/Scheduled Indian bank.

1.15.4 The bid security shall be payable promptly upon written demand by the purchaser in case the conditions listed in the ITB clause 15.11 are invoked.

1.15.5 The bid security should be submitted in its original form. Copies shall not be accepted.

1.15.6 While Bid security (EMD) is a requirement, the Director of the Lab./Instt may grant exemption of Bid security to some specific parties having sound credentials and are of national/international repute.

1.15.7 The bid security of unsuccessful bidder will be discharged /returned as promptly as possible positively within a period of 15 days after the expiration of the period of bid validity or placement of order which ever is later, without any interest.

1.15.8 The successful Bidder's bid security will be discharged upon the Bidder furnishing the performance security, without any interest. Alternatively, the BS could also be adjusted against PS, if it is paid through DD/BC.

1.15.9 The firms registered with DGS&D, NSIC, Govt. Public Undertakings, Central Autonomous Bodies and with the CSIR Labs./Instts, if any, are exempted from payment of BS provided such registration includes the item they are offering which are manufactured by them and not for selling products manufactured by other companies.

1.15.10 In case a bidder intimates at the time of tender opening in writing that the bid security is kept inside the financial bid, then in such cases, the technical bid of the party would be accepted provisionally till opening of the financial bids with which the party has attached the bid security.

1.15.11 The bid security may be forfeited:

(a) If a Bidder withdraws or amends or impairs or derogates its bid during the period of bid validity specified by the Bidder on the Bid Form; or

(b) In case of a successful Bidder, if the Bidder fails to furnish order acceptance within 15 days of the order or fails to sign the contract and/or fails to furnish Performance Security within 21 days from the date of contract/ order.

1.16. Period of Validity of Bids

1.16.1 Bids shall remain valid for minimum of 90 days after the date of bid opening prescribed by the Purchaser. A bid valid for a shorter period shall be rejected by the Purchaser as non-responsive.

1.16.2 In exceptional circumstances, the Purchaser may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing (or by cable, telex, fax or e-mail). The bid security provided shall also be suitably extended. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request will not be required nor permitted to modify its bid.

1.16.3 Bid evaluation will be based on the bid prices without taking into consideration the above corrections.

1.17. Format and Signing of Bid

1.17.1 The bids may be submitted in single envelop or in two parts as specified in the Invitation for Bids.

1.17.2 In case the bids are invited on single envelop basis, then the Bidder shall prepare two copies of the bid, clearly marking each "Original Bid" and "Copy Bid", as appropriate. In the event of any discrepancy between them, the original shall govern.

1.17.3 In case the bids are invited on two-bid system, the Bidder shall submit the bids in two separate parts. One part shall contain Technical bid comprising all documents listed under clause relating to Documents Comprising the Bid excepting bid form and price schedules. The other part shall contain the priced-bid comprising bid form and price schedules. The Bidder shall prepare two copies of the bid, clearly marking each "Original Bid" and "Copy Bid", as appropriate.

1.17.4 The original and all copies of the bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorized to bind the Bidder to the Contract. All pages

of the bid, except for un-amended printed literature, shall be initialed by the person or persons signing the bid.

- 1.17.5 Any interlineations, erasures or overwriting shall be valid only if they are initialed by the persons or persons signing the bid.

Submission and sealing of Bids

1.18. Submission, Sealing and Marking of Bids

1.18.1 The bidders may submit their duly sealed bids generally by post or by hand.

1.18.2 In the case of bids invited on single envelop basis, the Bidders shall seal the original and each copy of the bid in separate inner envelopes, duly marking the envelopes as "original" and "copy". The envelopes shall then be sealed in an outer envelop.

1.18.3 In the case of bids invited on two part basis, the Bidder shall seal the un-priced commercial and technical bid comprising the documents as listed in ITB 1.9.1 excepting for h & j and the priced bid in two separate envelopes duly marked as "Technical bid" and "priced bid". Both the envelopes shall then be sealed in one outer envelope.

1.18.4 (a) The inner and outer envelopes shall be addressed to the Purchaser indicated in the SCC.

(b) Bear the name and address of the bidder, Tender No., due date and a warning "Do not open before _____" to be completed with the time and date as specified in the invitation for bids.

1.18.5 If the outer envelope is not sealed and marked as required above, the Purchaser will assume no responsibility for the bid's misplacement or premature opening. In such cases, bids received in open condition within the due date and time will be accepted at the risk of the bidder if the same is presented to the Stores & Purchase Officer before expiry of the due date and time of opening of the bids.

1.18.6 Firms submitting bids in a single envelope against the requirement of two-bid system would be considered for further evaluation at the risk & responsibility of the bidder. However, the opened priced bid would be sealed immediately by the TOC without disclosing the price.

1.19. Deadline for Submission of Bids

1.19.1 Bids must be received by the Purchaser at the address specified in Invitation for bids not later than the time and date specified therein. In the event of the specified date for the submission of Bids being declared a holiday for the Purchaser, the Bids will be received upto the appointed time on the next working day.

1.19.2 The Purchaser may, at its discretion, extend the deadline for submission of bids by amending the bid documents in accordance with Clause relating to Amendment of Bidding Documents in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

1.20. Late Bids

1.20.1 Any bid received by the Purchaser after the deadline for submission of bids prescribed by the Purchaser will be rejected.

1.20.2 Such tenders shall be marked as late and not considered for further evaluation. They shall not be opened at all and be returned to the bidders in their original envelope without opening.

1.21. Withdrawal, substitution and Modification of Bids

1.21.1 A Bidder may withdraw, substitute, or modify its Bid after it has been submitted by sending a written notice in accordance with ITB Clause 18 duly signed by an authorized representative, and shall include a copy of the authorization in accordance with ITB Sub-Clause 17.4 (except that no copies of the withdrawal notice are required). The corresponding substitution or modification of the bid must accompany the respective written notice. All notices must be:

(a) submitted in accordance with ITB Clauses 17 and 18 (except that withdrawal notices do not require copies), and in addition, the respective envelopes shall be clearly marked "WITHDRAWAL," "SUBSTITUTION," or "MODIFICATION;" and

(b) Received by the Purchaser prior to the deadline prescribed for submission of bids, in accordance with ITB Clause 19.

- 1.21.2 Bids requested to be withdrawn in accordance with ITB Sub-Clause 21.1 shall be returned unopened to the Bidders. No bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Bid Form or any extension thereof.
- E. Opening and Evaluation of Bids
- 1.22 Opening of Bids by the Purchaser
- 1.22.1 The Purchaser will open all bids one at a time in the presence of Bidders' authorized representatives who choose to attend, as per the schedule given in invitation for bids. The Bidders' representatives who are present shall sign the quotation opening sheet evidencing their attendance. In the event of the specified date of Bid opening being declared a holiday for the Purchaser, the Bids shall be opened at the appointed time and location on the next working day. In two-part bidding, the financial bid shall be opened only after technical evaluation.
- 1.22.2 First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelope with the corresponding bid shall not be opened, but returned to the Bidder. No bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at bid opening. Next, envelopes marked "SUBSTITUTION" shall be opened and read out and exchanged with the corresponding Bid being substituted, and the substituted Bid shall not be opened, but returned to the Bidder. No Bid substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at bid opening. Envelopes marked "MODIFICATION" shall be opened and read out with the corresponding Bid. No Bid modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Bid opening. Only envelopes that are opened and read out at Bid opening shall be considered further.
- 1.22.3 The bidders' names, bid modifications or withdrawals, bid prices, discounts, and the presence or absence of requisite bid security and such other details as the Purchaser, at its discretion, may consider appropriate, will be announced at the opening. No bid shall be rejected at bid opening, except for late bid(s). The contents of the bid forms and price schedules would however be announced only at the time of opening of Priced-bids in the case of two-bid system.
- 1.22.4.1 Bids that are received late shall not be considered further for evaluation, irrespective of the circumstances.
- 1.22.4.2 Bidders interested in participating in the bid opening process, should depute their representatives along with an authority letter to be submitted to the purchaser at the time of bid opening.
- 1.23. Confidentiality
- 1.23.1 Information relating to the examination, evaluation, comparison, and post qualification of bids, and recommendation of contract award, shall not be disclosed to bidders or any other persons not officially concerned with such process until publication of the Contract Award.
- 1.23.2 Any effort by a Bidder to influence the Purchaser in the examination, evaluation, comparison, and post qualification of the bids or contract award decisions may result in the rejection of its Bid.
- 1.24. Clarification of Bids
- 1.24.1 To assist in the examination, evaluation, comparison and post qualification of the bids, the Purchaser may, at its discretion, ask the Bidder for a clarification of its bid. The request for clarification and the response shall be in writing and no change in prices or substance of the bid shall be sought, offered or permitted. However, no negotiation shall be held except with the lowest bidder, at the discretion of the purchaser. Any clarification submitted by a bidder in respect to its bid which is not in response to a request by the purchaser shall not be considered.
- 1.25. Preliminary Examination
- 1.25.1 The Purchaser shall examine the bids to confirm that all documents and technical documentation requested in ITB Clause 1.9 have been provided, and to determine the completeness of each document submitted.
- 1.25.2 The Purchaser shall confirm that the following documents and information have been provided in the Bid. If any of these documents or information is missing, the offer shall be rejected.
- (a) Bid Form and Price Schedule, in accordance with ITB Sub-Clause 1.10;
- (b) All the tenders received will first be scrutinized to see whether the tenders meet the basic requirements as incorporated in the tender enquiry document. The tenders, who do not the meet

the basic requirements, are to be treated as unresponsive and ignored. The following are some of the important points, for which a tender may be declared as unresponsive and to be ignored, during the initial scrutiny:

- (i) The Bid is unsigned.
- (ii) The Bidder is not eligible.
- (iii) The Bid validity is shorter than the required period.
- (iv) The Bidder has quoted for goods manufactured by a different firm without the required authority letter from the proposed manufacturer.
- (v) Bidder has not agreed to give the required performance security.
- (vi) The goods quoted are sub-standard, not meeting the required specification etc.
- (vii) Against the schedule of Requirement (incorporated in the tender enquiry), the tenderer has not quoted for the entire requirement as specified in that b schedule.
- (viii) The tenderer has not agreed to some essential condition(s) incorporated in the tender enquiry.

