	NATIONAL INSTITUTE Of OCEAN TECHNOLOGY	NOTICE INVITING TENDER (NIT)	
		Form No.	NIOT/S&P/NIT
e- Tender Schedule			
ननविदासंख्या/ Tender No.		NIOT/HVT/1383/2024-25	
कोजारी/ Tender Title		Power Control and Monitoring Systems (PCMS) for Deepwater Submersibles 6000M (Mastya)	
ननविदाप्रणाली/Tender Mode		GeM portal (Open Tender-Two Bid)	
Tender Issue date		26.03.2025	
Pre-Bid Date and Time		08.04.2025@11.00AM	
Tender Closing Date and Time		25.04.2025 @11.00 AM	
Tender Opening Date and Time		25.04.2025 @11.30 AM	
ईएमडी जमा करना/Submission of EMD		INR 33,04,000 /- a) Scanned copy of the EMD instrument to be uploaded in the GeM portal. b) Original EMD should be submitted through courier/ speed post or in person dropped at the tender box before the closing date and time of the tender	
निविदादस्तावेजउपलब्धस्थान/ Tender Documents available place		Tender documents can be downloaded from GeM portal app and MoES NIOT website www.niot.res.in till closing date and time of the Tender.	
बोली का प्रकार और निविदा जमा करना /Bidding Type &Tender submission		Two Bid tender comprising of Techno- commercial Bid and Price Bid should be submitted electronically through GeM portal http://gem.gov.in	
ई-टेंडरकेलिएसहायतामैनुअल/ Help Manual for e-tender		Bidders may be downloading the help documents Helpdesk number :1800-419-3436 e-mail: helpdesk-gem@gov.in For any issues/clarification relating to the tender(s) published kindly contact the respective tender inviting authority	
अपनेप्रश्नईमेलआईडीपरभेजें/ Send your queries to the email ID		hvt@niot.res.in	

राष्ट्रीय महासागर प्रौद्योगिकी संस्थान/ **NATIONAL INSTITUTE OF OCEAN TECHNOLOGY**
 वेलचरीताम्बरममेनरड / **VELACHERY TAMBARAM MAIN ROAD**
 नोरायणपुरम, चेन्नई 600 100 / **NARAYANPURAM, CHENNAI 600 100**
 रा.स.प्रौ.स. वेबसाइट/ NIOT Website <http://www.niot.res.in/tenders>

INTRODUCTION

National Institute of Ocean Technology (NIOT) is the technical arm of the Ministry of Earth Sciences, Government of India and is involved in developing technology for utilizing ocean resources in an eco-friendly manner.

General Conditions of Order (GCC)

National institute of Ocean Technology invites GeM bids **Power Control and Monitoring Systems (PCMS) for Manned Submersible 6000M (Mastya) at NIOT, Chennai** as per details given below.

Notice Inviting Tender (NIT) -Section-I

1. Submission of bids: Bidders are requested to submit their Bid/quotation in two parts containing Technical proposal and price bid (BOQ) as Part-2 should be submitted electronically through GeM portal <http://gem.gov.in> The responsibility to ensure timely submission of bid lies with the bidder. Bids submitted through FAX or e-mail will not be considered. Bidders shall also upload scanned copies of all the requisite documents i.e. other certificates/documents specified in the tender documents. The bids are to be submitted (electronically) as per the bidding type indicated in the front page of the NIT. **No Manual tender is accepted.**

Part-1 should contain Techno-Commercial Bid and duly signed blank price bid (without indicating the cost) and scanned copy of EMD. All documents to be submitted for tender to be uploaded in the portal only. **The price/cost should not to be revealed in the technical bid, if the price/ cost is revealed, the tender will be treated as invalid.** The bids are to be submitted as per the bidding type indicated in the front page of the NIT.

Part-2 should contain only the price bid indicating the cost.

The Part-1(Technical bid) and Part-2 (Price bid) should be uploaded separately, indicating the Tender No, Tender date, Tender due date and time. This NIT shall form part of the Purchase Order.

2. NIT: NIT shall form part of the Purchase order.

3. Pre-Qualification Criteria (Technical):

Technical Criteria

- The Bidder or Consortium should have minimum of 10 years of experience and proven record in assembly, integration and testing of Electrical, Electronics systems in industry
- The Bidder or consortium should have successfully executed assembly, integration and testing (AIT) of EEI systems in at least one human-occupied submersible/submarine in the last 10 years, specifically for confined spaces under 5 m³ in the marine or naval industry.

- The Bidder or consortium should submit the proof for having carried out DNV approval process.
- The Bidders or consortium should have minimum 5 regular employees with IPC 620 and IPC 610 certified.
- The bidder or consortium should submit documentary proof / evidence for the above. If the documentary evidence is not submitted, which may leads to invalid bid.

3.2 Financial Criteria

- The average annual financial turnover of 'The bidder' during the last three financial years, ending on 31.03.2024, should be at least INR 10 crore. The documents such as audited balance sheet, Profit and Loss account statement of the relevant period duly authenticated by a Chartered Accountant/Cost Accountant in India should be submitted. In case consortium the average of the all consortium partners will be added together for average annual turnover.
- The net worth of the Bidder/ consortium should not be negative, on 31.03.2024. 'The relevant date' and also should have not eroded by more than 30% (thirty percent) in the last three years ending on "The Relevant Date" (i.e) 31.03.2024.

3.3 Pre-Bid meeting:

Pre-bid meeting shall be held on at **08.04.2025@11.00AM** through Webex to clarify queries of all potential bidders. Potential bidders are advised to send their queries sufficiently in advance ie at least two days in advance of the pre-bid meeting date by email to hvt@niot.res.in. The meeting link will be uploaded as a corrigendum. A Corrigendum will be issued based on pre-bid meeting clarifications and shall form part of the NIT/ LOI & Contract.

Instruction to bidders:

4. Security: Any information / material / document uploaded along with this tender or after placement of Purchase Order should not be disclosed or copied without written permission from NIOT.

5. Contacting NIOT: No correspondence / discussion / visits whatsoever will be entertained on the subject unless specifically called by this office after opening the tender for any clarifications in writing. Any violation of this will render the quotation invalid and the firm is liable to be removed from our approved vendor list. However, if bidder requires any clarification on the bid, the query may be mailed to the mail ID hvt@niot.res.in.

6. Default in Performance: If any Vendor is not successfully discharging their orderual obligations against the order / order placed on them by NIOT within the agreed time limit, (OR) if there is any deficiency in performing such obligations, NIOT reserves the right to suspend such Vendor from their participation in future tenders of NIOT for a minimum period of one year. Even after revoking the suspension period the Vendor's performance still continues to be the same without any improvement, NIOT

reserves its right to BAN such Vendor permanently from participation in all the tenders of NIOT and also the organization under MoES.

7. LOI Acceptance: The successful bidder should submit order acceptance within **7 days** from the date of LOI failing which it shall be presumed that the vendor is not interested and the EMD submitted will be forfeited.

8. Signing of Contract: On successful evaluation and declaration of the Successful bidder, initially a Letter of Intent will be issued by NIOT. The successful bidder should submit his acceptance of LOI within 15days along with the deliverables as sought in the LOI and copy of power of attorney along with the Board resolution copy authorizing the person to sign the contract with NIOT if the contract is signed other than the Director of the company. If the Director of the company is signing the contract the copy of the MOA to be submitted, upon receipt of acceptance of LOI and other relevant documents mentioned, a contract shall be signed between NIOT and the successful bidder.

9. Change of Name after award: Request / intimations with regard to change of name of the order or constitution of the Supplier after the tender opening or award of order shall not be allowed as a matter of right. The bidders / Suppliers are required to submit all relevant documents with regard to change of name or/and change of constitution and the circumstances leading to such change beforehand. It shall be the discretion of NIOT to proceed with the order after such changes and in case, NIOT decides to proceed with the order, it may require the bidder / Supplier to execute further agreements with regard to execution / implementation of the order.

10. One Bid per Bidder: A firm shall submit only one bid either individually or as a partner of a joint venture. A firm that submits either individually or, as a member of a joint venture, the same bidder cannot submit more than one bid, which will result in rejection of all the bids.

11. Tender opening: All the tenderers can participate in the e-tender opening with proper authorization letter from the respective company.

12. Goods: Goods should not be supplied without receipt of LOI/Contract from NIOT authorized signatory.

13. Contacting the Purchaser

- a) No Bidder shall contact the Purchaser on any matter relating to its bid, from the time of the bid opening to the time the Order is awarded.
- b) Any effort by a Bidder to influence the Purchaser in its decisions on bid evaluation, bid comparison or Order award may result in rejection of the Bidder's bid.

BIDDING CONDITION

14. Dead line for submission of bids: E-Bids must be submitted only at the GeM portal specified in the invitation for bids cover page on or before the due date/extended due date thereof. All bidders are advised to take adequate care to plan for bid submission well ahead of closing date and time and avoid any last minute connectivity problem in submission.

15. Due date Extension, Corrigendum to NIT:Any corrigendum including due date extension for NIT will be notified in GeM portal and NIOT website. Hence bidders are requested to watch website for such due date extension and corrigendum if any.

16. In case of the unscheduled holiday in Chennaibeing declared on the prescribed closing/opening day of the tender, the next working day will be treated as the scheduled prescribed day of closing/opening of the tender.

17. Unsolicited correspondences: NIOT will not entertain any unsolicited correspondence or queries on the status of offer against this tender.

18. Submission of E-tenderby a tenderer implies that he has read this NIT and all other tender documents and has made himself aware of the scope and specifications of this tender. Conditional offers are liable for rejection/treated as invalid tender.

19. Non-receipt of EMD:NIOT will not be responsible for the non-receipt of EMD or any documents to be submitted physically by the bidder well before the tender closing date and time or any last-minute issues in uploading process in the e tender portal.

20. Bid Validity: Bids shall remain valid and open for acceptance for a minimum period of **120 days** from the date of opening of priced Techno-commercial Bids when fully compliant tender is submitted by the bidder without any requirement for NIOT to seek additional documents towards evaluation of pre-qualification and/or in ensuring conformance to the specification/requirements of the tender. In the event of any delay in evaluation attributable to the vendor, vendor shall extend the tender by such a time taken by them in addition to above minimum tender validity period. A Bid valid for shorter validity period will be considered as a conditional tender and treated as invalid tender.

21. Bid validity extension: In exceptional circumstances, prior to expiry of the original Bid validity period, NIOT may request the Bidder for a specified extension in the period of validity. The request and the responses thereto shall be made in writing. A Bidder agreeing to the request will not be required nor permitted to modify his bid, and will be required to extend the validity of his Bid Security correspondingly.

22. Conditional offers/ quotations shall not be accepted.

23. Signing of bids: Each page of the tender (NIT) and tender document shall be digitally signed by the bidder and upload in the GeM portal. Unsigned bid is liable for rejection.

24. Acceptance of bids: NIOT may accept or reject any/all tenders including the lowest tender without assigning any reasons whatsoever. NIOT also reserves its right to accept any tender in part or parts only with such conditions as it may prescribe. NIOT is not bound to accept the lowest tender. NIOT expects full technical compliance and expects full scope of integrated supply as per tender specification and do not accept partial tenders.

25. The compliance sheet with reference to the specifications should be furnished against each parameter while submitting the quotation, which is absolutely necessary. THE TENDERER SHALL SUBMIT TECHNICAL & COMMERCIAL COMPLIANCE SHEETS ALONG WITH THEIR OFFER. TENDERS WITHOUT COMPLIANCE SHEETS WILL NOT BE EVALUATED. The Price bid should be unconditional.

26. Award: NIOT shall place the LOI with the Successful bidder.

27. Commercial compliance As per the NIT commercial compliance should be uploaded along with the offer/ quotation.

28. Unrealistic bids with either cost which is impossible to achieve or for bidders who show that they are completely inexperienced or have completely inappropriate equipment will be rejected.

29. Discounts: Bidders are advised not to indicate separate discounts. Discounts, if any, should be duly considered and net rate quoted in the BOQ/Price Bid.

30. Broad configuration specification of the proposed purchase are given in NIT. Bidders are required to keep their proposal strictly as per the specification prescribed.

31. EMD/Bid security: The EMD/Bid security is mandatory requirement as indicated in the cover page and should be submitted along with the technical bid for the value indicated in the front page of this tender document. No exemption for EMD will be entertained. Bids without EMD will be summarily rejected.

The EMD /bid security shall be in the following forms

(i) Bank demand draft drawn in favour of "NIOT OTHER RECEIPT ACCOUNT" in INR or guarantee from commercial banks and the original should be submitted to NIOT before tender due date. By Demand Draft/Banker's Cheque drawn in favour of "NIOT –OTHER RECEIPT ACCOUNT", NIOT, Payable at Chennai (or)

- (ii) Bank Guarantee as per prescribed format issued by an Indian Nationalized Bank or indicate in stamp paper of appropriate value and valid for 60 days beyond the validity of the bid (or)
- (iii) Insurance Security Bond (or)
- (iv) Fixed Deposit Receipt (or)
- (v) Online payment in an acceptable form.

If the EMD (scanned copy of the instrument of EMD) is not submitted along with Techno-commercial (Part-I), the bid will be summarily rejected. The original EMD should be submitted (or) reach NIOT on or before closing date and time of the tender.

GeM recommends quantum of Bid Security @ 1% of estimated value of procurement. The Buyer also has the option to select Bid Security between 0.5% to 5%. The same should be valid for 45 days beyond the bid validity. No interest shall be payable upon the Bid Security/ EMD or any other amounts payable by the Seller to the Buyer under the Contract. Following categories of Sellers shall however, be exempted from furnishing Bid Security:

- i. Micro and Small Enterprises (MSEs) who are holding valid Udyam Registration and are manufacturer of the offered Product or Service (Primary Product/Service-in case of bunch bid with total value wise evaluation) and give specific confirmation to this effect at the time of bid submission and claim EMD exemption and whose credentials are validated online through Udyam Registration website of Ministry of MSME and also through supporting document uploaded during bidding process and validated by the Buyer. State Government Buyers may, however, choose to exempt only MSEs from the State of Bid Inviting Authority by specifying the same in ATC of the Bid. In case no such ATC is included, eligible MSEs of all states are exempted.
- ii. Start-ups as recognized by Department for Promotion of Industry and Internal Trade (DPIIT), holding valid Startup Recognition Certificate which is to be uploaded while bidding and claiming EMD exemption and to be validated by the Buyer. Bidder to ensure that turnover for any of the financial years has not exceeded beyond limits prescribed in the certificate / Start Up scheme of DPIIT.
- iii. KVIC, ACASH, WDO, Coir Board, TRIFED and Kendriya Bhandar.
- iv. Sellers who have got their credentials verified through the process of Vendor Assessment by Vendor Assessment Agencies for the Primary Product / Primary Service for which Bid / RA has been invited and holding valid Vendor Assessment or Vendor Assessment Exemption Report/confirmation (Seller to upload VA report/ VAE confirmation to be validated by the Buyer).
- v. Sellers / Service Provider having annual turnover of ₹ 500 Crore or more, at least in one of the past three completed financial year(s)
- vi. Sellers/Service Providers holding valid BIS License for the Primary Product Category whose credentials are validated through BIS data base and through uploaded supporting documents to be validated by the buyer.
- vii. Central/State PSUs.
 - viii. Seller / Service Provider registered with designated Agency / Authority as specified in the bid document by the Buyer—such bidder shall have to upload scanned copy of relevant valid registration document in place of Bid Security document while bidding.

The EMD of the unsuccessful bidders shall be returned without interest after award of purchase order to the successful bidder. The EMD/Bid Security of the successful bidder first stage (i.e.) Technical evaluation etc shall be returned within 30 days of declaration of result of first stage (i.e.) technical evaluation. The EMD stands forfeited in case the bidder withdraws or amends his bid after submission of tender document and tender closing date/time. (GeM Portal permits all the bidders to modify/ withdraw their bid before bid closing date/time).

32. MSME: "Micro and Small Enterprises (MSEs) as defined in MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME)" are exempt from submission of EMD (Bid security). Bidders claiming exemption of EMD under this rule (170 of GFR are however required to submit a signed Bid securing declaration (format to be enclosed) along with the relevant and valid exemption certificate issue by the appropriate authorities. Accepting that if they withdraw or modify their Bids during the period of validity, or if they are awarded the order and they fail to sign the order, or to submit a performance security before the deadline defined in the request for bids document, they will be suspended for the period of one year from being eligible to submit Bids for tenders with NIOT and all the departments under MoES. Bid declaration format to be attached.

The MSME is classified as mentioned below. (Ref Ministry of MSME Notification dated 26.06.2020)

The MSE's bidder who claim EMD request should submit the relevant document towards investment on equipment and machinery. As per NIT clause no 65 make in India as per the DPIIT order under Annexure 9, under MSE.

The MSE's bidder to note and ensure that nature of service and goods/items manufactured mentioned in MSE's certificate matches with the nature of the service and goods/item to be supplied as per tender.

The MSME is classified as mentioned below; (Ref Ministry of MSME Notification dated 26.06.2020)

(i) **Micro Enterprises:** Where the investment in plant and machinery or equipment does not exceed 1 crore rupees and turnover does not exceed 5 crore rupees,

(ii) **Small Enterprises:** Where the investment in plant and machinery or equipment does not exceed 10 crore rupees and turnover does not exceed 50 crore rupees,

(iii) **Medium Enterprises:** Where the investment in plant and machinery or equipment does not exceed 50 crore rupees and turnover does not exceed 250 crore rupees.

Retail & Whole sale Traders: Any bidder who are retailer / Traders claim EMD / Bid security exemption shall refer Ministry OM 5/2(2)/2021-E/P&G/Policy dtd 02.07.2021 & 5/2(1)2020/E-P&G/Policy dtd 01.12.2020. The bidder whoever claim EMD / Bid security exemption through MSME certificate should classify themselves as above and need to provide details.

33. Conditions for EMD / Bid Security:

EMD may be forfeited:

(i) If a bidder withdraws, modifies for provided unsolicited offer voluntarily revising the price in whatsoever aspect, its bid during the period of bid validity specified by the bidder on the bid form; or

(ii) In case of a successful bidder, fails to furnish order acceptance within 15 days of the order and / or fails to furnish Performance Security.

EMD for a successful bidder shall be adjusted against performance security payable if EMD is submitted in the form of DD / refunded, if performance security is paid in full / performance security is submitted in the form of Bank Guarantee.

(iii) If it comes to notice that the information/documents furnished in its bid is false, misleading or forged.

34. Unsolicited Post-Tender Reduction: The bidder shall note that any unsolicited post-tender reduction by them would disqualify them from participating in this as well as future tenders apart from forfeiting the EMD submitted or any other Bank Guarantee submitted.

35. Modifications to Bids: The Bidder shall make no modifications to the bids after the closing date unless specifically requested for, by NIOT. In case certain clarifications are sought by NIOT after opening of tenders, then the reply of the partner should be restricted to the clarifications sought. Any bidder who modifies his bid (including a modification which has the effect of altering the value of his offer) after the closing date without any specific communication from NIOT shall make their tender as invalid and liable to be debarred from participation in future Tenders of NIOT.

36. Canvassing: Exerting pressure and/or offering inducement documenting any form by the bidder or by any other person on behalf of the bidder shall disqualify the bid and lead to its rejection.

37. Clarifications: Bidders requiring any clarification on the RFP/ NIT may send their query by email to hvt@niot.res.in before the tender closing date. The Authority will post the reply to all such queries on the Gem Portal and NIOT Website as corrigendum. All bidders shall visit official GeM portal before uploading of their bid to take note of the changes/corrigendum issued. The Authority reserves the right not to respond to any questions or provide any clarifications, in its sole discretion, and nothing in this RFP shall be construed as obliging the Authority to respond to any question or to provide any clarification.

