

**GOVERNMENT OF INDIA
DEPARTMENT OF SPACE
ISRO TELEMETRY TRACKING & COMMAND NETWORK (ISTRAC)
BANGALORE**

Tender for Cesium clock for IRIMS and IRCDR

Bids to be submitted online

Tender No.: ISTRAC/ISTRAC PURCHASE/TR202200046001 dated 22-07-2023

A. Tender Details

Tender No :	ISTRAC/ISTRAC PURCHASE/TR202200046001
Tender Date :	22-07-2023
Tender Classification:	GOODS
Purchase Entity :	ISTRAC PURCHASE
Centre :	ISRO TELEMETRY TRACKING & COMMAND NETWORK (ISTRAC)

Cesium clock for IRIMS and IRCDR

This is a Dual Part Tender. 1) Please submit your Offers separately for Technical and Price Bid under relevant Template. Please upload Price Bid under Price Bid only and nowhere else. If price is mentioned anywhere other than Price Bid, your offer will not be considered. 2) Please provide your compliance separately for (a) Performance Bank Guarantee clause (b) Liquidated Damages clause (c) Security Deposit clause and (d) Submission of Certificate of Undertaking (e) Make In India Clause

A.1 Tender Schedule

Bid Submission Start Date :	22-07-2023 15:40
Bid Clarification Due Date :	28-08-2023 17:00
Bid Submission Due Date :	04-09-2023 17:00
Bid Opening Date :	05-09-2023 10:00
Price Bid Opening Date :	08-09-2023 10:00

B. Tender Attachments

NA

Instructions To Vendors

1. INSTRUCTIONS TO TENDERERS FOR ONLINE SUBMISSION OF TENDERS THROUGH E-PROCUREMENT SYSTEM

1. a) Bidders shall arrange themselves all resources, including Digital signature certificates and Internet Connections at their own cost, for participating in online tendering.
- b) Vendors can download the tender details and submit their offers online using their vendor accounts (obtained during registration) in our portal. Help demos for tender download and bidding processes are given on home page.
- c) The tender should be submitted online in the ISTRAC link before the due date and time as specified in the tender schedule in the portal.
- d) Vendors shall also take note of other Instructions to tenderers indicated in the tender documents.

2. Conditions for online submission of tenders:

- a) It is mandatory for interested parties to register as vendors in our e-procurement portal <https://eproc.vssc.gov.in/home.html> for participating in online eProcurement process of ISRO. Only registered vendors can submit their offers online in our eProcurement portal.
- b) Vendors who are already registered in the existing EGPS software of ISRO, please register by clicking the link in the email you would have already received from 'eproc@vssc.gov.in'. After registration, do the profile update by login to this portal.
- c) For new vendors, who are not registered in the existing EGPS software, vendor registration will be released along with the portal release. To register as vendors please refer to the help demos listed on the home page of the e-procurement link mentioned above. They may approach help desk (contact details provided on the home page) for any technical help for registration and subsequent process.
- d) OEM details should be added in your E-Procurement profile under Add Agent/Principal without fail.

3. ISTRAC shall not be responsible for failure of vendors in submitting bids online caused due to technical reasons at vendor end such as network or power failures, computer failure, internet-browser, mistakes / errors in filling the bids on line by vendor etc.

4. Procedure for seeking clarifications/help for the tender:

- a) All enquiries regarding the tenders and submission of offers shall be online and only through our eProcurement portal.
- b) Vendors may approach help desk e-mail id and phone number given on the home page for any technical help (e-mail: eproc@vssc.gov.in and Phone: +91471 2565454/4574/2527/3753/3289).

5. Queries by vendors on technical problems on the last day of tender will not be binding on ISTRAC/ISRO for resolving/addressing. ISTRAC will not be responsible for non-submission of bids for those cases.

2. TENDER TERMS AND CONDITIONS

1. All information in Vendor Specified Terms shall be provided without fail to avoid unnecessary correspondence / delay in process. The same should reach before technical bid opening date and time without fail.

2. As per Rule 144(xi) of General Financial Rules, 2017, any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods, services (including consultancy services and non consultancy services) or works (including turnkey projects) only if the bidder is registered with the Competent Authority (i.e., Department for Promotion of Industry and Internal Trade) in line with Order (Public Procurement No. 1, 2 and 3) dated 23/07/2020 and 24/07/2020 or any amendments thereon issued by the Public Procurement Division, Department of Expenditure, Ministry of Finance. Hence, Vendors or Agents of a Vendor (Indian or Others) from a country sharing border with India shall submit the copy of Valid Registration made with DPIIT along with the tender mandatorily, without which the offer will be treated as invalid.

3. a) Order no: F.No.6/18/2019 PPD dated 23.07.2020 of Department of Expenditure), Ministry of Finance Under Public procurement division for the General Financial rule (GFRs).

4. b) Class I local supplier means a supplier or service provider, whose goods, service or works offered for procurement, has local content equal to or more than 50%, as defined under order.

5. c) Class II local supplier means a supplier or service provider, whose goods, services or works offered for procurement, has local content more than 20% but less than 50%, as defined under this Order.

6. d) Bidders offering imported products will fall under the category of Non-local suppliers. They cannot claim themselves as Class I Local suppliers/Class II Local suppliers by claiming the services such as transportation, insurance, installation, commissioning, training and after sales service support like AMC/CMC etc. as local value addition.