1.26. Responsiveness of Bids

1.26.1 Prior to the detailed evaluation, the purchaser will determine the substantial responsiveness of each bid to the bidding documents. For purposes of this clause, a substantive responsive bid is one, which conforms to all terms and condition of the bidding documents without material deviations, reservations or omissions. A material deviation, reservation or omission is one that:

- (a) affects in any substantial way the scope, quality, or performance of the Goods and Related Services specified in the Contract; or
- (b) limits in any substantial way, inconsistent with the Bidding Documents, the Purchaser's rights or the Bidder's obligations under the Contract; or
- (c) if rectified, would unfairly affect the competitive position of other bidders presenting substantially responsive bids.

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

1.26.3 If a bid is not substantially responsive, it will be rejected by the Purchaser and may not subsequently be made responsive by the Bidder by correction of the material deviation, reservation or omission.

1.27. Non-Conformity, Error and Omission

1.27.1 Provided that a Bid is substantially responsive, the Purchaser may waive any nonconformities or omissions in the Bid that do not constitute a material deviation.

1.27.2 Provided that a bid is substantially responsive, the Purchaser may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities or omissions in the bid related to documentation requirements. Such omission shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.

1.27.3 Provided that the Bid is substantially responsive, the Purchaser shall correct arithmetical errors on the following basis:

- (a) if there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of the Purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the line item total as quoted shall govern and the unit price shall be corrected;
- (b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
- (c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.

1.27.4 Provided that a bid is substantially responsive, the purchaser may request that a bidder may confirm the correctness of arithmetic errors as done by the purchaser within a target date. In case, no reply is received then the bid submitted shall be ignored and its Bid Security may be forfeited.

1.28. Examination of Terms & Conditions, Technical Evaluation

1.28.1 The Purchaser shall examine the Bid to confirm that all terms and conditions specified in the GCC and the SCC have been accepted by the Bidder without any material deviation or reservation.

- 1.28.2 The Purchaser shall evaluate the technical aspects of the Bid submitted in accordance with ITB Clause 14, to confirm that all requirements specified in Schedule of Requirements of the Bidding Documents have been met without any material deviation or reservation.
- 1.28.3 If, after the examination of the terms and conditions and the technical evaluation, the Purchaser determines that the Bid is not substantially responsive in accordance with ITB Clause 26, it shall reject the Bid.
- 1.29. Conversion to Single Currency
- 1.29.1 To facilitate evaluation and comparison, the Purchaser will convert all bid prices expressed in the amounts in various currencies in which the bid prices are payable to Indian Rupees at the selling exchange rate established by any bank in India as notified in the Newspapers on the date of bid opening in the case of single part bidding and the rates prevalent on the date of opening of the Priced bids in the case of two-part bidding. For this purpose, exchange rate notified in www.xe.com or www.rbi.org or any other website could also be used by the purchaser.
- 1.30. Evaluation and comparison of bids
- 1.30.1 The Purchaser shall evaluate each bid that has been determined, up to this stage of the evaluation, to be substantially responsive.
- 1.30.2 To evaluate a Bid, the Purchaser shall only use all the factors, methodologies and criteria defined below. No other criteria or methodology shall be permitted.
- 1.30.3 The bids shall be evaluated on the basis of final landing cost which shall be arrived as under:

For goods manufactured in India.

- (i) The price of the goods quoted ex-works including all taxes already paid.
- (ii) VAT and other taxes like excise duty etc. which will be payable on the goods if the contract is awarded.
- (iii) Charges for inland transportation, insurance and other local services required for delivering the goods at the desired destination.
- (iv) The installation, commissioning and training charges including incidental services, if any.

For goods manufactured abroad

- (i) The price of the goods, quoted on FCA (named place of delivery abroad) or FOB (named port of shipment), as specified in the bidding document.
- (ii) The charges for insurance and transportation of the goods to the port/place of destination.
- (iii) The agency commission etc., if any.
- (iv) The installation, commissioning and training charges including incidental services, if any.

1.30.4 The comparison between the indigenous and the foreign offers shall be made on FOR destination basis and CIF/CIP basis respectively. However, the CIF/CIP prices quoted by any foreign bidder shall be loaded further as under:

- a) Towards customs duty and other statutory levies—as per applicable rates.
- a) Towards custom clearance, inland transportation etc. - 2% of the CIF/CIP value.

Note: Where there is no mention of packing, forwarding, freight, insurance charges, taxes etc. such offers shall be rejected as incomplete.

- 1.30.5 In the case of Purchase of many items against one tender, which are not inter- dependent or, where compatibility is not a problem, normally the comparison would be made on ex works, (in case of indigenous items) and on FOB / FCA (in the case of imports) prices quoted by the firms for identifying the lowest quoting firm for each item.
- 1.30.6 Orders for imported stores need not necessarily be on FOB/FCA basis rather it can be on the basis of any of the incoterm specified in ICC Incoterms 2000 as may be amended from time to time by the ICC or any other designated authority and favorable to CSIR Labs/Institutes or Headquarters.
- 1.30.7 Wherever the price quoted on FOB/FCA and CIF/CIP basis are the same, the Contract would be made on CIF / CIP basis only.
- 1.30.8 The GCC and the SCC shall specify the mode of transport i.e whether by air/ocean/road/rail.

- 1.31.1 The Purchaser shall compare all substantially responsive bids to determine the lowest evaluated bid, in accordance with ITB Clause 1.30.
- 1.32. Contacting the Purchaser
 - 1.32.1 Subject to ITB Clause 1.24, no Bidder shall contact the Purchaser on any matter relating to its bid, from the time of the bid opening to the time the Contract is awarded.
 - 1.32.2 Any effort by a Bidder to influence the Purchaser in its decisions on bid evaluation, bid comparison or contract award may result in rejection of the Bidder's bid.
- 1.33. Post qualification
 - 1.33.1 In the absence of pre-qualification, the Purchaser will determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated responsive bid is qualified to perform the contract satisfactorily, in accordance with the criteria listed in ITB Clause 13.
 - 1.33.2 The determination will take into account the eligibility criteria listed in the bidding documents and will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, as well as such other information as the Purchaser deems necessary and appropriate.
 - 1.33.3 An affirmative determination will be a prerequisite for award of the contract to the Bidder. A negative determination will result in rejection of the Bidder's bid. F- Award Of Contract
- 1.34. Negotiations
 - 1.34.1 There shall not be any negotiation normally. Negotiations, if at all, shall be an exception and only in the case of items with limited source of supply. Negotiations shall be held with the lowest evaluated responsive bidder. Counter offers tantamount to negotiations and shall be treated at par with negotiations in the case of one time purchases.
- 1.35. Award Criteria
 - 1.35.1 Subject to ITB Clause 37 the Purchaser will award the contract to the successful Bidder whose bid has been determined to be substantially responsive and has been determined to be the lowest evaluated bid, provided further that the Bidder is determined to be qualified to perform the contract satisfactorily.
- 1.36. Purchaser's right to vary Quantities at Time of Award
 - 1.36.1 The Purchaser reserves the right at the time of Contract award to increase or decrease the quantity of goods and services originally specified in the Schedule of Requirements without any change in unit price or other terms and conditions. Further, at the discretion of the purchaser, the quantities in the contract may be enhanced by 30% within the delivery period.
- 1.37. Purchaser's right to accept Any Bid and to reject any or All Bids
 - 1.37.1 The Purchaser 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.
- 1.38. Notification of Award
 - 1.38.1 Prior to the expiration of the period of bid validity, the Purchaser will notify the successful bidder in writing by registered letter or by cable or telex or fax or e mail that the bid has been accepted and a separate purchase order shall follow through post.
 - 1.38.2 Until a formal contract is prepared and executed, the notification of award should constitute a binding contract.
 - 1.38.3 Upon the successful Bidder's furnishing of the signed Contract Form and performance security pursuant to ITB Clause 1.41, the purchaser will promptly notify each unsuccessful Bidder and will discharge its bid security.
- 1.39. Signing of Contract
 - 1.39.1 Promptly after notification, the Purchaser shall send the successful Bidder the Agreement/PO.
 - 1.39.2 Within twenty-one (21) days of date of the Agreement, the successful Bidder shall sign, date, and return it to the Purchaser.

1.40. Order Acceptance

- 1.40.1 The successful bidder should submit Order acceptance within 15 days from the date of issue, failing which it shall be presumed that the vendor is not interested and his bid security is liable to be forfeited pursuant to clause 15.9 of ITB.
- 1.40.2 The order confirmation must be received within 15 days. However, the Purchaser has the powers to extend the time frame for submission of order confirmation and submission of Performance Security (PS). Even after extension of time, if the order confirmation /PS are not received, the contract shall be cancelled and limited tenders irrespective of the value shall be invited from the responding firms after forfeiting the bid security of the defaulting firm, where applicable, provided there is no change in specifications. In such cases the defaulting firm shall not be considered again for re-tendering in the particular case.