38. SUBMISSION OF TECHNICAL DOCUMENT:

Specifications are basic essence of the product. The broad configuration / specification of the proposed purchase are given in the Special Conditions of the order (SCC) which is given as Annexure - I. It must be ensured that the offers are strictly as per our specifications as mentioned in the SCC. At the same time, it must also be kept in mind that merely copying our specifications in their quotation shall not make firms eligible for consideration. Technically unsuitable offers and offers not confirming to tender schedule shall be rejected.

The bidder is required to provide their comments item-by-item on the compliance sheet provided in the SCC. Wherever the specified parameter is required within a range, the calculated/ estimated value as per the vendor's design is to be provided in the "Remarks" column. Deviations/exceptions, if any, from the specifications to be recorded in the "Remarks" column.

Offer must contain all relevant technical details. Relevant preliminary drawings (if any) pertaining to the quoted designs, duly signed by the authorized official shall be sent along with the quotation. Wherever mentioned, documentary evidence has to be enclosed in the quotation. Any erasures / over writing shall be counter signed by the person who is signing the bid. Any interlineations, erasures or overwriting shall be valid only if the person or persons signing the bid sign them.

NIOT will not provide any test procedures. All the required tests as mentioned in the technical specification installation and commissioning to be conducted within the quote price.

COMMERCIAL TERMS AND CONDITIONS

39. Price:

The price shall include but not limited to

- a) Costs of goods / services covered in this order.
- b) Taxes and duties
- c) Transportation and packing cost
- d) Cost of handling, documentation, freight, insurance from Supplier's ware house up to NIOT warehouse,
- e) Charges for all testing
- f) Cost of unloading, Installation, testing, commissioning and handing over of goods, at NIOT's site as set-forth in the order..
- g) Cost of Books, manuals, software as set-forth in the Order.

The Bidder shall indicate on the appropriate price schedule form, the unit prices and total bid prices of the goods he proposes to supply under the order strictly as per price bid format of tender.

40. Taxes and duties:

a. GST: GST will be paid as per HSN code as applicable.

b. Deductibles:

(a) **Deduction of Indian Income Tax Deduction at Source:**

TDS will be deducted as applicable for Supply under Sec 194Q and for service portion under Sec 194C. Valid Permanent Account Number (PAN) is mandatory.

(b) **Deduction of GST TDS:**

GST-TDS is deductible on supply of goods or Services in respect of Intra – State Supplies at the rate of 2% (CGST -1% and SGST – 1%) and also in the case of Inter-State supplies at the rate of 2%(IGST) from the payment made or credited to the supplier of taxable goods or services or both when the order value is above Rs.2,50,000/-.

41. Guaranteed time of delivery-specific performance of order; The time of delivery is the essence of the order and the all the systems and sub systems to be supplied within **12 Months** from the date of signing of contract. In the event of part supply, NIOT shall withhold the entire payment until the whole of the supply as per the order is delivered. The supplier should adhere the delivery period indicated above, the delivery period will not be extended other than the reasons mentioned at clause 42&44.

42. Extension of delivery period; If the completion of systems / components is delayed for reasons of force majeure such as acts of God. Acts of Public enemy, acts of Government, fires, floods, epidemics, quarantine restrictions, illegal strikes and freight embargoes, the Supplier shall within three days from the date of such occurrence, give notice to NIOT in writing of his claim for extension of delivery period. NIOT on receipt of such notice may agree to extend the order delivery date as may be reasonable but without prejudice to other terms and conditions of the order. Unless the extended delivery period is agreed by NIOT in writing, supplier cannot claim the extension of delivery time as a matter of right. NIOT shall have the right to either cancel/extend the order validity/ levy LD as appropriate as per the clause no. 43.The PSBG validity also to be extended by the bidder.

43. Delay in Completion / Liquidated Damage (LD);If the Supplier shall fail to deliver the entire systems/components /sub system as per the tender specification within the time specified in the order, NIOT shall recover from the Supplier as liquidated damages a sum of 0.5% of the particular activity price for each week of delay will be deducted. The total liquidated damages shall not exceed 10% (ten percent) of the specific activity price of the unit or units so delayed. Systems/components will be deemed to have been delivered only when all essential components parts are also delivered. If any essential components are not delivered on time, the entire system/components will be considered as delayed until such time the un-delivered parts are delivered and entire orderual obligations completed.

44. Force Majeure;For purposes of this Clause, "Force Majeure" means an event beyond the control of the Supplier and not involving the Supplier's fault or negligence

and not foreseeable. Such events may include, but are not limited to, acts of NIOT either in its sovereign or orderual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.

If a Force Majeure situation arises, the Supplier shall promptly notify NIOT in writing of such conditions and the cause thereof. Unless otherwise directed by NIOT in writing, the Supplier shall continue to perform its obligations under the order as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

45. Performance Security: The successful bidders should deposit 5% of the LOI value as Performance Security within 2 weeks from the date of issue of Purchase order. The performance security shall be in one of the following forms:

- (1) Insurance Surety Bonds,
- (2) Account Payee Demand Draft (drawn in favour of "The Director N.I.O.T", Chennai in INR or in equivalent foreign currency).
- (3) Fixed Deposit Receipt from any Commercial Bank.
- (4) Bank Guarantee from any of the Commercial Bank
- (5) Online payment in an acceptable form.

This format can be downloaded from the link <https://www.niot.res.in/index.php/vendor/login>.

The validity of the performance security is for 60 days beyond the completion of all orderual obligations of the supplier. Performance security shall be forfeited in the event of breach of order by the supplier in terms of the order. If Performance Security is not paid within the specified time, NIOT reserves its right to cancel the purchase order and forfeit the EMD submitted.

46. Payment:

S. N	Stages of the project	Deliverables	Amount Payable	Bank Guarantee for equivalent value in INR/
1.	Finalizing the General Arrangement (GA) of the PCMS inside the personnel sphere (PS) Ordering of components for 2 nos of PS-PCMS, 2 nos of PDE and 2 nos of IDE as per the approved design and BOM.	<ul style="list-style-type: none"> • Submission of GA drawings • Proof of the purchase order for all the bill of material with expected delivery date 	10% of value quoted from sl no.1-5	Against Submission of 110% of equivalent BG

2.	Completing of 3D modeling, of the PCMS in PS and PS-PT Completing modularity check of IP rated enclosure in PS-PT Completing AIT of IDE and PDE.	<ul style="list-style-type: none"> • Submission of optimized 3D model of PCMS in PS & PS-PT • Structural analysis component cage of PS and PS-PT • Electrical schematics of PS-PCMS • Wiring harness interface drawings • Fabrication drawing of structural frame. 	25% of value quoted from sl 1to5 in BOQ	Against Submission of 110% of equivalent BG
3	Completing FAT of all PDEs and IDEs at NIOT.	<ul style="list-style-type: none"> • Submission of QTP • Submission of FAT reports • All updated drawings 	15% of value quoted sl 1to5 in BOQ	
4	Completing FAT and installation and commissioning of PCMS in PS – PT in NIOT	<ul style="list-style-type: none"> • Submission of QTP • Submission of FAT reports • All updated drawings 	20% of value quoted sl 1to5 in BOQ	Release of BG obtained at sl.no 1
5.	Completing FAT of PCMS in 6000m PS in NIOT	<ul style="list-style-type: none"> • Submission of QTP • Submission of FAT reports • All updated drawings 	20% of value quoted sl 1to5 in BOQ plus P& F value quoted in the BOQ sl no 7 All due payments of Sl no. 1-5 of BOQ	Release of BG obtained at sl.no 2
	Completing one-year standard warranty		10% of quoted value from sl 1to5 in BOQ	

Note: The all risk insurance will be reimbursed against submission of all risk insurance policy with the premium paid. The all risk insurance value should not be more than the quoted value. The all risk insurance should be valid till issuance of the completion certificate.

47. Performance Guarantee/ Warranty Bank Guarantee: As per the GoI guidelines **10%** of the item value to be retained towards warranty to ensure the performance of the equipment's/systems to avoid any defect due to material/ workmanship or any omission on the part of the order to rectify the same during the warranty period. If performance bank guarantee for 10% of the item value is submitted and valid till completion of the warranty period and acceptance then 100% payment will be released as per Clause no. 46. The warranty Bank Guarantee will be discharged after completion of the warranty period.

48. Warranty: The supplier warrants that the Goods supplied under this order are new, unused, of the most recent or current models and those they incorporate all recent improvements in design and materials unless provided otherwise in the order. The supplier further warrants that all Goods supplied under this order shall have no defect arising from design, materials or workmanship (except when the design and/or material is required by NIOT's Specifications) or from any act or omission of the supplier that may develop under normal use of the supplied Goods in the conditions prevailing in the country of final destination.

The item supplied should be free from manufacturing defects. The warranty shall remain valid for **12 months** after the supply and acceptance of the Goods or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the order. The warranty certificate should be furnished in the prescribed format in your letterhead and can be downloaded from the website link <https://www.niot.res.in/index.php/vendor/login>. If the Vendors standard warranty is more than 12 months the same shall be extended to NIOT. NIOT shall promptly notify the supplier in writing of any claims arising under this warranty.

Upon receipt of such notice, the supplier shall, within three (3) months repair or replace the defective Goods or parts thereof, without cost to NIOT other than, where applicable, the cost of inland delivery of the repaired or replaced Goods or parts from ex-works or ex-factory or ex-showroom to the final destination. If the supplier, having been notified, fails to remedy the defect(s) within the period specified, NIOT may proceed to take such remedial action as may be necessary, at the supplier's risk and expense and without prejudice to any other rights which NIOT may have against the supplier under the order. Also, such failure shall lead to suspension of vendor from participation as deem fit by NIOT. The warranty Clause & Defect Liability clause should be read together.

49. Defect Liability clause: Any defect, or any other faults for plant components etc., which may appear against the set quality or performance characteristics within the Defects Liability period (DLP), of 12 months from the date of issuance of completion certificate of system.., any defects, arising in the opinion of the NIOT from materials or workmanship not in accordance with the contract, shall on demand which shall be made within the defects liability period, in writing by the NIOT and within such reasonable time as shall be stated therein specifying the work, materials or articles complained of notwithstanding that the same may have been passed or/and certified, paid for be amended and made good by the contractor. In case of default, NIOT may employ and pay other person or persons to amend and make good all such defects or other faults and all damages, losses and expenses consequent thereon or incidental there to. Contractor shall be made good and borne by the Contractor at the risk and cost of the contractor. And recoverable from the contractor by the NIOT or may be deducted by NIOT from any moneys due or that may become due to the contractor. Should any defective work have been done or materials supplied by the contractor or their associates the contractor shall be liable to make good the same in the same manner as if such work or materials had been subject to the provisions. Any delay in rectifying the defects within a maximum time of one month shall result in automatic extension of DLP within contract price to the extent of delay in rectification.

50. Insurance: The Goods supplied under the order shall be fully insured against all risk

loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified in the NIT. If any such damage occurred the goods shall be replaced within in the LOI price immediately without waiting for the insurance claim. The cost of insurance shall be in the scope of the bidder.

51.Risk Purchase: If the Supplier fails to deliver the stores or any installment thereof within the period fixed for such delivery or at any time repudiates the Purchase Order before expiry of such period, NIOT is entitled to cancel the Purchase Order and source the remaining items/components from any parties the items/components which are not delivered, at the risk and cost of the defaulting Supplier. No payment shall be claimed for any part supplies made.

52.Termination of Contract by NIOT:

a) The Contract shall become effective from the date of Contract and the Contract shall automatically get terminated after successful completion of all Contractual obligation and warranty obligation as per the terms of the contract.

b)(i) Termination of the Contract due to breach of contract by the Supplier

(ii) Termination of Contract due to default,

(iii) Termination of the contract due to insolvency,

(iv) Termination of the contract for convenience.

If the termination of the contract happens due to the above factors, [(i), (ii) &(iii)] initially the written notice will be issued within 30 days to settle the issue on mutually agreed terms with mutual consent. Else, the matter will be referred to the Mediators (IEMs) for their advise /settlement. If the settlement is not fruitful the parties can proceed for arbitration as per the clause 54. During this process the contract will be in live and continue to be live till the termination notice is issued. If the contract is terminated due to the any factors above, except (iii) depending on the merit of the case, the contractor shall be suitably compensated and mutual agreed terms for terminating the contract shall be arrived with the consent of IEMs.

53.Indemnities:

The Supplier hereby agrees to indemnify and hold harmless NIOT and its Director, officers and employees, from and against any and all suits, losses, liabilities, damages, claims, settlements, costs and expenses, including reasonable attorneys' fees, based on or arising, directly or indirectly, from:

a) Breach of this Agreement by the Supplier

b) Not performing the Scope of Work or any other obligation under this Agreement or Tender in accordance with the provisions and schedules of this Agreement or the Tender

c) Violation or contravention of any Legislation on the part of the Supplier

d) Any negligence or willful misconduct of Supplier, which violates any provision of this Agreement

e) Infringement of any intellectual property belonging to any third party by the Supplier

- f)** Any breach of an agreement or misunderstanding between Supplier and any and all Third Parties due to which a liability arises on NIOT
- g)** Any claim that any representations or warranties contained herein are not true or any breach thereof
- h)** Any loss or damage caused by the Supplier to NIOT, its personnel or property
- i)** Any loss or damage caused by the Supplier to any and all Third Parties for which a claim against NIOT has arisen
- j)** Breach, expiry, cancellation, revocation or invalidity of any and all licenses, permits, authorizations and registrations which the Supplier is required to obtain, keep valid and comply with under any Legislation in contract to perform its obligations hereunder.
- k)** Any obligation of the Supplier performed by NIOT under this Agreement or under any Legislation.

54. Dispute/Mediation/Arbitrations

In the event of any dispute any time during the entire duration of contract, both the parties shall try to resolve through mutual discussion to resolve such disputes. In case the same is not resolved, parties will submit for mediation to IEM under the Integrity Pact and as per extant instructions of Govt. of India for resolution. No party shall rush to any court of law without completion of mediation and arbitration as contemplated. In the event of any dispute, difference, interpretation or application relating to this agreement arises, the same shall be settled amicably by the parties.

In the event of any dispute, difference, interpretation or application relating to this agreement arises; the same shall be settled amicably by the parties. In case the dispute or differences could not be settled amicably, the same shall be referred for adjudication through arbitration by an arbitrator to be appointed by the Director, NIOT with mutual consent.

The Indian Arbitration shall be concluded in accordance with the provisions of Arbitration & Conciliation Act, 1996 or any statutory modifications or re-enactment thereof and the rules made there under and for the time being in force shall apply to the arbitration proceedings. Venue of such arbitration shall be at Chennai in India. The language of arbitration proceedings shall be English. The Arbitrator shall make reasoned award (the "award"), which shall be final and binding on the parties. The cost of the arbitration shall be shared equally by the parties to the contract. However, expenses incurred by each party in connection with the preparation, presentation etc., shall be borne by each party.

55. Eligible Bidders

55.1. This Invitation for Bids is open to all suppliers. However, only Class-I and Class-II local suppliers are eligible to participate in Domestic Tender.

55.2. 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.

55.3. The bidders who have been temporarily suspended or removed from the list of registered suppliers by the purchaser or banned from Ministry/country wide procurement shall be ineligible for participation in the bidding process.

55.4. Bidders who fulfil the Eligibility Criteria mentioned in NIT will be considered for Technical Evaluation of bids.

56. Cost of Bidding

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.

57. Code of Integrity for Public Procurement

The purchaser requires that the bidders, suppliers and Suppliers observe the highest standard of ethics during the procurement and execution of such contract

(a) Corrupt practice

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.

(b) Fraudulent practice

a misrepresentation or omission of facts in order to influence a procurement process or the execution of a contract

(c) 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, non-competitive levels.

(d) 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.

(e) Anticompetitive practice

any collusion, bid rigging or anti-competitive arrangement, or any other practice coming under the purview of the Competition Act, 2002, between two or more bidders, with or without the knowledge of the purchaser, that may impair the transparency, fairness and the progress of the procurement process or to establish bid prices at artificial, non-competitive levels 7

(f) Conflict of interest

participation by a bidding firm or any of its affiliates that are either involved in the consultancy contract to which this procurement is linked; or if they are part of more than one bid in the procurement; or if the bidding firm or their personnel have relationships or financial or business transactions with any official of purchaser who are directly or indirectly related to tender or execution process of contract; or improper use

of information obtained by the (prospective) bidder from the purchaser with an intent to gain unfair advantage in the procurement process or for personal gain

(g) Obstructive practice

materially impede the purchaser's investigation into allegations of one or more of the above mentioned prohibited practices either by deliberately destroying, falsifying, altering; or by concealing of evidence material to the investigation; or by making false statements to investigators and/or by threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or by impeding the purchaser's Entity's rights of audit or access to information

57.2. 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.

57.3. The bidders/suppliers should sign a declaration about abiding by the Code of Integrity for Public Procurement and submit it in the form along with bid documents. In case of any transgression of this code, the bidder is not only liable to be removed from the list of registered suppliers, but it would be liable for other punitive actions such as cancellation of contract, banning and blacklisting or action by Competition Commission of India, and so on.

58.Obligations for Proactive disclosures

b) The Purchaser as well as bidders, suppliers, Suppliers and consultants, are obliged under Code of Integrity for Public Procurement to sue-moto proactively declare any conflicts of interest (coming under the definition mentioned above – pre-existing or as and as soon as these arise at any stage) in any procurement process or execution of contract. Failure to do so would amount to violation of this code of integrity.

c) The bidder must declare, whether asked or not in a bid document, any previous transgressions of such a code of integrity with any entity in any country during the last three years or of being debarred by any other Procuring Entity. Failure to do so would amount to violation of this code of integrity

d) To encourage voluntary disclosures, such declarations would not mean automatic disqualification for the bidder making such declarations. The declared conflict of interest would be evaluated and mitigation steps, if possible, taken by the purchaser.

59.Punitive Provisions

Without prejudice to and in addition to the rights of the Purchaser to other penal provisions as per the bid documents or contract, if the Purchaser comes to a conclusion that a (prospective) bidder/supplier, directly or through an agent, has violated this code of integrity in competing for the contractor in executing a contract, the purchaser may take appropriate measures including one or more of the following:

a)If his bids are under consideration in any procurement:

- i. Forfeiture or encashment of bid security;
- ii. Calling off of any pre-contract negotiations; and

- iii. Rejection and exclusion of the bidder from the procurement process.
- b) If a contract has already been awarded
 - i. Cancellation of the relevant contract and recovery of compensation for loss incurred by the Purchaser;
 - ii. Forfeiture or encashment of any other security or bond relating to the procurement;
 - iii. Recovery of payments including advance payments, if any, made by the purchaser along with interest thereon at the prevailing rate.
- c) Provisions in addition to above:
 - i. Removal from the list of registered suppliers and banning/debarment of the bidder from participation in future procurements of the purchaser for a period not less than one year;
 - ii. In case of anti-competitive practices, information for further processing may be filed under a signature of the Joint Secretary level officer, with the Competition Commission of India;
 - iii. Initiation of suitable disciplinary or criminal proceedings against any individual or staff found responsible.

60. Amendment to Bidding Documents

In contract to allow prospective bidders reasonable time to take the amendment into account while formulating their bids, the Purchaser, at its discretion, may extend the due date for the submission of bids and host the changes on the GeM website <http://gem.gov.in> of the purchaser.