1.41. Performance Security

- 1.41.1 Within 21 days of receipt of the notification of award/PO, the Supplier shall furnish performance security in the amount specified in SCC, valid till 60 days after the warranty period. Alternatively, the PS may also be submitted at the time of release of final payment in cases where part payment is made against delivery & part on installation. The PS, where applicable, shall be submitted in advance for orders where full payment is to be made on Letter of Credit (LC) or on delivery. In this case, submission of PS at the time of negotiation of documents through Bank would be stipulated as a condition in the LC and the BS should be kept valid till such time the PS is submitted.
- 1.41.2 The proceeds of the performance security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.
- 1.41.3 The Performance Security shall be denominated in Indian Rupees for the offers received for supplies within India and denominated in the currency of the contract in the case of offers received for supply from foreign countries.
- 1.41.4 In the case of imports, the PS may be submitted either by the principal or by the Indian agent and, in the case of purchases from indigenous sources, the PS may be submitted by either the manufacturer or their authorized dealer/bidder.
- 1.41.5 The Performance security shall be in one of the following forms:
- (a) A Bank guarantee or stand-by Letter of Credit issued by a Nationalized/Scheduled bank located in India or a Foreign bank with preferably its operating branch in India in the form provided in the bidding documents. Or
 - (b) A Banker's cheque or Account Payee demand draft in favour of the purchaser. Or,
 - (c) A Fixed Deposit Receipt pledged in favour of the Purchaser.
- 1.41.6 The performance security will be discharged by the Purchaser and returned to the Supplier not later than 60 days following the date of completion of the Supplier's performance obligations, including any warranty obligations, unless specified otherwise in SCC, without levy of any interest.
- 1.41.7 In the event of any contract amendment, the supplier shall, within 21 days of receipt of such amendment, furnish the amendment to the performance security, rendering the same valid for the duration of the contract, as amended for further period of 60 days thereafter.
- 1.41.8 The order confirmation should be received within 15 days from the date of notification of award. However, the purchaser has the powers to extend the time frame for submission of order confirmation and submission of Performance Security (PS). Even after extension of time, if the order confirmation /PS are not received, the contract shall be cancelled and limited tenders irrespective of the value would be invited from the responding firms after forfeiting the bid security of the defaulting firm, where applicable provided there is no change in specifications. In such cases the defaulting firm would not be considered again for retendering in the particular case.

CHAPTER 2

CONDITIONS OF CONTRACT

A. GENERAL CONDITIONS OF CONTRACT

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2.1. Definitions

2.1.1 The following words and expressions shall have the meanings hereby assigned to them:

- (a) “Contract” means the Contract Agreement entered into between the Purchaser and the Supplier, together with the Contract Documents referred to therein, including all attachments, appendices, and all documents incorporated by reference therein.
- (b) “Contract Documents” means the documents listed in the Contract Agreement, including any amendments thereto.
- (c) “Contract Price” means the price payable to the Supplier as specified in the Contract Agreement, subject to such additions and adjustments thereto or deductions there from, as may be made pursuant to the Contract.
- (d) “Day” means calendar day.
- (e) “Completion” means the fulfillment of the Related Services by the Supplier in accordance with the terms and conditions set forth in the Contract.
- (f) “GCC” means the General Conditions of Contract.
- (g) “Goods” means all of the commodities, raw material, machinery and equipment, and/or other materials that the Supplier is required to supply to the Purchaser under the Contract.
- (h) “Related Services” means the services incidental to the supply of the goods, such as transportation, insurance, installation, training and initial maintenance and other such obligations of the Supplier under the Contract.
- (i) “SCC” means the Special Conditions of Contract.
- (j) “Subcontractor” means any natural person, private or government entity, or a combination of the above, to whom any part of the Goods to be supplied or execution of any part of the Related Services is subcontracted by the Supplier.
- (k) “Supplier” means the natural person, private or government entity, or a combination of the above, whose bid to perform the Contract has been accepted by the Purchaser and is named as such in the Contract Agreement.
- (l) The “Council” means the Council of Scientific & Industrial Research (CSIR), registered under the Societies Registration Act, 1860 of the Govt. of India having its registered office at 2, Rafi Marg, New Delhi-110001, India and the “Purchaser” means any of the constituent Laboratory/Institute of the Council situated at any designated place in India as specified in SCC.
- (m) “The final destination,” where applicable, means the place named in the SCC.

2.2. Contract Documents

2.2.1 Subject to the order of precedence set forth in the Contract Agreement, all documents forming the Contract (and all parts thereof) are intended to be correlative, complementary, and mutually explanatory. The Contract Agreement shall be read as a whole.

2.3 Fraud and Corruption

2.3.1 The purchaser requires that bidders, suppliers, contractors and consultants, if any, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuit of this policy,

- (a) the terms set forth below are defined as follows:
 - (i) “Corrupt practice” means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the procurement process or in contract execution;
 - (ii) “Fraudulent practice” means a misrepresentation or omission of facts in order to influence a procurement process or the execution of a contract;
 - (iii) “Collusive practice” means a scheme or arrangement between two or more bidders, with or without the knowledge of the Borrower, designed to establish bid prices at artificial, noncompetitive levels; and
 - (iv) “Coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of a contract;

- (b) the purchaser will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for the Contract in question;
- 2.4 Joint Venture, Consortium or Association
 - 2.4.1 If the Supplier is a joint venture, consortium, or association, all of the parties shall be jointly and severally liable to the Purchaser for the fulfillment of the provisions of the Contract and shall designate one party to act as a leader with authority to bind the joint venture, consortium, or association. The composition or the constitution of the joint venture, consortium, or association shall not be altered without the prior consent of the Purchaser.
- 2.5. Scope of Supply
 - 2.5.1 The Goods and Related Services to be supplied shall be as specified in the Schedule of Requirements.
- 2.6. Suppliers' Responsibilities
 - 2.6.1 The Supplier shall supply all the Goods and Related Services included in the Scope of Supply in accordance with Scope of Supply Clause of the GCC, and the Delivery and Completion Schedule, as per GCC Clause relating to delivery and document.
- 2.7 Contract price
 - 2.7.1 Prices charged by the Supplier for the Goods supplied and the Related Services performed under the Contract shall not vary from the prices quoted by the Supplier in its bid.
- 2.8 Copy Right
 - 2.8.1 The copyright in all drawings, documents, and other materials containing data and information furnished to the Purchaser by the Supplier herein shall remain vested in the Supplier, or, if they are furnished to the Purchaser directly or through the Supplier by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party
- 2.9. Application
 - 2.9.1 These General Conditions shall apply to the extent that they are not superseded by provisions in other parts of the Contract.
- 2.10. Standards
 - 2.10.1 The Goods supplied and services rendered under this Contract shall conform to the standards mentioned in the Technical Specifications and Schedule of Requirements, and, when no applicable standard is mentioned, to the authoritative standard appropriate to the Goods' country of origin and such standards shall be the latest issued by the concerned institution.
- 2.11. Use of Contract Documents and Information
 - 2.11.1 The Supplier shall not, without the Purchaser'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 Purchaser in connection therewith, to any person other than a person employed by the Supplier in 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 purposes of such performance.
 - 2.11.2 The Supplier shall not, without the Purchaser's prior written consent, make use of any document or information enumerated above except for purposes of performing the Contract.
 - 2.11.3 Any document, other than the Contract itself, enumerated above shall remain the property of the Purchaser and shall be returned (in all copies) to the Purchaser on completion of the Supplier's performance under the Contract if so required by the Purchaser.

2.12. Patent Indemnity

2.12.1 The Supplier shall, subject to the Purchaser's compliance with GCC Sub-Clause 12.2, indemnify and hold harmless the Purchaser and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Purchaser may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract by reason of:

- (a) the installation of the Goods by the Supplier or the use of the Goods in India; and
- (b) the sale in any country of the products produced by the Goods.

2.12.2 If any proceedings are brought or any claim is made against the Purchaser, the Purchaser shall promptly give the Supplier a notice thereof, and the Supplier may at its own expense and in the Purchaser's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.

2.13 Performance Security

2.13.1 Within 21 days of receipt of the notification of award/PO, the Supplier shall furnish performance security in the amount specified in SCC, valid till 60 days after the warranty period. Alternatively, the PS may also be submitted at the time of release of final payment in cases where part payment is made against delivery & part on installation. The PS, where applicable, shall be submitted in advance for orders where full payment is to be made on Letter of Credit (LC) or on delivery. In this case, submission of PS at the time of negotiation of documents through Bank would be stipulated as a condition in the LC and the BS should be kept valid till such time the PS is submitted.

2.13.2 The proceeds of the performance security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

2.13.3 The Performance Security shall be denominated in Indian Rupees for the offers received for supplies within India and denominated in the currency of the contract in the case of offers received for supply from foreign countries.

2.13.4 In the case of imports, the PS may be submitted either by the principal or by the Indian agent and, in the case of purchases from indigenous sources, the PS may be submitted by either the manufacturer or their authorized dealer/bidder.

2.13.5 The Performance security shall be in one of the following forms:

- (a) A Bank guarantee or stand-by Letter of Credit issued by a Nationalized/Scheduled bank located in India or a bank located abroad in the form provided in the bidding documents.

Or

- (b) A Banker's cheque or Account Payee demand draft in favour of the purchaser. Or,
- (c) A Fixed Deposit Receipt pledged in favour of the Purchaser.

2.13.6 The performance security will be discharged by the Purchaser and returned to the Supplier not later than 60 days following the date of completion of the Supplier's performance obligations, including any warranty obligations, unless specified otherwise in SCC, without levy of any interest.

2.13.7 In the event of any contract amendment, the supplier shall, within 21 days of receipt of such amendment, furnish the amendment to the performance security, rendering the same valid for the duration of the contract, as amended for further period of 60 days thereafter.

2.13.8 The order confirmation should be received within 15 days from the date of notification of award. However, the Purchaser has the powers to extend the time frame for submission of order confirmation and submission of Performance Security (PS). Even after extension of time, if the order confirmation /PS are not received, the contract shall be cancelled and limited tenders irrespective of the value would be invited from the responding firms after forfeiting the bid security of the defaulting firm, where applicable provided there is no change in specifications. In such cases the defaulting firm would not be considered again for re-tendering in the particular case

2.14. Inspections and Tests

- 2.14.1 The Supplier shall at its own expense and at no cost to the Purchaser carry out all such tests and/or inspections of the Goods and Related Services as are specified in the SCC or as discussed and agreed to during the course of finalization of contract.
 - 2.14.2 The Purchaser or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Purchaser. The Technical Specifications and SCC shall specify what inspections and tests the Purchaser requires and where they are to be conducted. The Purchaser shall notify the Supplier in writing in a timely manner of the identity of any representatives retained for these purposes.
 - 2.14.3 The inspections and tests may be conducted on the premises of the Supplier or its subcontractor(s), at the point of delivery and/or at the Goods final destination. If conducted on the premises of the Supplier or its subcontractor(s), all reasonable facilities and assistance, including access to drawings and production data - shall be furnished to the inspectors at no charge to the Purchaser.
 - 2.14.4 Whenever the Supplier is ready to carry out any such test and inspection, it shall give a reasonable advance notice, including the place and time, to the Purchaser. The Supplier shall obtain from any relevant third party or manufacturer any necessary permission or consent to enable the Purchaser or its designated representative to attend the test and/or inspection.
 - 2.14.5 Should any inspected or tested Goods fail to conform to the specifications, the Purchaser may reject the goods and the Supplier shall either replace the rejected Goods or make alterations necessary to meet specification requirements free of cost to the Purchaser.
 - 2.14.6 The Purchaser's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival at final destination shall in no way be limited or waived by reason of the Goods having previously been inspected, tested and passed by the Purchaser or its representative prior to the Goods shipment.
 - 2.14.7 The Supplier shall provide the Purchaser with a report of the results of any such test and/or inspection.
 - 2.14.8 With a view to ensure that claims on insurance companies, if any, are lodged in time, the bidders and /or the Indian agent shall be responsible for follow up with their principals for ascertaining the dispatch details and informing the same to the Purchaser and he shall also liaise with the Purchaser to ascertain the arrival of the consignment after clearance so that immediately thereafter in his presence the consignment could be opened and the insurance claim be lodged, if required, without any loss of time. Any delay on the part of the bidder/Indian Agent would be viewed seriously and he shall be directly responsible for any loss sustained by the purchaser on the event of the delay.
- ## 2.15. Packing
- 2.15.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination as indicated in the Contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit.
 - 2.15.2 The packing, marking and documentation within and outside the packages shall comply strictly with such special requirements as shall be provided for in the Contract including additional requirements, if any, specified in SCC and in any subsequent instructions ordered by the Purchaser.
- ## 2.16. Delivery and Documents
- 2.16.1 Delivery of the Goods and completion and related services shall be made by the Supplier in accordance with the terms specified by the Purchaser in the contract. The details of shipping and/or other documents to be furnished by the supplier are specified in SCC.
 - 2.16.2 The terms FOB, FCA, CIF, CIP etc shall be governed by the rules prescribed in the current edition of the Incoterms published by the International Chambers of Commerce, Paris.
 - 2.16.3 The mode of transportation shall be as specified in SCC.

2.17. Insurance

2.17.1 Should the purchaser elect to buy on CIF/CIP basis, the Goods supplied under the Contract shall be fully insured in Indian Rupees against any loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified in SCC.

2.17.2 Where delivery of the goods is required by the purchaser on CIF or CIP basis the supplier shall arrange and pay for Cargo Insurance, naming the purchaser as beneficiary and initiate & pursue claims till settlement, on the event of any loss or damage.

2.17.3 Where delivery is on FOB or FCA basis, insurance would be the responsibility of the purchaser.

2.17.4 With a view to ensure that claims on insurance companies, if any, are lodged in time, the bidders and /or the Indian agent shall be responsible for follow up with their principals for ascertaining the dispatch details and informing the same to the Purchaser and he shall also liaise with the Purchaser to ascertain the arrival of the consignment after clearance so that immediately thereafter in his presence the consignment could be opened and the insurance claim be lodged, if required, without any loss of time. Any delay on the part of the bidder/Indian Agent would be viewed seriously and he shall be directly responsible for any loss sustained by the purchaser on the event of the delay.

2.18. Transportation

2.18.1 Where the Supplier is required under the Contract to deliver the Goods FOB, transport of the Goods, up to and including the point of putting the Goods on board the vessel at the specified port of loading, shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract price. Where the Supplier is required under the Contract to deliver the Goods FCA, transport of the Goods and delivery into the custody of the carrier at the place named by the Purchaser or other agreed point shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract price.

2.18.2 Where the Supplier is required under the Contract to deliver the Goods CIF or CIP, transport of the Goods to the port of destination or such other named place of destination in the Purchaser's country, as shall be specified in the Contract, shall be arranged and paid for by the Supplier, and the cost thereof shall be included in the Contract Price.

2.18.3 In the case of supplies from within India, where the Supplier is required under the Contract to transport the Goods to a specified destination in India, defined as the Final Destination, transport to such destination, including insurance and storage, as specified in the Contract, shall be arranged by the Supplier, and the related costs shall be included in the Contract Price.

2.19. Incidental Services

2.19.1 The supplier may be required to provide any or all of the services, if any, specified in SCC.

2.20. Spare Parts

2.20.1 The Supplier shall be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the Supplier:

(a) Such spare parts as the Purchaser may elect to purchase from the Supplier, providing that this election shall not relieve the Supplier of any warranty obligations under the Contract; and

(b) In the event of termination of production of the spare parts:

(i) Advance notification to the Purchaser of the pending termination, in sufficient time to permit the Purchaser to procure needed requirements; and

(ii) Following such termination, furnishing at no cost to the Purchaser, the blueprints, drawings and specifications of the spare parts, if requested.

2.21. Warranty

2.21.1 The Supplier warrants that all the Goods are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract.

2.21.2 The Supplier further warrants that the Goods shall be free from defects arising from any act or omission of the Supplier or arising from design, materials, and workmanship, under normal use in the conditions prevailing in India.

- 2.21.3 Unless otherwise specified in the SCC, the warranty shall remain valid for twelve (12) months after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the SCC, or for eighteen (18) months after the date of shipment from the port or place of loading in the country of origin, whichever period concludes earlier.
- 2.21.3 The Purchaser shall give notice to the Supplier stating the nature of any such defects together with all available evidence thereof, promptly following the discovery thereof. The Purchaser shall afford all reasonable opportunity for the Supplier to inspect such defects.
- 2.21.4 Upon receipt of such notice, the Supplier shall, within a reasonable period of time, expeditiously repair or replace the defective Goods or parts thereof, at no cost to the Purchaser.
- 2.21.5 If having been notified, the Supplier fails to remedy the defect within reasonable period of time, the Purchaser may proceed to take within a reasonable period such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.
- 2.21.6 Goods requiring warranty replacements must be replaced on free of cost basis to the purchaser.
- 2.22. Terms of Payment
- 2.22.1 The method and conditions of payment to be made to the Supplier under this Contract shall be as specified in the SCC.
- 2.22.2 The Supplier's request(s) for payment shall be made to the Purchaser in writing, accompanied by an invoice describing, as appropriate, the Goods delivered and the Services performed, and by documents, submitted pursuant to Delivery and document Clause of the GCC and upon fulfillment of other obligations stipulated in the contract.
- 2.22.3 Payments shall be made promptly by the Purchaser but in no case later than thirty (30) days after submission of the invoice or claim by the Supplier.
- 2.22.4 Payment shall be made in currency as indicated in the contract.
- 2.23. Change Orders and Contract Amendments.
- 2.23.1 The Purchaser may at any time, by written order given to the Supplier pursuant to Clause on Notices of the GCC make changes within the general scope of the Contract in any one or more of the following:
 - (a) Drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Purchaser;
 - (b) The method of shipping or packing;
 - (c) The place of delivery; and/or
 - (d) The Services to be provided by the Supplier.
 - (e) The delivery schedule.
- 2.23.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or delivery schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this clause must be asserted within fifteen (15) days from the date of the Supplier's receipt of the Purchaser's change order.
- 2.23.3 No variation or modification in the terms of the contract shall be made except by written amendment signed by the parties.
- 2.24. Assignment
- 2.24.1 The Supplier shall not assign, in whole or in part, its obligations to perform under the Contract, except with the Purchaser's prior written consent.
- 2.25. Subcontracts
- 2.25.1 The Supplier shall notify the Purchaser in writing of all subcontracts awarded under this Contract if not already specified in the bid. Such notification, in the original bid or later, shall not relieve the Supplier from any liability or duties or obligation under the Contract.
- 2.26. Extension of time.
- 2.26.1 Delivery of the Goods and performance of the Services shall be made by the Supplier in accordance with the time schedule specified by the Purchaser.