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

61.1. 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.

61.2. 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 detailed description of the essential technical and performance characteristics of the goods;

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 Price- bid; and

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.

61.3. 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.

62. Confidentiality

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 Award of the contract. However, decisions taken during process of tender evaluation shall be hosted on e-Tenders portal.

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.

63. Post qualification

63.1. 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 the SCC.

63.2. The determination will take in to the Eligibility & Qualification criteria listed in the SCC of Tender document and it 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.

63.3. 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.

64. Bidder's right to question rejection

A Bidder shall have the right to be heard in case he feels that a proper procurement process is not being followed and/or his tender has been rejected wrongly. Only a directly affected bidder can represent in this regard as under:

64.1 Only a bidder who has participated in the concerned procurement process i.e. pre-qualification, bidder registration or bidding, as the case may be, can make such representation.

64.2 In case pre-qualification bid has been evaluated before the bidding of Technical bids, an application for review in relation to the technical bid may be filed only by a bidder who has qualified in prequalification bid.

64.3 In case technical bid has been evaluated before the opening of the financial bid, an application for review in relation to the financial bid may be filed only by a bidder whose technical bid is found to be acceptable.

62.4 In case a Bidder feels aggrieved by the decision of the purchaser, he may then send his representation in writing to the Purchaser's address within 05 working days

from the date of communication of the purchaser intimating the rejection for reconsideration of the decision by the purchaser.

64.5 Following decisions of the purchaser in accordance with the provision of internal guidelines shall not be subject to review:

- a) Determination of the need for procurement;
- b) Selection of the mode of procurement or bidding system;
- c) Choice of selection procedure;
- d) Provisions limiting participation of bidders in the procurement process;
- e) The decision to enter into negotiations with the L1 bidder;
- f) Cancellation of the procurement process except where it is intended to subsequently re-tender the same requirements;

Issues related to ambiguity in contract terms may not be taken up after a contract has been signed, all such issues should be highlighted before consummation of the contract by the vendor/Supplier; and

Complaints against specifications except under the premise that they are either vague or too specific so as to limit competition may be permissible.

65. Joint Venture, Consortium or Association

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 fulfilment 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.

66. Amalgamation/Acquisition etc:

In the event the Manufacturer/Supplier proposes for amalgamation, acquisition or sale its business to any firm during the contract period, the Buyer/Successor of the Principal Company are liable for execution of the contract and also fulfilment of contractual obligations i.e. supply, installation, commissioning, warranty, maintenance/replacement of spares accessories etc. You may confirm this condition while submitting the bid.

67. Authorization: The bidder is qualified only when he is the Indian original manufacturer or established dealer with original manufacturer's authorization letter to quote, sell and service the products offered along with agency agreement if any.

68. Applicability in Special Cases

e) Applicability to 'Make in India'

Bidders (manufacturer or principal of authorised representative) who have a valid/approved ongoing 'Make in India' agreement/ program and who while meeting all other criteria above, except for any or more of sub-criteria in Experience and Past Performance above, would also be considered to be qualified provided:

their foreign 'Make-in-India' associates meet all the criteria above without exemption, and

ii The Bidder submits appropriate documentary proof for a valid/approved ongoing 'Make in India' agreement/program.

iii the bidder (manufacturer or principal of authorised representative) furnishes along with the bid a legally enforceable undertaking jointly executed by himself and such foreign Manufacturer for satisfactory manufacture, Supply (and erection, commissioning if applicable) and performance of 'The Product' offered including all warranty obligations as per the general and special conditions of contract.

b) Authorized Representatives Bids of bidders quoting as authorized representative of a principal manufacturer would also be considered to be qualified, provided:

(i) their principal manufacturer meets all the criteria above without exemption, and

(ii) the principal manufacturer furnishes a legally enforceable tender-specific authorisation in the prescribed form assuring full guarantee and warranty obligations as per the general and special conditions of contract and

(iii) the bidder himself should have been associated, as authorised representative of the same or other Principal Manufacturer for same set of services as in present bid (supply, installation, satisfactorily commissioning, after sales service as the case may be) for same or similar 'Product' for past three years ending on 'The Relevant Date'.

c) For Existing Successful Past Suppliers

In case the bidder (manufacturer or principal of authorised representative) who is a successful past supplier of 'The Product' in at least one of the recent past _____ procurements, who do not meet any or more of requirements above, would also be considered to be qualified in view of their proven credentials, for the maximum quantity supplied by him in such recent past.

d) Joint Ventures and Holding Companies

Credentials of the partners of Joint ventures cannot (repeat cannot) be clubbed for the purpose of compliance of PQC in supply of Goods/Equipment, and each partner must comply with all the PQC criteria independently. However, for the purpose of qualifying the Financial Standing Criteria, the Financial Standing credentials of a Holding Company can be clubbed with only one of the fully owned subsidiary bidding company, with appropriate legal documents proving such ownership.

69. Conflict of Interest:

(1) An Applicant shall not have a conflict of interest that may affect the Selection Process or the Consultancy (the "Conflict of Interest"). Any Applicant found to have a Conflict of Interest shall be disqualified. In the event of disqualification, the NIOT/ Authority shall forfeit and appropriate the Bid Security as mutually agreed genuine pre-estimated compensation and damages payable to the NIOT/Authority for, inter alia, the time, cost and effort of the NIOT/Authority including consideration of such Applicant's Proposal, without prejudice to any other right or remedy that may be available to the NIOT / Authority here under or otherwise.

(2) The NIOT/Authority requires that the Consultant provides professional, objective, and impartial advice and at all times hold the NIOT/Authority's interests paramount, avoid conflicts with other assignments or its own interests, and act without any consideration for future work. The Consultant shall not accept or engage in any assignment that would be in conflict with its prior or current obligations to other clients, or that may place it in a position of not being able to carry out the assignment in the best interests of the NIOT / Authority

3)An Applicant shall be deemed to have a Conflict of Interest affecting the Selection Process, if the applicant, its consortium member the "Member") or Associate (or any constituent thereof)and any other Applicant, its consortium member or Associate(or any constituent thereof) have common controlling shareholders or other ownership interest; provided that this disqualification shall not apply in cases where the direct or indirect shareholding or ownership interest of an Applicant, its Member or Associate (or any shareholder thereof having a shareholding of more than 5 percent of the paid up and subscribed share capital of such Applicant, Member or Associate, as the case may be) in the other Applicant, its consortium member or Associate is less than 5% (five percent)of the subscribed and paid up equity share Capital thereof; provided further that this disqualification shall not apply to any owner ship by a bank, insurance company, pension fund or a public financial institution referred to in section 4A of the Companies Act, 1956. For the purposes of this Clause13.1(c)(i), in direct shareholding held through one or more intermediate persons shall be computed as follows:(aa) where any intermediary is controlled by a person through management control or otherwise, the entire shareholding held by such controlled intermediary in any other person (the "Subject Person")shall be taken into account for computing the shareholding of such controlling person in the Subject Person; and (bb) subject always to sub-clause (aa)above, where a person does not exercise control over an intermediary, which has shareholding in the Subject Person, the computation of in direct shareholding of such person in the Subject Person shall be undertaken on appropriate basis; provided, however, that no such shareholding shall be reckoned under this sub- clause (bb) if the shareholding of such person in the intermediary is less than 26%(twenty six percent) of the subscribed and paid up equity shareholding of such intermediary; or

(ii) A constituent of such Applicant is also a constituent of another Applicant; or

(iii) Such Applicant or its Associate receives or has received any direct or indirect subsidy or grant from any other Applicant or its Associate; or

(iv) Such Applicant as the same legal representative for purposes of this Application as any other Applicant; or

(v) Such Applicant has a relationship with another Applicant, directly or through common third parties, that puts them in a position to have access to each other's information about, or to influence the Application of either or each of the other Applicant; or

(vi) There is a conflict among this and other consulting assignments of the Applicant (including its personnel and Sub-consultant) and any subsidiaries or entities controlled by such Applicant or having common controlling shareholders. The duties of the Consultant will depend on the circumstances of each case. While providing consultancy services to the NIOT/ Authority for this particular assignment, the Consultant shall not take up any assignment that by its nature will result in conflict with the present assignment; or

(vii) A firm which has been engaged by the NIOT/Authority to provide goods or works or

Services for a project, and its Associates, will be disqualified from providing consulting services for the same project, conversely, a firm hired to provide consulting services for the preparation or implementation of a project, and its Members or Associates, will be disqualified from subsequently providing goods or works or services related to the same project.

70. Intellectual Property Rights (IPR)

NIOT shall have a right of use to all deliverables provided by CONTRACTOR for the ordinary purpose of this contract and make similar systems in the future. As long as the payment for services according to the milestone payment plan plus any additional costs if applicable does not take place, all rights in the CONTRACTOR deliverables remain with CONTRACTOR.

71. Integrity pact

NIOT 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 NIOT committing the persons/officials of both the parties with the aim not to exercise any corrupt influence on any aspect of the contract. The bidders shall agree to enter into such an integrity pact with NIOT as per forms available in the website www.niot.res.in (Attached as annexure)

72. Clarifications

Applicants requiring any clarification on the RFP may send their query by email to hvt@niot.res.in before the tender closing date. The Authority will post the reply to all such queries on the GeM Portal and NIOT Website. All bidders shall visit official GEM portal before uploading of their bid to take note of the changes / corrigendum issued.

The Authority reserves the right not to respond to any questions or provide any clarifications, in its sole discretion, and nothing in this RFP shall be construed as obliging the Authority to respond to any question or to provide any clarification.

73. Preference to Make in India

As per DPIIT Order No. P-45021/2/2017-PP (BE-II) dated 16th September 2020 issued by Ministry of Commerce, Class-I and Class-II Local suppliers are eligible to bid (as specified in Clause- 1.30.3)

I. Definitions of terms applicable to Make in India procurement policy of Govt of India: -

- a) 'Local content' means the amount of value added in India which shall be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value, in percent.
- b) 'Class-I Local supplier' means a supplier provider whose product offered for procurement meets the local content of 50% and above.
- c) 'Class-II Local supplier' means a supplier provider whose product offered for procurement meets the local content of 20% and above but less than 50%.
- d) 'Non-Local supplier' means a supplier provider whose product offered for procurement meets the local content of less than 20%.
- e) 'L1' means the lowest tender or lowest bid or the lowest quotation received in this tender, bidding process or other procurement solicitation as adjudged in the evaluation process as per the tender or other procurement solicitation.
- f) 'Margin of purchase preference' means the maximum extent to which the price quoted by a local supplier may be above the L1 for the purpose of purchase preference.

II. Purchase preference: -

- a) Among all qualified bids, the lowest bid will be termed as L1. If L1 is from a Class-I local supplier, the order for full quantity will be awarded to L1.
- b) If L1 bid is not from a Class-I local supplier, 50% of the order quantity shall be awarded to L1. Thereafter, the lowest bidder among the Class-I local suppliers, will be invited to match the L1 price for the remaining 50% quantity subject to the local supplier's quoted price falling within the margin of purchase preference, and order for that quantity shall be awarded to such Class-I local supplier subject to matching the L1 price. In case such lowest eligible Class-I local supplier fails to match the L1 price or accepts less than the offered quantity, the next higher Class-I local supplier within the margin of purchase preference shall be invited to match the L1 price for remaining quantity and so on, and order shall be awarded accordingly. In case some quantity is still left uncovered on local suppliers, then such balance quantity may also be ordered on the L1 bidder.
- c) In the procurements of goods or works, which are covered by para 3(b) or reference order and which are not divisible in nature, and in procurement of services where the bid is evaluated on price alone, the 'Class-I local supplier' shall get purchase preference over 'Class-II local supplier' as well as 'Non-local supplier', as per following procedure:
 - (i) Among all qualified bids, the lowest bid will be termed as L1. If L1 is from a Class-I local supplier, the order will be awarded to L1.
 - (ii) If L1 is not from a Class-I local supplier, the lowest bidder among the Class-I local suppliers, will be invited to match the L1 price subject to local supplier's quoted price falling within the margin of purchase preference, and the order shall be awarded to such Class-I local supplier subject to matching the L1 price.
 - (iii) In case such lowest eligible Class-I local supplier fails to match the L1 price, the Class-I local supplier with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on and order shall be awarded accordingly. In case none of the Class-I local suppliers within the margin of purchase preference matches the L1 price, then the order may be awarded to the L1 bidder.
 - (iv) Only Class-II Local suppliers are not eligible to get price preference in any procurement undertaken by procuring entities.

III. Applicability in tenders where order is to be awarded to multiple bidders:

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In tenders where order is awarded to multiple bidder's subject to matching of L 1 rates or otherwise, the 'Class-I local supplier' shall get purchase preference over 'Class-II local supplier' as well as 'Non-local supplier', as per following procedure:

a) In case there is sufficient local capacity and competition for the item to be procured, as notified by the nodal Ministry, only Class I local suppliers shall be eligible to bid. As such, the multiple suppliers, who would be awarded the order, should be all and only 'Class I Local suppliers'.

b) In other cases, 'Class II local suppliers' and 'Non-local suppliers' may also participate in the bidding process along with 'Class I Local suppliers' as per provisions of this Order.

C) If 'Class I Local suppliers' qualify for award of order for at least 50% of the tendered quantity in any tender, the order may be awarded to all the qualified bidders as per award criteria stipulated in the bid documents. However, in case 'Class I Local suppliers' do not qualify for award of order for at least 50% of the tendered quantity, purchase preference should be given to the 'Class I local supplier' over 'Class II local suppliers'/'Non local suppliers' provided that their quoted rate falls within 20% margin of purchase preference of the highest quoted bidder considered for award of order so as to ensure that the 'Class I Local suppliers' taken in totality are considered for award of order for at least 50% of the tendered quantity.

d) First purchase preference has to be given to the lowest quoting 'Class-I local supplier', whose quoted rates fall within 20% margin of purchase preference, subject to its meeting the prescribed criteria for award of order as also the constraint of maximum quantity that can be sourced from any single supplier. If the lowest quoting 'Class-I local supplier', does not qualify for purchase preference because of aforesaid constraints or does not accept the offered quantity, an opportunity may be given to next higher 'Class-I local supplier', falling within 20% margin of purchase preference, and so on.

e) To avoid any ambiguity during bid evaluation process, the procuring entities may stipulate its own tender specific criteria for award of order amongst different bidders including the procedure for purchase preference to 'Class-I local supplier' within the broad policy guidelines stipulated in sub-paras above

IV. Minimum local content: -

The 'local content' requirement to categorize a supplier as 'Class-I local supplier' is minimum 50%. For 'Class-II local supplier', the 'local content' requirement is minimum 20%. Nodal Ministry/ Department may prescribe only a higher percentage of minimum local content requirement to categorize a supplier as 'Class-I local supplier'! 'Class-II local supplier'. For the items, for which Nodal Ministry! Department has not prescribed higher minimum local content notification under the Order, it shall be 50% and 20% for 'Class-I local supplier'! 'Class-II local supplier' respectively.

V. Verification of Local content: -

a. The 'Class-I local supplier'! 'Class-II local supplier' at the time of tender, bidding or solicitation shall be required to indicate percentage of local content and provide self-certification that the item offered meets the local content requirement for 'Class-I local

supplier'! 'Class-II local supplier', as the case may be. They shall also give details of the location(s) at which the local value addition is made.

b. In cases of procurement for a value in excess of Rs. 10 crores, the 'Class-I local supplier'! 'Class-II local supplier' shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.

c. False declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

VI. Manufacture under license/ technology collaboration agreements with phased indigenization: -

While notifying the minimum local content, Nodal Ministries may make special provisions for exempting suppliers from meeting the stipulated local content if the product is being manufactured in India under a license from a foreign manufacturer who holds intellectual property rights and where there is a technology collaboration agreement / transfer of technology agreement for indigenous manufacture of a product developed abroad with clear phasing of increase in local content.

VII. Classification of MSE'S: -

(i) Micro Enterprises: Where the investment in plant and machinery or equipment does not exceed 1 crore rupees and turnover does not exceed 5 crore rupees,

(ii) Small Enterprises: Where the investment in plant and machinery or equipment does not exceed 10 crore rupees and turnover does not exceed 50 crore rupees,

(iii) Medium Enterprises: Where the investment in plant and machinery or equipment does not exceed 50 crore rupees and turnover does not exceed 250 crore rupees

(iv) Retail & Whole sale traders: Any bidder who are retailer/ Traders claim EMD/ Bid security exemption shall refer Ministry OM 5/2(2)/2021-E/P&G/Policy dtd 02.07.2021 & 5/2(1)2020/E-P&G/Policy dtd 01.12.2020.

VIII. Price Preference to MSEs: -

a) Among the qualified bids, the lowest bid will be termed as L1, If L1 is class 1 local supplier the order will be awarded to L1.

b) In tender, participating Micro and Small Enterprises quoting price within price band of L1 + 15% shall also be allowed to supply a portion of requirement by bringing down their price to L1 price in a situation where L1 price is from someone other than a Micro and Small Enterprise and such Micro and Small Enterprise shall be allowed to supply upto 25 percent of the total tendered value, The 25(twenty five)% quantity is to be distributed proportionally among these bidders, in case there are more than one MSME's within such price band.

c) In case the tendered quantity of goods cannot be split/ divided MSE quoted price within the band L1+15% may be awarded for full complete supply of total tendered value to MSE.

d) MSEs participating in the tender must submit valid & authorised copy of certificate of registration with any one of the above agencies. In case of bidders submitting DIC registration certificate shall attach original notarised copy of the DIC certificate.

e) The MSE's Bidder to note and ensure that nature of services and goods/items manufactured mentioned in MSE's certificate matches with the nature of the services and goods /items to be supplied as per Tender.

- f) The registration certificate issued from any one of the above agencies must be valid as on Bid closing date of the tender. Bidder shall ensure validity of registration certificate in case bid closing date is extended.
- g) The MSEs who have applied for registration or renewal of registration with any of the above agencies / bodies, but have not obtained the valid certificate as on close date of the tender, are not eligible for EMD exemption / preference.
- h) Where any aggregator has been appointed by the Ministry of MSE, themselves quote on behalf of some MSE units, such offers will be considered as offer from MSE units and all such facilities would be extended to these aggregators also.

Section-I-Commercial Compliance Sheet

Sl. No	Particulars	Yes	No	Page Ref
1	Whether EMD for INR 33,04,000/- scanned and uploaded along with the technical document?			
2	Whether every page of the tender document is digitally signed and uploaded in the gem portal along with the other documents.			
3	Whether accepted to submit the LOI acceptance within 15 days from the date of receipt of the LOI?			
4	Whether submission of 5% of the contract value as Performance Security is acceptable?			
5	Whether submission of 10% of the supply value as Performance Bank Guarantee is acceptable?			
6	Whether quote is valid for 120 days from the date of tender opening or time specified in the tender document whichever is later?			
7	Whether payment terms of the tender is complied with?			
8	Whether FOR NIOT Chennai is complied with?			
9	Whether the tender is fully complying with tender specification Adjustment if no, list out deviationn clearly along with the appropriate reason for the deviation?			
10	Whether item-wise price is quoted as per price bid and quoted price is realistic?			
11	Whether liquidated damage as specified in the NIT accepted unconditionally?			
12	Whether the delivery period is acceptable as per the tender.			
13	Whether the warranty period (minimum 12 months) is acceptable as per the tender.			
14	Bidder is responsible for all performance benchmarks and the quote should contain an undertaking certifying the same.			
15	Whether integrity pact is signed by authority signatory and uploaded			
16	Whether Past track record of quality and service is enclosed?			
17	In case of Dual Bid whether unpriced/blank commercial bid (Part-B) is enclosed in part – A (Technical Bid)?			
18	Whether list of deliverables attached and comply as per tender?			
19	Whether Consortium Agreement with roles responsibility of the partners is attached?			
20	Whether all Annexures from No 1 to 10 is attached?			
21	Whether all documents for Pre-qualification Technical and Commercial is attached?			

Section II Technical Compliance sheet (to be filled by the bidder)

S.No	Technical compliance for MPAIT-PCMS	Specification	Compliance (Y/N)
1	Comply scope of supply	Personnel Sphere -Power and control and monitoring system (PS-PCMS)-1 set Personnel Sphere (PS-PT) physical twin- 1set a) Spherical hull Mockup (1 ATM)-1no b) PS-PCMS -1set Power Distribution Enclosure (PDE) Power control and monitoring system-3 set Imaging and Data Enclosure (IDE) Power control and monitoring system-3 set	
2	Comply Bill of materials	Ref, Table BoM of the PS-PCM system Ref, Table BoM of the PS-PT PCM system Ref, Table BoM of the IDE-PCM system Ref, Table BoM of the PDE-PCM system	
3	Comply Technical requirement and Assembly, Integration, and Test (AIT)requirements	Ref, Table for AIT requirements, ref SCC	
4	Qualification Testing of 2xPS-PCMS ,3x IDE and 3x PDE	Ref, Table for Environmental test requirements, ref SCC	
5	Installation and Commissioning at NIOT	1x PCMS in Matsya 6000 1x PS-PT 3xIDE in IDE Enclosure 3xPDE in PDE Enclosure	
6	Bidder or consortium should have min of 10 years of experience and proven record in assembly, integration and testing of	Should attach at least one purchase order for the company operating on or	

	Electrical, Electronics systems in industry.	before 30.01.2015. or Tax filing.	
7	Bidder or consortium should have successfully executed assembly, integration and testing (AIT) of EEI systems in at least one human-occupied submersible/submarine in the last 10 years, specifically for confined spaces volume under 5 m ³ in the marine or naval industry.	Should attach at least one purchase order. Regarding the confined spaces the bidder has to submit separate signed self-declaration copy.	
8	Bidder or consortium should submit the proof for having carried out DNV approval process. Non submission of supporting documentary evidence leads to invalid bid.	Should submit purchase order and DNV approval certificate of the project/product.	
9	The Bidders or consortium should have minimum of 5 regular employees who hold IPC 620 and IPC 610 certification and ready to depute for this project till completion.	Should submit employee ID card with their IPC certificates	
10	Dedicated CAD engineers, skilled professionals, technicians, and electrical, electronic and mechanical engineering professionals should be assigned to this project to ensure adherence to timelines. These professionals should be ready to depute to NIOT as needed, providing comprehensive support from 3D modeling to installation and commissioning.	The company should submit a letter specifying the dedicated manpower assigned to this project.	

Section III Pre-Qualification Documents check list

Sl.no	Pre-Qualification	Yes	No	Page Ref
	Technical			
1.	The Bidder or Consortium should have minimum of 10 years of experience and proven record in assembly, integration and testing of Electrical, Electronics systems in industry.			
2.	The Bidder or consortium should have successfully executed assembly, integration and testing (AIT) of EEI systems in at least one human-occupied submersible/submarine in the last 10 years, specifically for confined spaces volume under 5 m ³ in the marine or naval industry.			
3.	The Bidder or consortium should submit the proof for having carried out DNV approval process.			
4.	The Bidders or consortium should have minimum of 5 regular employees who hold IPC 620 and IPC 610 certification			
5.	The bidder or consortium should submit documentary proof / evidence for the above. If the documentary evidence is not submitted, which may leads to invalid bid			

Sl.no	Commercial	Yes	No	Page Ref
1	The average annual financial turnover of 'The bidder' during the last three financial years, ending on 31.03.2024, should be at least INR 10 crore. In case of 'consortium' the annual turnover of all the consortium partner will be added together and the average of the same shall be considered. The documents such as Audited balance sheet, Profit and Loss account statement of the relevant period, duly authenticated by a Chartered Accountant/Cost Accountant in India should be submitted.			
	The net worth of the Bidder/ consortium should not be negative, on 31.03.2024. 'The relevant date" and also should have not eroded by more than 30% (thirty percent) in the last three years ending on "The Relevant Date" (i.e) 31.03.2024.			

Section IV Price Bid Format

Note: 1. The bidders should not reveal their price, anywhere in the technical bid.

S.No	Stages of the project	UOM	Unit price INR	Total Price /INR
1	Finalizing the General Arrangement (GA) of the PCMS inside the personnel sphere (PS) Ordering of components for 2nos of PS-PCMS, 3 nos of PDE and 3 nos of IDE as per the approved design and BOM.	Lumpsum		
2	Completing of 3D modelling, of the PCMS in PS and PS-PT Completing modularity check of IP rated enclosure in PS-PT Completing AIT of IDEs and PDEs.	Lumpsum		
3	Completing FAT of PDEs 3 nos and IDEs Bom in NIOT as per Bill of Material.	Lumpsum		
4	Completing FAT and installation and commissioning of PCMS in PS – PT in NIOT as per Bill of Material	Lumpsum		
5	Completing FAT of PCMS in 6000m PS in NIOT as per Bill of Material	Lumpsum		
6	All risk insurance till completion of Installation and commissioning and handing over to NIOT after integration with Human Submersible and testing	Lumpsum		
7	Packing and forwarding charges	Lumpsum		
8	GST as per applicable HSN code	Value		

ANNEXURE-1

Bid Securing Declaration Form

Date:

E-Tender No:

E-Tender Title:

To,

NATIONAL INSTITUTE OF OCEAN TECHNOLOGY

VELACHERY TAMBARAM MAIN ROAD,

NARAYANAPURAM, CHENNAI 600 100

I/We. The undersigned, declare that:

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

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

a) Have withdrawn/modified /amended impairs or derogates from the tender, my /our Bid during the period of bid validity specified in the form of Bid: or

b) Having been notified of the acceptance of our Bid by the purchaser during the period of bid validity (i) fail or reuse to execute the order, if required, or (ii) fail or refuse to furnish the performance Security, in accordance with the Instructions to Bidders.

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

Signed: (Insert signature of person whose name and capacity are shown)

In the capacity of (insert legal capacity of person signing the Bid Security Declaration)

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

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

Dated on _____ day of _____ (insert date of signing)

Corporate Seal (where appropriate)

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

ANNEXURE-2

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 Order.

We hereby extend our full guarantee and warranty in accordance with Clause 2.20 of the General Conditions of Order, 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]

*(Not required in case the bidder itself is the manufacturer)

ANNEXURE- 3

PERFORMANCE STATEMENT FORM

Details of similar equipment / systems supplied & installed during past 3 years in India & Abroad

Name of the Firm _____

Order Placed by (full address of Purchaser)

Order Number and date:

Description and Quantity of Ordered:

Equipment Value of Order:

Date of Completion of deliver as Per Order:

Date of actual Completion of Delivery:

Remarks Indicating reasons for late delivery, if Any:

Has the Equipment Been installed/ Working Satisfactory (Attach a Certificate from The purchaser / Consignee)

Name of Contact Person along with Telephone No., FAX No. and e-mail address

Signature and Seal of the manufacturer/Bidder

Place:

Date:

ANNEXURE-4

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

No: _____ Date _____

To,

(Name & address of the Purchaser)

Sir,

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

It is certified that we are not 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 / Tender. The details of any previous transgressions of the code of integrity with any entity in any country during the last three years or of being debarred by any other Procuring Entity are as under:

- a
- b
- c

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

Thanking you,

Yours sincerely,

Signature

(Name of the Authorized Signatory)

Company Seal

ANNEXURE-5

Certificate of Local Content (To be enclosed along with Technical Bid)

Tender No. _____

We M/s. _____ (Name of Bidder) hereby certify that we meet the minimum Local content for the Goods and services offered vide our offer/bid No. _____ dated _____ as specified below:

- Class-I Local Supplier with local content of 50% and above
OR
- Class-II Local Supplier with local content of 20% and above but less than 50%

(Tick appropriate category of Local Supplier)

We are not claiming the services such as transportation, insurance, installation, commissioning, training, after sales service (warranty or AMC/CMC support), consultancy and custom clearance including custom duty as local value addition.

We are aware that the false declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules (Govt of India) for which we or our successors can be debarred for up to two years as per Rule 151 (iii) of the General Finance Rules along with such other actions as may be permissible under law.

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]

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]

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

ANNEXURE-6
Certificate of Price break up of Local Content
(To be enclosed along with Price Bid)

Tender No. _____

We M/s. _____ (Name of Bidder) hereby certify that we meet the minimum Local content for the Goods and services offered vide our offer/bid No.

_____ dated _____ as specified below:

- Class-I Local Supplier with local content of 50% and above
OR
- Class-II Local Supplier with local content of 20% and above but less than 50%

(Tick appropriate category of Local Supplier)

Minimum Local content is _____ % as per Price break up given below:

Component of cost Imported product Domestic value addition to product In Foreign Currency US\$ or specify In Rupees

Exchange Rate @ 1 US\$ = Rs In Rupees Location of value addition Goods

i Material

ii Equipment

iii Total Quoted Price =

(X + Y)

X =

Y =

% Local Content = $(Y/X) \times 100$

We are not claiming the services such as transportation, insurance, installation, commissioning, training, after sales service (warranty or AMC/CMC support), consultancy and custom clearance including custom duty as local value addition. These costs should not be included in Y above.

We are aware that the false declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules (Govt of India) for which we or our successors can be debarred for up to two years as per Rule 151 (iii) of the General Finance Rules along with such other actions as may be permissible under law.

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]

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]

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

ANNEXURE- 7

Self-Certification

With reference to Clause No. 1.1.3 of this tender and GoI Ministry of Finance Order No.: F. No. 6/18/2019-PPD dated 23rd July, 2020 on "Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs)" & OM No. F. No. 18/37/2020-PPD dated 8th February, 2021;

It is certified that

- We are not a bidder of a country which shares a land border with India.
OR
- We are a bidder of a country which shares a land border with India, however, we are eligible to bid in any procurement whether of goods or services as we are registered with the Competent Authority as specified in Ministry of Finance (GoI) Order No. 6/18/2019 – PPD dated 23rd July 2020. Copy of valid registration is attached.

- Tick as applicable

-

Place:

Date:

Authorised Signatory

Name:

Company Seal

ANNEXURE- 8

Self-Certification under preference to Make in India order Certificate

In line with Government Public Procurement Order No. P-45021/2/2017-PP (BE-II) dated 04.06.2020 issued by Ministry of Commerce and Industry and subsequent amendment of the order dt 16th September 2020 we hereby certify that we M/s. are local supplier meeting the requirement of minimum local content (i.e. amount of value addition)% as defined in above orders for the item/s against Enquiry/Tender No Details of location at which local value addition is made for the item/s are as follows

.....
.....

We also understand false declarations will be in breach of the code of integrity under rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for upto two years as per Rule 151(iii) of the General Financial Rules along with such other actions as may be permissible under law.

Signature of vendor with stamp

Annexure 9: Model Consortium Agreement

This Consortium Agreement ("**Agreement**") entered into at Chennai, India on this _____ day of 2025

BY AND BETWEEN

M/s._____, an entity constituted in accordance with the laws of [Name of the Country] and having its Office at _____, acting through its duly authorized representative, Mr. / Ms._____ [Please insert name and designation] (hereinafter referred to as the 'First Participant Member' which expression unless excluded by or repugnant to the subject or context be deemed to mean and include its successors-in-interest, authorized representatives, administrators, and permitted assigns) of the First Part;

AND

M/s._____, an entity constituted in accordance with the laws of [Name of the Country] and having its Office at _____, acting through its duly authorized representative, Mr. / Ms._____ [Please insert name and designation] (hereinafter referred to as the 'Second Participant Member' which expression unless excluded by or repugnant to the subject or context be deemed to mean and include its successors-in-interest, authorized representatives, administrators, and permitted assigns) of the Other Part.

WHEREAS National Institute of Ocean Technology, being a Society incorporated under the laws of Government of India and having its Registered Office at NIOT Campus, Velachery-Tambaram Main Road, Pallikaranai, Chennai – 600 100, Tamilnadu, India (hereinafter called "NIOT") had invited bids for _____ (hereinafter called the "Project") and the bid conditions require that the applicants bidding for the same should form a Consortium for bidding as well as executing the Project.

AND WHEREAS the Parties of the First and Second Parts jointly satisfy the eligibility criteria laid down by NIOT for participating in the bidding process by forming a Consortium between themselves.

The Parties hereby form such a Consortium subject to the following terms and conditions and this Agreement shall form a part and parcel of the Agreement for **Power, Control and Monitoring Systems (PCMS)** for manned submersible if and when awarded to the Parties hereto:

1. **Object:**

The object of this agreement is for the parties herein to arrive at a strategic understanding with each other to pool their resources, cooperate with each other and jointly prepare and submit their bid and in case the Agreement for **Power, Control and Monitoring Systems (PCMS)** for manned submersible awarded for execution of the Project by NIOT, to take up the same and implement it as per its terms.

2. **Exclusivity:**

2.1 The Parties herein agree that no party shall withdraw from this Agreement at the time of bidding as well as during the execution of the Project and the Agreement for Design, fabrication, testing and supply of 6000 m depth rated **Power, Control and Monitoring Systems (PCMS)** for manned submersible (if awarded) for any reason, whatsoever, without the prior written approval and consent of NIOT.

2.2 The Parties herein also have represented and assured each other that they will abide by and be bound by the terms and conditions stipulated by NIOT for awarding the Agreement for **Power, Control and Monitoring Systems (PCMS)** for manned submersible including signing contract with all stake holders/foreign principal in the execution of this Agreement and the above-mentioned Agreement for **Power, Control and Monitoring Systems (PCMS)** for manned submersible.

3. **Project Coordinator:**

After the bidding process, if the contract is awarded to the Parties herein as a Consortium, the Parties hereby agree that the Party of the First Part shall act as the Lead Partner for self and on behalf of the other parties and shall enter into and execute the Agreement for **Power, Control and Monitoring Systems (PCMS)** for manned submersible for itself and on behalf of the other parties. The parties herein further declare and confirm that they are jointly and severally bound to NIOT for execution of the Agreement for **Power, Control and Monitoring Systems (PCMS)** for manned submersible in accordance with its terms and shall jointly and severally be liable to NIOT to perform all contractual obligations, including technical guarantees mentioned therein and in this Agreement. The Lead Partner is authorized to incur liabilities and receive instructions for and on behalf of any or all Partners of the Consortium.

4. **Responsibility and Obligations of the Parties:**

The responsibilities and obligations of each of the Parties herein shall be as delineated in Appendix-1 to this Agreement. In line with the past experience and specialization of the Parties herein each Party will be responsible for the work allocated to them as per Appendix-1 aforesaid. **It is agreed that the financial responsibility of the works identified in Appendix-1 shall be as described against each item by respective consortium partner.** It is further agreed that the above-mentioned sharing of responsibilities and obligations shall not in any way be a limitation to the joint and several responsibilities of the Parties herein to NIOT under the project or the Agreement **Power, Control and Monitoring Systems (PCMS)** for manned submersible (if awarded by NIOT).

5. **Cooperation:**

5.1 The Lead Partner undertakes to cooperate with the other Parties in order to ensure smooth performance and execution of the Project and the Agreement for **Power, Control and Monitoring Systems (PCMS)** for manned submersible (if awarded by NIOT). The Lead Partner undertakes to provide NIOT with all information at its disposal for due performance of the Agreement for **Power, Control and Monitoring Systems (PCMS)** for manned submersible, (in case the same is awarded by NIOT). The Parties herein also undertake to inform in time each other and NIOT regarding any financial problems or other impediments which may have an impact on the timely execution of the Project or performance of the Agreement for **Power, Control and Monitoring Systems (PCMS)** for manned submersible, (if awarded by NIOT) and shall take all remedial measures to ensure successful performance of all the obligations of the consortium hereunder and under the Agreement for **Power, Control and Monitoring Systems (PCMS)** for manned submersible, (if awarded by NIOT).

5.2 Notwithstanding the Lead Partner's liability in terms of this Agreement, each Party shall be fully responsible, liable and accountable for all financial transactions under this Agreement and the Agreement for **Power, Control and Monitoring Systems (PCMS)** for manned submersible and each Party shall pay its own taxes and make other statutory and mandatory payments / taxes / duties. The Parties herein further undertake to ensure that all applicable legal regulations are observed, appropriate records are kept of all financial transactions and appropriate documentation, including, but not limited to contracts, orders and confirmations, receipts and invoices, time sheets of staff and payroll calculations are retained for all matters pertaining to this Agreement and the Agreement for **Power, Control and Monitoring Systems (PCMS)** for manned submersible, (if awarded by NIOT).

5.3 The Lead Partner shall be responsible to maintain contact with NIOT and request clarification, guidance or advice whenever needed. The other Parties herein shall route all their requests with regard to clarification and guidance through the Lead Partner.

6. **Conflict of Interest:**

The Parties herein undertake to take all necessary measures in order to avoid any conflict of interest during the performance of the Agreement or the project or the Agreement for **Power, Control and Monitoring Systems (PCMS)**, (if awarded by NIOT) and also to identify any

conflict of interest so that NIOT can consult with the Lead Partner and other Parties to sort out such conflicts.

7. **Post Contract Liabilities:**

For any loss or damage on account of any breach of this Agreement or the Agreement for **Power, Control and Monitoring Systems (PCMS)** for manned submersible, (if awarded by NIOT) or any shortfall in the execution of the Project (if awarded by NIOT) meeting the guaranteed performance / parameters as per technical specifications / documents relating to the Tender or the Agreement for **Power, Control and Monitoring Systems (PCMS)** for manned submersible, (if awarded by NIOT), the Lead Partner as well as the other Parties undertake to promptly make good such loss or damage on NIOT's demand without any demur. NIOT shall have the right to proceed against any one of the Parties herein in this regard and it shall neither be necessary nor obligatory on the part of NIOT to proceed against the Lead Partner before proceeding against the other Parties herein.

8. **Assignment:**

The rights and obligations of First and Second Participant Member under this Agreement shall not be assigned to any third party without the prior written consent of NIOT.

9. **Employers' responsibility:**

Each Party will be responsible according to the applicable laws and rules for their own personnel and property.

9.1 **Roles and Responsibilities:**

The role and responsibilities of each of the consortium partners is indicated at Appendix I.

10. **Insurance:**

The Parties herein shall at their own expense take out and maintain insurance cover as may be necessary to cover their liabilities.

The contractor shall obtain and maintain insurance policies for self and his subcontractors of adequate value for its personnel, property, to cover workmen's compensation insurance as per law, employers liability insurance for bodily injuries & occupational diseases, comprehensive general liability insurance for bodily injuries and property damages to cover legal liabilities in India to third parties in respect of third party property damage or loss or personal injury or death of any third party in connection with the work and copies of such policies shall be provided to NIOT for review.

11. **Applicable Law:**

This Consortium Agreement shall be governed, construed and interpreted in accordance with the laws of India and the Courts in Chennai shall have the exclusive jurisdiction in all matters arising hereunder.

12. **Further documents:**

To meet the requirements of bid documents or any other stipulations of NIOT, if it becomes necessary to execute and record any other documents amongst the Parties to this Agreement, the Parties herein undertake to do the needful and to participate in the same for the performance of the said Project (if awarded).