- 2.26.2 If at any time during performance of the Contract, the Supplier or its sub-contractor(s) should encounter conditions impeding timely delivery of the Goods and performance of Services, the Supplier shall promptly notify the Purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may, at its discretion, extend the Supplier's time for performance with or without penalty, in which case the extension shall be ratified by the parties by amendment of the Contract.
- 2.26.3 Except as provided under the Force Majeure clause of the GCC, a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of penalty pursuant to Penalty Clause of the GCC unless an extension of time is agreed upon pursuant to above clause without the application of penalty clause.
- 2.27. Penalty clause
- 2.27.1 Subject to GCC Clause on Force Majeure, if the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the Purchaser shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as penalty, a sum equivalent to the percentage specified in SCC of the delivered price of the delayed Goods or unperformed Services or contract value for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the Percentage specified in SCC. Once the maximum is reached, the Purchaser may consider termination of the Contract pursuant to GCC Clause on Termination for Default. The SCC shall also indicate the basis for ascertaining the value on which the penalty shall be applicable.
- 2.28. Termination for Default
- 2.28.1 The Purchaser may, without prejudice to any other remedy for breach of contract, by written notice of default sent to the Supplier, terminate the Contract in whole or part
- (a) If the Supplier fails to deliver any or all of the Goods within the period(s) specified in the contract, or within any extension thereof granted by the Purchaser pursuant to GCC Clause on Extension of Time; or
- (b) If the Supplier fails to perform any other obligation(s) under the Contract.
- (c) If the Supplier, in the judgment of the Purchaser has engaged in corrupt or fraudulent or collusive or coercive practices as defined in GCC Clause on Fraud or Corruption in competing for or in executing the Contract.
- 2.28.2 In the event the purchaser terminates the contract in whole or in part, he may take recourse to any one or more of the following action:
- a) The Performance Security is to be forfeited;
- b) The purchaser may procure, upon such terms and in such manner as it deems appropriate, stores similar to those undelivered, and the supplier shall be liable for all available actions against it in terms of the contract.
- c) however, the supplier shall continue to perform the contract to the extent not terminated.
- 2.29. Force Majeure
- 2.29.1 Notwithstanding the provisions of GCC Clauses relating to extension of time, penalty and Termination for Default the Supplier shall not be liable for forfeiture of its performance security, liquidated damages or termination for default, if and to the extent that, its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.
- 2.29.2 For purposes of this Clause, "Force Majeure" means an event or situation beyond the control of the Supplier that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the Supplier. Such events may include, but not be limited to, acts of the Purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.

- 2.29.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such conditions and the cause thereof within 21 days of its occurrence. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.
- 2.29.4 If the performance in whole or in part or any obligations under the contract is prevented or delayed by any reason of force majeure for a period exceeding 60 days, either party may at its option terminate the contract without any financial repercussions on either side.
- 2.30. Termination for Insolvency
- 2.30.1 The Purchaser may at any time terminate the Contract by giving written notice to the Supplier, if the Supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy, which has accrued or will accrue thereafter to the Purchaser.
- 2.31. Termination for Convenience
- 2.31.1 The Purchaser, by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time. The notice of termination shall specify that termination is for the Purchaser's convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.
- 2.31.2 The Goods that are complete and ready for shipment within 30 days after the Supplier's receipt of notice of termination shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods, the Purchaser may elect:
- (a) To have any portion completed and delivered at the Contract terms and prices; and/or
 - (b) To cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and for materials and parts previously procured by the Supplier.
- 2.32. Settlement of Disputes
- 2.32.1 The Purchaser and the supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.
- 2.32.2 If, after twenty-one (21) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods under the Contract.
- 2.32.3 The dispute settlement mechanism/arbitration proceedings shall be concluded as under:
- (a) In case of Dispute or difference arising between the Purchaser and a domestic supplier relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Indian Arbitration & Conciliation Act, 1996, the rules there under and any statutory modifications or re-enactments thereof shall apply to the arbitration proceedings. The dispute shall be referred to the Director General, Council of Scientific & Industrial Research and if he is unable or unwilling to act, to the sole arbitration of some other person appointed by him willing to act as such Arbitrator. The award of the arbitrator so appointed shall be final, conclusive and binding on all parties to this order.
 - (b) in the case of a dispute between the purchaser and a Foreign Supplier, the dispute shall be settled by arbitration In accordance with provision of sub-clause (a) above. But if this is not acceptable to the supplier then the dispute shall be settled in accordance with provisions of UNCITRAL (United Nations Commission on International Trade Law) Arbitration Rules.
- 2.32.4 The venue of the arbitration shall be the place from where the purchase order or contract is issued.
- 2.32.5 Notwithstanding any reference to arbitration herein,
- (a) the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and
 - (b) the Purchaser shall pay the Supplier any monies due the Supplier.

2.33. Governing Language

2.33.1 The contract shall be written in English language which shall govern its interpretation. All correspondence and other documents pertaining to the Contract, which are exchanged by the parties, shall be written in the English language only.

2.34. Applicable Law

2.34.1 The Contract shall be interpreted in accordance with the laws of the Union of India and all disputes shall be subject to place of jurisdiction as specified in SCC.

2.35. Notices

2.35.1 Any notice given by one party to the other pursuant to this contract/order shall be sent to the other party in writing or by cable, telex, FAX, e-mail or and confirmed in writing to the other party's address specified in the SCC.

2.35.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.

2.36. Taxes and Duties

2.36.1 For goods manufactured outside India, the Supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside India.

2.36.2 For goods Manufactured within India, the Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred till its final manufacture/production.

2.36.3 If any tax exemptions, reductions, allowances or privileges may be available to the Supplier in India, the Purchaser shall make its best efforts to enable the Supplier to benefit from any such tax savings to the maximum allowable extent.

2.37. Right to use Defective Goods

2.37.1 If after delivery, acceptance and installation and within the guarantee and warranty period, the operation or use of the goods proves to be unsatisfactory, the Purchaser shall have the right to continue to operate or use such goods until rectifications of defects, errors or omissions by repair or by partial or complete replacement is made without interfering with the Purchaser's operation.

2.38. Protection against Damage

2.38.1 The system shall not be prone to damage during power failures and trip outs. The normal voltage and frequency conditions available at site as under:

a) Voltage 230 volts – Single phase/ 415 V 3 phase (+_ 10%)

b) Frequency 50 Hz.

2.39. Site preparation and installation

The Purchaser is solely responsible for the construction of the equipment sites in compliance with the technical and environmental specifications defined by the Supplier. The Purchaser will designate the installation sites before the scheduled installation date to allow the Supplier to perform a site inspection to verify the appropriateness of the sites before the installation of the Equipment, if required. The supplier shall inform the purchaser about the site preparation, if any, needed for installation, of the goods at the purchasers site immediately after notification of award/contract.

2.40 Integrity Pact

As per directive of the CVC all organizations including CSIR labs./institutes have to adopt an Integrity pact(IP) to ensure transparency, equity and competitiveness in major Public procurement activities. The integrity pact envisages an agreement between the prospective bidders/vendors with the buyer committing the persons/officials of both the parties with the aim not to exercise any corrupt influence on any aspect of the contract.

Only those bidders/vendors who are willing to enter in to such an integrity pact with the buyer i.e. CSIR or its Labs./institutes, would be competent to participate in the bidding. IP also envisages Panel of Independent External Monitors (IEMs) which shall be provided/recommended by CSIR/its labs and institutes & approved by CVC.

The SCC shall specify whether there is a need to enter into a separate integrity pact or not. The model format of integrity pact (IP) is at annexure k.

B. SPECIAL CONDITIONS OF CONTRACT

The following Special Conditions of Contract (SCC) shall act as a general guideline and shall supplement and / or amend the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC)

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Sl. No.	GCC Clause
(i)	GCC 1.1(1)
(ii)	GCC 1.1(m)
(iii)	GCC 13.1
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(xii)	GCC 22.1
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(xiv)	GCC 27.1
(xv)	GCC 34.1
(xvi)	GCC 35.1

Special conditions of contract (SCC)

Special conditions of contract (SCC)

The following Special Conditions of Contract (SCC) shall supplement and / or amend the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

GCC 2.1(l) The Purchaser is: Director, Central Scientific Instruments Organisation, Sector-30, Chandigarh
GCC 2.1 (m) The Final Destination is: **For Item at Sr. No. 1**, Scientist-in-Charge, S&MC, CSIO Complex, 2nd Floor, Opp. Institute of Hotel Manager, Pusa Complex, 25, Rajendra Place, NEW DELHI- 110 012
For items at Sr. No. 2-4 : CSIO, Sector-30, Chandigarh (India)

GCC 2.13.1 The amount of the Performance Security shall be : 10% of the Contract Value.

GCC 2.14.1 The Inspection and Tests prior to shipment of Goods and at final acceptance are as follows :

After the goods are manufactured and assembled, inspection and testing of the goods shall be carried out at the supplier's plant by the supplier, prior to shipment to check whether the goods are in conformity with the technical specifications. Manufacturer's test certificate with data sheet shall be issued to this effect and submit along with the delivery documents. The purchaser reserves the options to be present at the supplier's premises during such inspection and testing. The acceptance test will be conducted by the Purchaser, their consultant or other such person nominated by the Purchaser at its option after the equipment is installed at Purchaser's site in the presence of supplier's representatives. The acceptance will involve trouble free operation. There shall not be any additional charges for carrying out acceptance test. No malfunction, partial or complete failure of any part of the equipment is expected to occur. The Supplier shall maintain necessary log in respect of the result of the test to establish to the entire satisfaction of the Purchaser, the successful completion of the test specified. In the event of the ordered item failing to pass the acceptance test, a period not exceeding two weeks will be given to rectify the defects and clear the acceptance test, failing which, the Purchaser reserve the right to get the equipment replaced by the Supplier at no extra cost to the Purchaser. Successful conduct and conclusion of the acceptance test for the installed goods and equipments shall also be the responsibility and at the cost of the Supplier. Before the goods and equipments are taken over by the Purchaser, the Supplier shall supply operation and maintenance Manuals together with Drawings of the goods and equipments built. These shall be in such details as will enable the Purchase to operate, maintain, adjust and repair all parts of the works as stated in the specifications.

The Manuals and Drawings shall be in the ruling language (English) and in such form and numbers as stated in the Contract. Unless and otherwise agreed, the goods and equipment shall not be considered to be completed for the purposes of taking over until such Manuals and Drawing have been supplied to the Purchaser. On successful completion of acceptability test, receipt of deliverables, etc. and after the Purchaser is satisfied with the working of the equipment, the acceptance certificate signed by the Supplier and the representative of the Purchaser will be issued. The date on which such certificate is signed shall be deemed to be the date of successful commissioning of the equipment.

GCC 2.15.2 The marking and documentation within and outside the packages shall be:

- a. Each package should have a packing list within it detailing the part No.(s), description, quantity etc.
- b. Outside each package, the contract No., the name and address of the purchaser and the final destination should be indicated on all sides and top.
- c. Each package should be marked as 1/x, 2/x, 3/x.....x/x, where "x" is the total No. of packages contained in the consignment.
- d. All the sides and top of each package should carry an appropriate indication/label/stickers indicating the precautions to be taken while handling/storage.

CC 2.16.1 Details of Shipping and other Documents to be furnished by the Supplier are

For Goods manufactured within India

Within 24 hours of dispatch, the supplier shall notify the purchaser the complete details of dispatch and also supply following documents by registered post / speed post and copies thereof by FAX.

- (a) Two copies of Supplier's Invoice indicating, *inter-alia* description and specification of the goods, quantity, unit price, total value;
- (b) Packing list;
- (c) Certificate of country of origin;
- (d) Insurance certificate, if required under the contract;
- (e) Railway receipt/Consignment note;
- (f) Manufacturer's guarantee certificate and in-house inspection certificate;
- (g) Inspection certificate issued by purchaser's inspector, if any and
- (h) Any other document(s) as and when required in terms of the contract.

Note: 1.The nomenclature used for the item description in the invoices(s), packing list(s) and the delivery note(s) etc. should be identical to that used in the contract. The dispatch particulars including the name of the transporter should also be mentioned in the Invoice(s)

2. The above documents should be received by the Purchaser before arrival of the Goods and, if not received, the Supplier will be responsible for any consequent expenses

(xvii) For Goods manufactured abroad

Within 24 hours of dispatch, the supplier shall notify the purchaser the complete details of dispatch and also supply following documents by Registered Post/courier and copies thereof by FAX.

- (xviii) Two copies of supplier's Invoice giving full details of the goods including quantity, value, etc.;
- (xix) Packing list;
- (xx) Certificate of country of origin;
- (xxi) Manufacturer's guarantee and Inspection certificate;
- e) Inspection certificate issued by the Purchaser's Inspector, if any;
- f) Insurance Certificate, if required under the contract;
- g) Name of the Vessel/Carrier;
- h) Bill of Lading/Airway Bill;
- (xxii) Port of Loading;
- j) Date of Shipment;
- k) Port of Discharge & expected date of arrival of goods and
- l) Any other document(s) as and when required in terms of the contract.

Note: 1. The nomenclature used for the item description in the invoices(s), packing list(s) and the delivery note(s) etc. should be identical to that used in the contract. The dispatch particulars including the name of the transporter should also be mentioned in the Invoice(s)

2. The above documents should be received by the Purchaser before arrival of the Goods and, if not received, the Supplier will be responsible for any consequent expenses

GCC 2.16.3 In case of supplies from within India, the mode of transportation shall be by Air/Rail/Road.
In case of supplies from abroad, the mode of transportation shall be by Air

GCC 2.17.1 The Insurance shall be for an amount equal to 110% of the CIF or CIP value of the contract from within "warehouse to warehouse (final destination)" on "all risk basis" including strikes, riots and civil commotion.

GCC 2.19.1 The incidental services to be provided are as under:

- 1.
- 2.
- 3.

The cost shall be included in the contract price.

GCC 2.21.3 The period of validity of the Warranty shall be: 365 days except item No. 1 (CNC 3d Coordinate Measuring Machine) Item No. 4 (Date communication Laboratory Equipment) & Item No.5 (Process Control Lab Equipment) for which period of validity of the warranty shall be two years, three years & three years respectively.

2.22.1 The method and conditions of payment to be made to the Supplier under this Contract shall be as follows:
Payment for Goods supplied from abroad:

Payment of foreign currency portion shall be made in () [to be indicated by the vendor] in the following manner:

(xxiii) On Shipment: 90% percent of the Contract Price of the Goods shipped shall be paid through irrevocable letter of credit opened in favor of the Supplier in a bank in its country, upon submission of documents specified in GCC Clause 2.16.

(xxiv) On Acceptance: 10% percent of the Contract Price of Goods received shall be paid within thirty (30) days of receipt of the Goods and successful installation & commissioning upon submission of claim supported by the acceptance certificate issued by the Purchaser along with the Performance security, if any.

The L/C will be confirmed at the suppliers cost, if requested specifically by the supplier. All bank charges abroad shall be to the account of the beneficiary i.e. supplier and all bank charges in India shall be to the account of the opener i.e. purchaser. If L/C is requested to be extended/ reinstated for reasons not attributable to the purchaser, the charges thereof would be to the suppliers' account. Payment of local currency portion shall be made in Indian Rupees within thirty (30) days of presentation of claim supported by a certificate from the Purchaser declaring that the Goods have been delivered and that all other contracted Services have been performed. The LC for 100% value of the contract shall be established after deducting the agency commission payable if any, to the Indian agent from the FOB/FCA value.

Payment for Goods and Services supplied from India:

Payment for Goods and Services supplied from within India shall be made in Indian Rupees, as follows:

(xxv) On shipment : Within (30) days after the date of the acceptance certificate issued by the Purchaser subject to submission of performance security, if any.

GCC 2.27.1 The penalty shall be: 1% per week or part of a week towards late delivery and towards delay in installation and commissioning.

GCC 2.27.1 The maximum amount of liquidated damages shall be: 10%

The liquidated damages shall be levied on the delivered price of the delayed Goods or unperformed Services or contract value.

GCC 2.34.1 The place of jurisdiction is Chandigarh (India)

GCC 2.35.1 For notices, the Purchaser's address: Director, Central Scientific Instruments Organisation, Sector-30, Chandigarh (India)

Telephone: 0172-2652651

Facsimile number: 0172-2652651

Electronic mail address : csiopurchase@yahoo.com

GCC 2.40 The integrity pact not to be signed in this case.

Chapter 3

Schedule of Requirements

(Notes for internal use only)

3.1 The Schedule of Requirements shall be included in the bidding documents by the Purchaser, and shall cover, at a minimum, a description of the goods and services to be supplied and the delivery schedule. The delivery schedule shall clearly indicate the time period within which the successful bidder must deliver the consignment in full from the date of establishment of LC or from the date of contract or from the date of advance payment etc. It should also indicate separately the time period desired for installation and commissioning of the equipment after arrival of the consignment at the premises of the Purchaser.

3.2 The objective of the Schedule of Requirements is to provide sufficient information to enable bidders to prepare their bids efficiently and accurately, in particular, the Price Schedule, for which a form is provided in Chapter 5. In addition, the Schedule of Requirements, together with the Price Schedule, should serve as a basis in the event of quantity variation at the time of award of contract pursuant to ITB Clause 1.36.

3.3 The date or period for delivery should be carefully specified, taking into account

- (a) The implications of delivery terms stipulated in the Instructions to Bidders pursuant to the **Incoterms** rules (i.e., EXW, or CIF, CIP, FOB, FCA terms—that “delivery” takes place when goods are delivered to the carriers), and
- (b) The date prescribed herein from which the delivery obligations start (i.e., notice of award, contract signature, opening or confirmation of the letter of credit, date of releasing advance payment etc.).

Chapter 4

Specifications and allied Technical details

4.1 The purpose of the Technical Specifications (TS), is to define the technical characteristics of the Goods and Related Services required by the Purchaser. The Purchaser shall prepare the detailed TS take into account that:

(a) The TS constitute the benchmarks against which the Purchaser will verify the technical responsiveness of bids and subsequently evaluate the bids. Therefore, well-defined TS will facilitate preparation of responsive bids by bidders, as well as examination, evaluation, and comparison of the bids by the Purchaser.

(b) The TS shall require that all goods and materials to be incorporated in the goods be new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided for otherwise in the contract.

(c) Standardizing technical specifications may be advantageous, depending on the complexity of the goods and the repetitiveness of the type of procurement. Technical Specifications should be broad enough to avoid restrictions on workmanship, materials, and equipment commonly used in manufacturing similar kinds of goods.

(d) Standards for equipment, materials, and workmanship specified in the Bidding Documents shall not be restrictive. Recognized international standards should be specified as much as possible. Reference to brand names, catalogue numbers, or other details that limit any materials or items to a specific manufacturer is not permitted. When other particular standards or codes of practice are referred to in the TS, whether from India or from other countries, a statement should follow that other authoritative standards that ensure at least a equivalent quality, than the standards mentioned in the TS, will also be acceptable.

(e) Reference to brand names and catalogue numbers must be avoided.

(f) Technical Specifications shall be fully descriptive of the requirements in respect of, but not limited to, the following:

- (a) Standards of materials and workmanship required for the production and manufacturing of the Goods.
- (b) Detailed tests required.

- (c) Other additional work and/or Related Services required to achieve full delivery/completion.
- (d) Detailed activities to be performed by the Supplier, and participation of the Purchaser thereon.
- (e) List of detailed functional guarantees required to be covered by the Warranty and the specification of the penalty to be applied in the event that such guarantees are not met.
- (g) The TS shall specify all essential technical and performance characteristics and requirements, including guaranteed or acceptable maximum or minimum values, as appropriate.
- (h) When the Purchaser requests that the Bidder provides in its bid a part or all of the Technical Specifications, technical schedules, or other technical information, the Purchaser shall specify in detail the nature and extent of the required information and the manner in which it has to be presented by the Bidder in its bid.
- (i) Specifications should aim at procuring the latest technology and avoid procurement of obsolete goods. Specifications should have emphasis on factors like efficiency, optimum fuel/power consumption, use of environmental-friendly materials, reduced noise and emission levels, low maintenance cost etc. Further, the specifications should not be too restrictive as the aim should be to attract reasonable number of competitive Tenderers.
- (j) The specifications must not contain any brand name, make or catalogue number of a particular manufacturer and if the same is unavoidable due to some compelling reasons, it should be followed by the words "or equivalent".
- (k) All dimensions incorporated in the specifications shall be indicated in metric units.
- (l) Wherever necessary, the written specifications should be supplemented with drawings for additional clarity etc.