13. **Part of Contract:**

It is further agreed by the Parties herein that this Consortium Agreement shall be irrevocable and shall form an integral part of the Agreement for **Power, Control and Monitoring Systems (PCMS)** for manned submersible, (if awarded) and shall continue to be enforceable against the Parties herein by NIOT till the terms of the Agreement for **Power, Control and Monitoring Systems (PCMS)** for manned submersible (if awarded) are fulfilled. It shall be effective on the date first mentioned above for all purposes and intends.

IN WITNESS WHEREOF, the Parties herein have through their respective authorized representatives have executed these presents and affixed their hands and common seal of the respective companies on the day, month and year aforementioned.

**For M/s._____ (To be signed by all Consortium partners
duly indicating their designation and official seal)**

WITNESS

Name:

Designation:

For M/s._____

(_____)

Annexure 10 PRE-CONTRACT INTEGRITY PACT

General

This pre-bid pre-contract Agreement (hereinafter called the Integrity Pact) is made on _____, between on one hand, the President of India acting through Prof Balaji Ramakrishnan, Director, NIOT, Ministry of Earth Science, Government of India (hereinafter called the "BUYER", which expression shall mean and include, unless the context otherwise requires, his successors in office and assigns) of the First part and represented by Shri _____, (hereinafter called the BIDDER/Seller" which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the Second Part.

WHEREAS the BUYER proposes a service for " **Power, Control and Monitoring Systems (PCMS) for Manned Submersible** " and the BIDDER/Seller is willing to offer/has offered the stores and

WHEREAS the Bidder is a private company/public company/Government undertaking/partnership/registered export agency, constituted in accordance with the relevant law in the matter and the BUYER is a Ministry/Department of the Government of India/PSU performing its functions on behalf of the President of India.

NOW THEREFORE,

To avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudices dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to: -

Enabling the BUYER to obtain the desired said stores/equipment at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement, and

Enabling BIDDERS to abstain from bribing or indulging in any corrupt practice in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and the BUYER will commit to prevent corruption, in any form, by its officials by following transparent procedures.

The parties hereto hereby agree to enter into this Integrity Pact and agree as follows:

Commitments of the BUYER

1.1 The BUYER undertakes that no official of the BUYER, connected directly or indirectly with the contract, will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantages from the BIDDER, either for themselves or for any person, organization or third party related to the contract in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract.

1.2 The BUYER will, during the pre-contract stage, treat all BIDDERS alike, and will provide to all BIDDERS the same information and will not provide any such information to any particular BIDDER which could afford an advantage to that particular BIDDER in comparison to other BIDDERS

1.3 All the officials of the BUYER will report to the appropriate Government office any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach.

2. In case any such preceding misconduct on the part of such official(s) is reported by the BIDDER to the BUYER will full and verifiable facts and the same is prima facie found

to be correct by the BUYER, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by the BUYER and such a person shall be debarred from further dealings related to the contract process. In such a case while an enquiry is being conducted by the BUYER the proceedings under the contract would not be stalled.

Commitments of BIDDERS

3. The BIDDER commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage in order to secure the contract or in furtherance to secure it and in particular commit itself to the following:-

3.1 The BIDDER will not offer directly or through intermediaries, any bribe, gift, consideration, reward favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BUYER, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract.

3.2 The BIDDER further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward favour, any material or immaterial benefit or any other advantage, commission, fees, brokerage or inducement to any official of the BUYER, or otherwise in procuring the Contract or forbearing to do or having done any act in relation to the obtaining or execution of the contract or any other contract with the Government for showing or forbearing to show favour or disfavour to any person in relation to the contract or any other contract with the Government.

3.3 BIDDERS shall disclose the name and address of agents and representatives and Indian BIDDERS shall disclose their foreign principles or associates.

3.4 BIDDERS shall disclose the payments to be made by them to agents/brokers or any other intermediary in connection with this bid/contract.

3.5 The BIDDER further confirms and declares to the BUYER that the BIDDER is the original manufacturer / integrator / authorized government sponsored export entity of the defect stores and has not engaged any individual or firm or company whether Indian or foreign to intercede, facilitate or in any way to recommend to the BUYER or any of its functionaries whether officially or unofficially to the award of the contract to the BIDDER, nor has any amount been paid, promised or intended to be paid to any such individual, firm or company in respect of any such intercession, facilitation or recommendation.

3.6 The BIDDER, either while presenting the bid or during pre contract negotiations or before signing the contract, shall disclose any payments he has made, is committed to or intends to make to officials of the BUYER or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.

3.7 The BIDDER will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.

3.8 The BIDDER will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.

3.9 The BIDDER shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information provided by the BUYER as part of the business relationship, regarding plans, technical proposals and business details,

including information contained in any electronic data carrier. The BIDDER also undertakes to exercise due and adequate care lest any such information is divulged.

3.10 The BIDDER commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.

3.11 The BIDDER shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.

3.12 If the BIDDER or any employee of the BIDDER or any person acting on behalf of the BIDDER, either directly or indirectly, is a relative of any of the officers of the BUYER, or alternatively, if any relative of an officer of the BUYER has financial interest/stake in the BIDDER's firm, the same shall be disclosed by the BIDDER at the time of filling of tender.

The term 'relative' for this purpose would be as defined in Section 6 of the Companies ACT 1956.

3.13 The Bidder shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the BUYER.

4. Previous Transgression

4.1 The BIDDER declares that no previous transgression occurred in the last three years immediately before signing of this Integrity Pact, with any other company in any country in respect of any corrupt practices envisaged hereunder or with any Public Sector Enterprise in India or any Government

Department in India that could justify BIDDER's exclusion from the tender process.

4.2 The BIDDER agrees that if it makes incorrect statement on this subject, BIDDER can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

5. Earnest Money (Security Deposit)

5.1 While submitting commercial bid, the BIDDER shall deposit an amount Rs.33,04,000/-as Earnest Money/Security Deposit, with the buyer as per the following instruments:

i) A confirmed guarantee by an Indian Nationalized bank, promising payment of the guaranteed sum to the BUYER on demand within three working days without any demur whatsoever and without seeking any reasons whatsoever. The demand for payment by the BUYER shall be treated as conclusive proof of payments.

ii) Any other mode or through any other instrument (to be specified in the RFP)

5.2 The Earnest Money/Security Deposit shall be valid upto a period of five years or the complete conclusion of the contractual obligations to the complete satisfaction of both the BIDDER and the BUYER, including warranty period, whichever is later.

5.3 In case of the successful BIDDER a clause would also be incorporated in the Article pertaining to Performance Bond in the Purchase Contract that the provisions of Sanctions for Violation shall be applicable for forfeiture of Performance Bond in case of a decision by the BUYER to forfeit the same without assigning any reason for imposing sanction for violation of this pact.

5.4 No interest shall be payable by the BUYER to the BIDDER on Earnest Money/Security Deposit for the period of its currency.

6. Sanctions for Violations

6.1 Any breach of the aforesaid provisions by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER) shall entitle the BUYER to take all or any one of the following actions, wherever required: -

- i) To immediately call off the pre-contract negotiations without assigning any reason or giving any compensation to the BIDDER. However, the proceedings with the other BIDDER(s) would continue.
- ii) The Earnest Money Deposit (in pre-contract stage) and/or Security Deposit/ Performance Bond (after the contract is signed) shall stand forfeited either fully or partially, as decided by the BUYER and the BUYER shall not be required to assign any reason therefore.
- iii) To immediately cancel the contract, if already signed, without giving any compensation to the BIDDER.
- iv) To recover all sums already paid by the BUYER, and in case of an Indian BIDDER with interest thereon at 2% higher than the prevailing Prime Lending Rate of State Bank of India, while in case of a BIDDER from a country other than India with interest thereon at 2% higher than the LIBOR. If any outstanding payment is due to the BIDDER from the BUYER in connection with any other contract for any other stores, such outstanding payment could also be utilized to recover the aforesaid sum and interest.
- v) To encash the advance bank guarantee and performance bond/warranty bond, if furnished by the BIDDER, in order to recover the payments, already made by the BUYER, along with interest.
- vi) To cancel all or any other Contracts with the BIDDER. The BIDDER shall be liable to pay compensation for any loss or damage to the BUYER resulting from such cancellation/ rescission and the BUYER shall be entitled to deduct the amount so payable from the money(s) due to the BIDDER.
- vii) To debar the BIDDER from participating in future bidding processes of the Government of India for a minimum period of Five years, which may be further extended at the discretion of the BUYER.
- viii) To recover all sums paid in violation of this Pact by BIDDER(s) to any middleman or agent or broker with a view to securing the contract.
- ix) In cases where irrevocable Letters of Credit have been received in respect of any contract signed by the BUYER with the BIDDER, the same shall not be opened.
- x) Forfeiture of Performance Bond in case of a decision by the BUYER to forfeit the same without assigning any reason for imposing sanction for violation of this pact.

6.2 The BUYER will be entitled to take all or any of the actions mentioned at para 6.1(i) to (x) of this Pact also on the Commission by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER) of an offence as defined in Chapter IX of the Indian Penal code, 1860 or Prevention of Corruption ACT, 1988 or any other statute enacted for prevention of corruption.

6.3 The decision of the BUYER to the effect that a breach of the provisions of this Pact has been committed by the BIDDER shall be final and conclusive on the BIDDER. However, the BIDDER can approach the Independent Monitor(s) appointed for the purposes of this Pact.

7. Fall Clause

7.1 The BIDDER undertakes that it has not supplied/is not supplying similar product/systems or subsystems at a price lower than that offered in the present bid in respect of any other Ministry/Department of the Government of India or PSU and if it is found at any stage that similar product/systems or sub systems was supplied by the BIDDER to any other Ministry/Department of the Government of India or PSU at a lower price, then that very price, with due allowance for elapsed time, will be applicable to the present case and the difference in the cost would be refunded by the BIDDER to the BUYER, if the contract has already been concluded.

8.Independent Monitors

8.1 The BUYER has appointed Independent Monitors (hereinafter referred to as Monitors) for this Pact in consultation with the Central Vigilance Commission

Shri. Ajay Kumar Lal, IRAS (Retd)

e-mail: ajay_k_lal@yahoo.com

Mobile: 9560712003

Address: HIG, Block 3A/101A,
Motia Khan (near Jhandewalan Temple),
D.B. Gupta Road,
New Delhi – 110015

Shri. Pavan Kumar Jain, IDSE (Retd)

e-mail: msgpkj@gmail.com

Mobile: 9313498388

Address: A-402, Shree Ganesh Apartments,
Plot No. 12B, Sector-7, Dwarka
New Delhi 110075

8.2 The task of the Monitors shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this pact.

8.3 The Monitors shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently.

8.4 But the parties accept that the Monitors have the right to access all the documents relating to the project/procurement, including minutes of meetings.

8.5 As soon as the Monitor notices, or has reason to believe, a violation of this pact, he will so inform the Authority designated by BUYER.

8.6 The BIDDER(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the BUYER including that provided by the BIDDER. The BIDDER will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Subcontractors. The Monitor shall be under contractual obligation to treat the information and documents of the BIDDER/Subcontractor(s) with confidentiality.

8.7 The BUYER will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the parties. The parties will offer to the Monitor the option to participate in such meetings.

8.8 The Monitor will submit a written report to the designated Authority of BUYER/Secretary in the Department/within 8 to 10 weeks from the date of reference or intimation to him by the BUYER/BIDDER and, should the occasion arise, submit proposals for correcting problematic situations.

9.Facilitation of Investigation

In case of any allegation of violation of any provisions of this Pact or payment of commission, the BUYER or its agencies shall be entitled to examine all the documents including the Books of Accounts of the BIDDER and the BIDDER shall provide necessary information and documents in English and shall extend all possible help for the purpose of such examination.

10.Law and Place of Jurisdiction

This Pact is subject to Indian Law. The place of performance and jurisdiction is the seat of the BUYER.

11. Other Legal Actions

The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

12. Validity

12.1 The validity of this Integrity pact shall be from date of its signing and extend upto 5 years or the complete execution of the contract to the satisfaction of both the BUYER and the BIDDER/Seller, including warranty period, whichever is later. In case BIDDER is unsuccessful, this Integrity Pact shall expire after six months from the date of the signing of the contract.

12.2 Should one or several provisions of this pact turn out to be invalid; the remainder of this act shall remain valid. In this case, the parties will strive to come to an agreement to their original intentions.

13. The parties hereby sign this Integrity Pact at _____ NIOT Chennai on

THE DIRECTOR

National Institute of Ocean
Technology
Ministry of Earth Sciences

BIDDER

M/s.

Witness

1. _____
2. _____

Witness

1. _____
2. _____

**Special Contract Conditions for
Power, Control and Monitoring Systems (PCMS) for
deepwater submersibles**



**NATIONAL INSTITUTE OF OCEAN TECHNOLOGY
VELACHERY – TAMBARAM MAIN ROAD, NARAYANAPURAM
CHENNAI 600 100
2025**

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**Technical specification for Power Control and Monitoring (PCMS) for deep water submersible
Modeling, Procurement, Assembly, Integration and Testing (MPAIT 2.0) of**

1. Introduction

National Institute of Ocean Technology (NIOT) is an autonomous ocean technology research institute under the Ministry of Earth Sciences (MoES), Government of India, involved in the development of reliable indigenous technologies to solve various engineering problems associated with the exploration of living and non-living resources in the Indian Ocean region.

The deep-sea technologies division of NIOT had developed a deep-water work class ROV (ROSUB 6000) and in-situ soil tester for 6000m operational capability and is presently involved in the development of an integrated underwater mining system for polymetallic nodule mining from 6000m water depth. Under the Deep Ocean Mission program, NIOT-MoES is developing a 6000m depth-rated human-occupied submersible, MATSYA 6000, for scientific exploration in Indian oceans. The battery-powered submersible is designed to carry 3 humans for a mission period of 12h. The submersible shall be 9m long, weigh ~25t and certified by DNV. The titanium-alloy personnel sphere of 2.1m internal diameter shall house the three humans, their life support systems, power networks, control networks, communication, and navigation systems.

Through a turnkey contract, NIOT has successfully completed the Modeling, Procurement, Assembly, Integration, and Testing (MPAIT) of the Electrical, Electronics, and Instrumentation (EEI) systems for the Personnel Sphere (PS), Imaging and Data System Enclosures (IDE), and Power Distribution System Enclosures (PDE) of the Human submersible, including environmental qualification testing in compliance with DNV-0339 Class A standards. Subsequent to this development, NIOT is now seeking an experienced firm for MPAIT 2.0, which will focus on the Power, Control, and Monitoring System for the PS, IDE, and PDE of an upgraded version of the existing version in Human submersible.

Qualified firms with proven expertise in design, development, delivery, certification, commissioning, testing, and training are invited to participate in the tender process. The credentials, technical capabilities, financial standing, and track record of interested bidders will be evaluated through Pre-Bid Meeting (PBM) discussions and submitted documents as part of the tender process. Companies, agencies, or institutes that meet the pre-qualification requirements outlined in Clause 3.11 of the Notice Inviting Tender (NIT) are encouraged to submit their proposals in accordance with the tender specifications.

2. PCMS description of the Human submersible

A 2.1-meter diameter sphere, referred to as the Personnel Sphere (PS), will serve as the housing for the crew, life support systems, and various essential subsystems required for submersible operations. These include the Control and Monitoring system, Power Distribution, Human Support and Safety System, Imaging System, Navigation, Communication, and other critical systems, all of which will be integrated within the PS. Additionally, two cylindrical enclosures, each 1.2 meters long and 0.3 meters in diameter, will be allocated for the Imaging and Data Enclosure (IDE) components. Two more cylindrical enclosures, each 1.6 meters long and 0.3 meters in diameter, will accommodate the Power Distribution Enclosure (PDE) components. These enclosures, designed to withstand deep-sea conditions, will safeguard and house the **Power, Control, and Monitoring systems (PCMS)**. NIOT will provide the depth-rated sphere and cylindrical enclosures on-site for the final installation and commissioning.

Integrator: In this document, the term "Integrator" refers to the successful bidder.

3. Scope of supply

The scope of supply includes the following:

Table 1 PCM Subsystem of MATSYA6000

Description	Quantity
Personnel Sphere -Power and control and monitoring system(PS-PCMS) with DNV approval	1 no
Personnel Sphere (PS-PT) physical twin a) Spherical hull Mockup (1 ATM) b) PS-PCMS for twin	1 no
Power Distribution Enclosure (PDE) Power control and monitoring system	3 nos
Imaging and Data Enclosure (IDE) Power control and monitoring system	3 nos

3.1 Personnel sphere-Power control and monitoring system (PS-PCMS)

Constraints inside the Personnel Sphere:

- **Inner Diameter of Sphere:** 2 meters.
- **Entry Hatch Diameter:** 0.5 meters.
- **Available Space for PCMS:** less than 1.1 cubic meters.
- **Components must meet environmental conditions:**
 - **Ambient pressure:** 1 bar \pm 0.3 bar
 - **Temperature:** 0–55°C
 - **Humidity:** 0–95%
 - **EMI, EMC, Vibration and inclination compliance** in accordance with **DNV-0339A Class A** standards.

Design & 3D Modeling

3D Modeling of PS-PCMS Interior

- Develop **optimized 3D models** of the Personnel Sphere interior, accommodating all components listed under PS-PCMS, including the **Human Safety Support System (HSSS)** and crew members.
- Include **precise cable routing** and connector placements, ensuring all connections are accessible and properly visualized.
- Ensure the **PCMS system fits within the 1.1 cubic meter volume**, adhering to ergonomic and operational requirements. Depict various crew postures, reach ability, and accessibility, while identifying any potential obstructions.
- Provide detailed **General Arrangement (GA) diagrams** for NIOT for DNV review and approval.
- Create **fabrication drawings** for use in production, ensuring all designs align with standards required for DNV certification.
- All documents will be routed to DNV via NIOT approval and verification. Integrator should have an internal approval and review structure for documentation to avoid mistakes.

Schematics and Documentation

- NIOT will supply DNV-approved design drawings for detailed schematics.

- Develop detailed system-level and integration level schematics for control and monitoring panels, ensuring seamless integration of all subsystems.
- Provide wiring harness diagrams for cable routing and electrical integration.
- Ensure documentation complies with **DNV requirements** and is suitable for submission.
- The integrator will prepare detailed Installation manuals.
- Ensure that all involved personnel sign Non-Disclosure Agreements (NDA)

Fabrication & Assembly

- Fabricate and assemble all frames, racks, and structures per the approved design by DNV provided by NIOT.
- Ensure that the entire PCMS customized panels and racks setup fits through the 0.5-meter entry hatch and can be assembled inside the 2-meter sphere.
- Components must be mounted on a dismountable metallic cage for easy installation and removal.
- Maintain traceability of all materials used throughout the fabrication and installation process, ensuring compliance with procurement and DNV standards. Material test certificate to be provided for approval.
- Ensure compliance with DNV requirements if the fabricator must obtain Approval of Manufacturer (AOM) (rewrite)

Structural Analysis

- Perform structural studies including frames, racks, and structures fabricated by the suppliers to validate strength and safety under **static and dynamic loading** in accordance with DNV requirements.(Documents for DNV requirement will be shared to successful bidder)
- Validate the system against inclination standards. (Table 5 Environmental Test Requirements. (Pls check DNV- CG-339 ,class A standards)

Testing and Documentation

- Conduct unit level, system level and integration level testing as per technical compliance sheet.(Table 11 Assembly, Integration, and Test (AIT) requirements)
- Execute environmental qualification tests for all subsystems in compliance with Class a of DNV-CG-339 standards.
- The system-level (module) vibration test shall be conducted, as the 6000m sphere cannot be utilized for the vibration test.
- Integrator shall use Physical twin's outer shell for inclination test.
- Provide detailed test plans and reports for submission to NIOT.
- All the test rig and instruments are at the scope of Integrator.

Factory Acceptance Test (FAT)

- The **integrator** must participate in all testing phases and **Factory Acceptance Tests (FAT)** at NIOT.
- Prepare and submit the necessary documentation as part of the **FAT and DNV certification process**.

- Components selected by integrator should withstand environmental qualification test conditions. Table 5 Environmental Test Requirements. (Pls check DNV- CG-339 ,class A standards)

3.2 Physical Twin (PT)

It is a combination of PS- Power control and monitoring system (PCMS) and outer shell which is similar to 6000M personnel sphere.

3D Modeling for PS-PT (New Design)

- Development of 3D models for the Personnel Sphere's outer shell and interior as per NIOT requirement to accommodate all components listed under the PS-PCMS, including human crew.
- **Assembly:** All components present within the Personnel Sphere must also be included in the mockup according to the PMCS technical requirements. These components should be assembled within the mockup setup.
- **Specification Compliance:** All specifications outlined for the PS-PCMs will also apply to the mockup.
- All the reports have to be forwarded to DNV via and after NIOT approval.

Table 2. Reference for PS- PCM system

Details	References
Overall PS PCM system architecture	Figure 2 PS-PCMS Frame
PS-Physical Twin and outer shell reference	Figure 3 Outer shell
Tentative Bill of materials (BoM)	Table 8 BoM of the PS PCM systems

3.3 Imaging and Data system Enclosure (IDE) IDEs-PCMS

The PCM systems inside the IDE are responsible for managing the imaging, navigation, and scientific sensors of MATSYA 6000. There are two IDEs located on the exo-structure of MATSYA 6000, one on the port side and the other on the starboard side. The following considerations shall be applied for the MPAIT of the PCM systems within the IDE:

- Incorporating the required modifications in existing 3D models in agreeable formats ex.stp of the IDE-PCM subsystems,
- Maintain the system's alignment with structural constraints:
 - Internal assembly length: Must not exceed 1 meter.
 - Internal assembly diameter: Maximum allowable diameter is 0.3 meters.

- Prepare optimized 3D models for both the IDE with attention to space constraints and ease of maintenance.
- All components must be mounted on an aluminum base plate and integrated within the enclosure.
- The base plate must have yellow chrome plating with a minimum thickness of 0.2 microns to ensure durability and corrosion resistance.
- Submit General Arrangement (GA) diagrams to NIOT for approval.
- Submit fabrication diagrams to NIOT for review and approval.
- Ensure all electrical and electronics technical requirements outlined for the Personnel Sphere's PCM system (PS-PCMS) also apply to the IDE systems.
- Maintain material traceability throughout the fabrication and installation process, ensuring compliance with specified standards. Material test certificate to be provided for DNV approval.
- Provide detailed test plans and reports for submission to NIOT

Table 3. Reference for IDE PCM system

Details	References
Representation drawing IDE-PCMS	Figure 4 Representation diagram of IDE-PCMS
Bill of materials (BoM)	Table 8 BoM of the IDE PCM systems

3.4 Power Distribution system Enclosure (PDE) PDEs-PCMS

The PCM systems inside the PDE are responsible for power distribution to the subsystems of MATSYA 6000. There are two PDEs located on the exo-structure of MATSYA 6000, one on the port side and the other on the starboard side. The following considerations must be applied for the MPAIT of the PCM systems within the PDE:

- Incorporating the required modifications in existing 3D models in agreeable formats ex .stp of the PDE-PCM subsystems,
- Maintain the system's alignment with structural constraints:
 - Internal assembly length: Must not exceed 1.5 meter.
 - Internal assembly diameter: Maximum allowable diameter is 0.3 meters.
- All components must be mounted on an aluminum base plate integrated within the enclosure.
- The base plate must have yellow chrome plating with a minimum thickness of 0.2 microns to ensure durability and corrosion resistance.
- Submit General Arrangement (GA) diagrams to NIOT for approval.
- Submit fabrication diagrams to NIOT for review and approval.
- Ensure all electrical and electronics technical requirements outlined for the Personnel Sphere's PCM system (PS-PCMS) also apply to the IDE systems.
- Maintain material traceability throughout the fabrication and installation process, ensuring compliance with specified standards.
- Provide detailed test plans and reports for submission to NIOT

The technical details shall be referred to the following:

Table 4. Reference for PDE PCM system

Details	References
Representation drawing PDE-PCMS	Figure 5 Representation diagram of PDE-PCMS
Bill of materials (BoM)	Table 9 BOM of the PDE PCM System

3.5 DNV Approval:

DNV approval is mandatory for modeling, structural analysis, material selection, fabrication, assembly, integration, and testing. NIOT will cover the DNV charges for documentation verification (up to two versions) and any test witness charges, if applicable.

The integrator is responsible for additional expenses, such as material traceability and, if required for DNV approval, engaging an AOM-authorized fabricator during the fabrication process.

3.6 Qualification testing - Scope and requirements:

- A qualification test plan shall be prepared.
- The integrator shall be responsible for providing any additional Bill of Materials (BoM) required for testing.
- All power sources and measuring instruments must have valid calibration certificates, which shall be included as annexure in the qualification test report.
- The test facility must be NABL-accredited and capable of accommodating the Equipment Under Test (EUT).
- The integrator shall manage all material logistics within their scope.

Table 5 Environmental Test Requirements. (Pls check DNV- CG-339 ,class A standards)

S.NO	Environmental tests	Test Description
1	Visual inspection test	Damages, Good Workmanship, Conformity with manufacturing drawing and specification. Guideline document : DNVGL-CP-0203
2	Performance test	<i>Details will be shared during Qualification test.</i>
3	Vibration test	Pls check DNV- CG-339 ,class A standards
4	Damp heat test	Pls check DNV- CG-339 ,class A standards
5	Dry Heat Test	Pls check DNV- CG-339 ,class A standards
6	Cold test 1	Basis: Operational requirement (test plan will be submitted by NIOT) Test temperature : 2°C @ 12 hours -online Test temperature : - 2°C @ 96 hours –offline and wakeup test Test duration : 108 Hours
7	Radiation immunity test	Pls check DNV- CG-339 ,class A standards
8	Radiation conductivity test	Pls check DNV- CG-339 ,class A standards
9	Conductive immunity test	Pls check DNV- CG-339 ,class A standards
10	Conductive radiation test	Pls check DNV- CG-339 ,class A standards
11	Slow transient test	Pls check DNV- CG-339 ,class A standards
12	Fast transient test	Pls check DNV- CG-339 ,class A standards
13	ESD test	Pls check DNV- CG-339 ,class A standards
14	Inclination test	Basis : DNVGL-RU-UWT-Pt3 Transient inclination upto 45deg It shall not interfere with operation or cause any damage, including to the machine mounting. Basis: IEC publication 60092-504. Dynamic test levels Level up to 22.5° in each direction Period 10 seconds

		Test duration min. 15 minute Static test levels Level up to 22.5° in each direction Test duration min. 15 minute
15	IP rating for control panels and service panel	Front End: Must comply with IP54 standards for waterproof and dustproof protection. Back End: Rated to IP24 to allow heat dissipation and prevent water ingress from walls.

4. Terms and condition:

- NIOT reserves the right to suggest or recommend equivalent component/s for reasons such as obsolete components not recommended for the new design.
- Underwater connectors and penetrators fall under the scope of NIOT. However, all other dry connectors, wires, and accessories within the Personnel Sphere (PS), Imaging and Data Enclosure (IDE), Power distribution enclosure (PDE), along with their qualification testing, are the responsibility of the integrator.
- The work should not be delegated to a subcontractor.
- Any deviation in test cases/design required for DNV approval should be addressed by the Integrator.

4.1 IP Rights:

- The integrator cannot assert intellectual property rights over the electrical, electronic, and mechanical designs.
- The design of the Power, Control & Monitoring System (PCMS) is the responsibility of NIOT and has been approved by DNV. The design must not be disclosed, and photographs of the submersible must not be published without prior approval from NIOT.
- The structural design and modularity are the integrator's responsibilities, and design ideas may be utilized in other systems with appropriate approval.
- The integrator is required to share the 3D model, fabrication drawings, and other relevant details with NIOT until the project's completion.

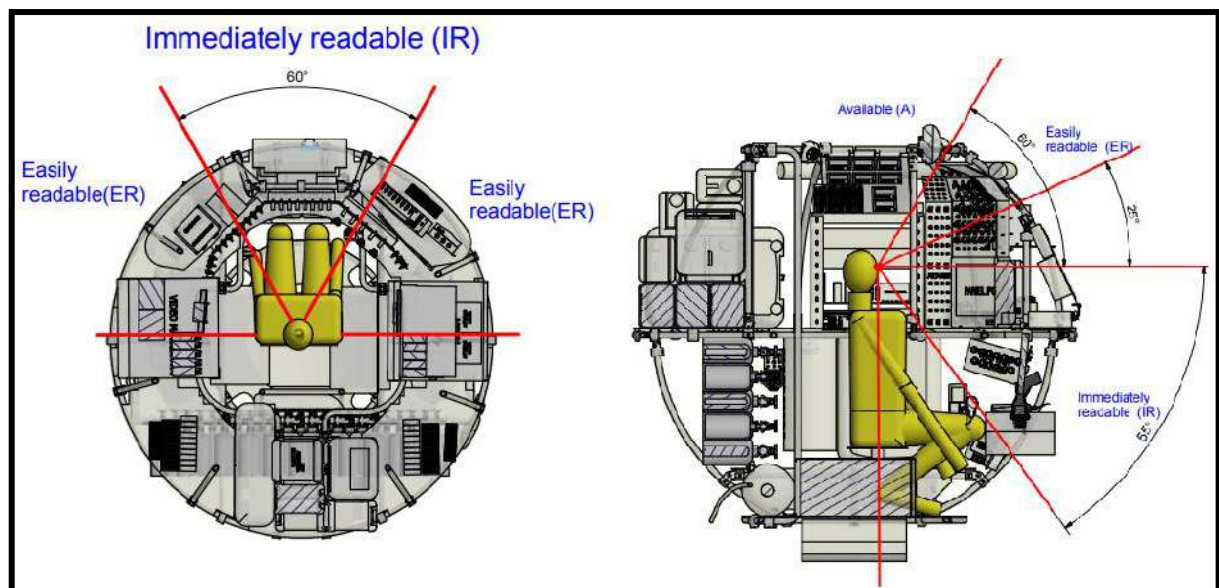
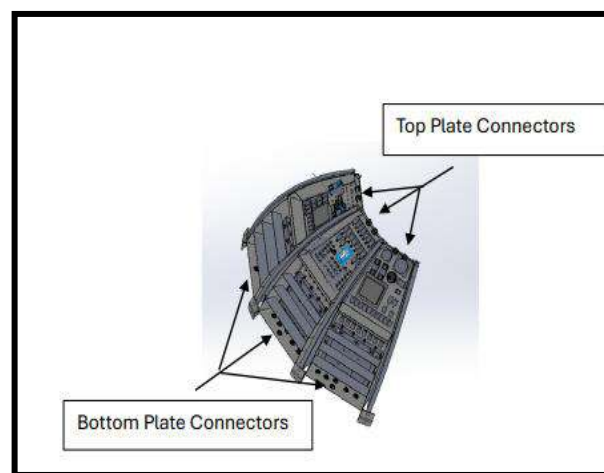
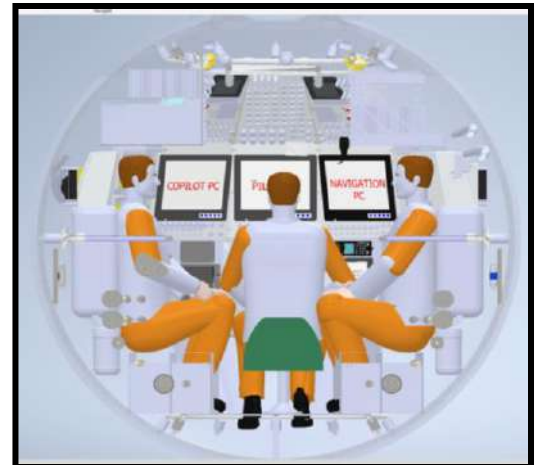
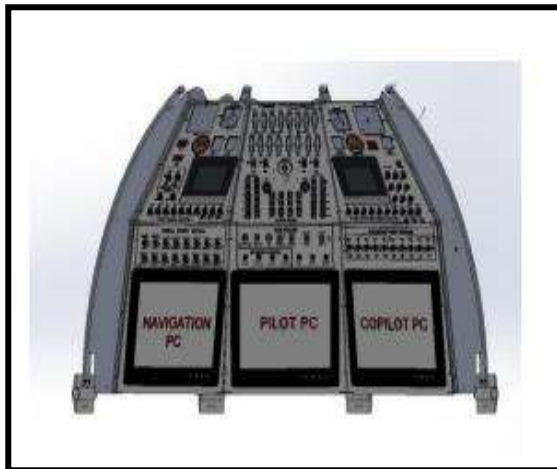