Chapter 5

Price Schedule Forms

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Sl. No.	Clause
5.1.	Price schedule for Goods being offered from abroad
5.2.	Price schedule for Goods offered from India

PRICE SCHEDULE FOR GOODS BEING OFFERED FROM ABROAD

Name of the Bidder _____ TENDER
No. _____

1	2	3	4	5	6*		7*		8*		9*
Sl. No.	Item Description	Country of origin	Unit	Quantity	Unit price		Total price (5x6)		Charges for Insurance & transportation to port//place of destination		Total price (7+8)
					FOB (named port of shipment)	FCA (named place of delivery)	FOB (named port of shipment)	FCA (named place of delivery)	Ocean	Air	

Note:.

currency _____

(a) Indian agents name & address _____

(b) Installation, commissioning & training charges, if any _____

(c) Cost of Spares _____

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.

Total Bid price in foreign

in words.

Signature of Bidder
Name
Business

PRICE SCHEDULE FOR GOODS BEING OFFERED FROM INDIA

Name of the Bidder _____ Tender

No. _____

1	2	3	4	5	6	7	8	9	10	11	
Sl. No	Item Description	Country of origin	Unit	Quantity	Ex-Works. Exwarehouse, Ex-show room off the shelf price (inclusive of all taxes already paid)	Total price Ex-Works. Ex - warehouse, Ex-show room off the shelf price (inclusive of all taxes already paid) 5x6	VAT & other taxes like excise duty payable, if contract is awarded	Packing & for warding up to station of dispatch, if any	Charges for inland transportation, insurance up to Lab./Instt.	Installation, Commissioning And training Charges, If any	

Total Bid price in foreign currency _____

in words.

Signature of Bidder

Name _____

Business

Address _____

Note :

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

(b) Cost of Spares _____

Chapter 6

Qualification requirements

(Pre-Qualification/Eligibility Criteria)

(Requirements not included in the text below shall not be used in the evaluation of the Bidder's qualifications. The qualification requirements should be judiciously chosen so as not to stifle competition amongst potential bidders depending upon the requirements, these may be modified, changed, replaced or new conditions added.)

(a) Financial Capability: The Bidder shall furnish documentary evidence that it meets the following financial requirement(s): *[list the requirement(s)]*

(b) Experience and Technical Capacity: The Bidder shall furnish documentary evidence to demonstrate that it meets the following experience requirement(s): *[list the requirement(s)]*

(c) Usage Requirement: The Bidder shall furnish documentary evidence to demonstrate that the Goods it offers meet the following usage requirement: *[list the requirement(s)]*

(e) The bidder shall furnish documentary evidence to demonstrate that the bidder satisfies the bidders' eligibility criteria.

(f) The Bidder should be a manufacturer/authorized representative of a manufacturer who must have designed, manufactured, tested and supplied the equipment(s) similar to the type specified in the "Technical Specification". The MAF must be enclosed with the technical bid. Such equipments must be of the most recent series/models incorporating the latest improvements in design. The models should be in successful operation for at least one year as on date of Bid Opening.

(g) The Indian Agents of foreign manufacturers/ suppliers quoting directly on behalf of their principals for items appearing in the restricted list of the current EXIM policy of the Govt. of India are registered with DGS&D.

(h) To maintain sanctity of tendering system one Indian agent cannot represent two different foreign principals in one tender.

Contract form

Contract No. _____ Date: _____

THIS CONTRACT AGREEMENT is made

the *[insert: number]* day of *[insert: month]*, *[insert: year]*.

BETWEEN

(1) The Council of Scientific & Industrial Research registered under the Societies Registration Act 1860 of the Government of India having its registered office at 2, Rafi Marg, New Delhi-110001, India represented by _____ *[insert complete name and address of Purchaser* (hereinafter called "the Purchaser"), and

(2) *[insert name of Supplier]*, a corporation incorporated under the laws of *[insert: country of Supplier]* and having its principal place of business at *[insert: address of Supplier]* (hereinafter called "the Supplier").

WHEREAS the Purchaser invited bids for certain Goods and ancillary services, viz., *[insert brief description of Goods and Services]* and has accepted a Bid by the Supplier for the supply of those Goods and Services in the sum of *[insert Contract Price in words and figures, expressed in the Contract currency(ies)]* (hereinafter called "the Contract Price").

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.
2. The following documents shall constitute the Contract between the Purchaser and the Supplier, and each shall be read and construed as an integral part of the Contract:
 - (a) This Contract Agreement
 - (b) Special Conditions of Contract
 - (c) General Conditions of Contract
 - (d) Technical Requirements (including Schedule of Requirements and Technical Specifications)
 - (e) The Supplier's Bid and original Price Schedules
 - (f) The Purchaser's Notification of Award
 - (g) *[Add here any other document(s)]*
3. This Contract shall prevail over all other Contract documents. In the event of any discrepancy or inconsistency within the Contract documents, then the documents shall prevail in the order listed above.
4. In consideration of the payments to be made by the Purchaser to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Purchaser to provide the Goods and Services and to remedy defects therein in conformity in all respects with the provisions of the Contract.
5. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the Goods and Services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of Union of India on the day, month and year indicated above.

For and on behalf of the Council of Scientific & Industrial Research Signed: *[insert signature]*
in the capacity of *[insert title or other appropriate designation]* in the presence of *[insert identification of official witness]* Signed: *[insert signature]* in the capacity of *[insert title or other appropriate designation]* in the presence of *[insert identification of official witness]*

For and on behalf of the Supplier

Signed: *[insert signature of authorized representative(s) of the Supplier]* in the capacity of *[insert title or other appropriate designation]* in the presence of *[insert identification of official witness]*

Chapter 8

Other standard forms

Table of Contents

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1.	Bidder Information Form
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7.	Bid Form
8.	Performance Security Form
9.	Acceptance Certificate Form

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

1. Bidder's Legal Name *[insert Bidder's legal name]*
2. In case of JV, legal name of each party: *[insert legal name of each party in JV]*
3. Bidder's actual or intended Country of Registration: *[insert actual or intended Country of Registration]*
4. Bidder's Year of Registration: *[insert Bidder's year of registration]*
5. Bidder's Legal Address in Country of Registration: *[insert Bidder's legal address in country of registration]*
6. 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]*

7. 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, in accordance with ITB Sub-

Clauses 4.1 and 4.2.

Signature of Bidder _____

Name _____

Business Address

MANUFACTURERS' AUTHORIZATION FORM

[The Bidder shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are binding on the Manufacturer.]

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

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

To: *[insert complete name and address of Purchaser]*

WHEREAS

We *[insert complete name of Manufacturer]*, who are official manufacturers of *[insert type of goods manufactured]*, having factories at *[insert full address of Manufacturer's factories]*, do hereby authorize *[insert complete name of Bidder]* to submit a bid the purpose of which is to provide the following Goods, manufactured by us *[insert name and or brief description of the Goods]*, and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with Clause 21 of the General Conditions of Contract, with respect to the Goods offered by the above firm.

Signed: *[insert signature(s) of authorized representative(s) of the Manufacturer]*

Name: *[insert complete name(s) of authorized representative(s) of the Manufacturer]*

Title: *[insert title]*

Duly authorized to sign this Authorization on behalf of: *[insert complete name of Bidder]*

Dated on _____ day of _____, _____ *[insert date of signing]*

BID SECURITY FORM

Whereas _____ (hereinafter called the tenderer”) has submitted their offer dated _____ for the supply of _____ (hereinafter called the tender”)

Against the purchaser’s tender enquiry No. _____
KNOW ALL MEN by these presents that WE _____ of _____ having our registered office at _____ are bound unto _____ (hereinafter called the “Purchaser”)

In the sum of -----
For which payment will and truly to be made to the said Purchaser, the Bank binds itself, its successors and assigns by these presents. Sealed with the Common Seal of the said Bank this _____ day of _____ 20_____.

THE CONDITIONS OF THIS OBLIGATION ARE:

- (1) If the tenderer withdraws or amends, impairs or derogates from the Tender in any respect within the period of validity of this tender.
- (2) If the tenderer having been notified of the acceptance of his tender by the Purchaser during the period of its validity:-
 - 2. If the tenderer fails to furnish the Performance Security for the due Performance of the contract.
 - 3. Fails or refuses to accept/execute the contract.

WE undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it owing to the occurrence of one or both the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force upto and including 45 days after the period of tender validity and any demand in respect thereof should reach the Bank not later than the above date.

(Signature of the authorized officer of the Bank)

Name and designation of the officer

Seal, name & address of the Bank and address of the Branch

PERFORMANCE STATEMENT FORM
(For a period of last 3 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 delivery 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 alongwith Telephone No., FAX No. and email address

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

Place :

Date :

DEVIATION STATEMENT FORM

1) The following are the particulars of deviations from the requirements of the tender specifications:

CLAUSE DEVIATION REMARKS (INCLUDING JUSTIFICATION)

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".

SERVICE SUPPORT DETAIL FORM

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

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

Place :

Date :

Bid Form

a) *[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];*

b)

(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 20.1, from the date fixed for the bid submission deadline in accordance with ITB Sub-Clause 24.1, 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 41 and GCC Clause 13 for the due performance of the Contract;

c)

(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

(If none has been paid or is to be paid, indicate "none.")

(k) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed.

(l) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.

Signed: *[insert signature of person whose name and capacity are shown]* In the capacity of *[insert legal capacity of person signing the Bid Submission Form]*

d)

Name: *[insert complete name of person signing the Bid Submission Form]* Duly authorized to sign the bid for and on behalf of: *[insert complete name of Bidder]*

e) Dated on _____ day of _____, _____ *[insert date of signing]*

Acceptance certificate form

No.

Dated:

M/s _____

Sub: Certificate of commissioning of equipment (Computer/Server, etc.)

1. This is to certify that the equipment as detailed below has/have been received in good condition long with all the standard and special accessories (subject to remarks in Para 2).

The same has been installed and commissioned.

- (a) Contract No. _____ Date _____
- (b) Description of the equipment _____
- (c) Name of the consignee _____
- (d) Scheduled date of delivery of the consignment to the Lab./Instts. _____
- (e) Actual date of receipt of consignment by the Lab./Instts. _____
- (f) Scheduled date for completion of installation/commissioning _____
- (g) Actual date of completion of installation/commissioning _____
- (h) Penalty for late delivery(at Lab./Instts. level)Rs. _____
- (i) Penalty for late installation (at Lab./Instts. level Rs. _____

Details of accessories/items not yet supplied and recoveries to be made on that account:

Sl. No.	Description	Amount to be recovered
1.	The acceptance test has been done to our entire satisfaction. The supplier has fulfilled his contractual obligations satisfactorily	

or

The supplier has failed to fulfill his contractual obligations with regard to the following:

- (a).....
- (b).....
- (c).....
- (d).....

The amount of recovery on account of failure of the supplier to meet his contractual obligations is as indicated at Sr. No. 3.

For Supplier
 Signature.....
 Name.....
 Designation.....
 Name of the firm.....
 Date.....

For Purchaser
 Signature.....
 Name.....
 Designation.....
 Name of the firm.....
 Date.....

No. CSIO/3(817)/Pur

Specifications for **Process Control Lab Equipment: Qty required: One Set**

A **digital Integrated Industrial Process Control Training System cum Simulator** having *windows*-based working and incorporating DCS and SCADA (as per contents sr. nos 1-10 on pages 3 to 5), is needed to be commissioned in Mechatronics and Industrial Automation Lab of Indo Swiss Training Centre with following features built into the system.

FEATURES

A. The system should be capable to demonstrate:

1. Distributed Control + Safety System + Wireless System in practical way.
2. Process and its control inside typical industries such as Oil and Gas, Chemical, Pharmaceutical, Pulp and Paper, Food and Beverage etc.
3. Various Digital Buses used in Process Industry and their interface to control system, their merits / demerits and applications wiz. Foundation Field BUS, Profibus DP, MODBUS
4. Operation and application of various field devices such as

- PH Analyzer (also other Analytical Instruments such as ORP, Conductivity dissolved Oxygen etc.)
- Temperature Transmitters
- Control Valves
- Flow Meters
- Pressure Transmitters
- Level Transmitters
- Differential Pressure Transmitters
- Solenoid Valves

And their *capability to integrate with Control system*

B. Diagnostics and functionalities of the demo unit should include

- Maintenance Diagnostics of pH Transmitter
- Maintenance Diagnostics of a Temperature Loop with a Temperature Transmitter and an FF Control Valve (DVC6000F)
- Operation Diagnostics of MMI Slug Flow
- Meter Calibration and Verification
- Tuning and Monitoring of process performance
- Smart Wireless capabilities
- *Smart Safety Functionalities and Partial Stroke Test*

C. It should be a Smart Digital Automation System to enable

- Learning Plug and Play features that enable faster implementation of control system/ architecture
- Learning Configuring Graphics using HMI
- Having easy Engineering Environment with the latest Intuitive Toolbars such as Engineering Database, Historian, Alarm and Events, Templates and Library and Diagnosis of the DCS network etc

...contd 2

...2...

- Easy commissioning of Controllers and IO cards
- Downloading the logics to a controller and Monitoring the status online
- Diagnose the network Failures with Diagnose tool
- Monitor the entire plant status and performance with Insight.
- Integrate the Network to Asset Management System.
- Easy to use online documentation.

D. It should be capable to demonstrate and Implement the Foundation Field bus (FF) Features used in process industries with the Following functionalities with respect to Field bus Implementation

- Implementation of a FF Segment (at least 4 Devices + 4 Spare)
- Commissioning of FF Devices
- FF Express Download Facility (A key functionality that will help in faster commissioning of large FF Network)
- FF Control-In-Field using a Temperature Control Loop
- FF Device Alert Enabling and monitoring (Preventing Abnormal situations with intelligent device alerts)
- Tuning a FF Loop
- Integration with Asset Management System and Device Configuration
- Configuring Field bus Open Loop and Close Loop
- Decommissioning FF devices

E. It should be capable of implementing the Wireless Field and Plant Network

- Implementing an integrated Wireless Hart Network
- Wireless Hart Protocol
- Easy to implement Device Alerts with Wireless Hart Devices
- Security features with Wireless Hart Devices
- Implementing Mobile operator solution with Wireless Mobile operator
- Wireless Mobile AMS
- Remote Engineering Functionality

..contd. 3

CONTENTS

This digital Integrated Industrial Process Control Training System cum Simulator for imparting training to the students should consist of

1. Digital Process Automation System with

- o **DCS Controller** - Microprocessor based CPU with Memory of 48 MB with 2 no. 8 PIN RJ 45 Ethernet Port in built.
- o **Serial card** - with 2 ports to be used for RS 232, RS 422/485 half Duplex/Full Duplex, supports data rates up to 115 KBAud.
- o **Analog Input card** – 16 Channel, 4-20 mA, 16 Bits resolution, with HART pass thru capabilities
- o **Profibus DP card** – Profibus Dp card with transmission speed between 9.6 Kbit/sec to 1.5 Mbit/sec.
- o **SIS logic Solver** – *Smart SIL 3 rated SIS Logic solver of 16 Channel (configurable to AI/DI/DO) with Dual CPU inbuilt and IEC 61511 compliance*
- o **Power Supply** : 220 VAC, 25 W AC to DC System Power Supply, 35 A Peak

The above hardware should be with following interfaces:

- HART Protocol Capability
- Partial Downloading facility for making the changes online.
- CPU shouldn't require any internal battery for operation.
- Inbuilt redundant TCP/IP Ethernet connection port
- Minimum 48 MB System Memory
- Hot redundant capability
- All hardware should be conformal G3 coated as per ISA standards.
- Native Wireless Hart Interface
- Native Foundation Field bus Interface

2. Engineering/Operator station: Minitower; Windows 7/ Win XP Pro; E6550 (min) 2.33GHz Dual-Core or higher end CPU; One 20-inch Widescreen Monitor; Dual Monitor Capable; 73G (min) SAS Drive; Min 2GB RAM; 48/32 (min) DVD-CDRW; Three Ethernet Ports.

With capability to develop necessary application for automation using Programming language as per IEC 61131–3 standards. Provision of writing software for batch process should be available in the software with following features.

- Global database (.gdb)
- Software for OPC
- Software for Historian
- Embedded APC
- Embedded Fuzzy
- Embedded 1X1 MPC Block
- Diagnostic capability
- Asset Management Software
- Trending Analysis
- Even & Alarm List
- Various level Security option

- Operator station Software to make students understand the use of operator stations.
- Event Chronicle
- Audit Trail

3. System cum Marshalling panel: As per industry standards which should include all Digital control system hardware and following components:

- FF Accessories
- Interposing Relays
- Power Supplies unit
- Switches
- Displays unit
- Fuse TBs
- Interconnection wiring

4. Safety System (ESD/SIS): State of art Safety Instrumentation System as per following details:-

- SIS Logic Solver
- SIS Net Terminator Assembly
- RTD for Safety Loop
- Safety Transmitters
- Safety Shutdown valve with DVC
- Seamless Integration with Digital automation system on Ethernet TCP/IP
- Engineering shall be possible from Same ES.
- SIS should be modular.
- Necessary Software & Hardware should be included for its operation

5. Field Instrumentation (Sensors): One qty each of the following latest HART / FF Industry Standard instruments of **Emerson/ Rexroth or equivalent reputed make** to be connected with digital automation system

- **Field Bus Differential Pressure Transmitter**
with an accuracy of +/- 0.025%, with 10 year stability and 12 year limited warranty, the transmitter should be with super module platform that can display DP flow in % of reading.
- **Field Bus Temperature Transmitter** IEC61508 certified **with Dual RTD** Sensor for non-redundant use in SIL 1 and 2 Safety instrumented systems and redundant use in SIL 3. The Transmitter HART electronics should be up-gradable to safety certified electronics.

- Analyser to analyse pH/ORP, conductivity and dissolved oxygen

- **Wireless Temperature Transmitter** with RTD & Battery
- **Wireless Differential Pressure Transmitter** The transmitter should be with an accuracy of +/- 0.025%, with 10 year stability and 12 year limited warranty, the transmitter should be with super module platform. And display flow in % of reading. The same would be powered by 9V lithium battery and no wire connection. All the output data would be supplied wirelessly to the gateway source.

- *Field bus **MASS** flow meter*

6. Smart Wireless Gateway at Radio frequency of 2.4-2.5 GHz DSSS to communicate to the control system with RS-485 interface or Ethernet.

7. Field bus Control Valve DVC 6000F or equivalent

8. SIS SAFETY Shut Off Valve (*SDV-101 Valve, SDS-101 Solenoid or equivalent*)

9. Silent Air Compressor for running the Trainer **with AFR**

10. Teflon Tubes and fittings as per system requirement

NB:

1. All the components/ subsystems should be mounted on suitable powder coated panel(s)/ Racks and need to be installed/ demonstrated functionally in Mechatronics Lab of ISTC
2. All the hardware must carry at-least 3 years comprehensive warranty and software updation for the same period
3. The system should be complete in itself operatable from 230V/50Hz mains. Any additional accessories needed must be provided by the vendor
4. Complete Literature about the System, Training Manuals/ software must be provided with the system
5. Comprehensive training on the system for at least one week to be provided at our
- 6. Any other Software or hardware required for complete functionality of the system should also be included**