Figure 1 Ergonomics and control panel arrangement for PS-PCMS

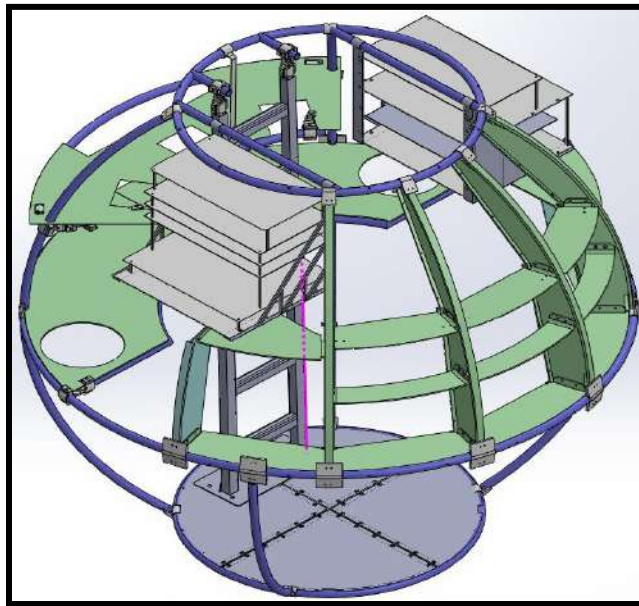


Figure 2 PS-PCMS Frame

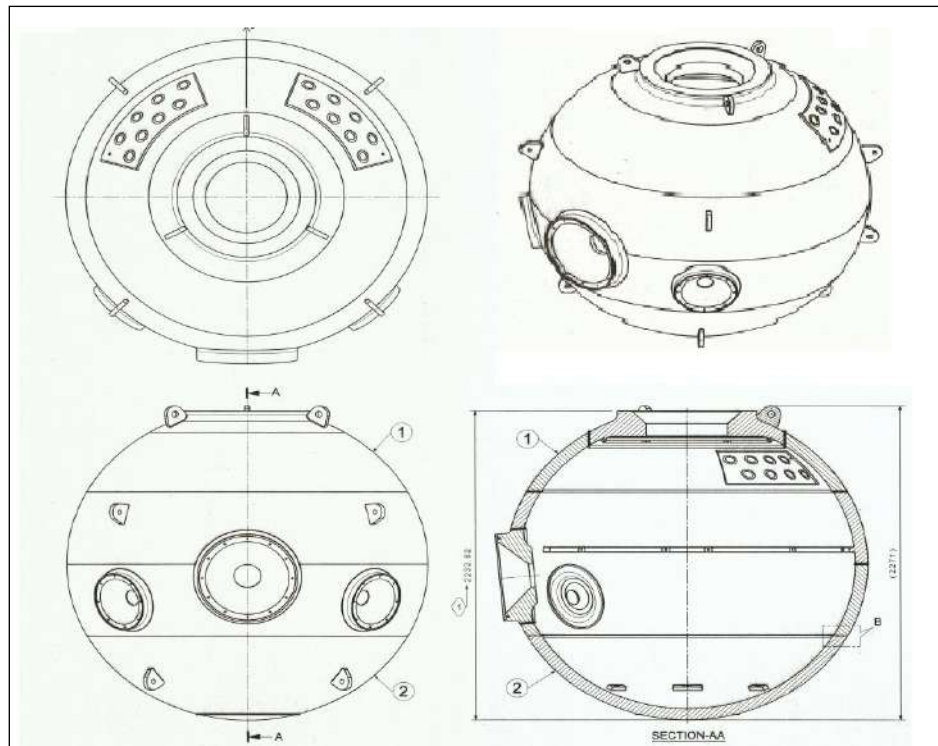


Figure 3 Outer shell

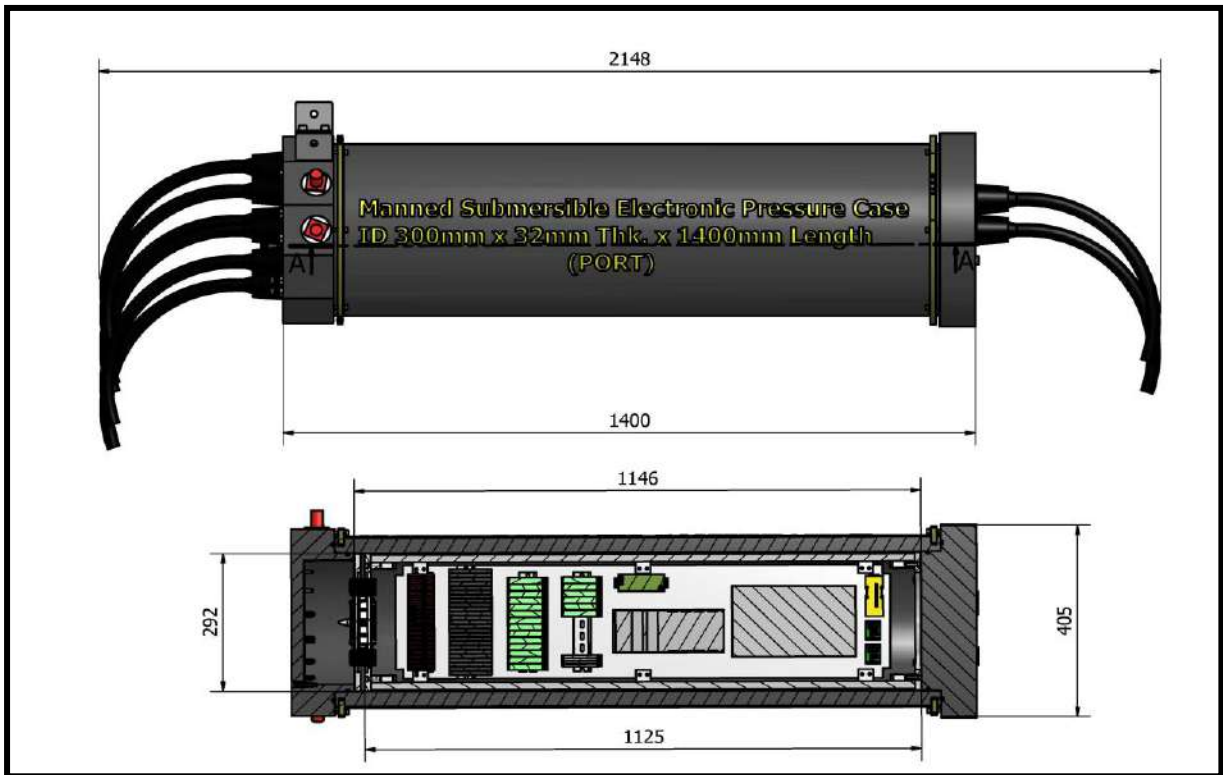


Figure 4 Representation diagram of IDE-PCMS

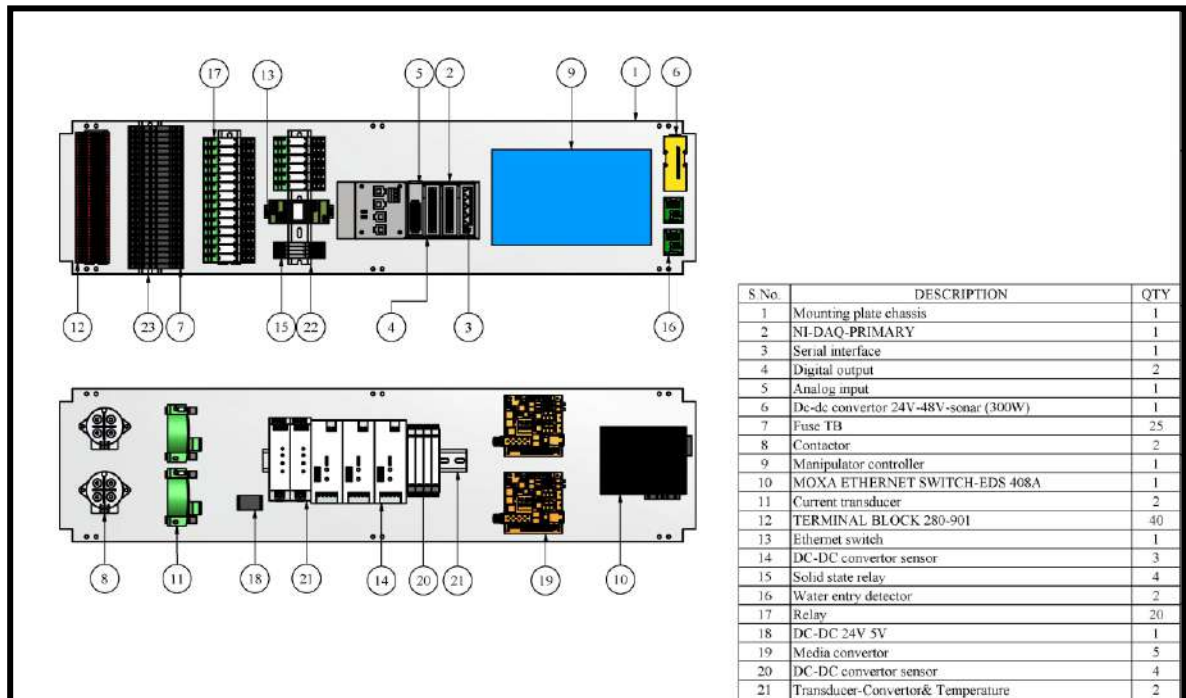


Figure 5 Representation diagram of PDE-PCMS

Table 6 BoM of the PS PCM systems

S. No	Item description	Part No/Model No	Make	PS	PS-T	Qty
Control Stand						
1	Panel PC Intel i7,15 inch,960GB SSD,64GB RAM, windows 11	VL3 PPC - 1376798 or better	Phoenix contact or better	3	3	6
2	Real Time Controllers with chassis	cRIO-9042 or better	NI	2	2	4
3	Digital Output	NI-9476 or better	NI	2	2	4
4	Analog input (V&I)	NI-9207 or better	NI	2	2	4
5	Digital input	NI-9425 or better	NI	4	4	8
6	Analog input (V)	NI-9205 or better	NI	2	2	4
7	Serial to Ethernet Device	NPort 5450I-T or better	Moxa or better	4	4	8
8	Serial to Ethernet Device	NPort 5650I-8-DT-T or better	Moxa or better	2	2	4
9	Industrial Ethernet switch with fast Ethernet modules	TN-5518A-2GTX-W+C58V-T or better	Moxa or better	2	2	4
10	Gigabit Ethernet switch-8port	EDS-G2008-EL-Tor better	Moxa or better	3	3	6
11	multi axis navigational Joystick	Specification attached	APEM or better	1	1	2
12	multi axis handheld Joystick	Specification attached	APEM or better	1	1	2
13	Joystick-PTZ	RS desktop or better	APEM or better	1	1	2
14	Readout display	762-5303/8000-002	Wago	3	3	8
FO Multiplexer-console unit						0
15	2x HD/3G-SDI Video to SM-FO	914-HDV2-C or better	Moog	4	0	4
16	CWDM card	914-CWDM or better	Moog	2	0	2
17	SD to SM-FO media convertor	907E-C or better	Moog	2	0	2
18	4x Gigabit to SM-FO media convertor	907GEM or better	Moog	2	0	2
19	Diagnostic card for all		Moog	2	0	2
20	Accessories kit		Moog	2	0	2
Video Handling System						0
21	4channel HD-SDI Video Recorder	Specification attached	Rugged video or better	2	2	4
22	4in 1 Video Switcher	Specification attached	Rugged video or better	2	2	4
23	Network video Recorder with PoE	MIC-715-NX or better	Advantech or better	1	1	2
24	Network video Recorder without PoE	NVR10020 or better	ABUS or better	1	1	2
25	Video Monitors	LVM-095W-N or better	TVLogic or better	2	2	4
26	Tablet PC	UX10-EX or better	Getac or better	1	1	2

27	Analog to Digital video convertor-1ch	Specification attached	AJA or better	1	1	2
28	Interior camera	AXIS M1075-L Box Camera	Axis or better	2	2	4
Environment						0
28	5Watt 24V LED Lights -Cool white	IP rated and should withstand environmental test	Phoenix or better	4	4	8
29	DC-FAN	Noiseless,IP rated and should withstand environmental test	LMP or better	2	2	4
30	2Watt 24V LED Lights -RED with base plate	IP rated and should withstand environmental test	Hamulight or better	10	10	20
Navigation & Communication						0
31	Surface INS	Tagetpoint TCM	PNI Corporation	1	1	2
32	VHF Receiver	STR 6000A	SAMYUNG	1	1	2
Power Distribution Section						0
33	Electronic circuit breaker-1ch	787-2861/108-020 or better	wago or better	70	70	140
34	Dc-dc convertor 24V-24V-20A – Isolated	QUINT4-PS/24DC/24DC/20/SC	Phoenix contact	8	8	20
35	Dc-dc convertor 24V-24V-10A- Isolated	QUINT4-PS/24DC/24DC/20/SC	Phoenix contact	4	4	8
36	Dc-dc convertor 24V-12V-8A- Isolated	QUINT-PS/24DC/12DC/ 8 - 2320115	Phoenix contact	20	20	40
37	Dc-dc convertor 24V-24V-5A- Isolated	QUINT4-PS/24DC/24DC/5/PT/CO	Phoenix contact	4	4	8
38	Dc-dc convertor 24V-5V-Isolated	DDR-60G-5 or better	Mean well or better	6	6	12
39	Dc-dc convertor 24V-5V-Isolated	DDR-15G-5 or better	Mean well or better	10	10	20
40	Emergency Battery	2 x 2.5kWh dry seal Lead acid	Exide or better	2	2	4
41	Transition switch 24V 60A	Make before break selector switch	Telegron or better	2	2	4
42	Transition switch 24V 40A	Make before break selector switch	Telegron or better	2	2	4
43	24V insulation monitor	isoRW425	Bender	4	4	8
44	24V Voltmeter with display and IP rated	SP-BG2-150A or better	YIS marine or better	6	6	12
45	Voltage transducer 4-20mA o/p	857-560 or better	wago or better	6	6	12
46	Current transducer-100A 4-20mA o/p	MCR-SL-CUC-100-I or better	Phoenix contact or	6	6	12
47	Temperature Transducer 4-20mA	857-800 or better	wago or better	4	4	8

	o/p					
48	RTD sensor	PT-100,3 wire, mountable	wago or better	4	4	8
Terminal and Fuse block (Consumables)						0
49	Blade Fuse block terminal -24V 30A	UK 6-FSI/C-LED24	Phoenix contact	10 0	10 0	200
50	Blade Fuse block terminal -12V 30A	UK 6-FSI/C-LED12	Phoenix contact	50	50	100
51	Blade Fuse block terminal-5V 10A	281-611	wago	20	20	40
52	Blade Fuse	0.5A-30A (assorted)	Little Fuse	20 0	20 0	400
53	Distribution block for load and current (1in- > 18 out)	Multicolor distribution block for 1.5,2.5,4 and 6 sqmm	wago/Phoenix contact	10	10	20
54	Distribution block for load and current (1in- 18 out)	Multicolor distribution block for 1.5 sqmm	wago/Phoenix contact	40	40	80
55	Distribution block for load and current (1in- 18 out)	Multicolor distribution block for 2.5 sqmm	wago/Phoenix contact	40	40	80
56	Distribution block for load and current (1in- 18 out)	Multicolor distribution block for 4 sqmm	wago/Phoenix contact	40	40	80
57	Terminal Block	Multilevel	wago/Phoenix contact	80	80	160
Interface Connector (Consumables)						0
58	Contact insert -24pin 10A	HC-B24-I-PT-CI-F	wago/Phoenix contact	30	30	60
59	Contact insert -24pin 10A	HC-B24-I-PT-CI-M	wago/Phoenix contact	30	30	60
60	Power connector - 4pin Male	40A each pin,24VDC	Amphenol or better	20	20	40
61	Power connector - 4pin Female	40A each pin,24VDC	Amphenol or better	20	20	40
62	Power connector - 4pin Male	10A each pin ,24VDC	Amphenol or better	20	20	40
63	Power connector - 4pin Female	10A each pin,24VDC	Amphenol or better	20	20	40
64	circular connectors -M	D38999, panelmount,5A,55pin	Amphenol or better	50	50	100
65	circular connectors-F	D38999, panel mount, 5A,55pin	Amphenol or better	50	50	100
66	Panel mount circular connectors -M	D38999/26WJ19SN 19 Pin 23A	Amphenol or better	50	50	100
67	Panel mount circular connectors -F	D38999/26WJ19SN 19 Pin 23A	Amphenol or better	50	50	100
68	Tools and accessories	Necessary for maintenance		1set	1set	2set
Control Panel (Consumables)						0
69	Toggle Switch -3 position	S7AL	NKK	50	50	100

70	Toggle Switch -mini	3500 series DPDT, IP rated	APEM/Honeywell	20	20	40
71	Push button	IPC3SAD2LOS	APEM	30	30	60
72	LED	Q8F3BXXR24E or better	APEM	50	50	100
73	Buzzer	10701070	werma	2	2	4
74	Potmeter with knob	Potmeter : PE30LOFL 103KAB Knob: custom design	vishay	10	10	20
75	Potmeter amplifier	Specification attached				
Data & Signal connector (Consumables)						0
76	BNC-BNC panel mounting adaptor		Harting or better	10	10	20
77	M12 connector (Male and Female)		Harting or better	50	50	100
78	BNC coax connector	Preferably right angle	Harting/phoenix or better	30	30	60
79	Fiber panel mounting		Harting/phoenix or better	20	20	40
80	Ethernet panel mounting		Harting/phoenix or better	30	30	60
81	19 inch rack mount	Customized design		ass ort ed	ass ort ed	ass orte d
82	Shielded Ethernet connector-RJ45		Harting/phoenix or better	20 0	20 0	400
83	Shielded Ethernet cable (LSZH)		Harting or better	30 0	30 0	600
84	RG179 coaxial cable (LSZH)	RG179DTNH	Belden	10 0	10 0	200
85	USB panel mount with cables		Harting or better	10	10	20
MISC						0
86	Outer Shell	custom		0	1	1
87	main aluminum structure	custom		1	1	2
88	Ladder	custom		1	1	2
89	Vibration dampener –fire retardant	custom		40	40	80
90	Non-flammable cushion seat with cover and seat belt	custom		3	3	6
91	Side walls apparels-	custom		1	1	2
92	Non-flammable water absorbent foam	custom		1	1	2
93	cable tray	custom		1	1	2
94	Control Panel with mounting accessories	custom		14	14	28

Table 7 Specification of components

Sl. No	Specification	Yes
1.	<u>Multi axis navigational Joystick:</u> <ul style="list-style-type: none"> • Fixed position • Hall effect sensor • X,Y and Z axis • Output : RJ45 TCP Ethernet or with necessary convertor • \geqIP54 rated housing • Expected Life: min 1 million life cycles • Should have On/Off switches and depth control switches • Mechanical Angle of Movement: ≥ 20 deg from centre • Lever Action: Single return, omnidirectional • Should pass Environmental test DNV 0339 	
2.	<u>Multi axis finger Joystick:</u> <ul style="list-style-type: none"> • Movable or Panel mount • Hall effect sensor • X,Y and Z axis • Output : RJ45 TCP Ethernet or with necessary convertor \geqIP54 rated housing • Expected Life: min 1 million life cycles • Mechanical Angle of Movement: • X & Y axis - ≥ 20 deg and Z axis ≥ 30 deg from centre • Lever Action: Single return, omnidirectional • Should pass Environmental test 	
3.	<u>Video recorder:</u> <ul style="list-style-type: none"> • Min 4 Channel HD-SDI input compatible • Removable SSD/Hard disk • Resolution- support Full HD • Inbuilt Video overlay –selectable for all recorder via Ethernet interface • Total power estimation less than 100W @24V DC nominal • Quality of videos should be loss will replay and export. • Total dimension –fit inside 2U rack mount enclosure • min 1x Ethernet (10/100/1000base-T) • Total weight -less than 10Kg • All accessories including cables and connector for interface should be the part of supply • Should pass environmental test 	
4.	<u>Video Matrix:</u> <ul style="list-style-type: none"> • Min 4 input –HD-SDI • Min 1 output–HD-SDI • Resolution- support Full HD • Total power estimation less than 30W @24V DC nominal • Hard selectable switches in front panel • All wires in rear panel • Total dimension –fit inside 2U rack mount enclosure 	

	<ul style="list-style-type: none"> • min 1x Ethernet (10/100/1000base-T) • Total weight -less than 2Kg • All accessories including cables and connector for interface should be the part of supply • Should pass environmental test 	
5.	<p><u>Analog to digital convertor</u></p> <ul style="list-style-type: none"> • Min 1 input -Composite • Min 1 output-SD-SDI • Total power estimation less than 50W @12V/24 DC nominal • Total dimension –fit inside 1U rack mount enclosure • Total weight -less than 1Kg • All accessories including cables and connector for interface should be the part of supply • Should withstand environmental test 	
6.	<p><u>Potentiometer with Amplifier :</u></p> <ul style="list-style-type: none"> • Potentiometer, nominal resistance: 1Ω - 10 kΩ • Centre Marking in front panel • Output circuit: 0...20 mA • Complete galvanic isolation • Input reverse-polarity protected 	

Table 8 BoM of the IDE PCM systems

S No	Item description	Part No/Model No	Make	Port	stbd	spare	Qty
1	Real Time Controllers with chassis	cRIO-9042	NI	1	1	1	3
2	Digital Output	NI-9476	NI	2	2	2	6
3	Analog input (V&I)	NI9207	NI	1	1	1	3
4	Serial interface	NI-9871	NI	1	1	1	3
5	Industrial Ethernet switch	EDS 510E-3GTXSFP	Moxa	1	1	1	3
6	HD-SDI to SM-FO media convertor	914-HDV2-R	Moog	2	2	2	6
7	SD to SM-FO media convertor	907E-HS-R-	Moog	1	1	1	3

8	serial to SM-FO media convertor	907-SER-1	Moog	0	0	0	0
9	Gigabit to SM-FO media convertor	907-GEM	Moog	1	1	1	3
10	CWDM	914-CWDM		1	1	1	3
11	Dc-dc convertor 24V-24V-10A	QUINT4-PS/24DC/24DC/10/SC	phoenix contact	3	3	3	9
12	Dc-dc convertor 24V-12V-8A	QUINT4-PS/24DC/12DC/8/SC	phoenix contact	3	3	3	9
13	Dc-dc convertor 24V-5V	DDR-60L-5	meanwell	4	4	4	12
14	Dc-dc convertor 24V-5V	787-2801	wago	2	2	2	6
15	24V insulation monitor	isoRW425	Bender	1	1	1	3
16	Voltage transducer	857-560 or better	Wago or better	3	3	3	9
17	Current transducer	MCR-SL-CUC-100-I or better	phoenix contact	2	2	2	6
19	RTD Temperature Transducer with PT100	857-800 or better	phoenix contact	1	1	1	3
20	Relay -24VDC DPDT-3A	PLC-RSC-24UC/2X21/FG - 2910536	phoenix contact	20	20	20	60
21	SSR	D1D20	Sensata / Crydom	4	4	4	12
22	Contactor	KILOVAC cap202	TE CONNECTIVITY	3	3	3	9
23	Fuse block	UK 6-FSI/C-LED24	Phoenix contact	100	100	100	300
23	Fuse block	UK 6-FSI/C-LED12	Phoenix contact	10	10	10	30
24	Fuse block	5V-10A	wago	10	10	10	30
25	Bladé Fuse	0.5A-30A	little fuse	100	100	100	300
26	Terminal Block -20A	280-901	wago	50	50	50	300
27	contact insert male-20A - 108pins	HC-DD 108-I-CT-M - 1584114	phoenix contact	4	4	4	12
28	contact insert Female-20A - 108pins	HC-DD 108-I-CT-F - 1584130	phoenix contact	4	4	4	12
29	Crimping pins	1674480	phoenix contact	400	400	400	1200
30	Crimping pins	1672453	phoenix contact	400	400	400	1200
31	Power Distribution Block	Red, Black, green colors	phoenix contact	50	50	50	150
32	Crimping tools	Suitable for maintenance	phoenix contact	1			
33	removing tools	Suitable for maintenance	phoenix contact	1			

34	Insertion tools		phoenix contact	1			
35	Wires and cables	Assorted		Assorted			
36	Terminal block	779491-01	NI/Emerson	3	3	3	9

Table 9 BOM of the PDE PCM System

S. No	DESCRIPTION	PART NO.	MAKE	PORT	STBD	SPARE	TOTAL QTY.
1	Real Time Controllers with chassis	cRIO 9042 or better	NI	1	1	1	3
2	Digital Output	NI-9476 or better	NI	1	1	1	3
3	Analog input	NI9205 or better	NI	1	1	1	3
4	Serial interface	NI-9871 or better	NI	2	2	2	6
5	Managed Ethernet switch	EDS 510E-3GTXSFP or better	Moxa	1	1	1	3
6	Main DC contactor (+)	KIOLOVAC CAP202 - MSAND or better	TE Connectivity or better	1	1	1	3
7	Main DC contactor (-)	KIOLOVAC CAP202 - MSAND or better	TE Connectivity or better	1	1	1	3
8	Inrush current limiter board	Ametherm MM35 0R560 -8 nos. Custom design PCB -1 nos. as per NIOT drawing	Ametherm or better	2	2	2	6
9	Thruster 2 pole 50A MCB	A9N61538 or better	Schneider or better	4	4	4	12
10	Contactor for BATS	KIOLOVAC CAP202 - MSAND or better	TE Connectivity or better	1	1	1	3

S. No	DESCRIPTION	PART NO.	MAKE	PORT	STBD	SPARE	TOTAL QTY.
11	Contactor for thruster	KIOLOVAC CAP202 - MSAND or better	TE Connectivity or better	4	4	4	12
12	Capacitor bank with surge protector	1000 micro farad 250 V – (380LQ102M250K032) – 24 nos.	Cornell Dubilier	3	3	3	12
		820 micro farad 250 V - (380LQ821M250K022) – 8 nos.					
		Custom design PCB - 1 no. as per NIOT drawing	custom				
		TVS-Diode (Littelfuse 1.5ke300ca) – 2 nos.	Littelfuse				
		Connector (wago-2616 1358) - 4 nos.	wago				
13	Thruster controller with heat sink	Thruster controller (Tecnadyne 304-823-07) – 4 Nos.	Tecnadyne	1	1	1	3
		Heatsink - 1 no. as per NIOT drawing	custom				
14	Power link DC contactor	KIOLOVAC CAP202 - MSAND or better	TE Connectivity or better	1	1	1	3
15	Over load relay	DOCRD-HALLZ7 or better	Schneider or better	2	2	2	6
16	Electronic circuit breaker	787-2861/108-020 or better	WAGO or better	25	25	25	75
17	SSR with heat sink	SSR- CRYDOM D5D07 – 8 nos.	CRYDOM or better	1	1	1	3
		Heat sink - 1 no. as per NIOT drawing	custom				
18	2 pole 2A MCB for 148 V lights	A9N61522 or better	Schneider or better	4	4	4	12
19	Online insulation monitor for 148 & 24 V DC	isoRW425 or better	Isometer or better	5	5	5	15
20	24 V DC Changeover relay	858-324 or better	WAGO or better	2	2	2	6
21	148 V - 24 V DC-DC converter, 63 A (DCPS 01)	RSP 1500-24 series or better	Meanwell or better	2	2	2	6
22	148 V - 24 V DC-DC converter, 20 A (DCPS 02)	2904602 or better	Phoenix Contact or better	1	1	1	3
23	2 pole 4A MCB for DC-DC converter (DCPS02)	A9N61524 or better	Schneider or better	1	1	1	3

S. No	DESCRIPTION	PART NO.	MAKE	PORT	STBD	SPARE	TOTAL QTY.
24	2 pole 16A MCB for DC-DC converter	A9N61531 or better	Schneider or better	2	2	2	6
25	Switching Relay module	859-392 or better	WAGO or better	6	6	6	18
26	148 V DC voltage transducer	857-560	WAGO or better	1	1	1	3
27	Voltage transducer for 24 V DC	MACX MCR-UI-UI-NC – 2811446	Phoenix Contact or better	1	1	1	3
28	CT for OLR	CR5210-300-12 or better	CR Magnetics or better	2	2	2	6
29	CT for 148V DC	CR5211-300-24 or better	CR Magnetics or better	1	1	1	3
30	CT for thrusters	CR5211-75-24 or better	CR Magnetics or better	4	4	4	12
31	CT for BATS (VBP/ HPU)	CR5211-150-24 or better	CR Magnetics or better	1	1	1	3
32	CT for 24 V DC	CR5211-150-24 or better	CR Magnetics or better	1	1	1	3
33	Temperature measuring transducer (RTD)	1050192 or better	Phoenix contact or better	1	1	1	3
34	Water entry sensor board	as per NIOT drawing	Custom	1	1	1	3
35	Water entry sensor	as per NIOT drawing	Custom	2	2	2	6
36	BATS fuse 110 A	P097165	Mersen or better	2	2	2	6
37	Fuse holder for BATS fuse	LSCR001 or better	Littelfuse or better	8	8	8	24
38	Power link fuse 150 A	Q097166	Mersen or better	2	2	2	6
39	Main DC TB (232A)	285-181 or better	WAGO or better	6	6	6	18
40	24 V DC O/P TB	2216-1201 or better	WAGO or better	8	8	8	24
41	Direct Control / Feedback TB	3210499 or better	Phoenix contact or better	15	15	15	45
42	Light power/ control TB	3210499 or better	Phoenix contact or better	8	8	8	24
43	24 V Distribution TB	2206-8031 or better	WAGO or better	5	5	5	15
44	Temperature sensor	PT100	-	1	1	1	3

S. No	DESCRIPTION	PART NO.	MAKE	PORT	STBD	SPARE	TOTAL QTY.
45	148 V Distribution TB	2206-8031 or better	WAGO or better	3	3	3	9
46	Thruster power TB	2216-1201 or better	WAGO or better	12	12	12	36
47	BATS power TB	285-150 or better	WAGO or better or better	2	2	2	6
48	Thruster / BATS control TB	3210499 or better	Phoenix contact or better	11	11	11	33
49	Earth TB for DCPS 01, DCPS 02 and OIM	3210602 or better	Phoenix contact or better or better	4	4	4	12
50	Earth TB for Power Link	3044241 or better	Phoenix contact or better	1	1	1	3
51	Earth TB for DCPS 01 o/p	3212147 or better	Phoenix contact or better	2	2	2	6
52	Earth TB for Thrusters	3212131 or better	Phoenix contact or better	4	4	4	12
53	Earth TB for BATS	3044241 or better	Phoenix contact or better	1	1	1	3
54	Serial isolator/repeater	TCC-120I Series or better	Moxa or better	4	4	4	12
55	PDE base plate	Refer drawing	Custom	1	1	1	3

Table 10 BoM for Testing

S No	Item description	Part No/Model No	Make	Qty
1	DC Programmable power supply	PS32-50	Scientific	2
2	DC Programmable power supply	PS160-10	Scientific	2

5. Technical requirement for PCMS .

Table 11 Assembly, Integration, and Test (AIT) requirements

Mechanical requirements for PS-PCMS ,PS-outer shell	
<p>Ergonomic Compliance</p> <ul style="list-style-type: none"> • The structure must meet all ergonomic standards specified by the NIOT design team. • Develop optimized 3D models of the Personnel Sphere interior, accommodating all components listed under PS-PCMS, including the Human Safety Support System (HSSS) and crew members. • Include precise cable routing and connector placements, ensuring all connections are accessible and properly visualized. • Ensure the PCMS system fits within the 1.1 cubic meter volume, adhering to ergonomic and operational requirements. Depict various crew postures, reachability, and accessibility, while identifying any potential obstructions. • Provide detailed General Arrangement (GA) diagrams for NIOT for DNV review and approval. • Sitting ergonomics and posture should be studied and addressed as per standards. • Human action on reachability from view port to control switch has to be modeled. • Ensure there are no physical obstructions, such as wires or components, in the hatch entry path. • Components and modules should be easily mountable and removable • Create fabrication drawings for use in production, ensuring all designs align with standards required for DNV certification. • All documents will be routed to DNV via NIOT approval and verification. M/s Integrator should have an internal approval and review structure for documentation to avoid mistakes. 	
<p>Structural Analysis and Load Testing</p> <ul style="list-style-type: none"> • Perform structural analysis to account for damper systems, ensuring stability during modifications involving vibration and inclination. • The analysis must identify potential weaknesses in the design, with required modifications implemented. • Static and Dynamic analysis should be done for all structure. • The structure must withstand a 3x dynamic load applied in all directions. The dynamic test for different load cases should be performed as per DNV requirements. • Ensure smooth, curved edges throughout the assembly, avoiding sharp corners. • Structure thickness and shape must align with the results of structural analysis. • Structural Analysis should be submitted to DNV for approval. 	
<p>Materials and Fabrication</p> <ul style="list-style-type: none"> • Use aluminum alloy AA6061-T6 or a higher-grade material for mounting frames and fixtures. • Type 3.2 certified material should be purchased for fabrication as per DNV guidelines and approval 	

<ul style="list-style-type: none"> Fabricate a marine-grade ladder, rated to support a dynamic load of at least 150 kg ,DNV approval is necessary. Fabricate and assemble all frames, racks, and structures per the approved design by DNV. Ensure that the entire PCMS customized panels and racks setup fits through the 0.5-meter entry hatch and can be assembled inside the 2-meter sphere. Components must be mounted on a dismountable metallic cage for easy installation and removal. Maintain traceability of all materials used throughout the fabrication and installation process, ensuring compliance with procurement and DNV standards. Material test certificate to be provided for approval. Ensure compliance if DNV requires Approval of Manufacturer (AOM) for the fabricator. 	
Environmental Protection <ul style="list-style-type: none"> Front End: Must comply with IP 54 standards for waterproof and dustproof protection. Back End: Rated to IPx4 to allow heat dissipation and prevent water ingress from walls. 	
Cable Management and Space Utilization <ul style="list-style-type: none"> Provide organized space for cable harnesses with appropriate trays and carriers. Ensure all components are properly mounted in their designated frames. Control panels and modules must fit smoothly through the entry hatch without obstruction. 	
Interior Design and Material Compliance <ul style="list-style-type: none"> Ensure high-quality interior design with matte-finish front panels, with no visible gaps in the assembly. Use fire-retardant, certified materials that emit no harmful gases and have anti-fungal properties. 	
Extra Mounting Features <ul style="list-style-type: none"> Provide USB cutouts for three-panel PCs and HMI units. Provide mounting clamp for handset from VHF and UW telephone Mount LED lights and HSSS components according to the NIOT-approved design 	
Documentation and Approval <ul style="list-style-type: none"> DNV approval is required for AIT. Fire retardant certification for all the wires and material should be attached in the final documentation Submit fabrication document and detailed structural analysis report for the final version. NIOT will supply DNV-approved design drawings for detailed schematics. Develop detailed system-level and integration level schematics for control and monitoring panels, ensuring seamless integration of all subsystems. Provide wiring harness diagrams for cable routing and electrical integration. Ensure documentation complies with DNV requirements and is suitable for submission. The integrator will prepare detailed Installation and service manuals. Ensure that all involved personnel sign Non-Disclosure Agreements (NDA). 	
Technical Requirements for PS-PT	Compliance

	(Y/N)
All the assembly, Integration, and Test (AIT) requirements for PS-PCMS is applicable to PS-PT.	
Mockup Design: <ul style="list-style-type: none"> • Verify the construction of a 1:1 scale mockup of the Personnel Sphere with a specialized entry point for human access. • Development of 3D models for the Personnel Sphere's outer shell and interior as per NIOT requirement to accommodate all components listed under the PS-PCMS, including human crew. • Use laser measuring tools preferably for verification. • Cross-check entry point size, view port and penetrator location with design as well from original sphere. • Replicate the welding joints to match those of the original sphere. • Assembly: All components present within the Personnel Sphere must also be included in the mockup according to the PMCS technical requirements. These components should be assembled within the mockup setup. • Specification Compliance: All specifications outlined for the PS-PCMs will also apply to the mockup. • Perform structural analysis using finite element analysis like Ansys for the frame and shell under static and dynamic loads in accordance with DNV standards. • All the reports has to be forwarded to DNV via and after NIOT approval. 	
Material Specifications: <ul style="list-style-type: none"> • Ensure the outer shell is made from stainless steel appropriate for frame and component assembly. • The thickness must withstand 1.5 times the system's static load, verified through structural analysis to prevent any crack or deformation. 	
Surface Finish: <ul style="list-style-type: none"> • The outer shell must be painted in a color / coated as per NIOT requirements. 	
Environmental Resilience: <ul style="list-style-type: none"> • The mockup sphere must withstand ambient pressure of 1 bar \pm 0.3 bar, operate within a temperature range of 0 to 70°C, and tolerate relative humidity from 0% to 95%. It must also be rust-resistant and antifungal. 	
Component Assembly: <ul style="list-style-type: none"> • All components used in the Personnel Sphere must be included in the PS-PT. • Prior to final installation and commissioning in the NIOT Personnel Sphere PS Outer shell will be used. 	
PS-PT <ul style="list-style-type: none"> • All specifications for mechanical assembly in the Personnel Sphere (PS) and the electrical and electronics technical requirements of the Personnel Control Management System (PS-PCMS) will also be applicable to the PS-PT. 	
AIT Technical Requirements for IDE and PDE	
<ul style="list-style-type: none"> • Completion of 3D models showing placement and mounting of subcomponents in the IDE (port and starboard) shall be submitted to NIOT for acceptance and final fabrication shall be handover. • All specifications for the electrical and electronics technical requirements of 	

<p>the power , Control and Monitoring System (PCMS) will also be applicable to IDEs and PDEs</p> <ul style="list-style-type: none"> • End to end testing of the IDE and PDE . • Installation and commissioning of IDEs and PDEs in their enclosure at NIOT site. 	
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6. Pre-Qualification

Pre-qualification criteria were deliberated in detail. Taking into consideration the importance of ensuring quality for human-rated system which is operational in extreme water depth the following PQ criteria is recommended.

6.1 Technical Criteria

- The Bidder or Consortium should have minimum of 10 years of experience and proven record in assembly, integration and testing of Electrical, Electronics systems in industry.
- The Bidder or consortium should have successfully executed assembly, integration and testing (AIT) of EEI systems in at least one human-occupied submersible/submarine in the last 10 years, specifically for confined spaces volume under 5 m³ in the marine or naval industry.
- The Bidder or consortium should submit the proof for having carried out DNV approval process.
- The Bidders or consortium should have minimum of 5 regular employees who hold IPC 620 and IPC 610 certification.
- The bidder or consortium should submit documentary proof / evidence for the above. If the documentary evidence is not submitted, which may leads to invalid bid.

6.2 Financial Criteria

- The average annual financial turnover of 'The bidder' during the last three financial years, ending on 31.03.2024, should be at least INR 10 crore .In case of 'consortium' the annual turnover of all the consortium partner will be added together and the average of the same shall be considered. The documents such as Audited balance sheet , Profit and Loss account statement of the relevant period, duly authenticated by a Chartered Accountant/Cost Accountant in India should be submitted.

The net worth of the Bidder should not be negative, on 31.03.2024. 'The relevant date" and also should have not eroded by more than 30% (thirty percent) in the last three years ending on "The Relevant Date" (i.e) 31.03.2024.

7. Guaranteed time of delivery

The time of delivery including testing and handing over in satisfactory condition is the essence of the contract and the item should be delivered within 12 months from the date of signing of contract.

8. Price bid format

Note: 1. The bidders should not reveal their price, anywhere in the technical bid.

S.No	Stages of the project	UOM	Unit price INR	Total Price /INR
1	Finalizing the General Arrangement (GA) of the PCMS inside the personnel sphere (PS) Ordering of components for 2 nos of PS-PCMS, 3 nos of PDE and 3 nos of IDE as per the approved design and BOM.	Lumpsum		
2	Completing of 3D modelling, of the PCMS in PS and PS-PT Completing modularity check of IP rated enclosure in PS-PT Completing AIT of IDEs and PDEs.	Lumpsum		
3	Completing FAT of PDEs 3nos and IDEs 3nos in NIOT as per Bill of Material	Lumpsum		

4	Completing FAT and installation and commissioning of PCMS in 6000m PS and PS – PT in NIOT as per Bill of Material	Lumpsum		
5	Completing FAT of PCMS in PS-PT in NIOT as per Bill of Material	Lumpsum		
6	All risk insurance till completion of Installation and commissioning and handing over to NIOT after integration with Human Submersible and testing	Lumpsum		
7	Packing and forwarding charges	Lumpsum		
8	GST			

9. Milestone payment details

S.N	Stages of the project	Deliverables	Amount Payable	Bank Guarantee for equivalent value in INR/
1.	Finalizing the General Arrangement (GA) of the PCMS inside the personnel sphere (PS) Ordering of components for 2 nos of PS-PCMS, 2 nos of PDE and 2 nos of IDE as per the approved design and BOM.	<ul style="list-style-type: none"> • Submission of GA drawings • Proof of the purchase order for all the bill of material with expected delivery date 	10% of value quoted from sl no 1-5	Against Submission of 110% of equivalent BG
2.	Completing of 3D modeling, of the PCMS in PS and PS-PT Completing modularity check of IP rated enclosure in PS-PT Completing AIT of IDE and PDE.	<ul style="list-style-type: none"> • Submission of optimized 3D model of PCMS in PS & PS-PT • Structural analysis component cage of PS and PS-PT • Electrical schematics of PS-PCMS • Wiring harness interface drawings • Fabrication drawing of structural frame. 	25% of value quoted from sl no 1 to 5 in BOQ	Against Submission of 110% of equivalent BG
3	Completing FAT of PDEs and IDE in NIOT.	<ul style="list-style-type: none"> • Submission of QTP • Submission of FAT reports • All updated drawing 	15% of quoted value from sl 1to5 in BOQ value	

4	Completing FAT and installation and commissioning of PCMS in 6000MPS and PS-PT in NIOT	<ul style="list-style-type: none"> • Submission of QTP • Submission of FAT report • All updated drawing 	20% of quoted value from sl 1to5 in BOQ value	Release of BG obtained at sl.no 1
5.	Completing FAT of PCMS in 6000m PS in NIOT	<ul style="list-style-type: none"> • Submission of QTP • Submission of FAT reports • All updated drawing 	(I) 20% of quoted value from sl 1to5 in BOQ plus P& F value quoted in the BOQ sl no 7 (II) All due payments of Sln 1-5	Release of BG obtained at sl.no 2
6	Completing one year standard warranty		10% of quoted value from sl 1to5 in BOQ	

Note: The all risk insurance will be reimbursed against submission of all risk insurance policy with the premium paid. The all risk insurance value should not more than the quoted value. The all risk insurance should be valid till issuance of the completion certificate

10. Technical compliance sheet for MPAIT-PCMS

Table 12 Technical Compliance Sheet

S.No	Technical compliance for MPAIT-PCMS	Specification	Compliance (Y/N)
1	Comply scope of supply	Personnel Sphere -Power and control and monitoring system(PS-PCMS) -1 set Personnel Sphere (PS-PT) physical twin-1set a) Spherical hull Mockup (1 ATM)-1no b) PS-PCMS -1set Power Distribution Enclosure (PDE) Power control and monitoring system-3 set Imaging and Data Enclosure (IDE) Power control and monitoring system-3 set	
2	Comply Bill of materials	Table 6 BoM of the PS PCM systems Table 8 BoM of the IDE PCM systems Table 9 BOM of the PDE PCM System Table 10 BoM for Testing	
3	Comply Technical requirement and Assembly, Integration, and Test (AIT) requirements	Table 11 Assembly, Integration, and Test (AIT) requirements	
4	Qualification Testing of 2xPS-PCMS ,3x IDE and 3x PDE	Comply Table 5 Environmental Test Requirements. (Pls check DNV- CG-339 ,class A standards)	
5	Installation and Commissioning at NIOT	1x PCMS in Matsya 6000 1x PS-PT 3xIDE in IDE Enclosure 3xPDE in PDE Enclosure	
6	Bidder or consortium should have min of 10 years of experience and proven record in assembly, integration and testing of Electrical, Electronics systems in industry.	Should attach at least one purchase order for the company operating on or before 30.01.2015. or Tax filing .	
7	The Bidder or consortium should have successfully executed assembly, integration and testing (AIT) of EEI systems in at least one human-occupied submersible/submarine in the last 10 years, specifically for confined spaces volume under 5 m ³ in the marine or naval industry	Should attach at least one purchase order. Regarding the confined spaces the bidder has to submit separate signed self declaration copy.	
8	Bidder or consortium should submit the proof for having carried out DNV approval process. Non submission of supporting documentary evidence leads to invalid bid.	Should submit purchase order and DNV approval certificate of the project/product.	
9	The Bidders or consortium should have minimum of 5 regular employees who hold IPC 620 and IPC 610 certification and ready to depute for this project till completion.	Should submit employee ID card with their IPC certificates	
10	Dedicated CAD engineers, skilled professionals, technicians, and electrical, electronic and mechanical engineering professionals should be assigned to this project to ensure adherence to timelines. These professionals should be ready to depute to NIOT as needed, providing comprehensive support from 3D modeling to installation and commissioning.	The company should submit a letter specifying the dedicated manpower assigned to this project.	