7. e) Verification of local content: i) The Class I local supplier/ Class II local supplier at the time to 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.

8. A supplier who has been debarred by any procuring entity for violation of this order shall not be eligible for preference under this order for procurement by any other procuring entity for the duration of the debarment. The debarment for such other procuring entities shall take effect prospectively from the date on which it comes to the notice of other procurement entities, in the manner prescribed.

9. Delivery Terms: FOR ISTRAC

10. GENERAL TERMS & CONDITIONS FOR BIDDERS: For this procurement, bids from Class I, class II and Non-Local Suppliers are admissible. Provisions contained in Public Procurement (Preference to Make in India), Order 2017 issued by Department for Promotion of Industry and Internal Trade (DIPP), Ministry of Commerce & Industries vide letter No. P 45021/2/2017 PP(BE II) dated 04.06.2020 and subsequent amendment & directives shall be followed. Accordingly, offer will be evaluated & processed in conformation with above referred GOI order (Specially mentioned below). The bidder shall provide compliance and undertaking as per order and hereafter amendments:

11. If an agent submit bid on behalf of the principal/OEM, the same agent shall not submit a bid on behalf of another principal/OEM in this tender for the same item. If submitted, all offers will be liable for rejection.

12. iii) False declarations will be in breach of the code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules (GFR) 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.

13. ii) In case bid value is in excess of Rs. 10 Cr., 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.

14. In case the bidders propose any other payment terms in deviation with the standard terms mentioned in the tender enquiry, it may be noted that applicable cash flow implications will be loaded on the prices quoted for commercial comparison of the offers. If advance payments are insisted by the bidders, interest at the rate of MCLR (Marginal Cost Linked Rate) as notified by State Bank of India from time to time shall be loaded on the prices for price comparison.

15. In this tender either the Indian agent on behalf of the principal/OEM or the principal /OEM itself can bid, but both cannot bid simultaneously for the same item. Indian agents while quoting on behalf of their principals shall provide necessary latest authorisation letter obtained from their principals/manufacturers.

16. Liquidated damages: If the vendor fails to deliver the items on or before the delivery date, or any

extension thereafter purchaser shall recover from the vendor as liquidated damages a sum of 0.5% of the contract price of the undelivered stores for each calendar week of delay. The total liquidated damages shall not exceed 10% of the contract price of the unit or units so delayed.

17. Model Certificate for Tenders: I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered.

18. Model Certificates for Tenders for Work involving possibility of sub contacting: I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub contracting to contracting from such countries I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority and will not sub contract any work to a contract from such countries unless such contractor is registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered. Provide Compliance for the above in Vendor Specified Commercial Terms.

19. NO EMD AND TENDER FEE.

20. Performance Bank Guarantee (PBG) to be furnished as a security for fulfilment of warranty obligations by the successful vendor after satisfactory execution of purchase order/Contract (3% of the value of the purchase order/Contract). Central SUs/PSE/Autonomous bodies are exempted from the production of Performance Bank Guarantee. Instead; an indemnity bond shall be furnished in lieu of PBG.

21. Product Scope: Class I local supplier/ Class II local supplier shall offer only standard and catalogued product for Equipment / Spares Cards / assemblies. If the above offered Equipment / Cards / Assemblies are under development / to be developed the bid will not be considered.

22. PUBLICITY: No publicity of any kind whatsoever in case of PURCHASE ORDER shall be given by the Supplier without prior permission of the Purchaser.

23. SECRECY: The technical information, drawings, specifications and other related documents, forming part of the CONTRACT, are the property of the Purchaser and shall not be used for any other purpose, except for execution of the CONTRACT. All rights, including rights in the event of grant of patent and registration of designs are reserved. The technical information, drawings, specifications, records and other documents shall not be copied, transcribed, traced or reproduced in any other form or otherwise in whole and/or duplicated, modified, divulged and/or disclosed to a third party nor misused in any other form whatsoever without Purchasers consent in writing except to the extent required for the execution of this CONTRACT. These technical informations, drawings, specifications and other related documents shall be returned to the Purchaser with approved copies and duplicates, if

any, immediately after they have been used for the agreed purpose.

24. Senior Purchase and Stores Officer, ISTRAC, reserves the right to accept or reject any/or all the tenders in part or full without assigning any reasons thereof.

25. Submit the bid on or before due date.

26. Successful vendor has to submit the security deposit. (3 % of the value of the purchase order). Central PSUs/PSE/Autonomous bodies shall be exempted from the payment of security deposit, and instead, an indemnity bond shall be secured from them.

27. VENDORS HAS TO REFLECT THE POINT NO (4), (5) AND (6) IN THEIR BID.

28. TAXES: GST is payable as per applicable rates.

3. CERTIFICATE OF UNDERTAKING

1. A certificate from the bidder shall be enclosed along with their quotation (Technical bid) as per the format enclosed.

2. An AGENT is a person employed to do any act for another, or to represent another in dealings with third person.

3. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. (Competent authority is : DEPARTMENT FOR PROMOTION OF INDUSTRY AND INTERNAL TRADE (DPIIT)).

4. (b)Control shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements.

5. Bidder from a country which shares a land border with India for the purpose means:

(a)An entity incorporated, established or registered in such a country; or

(b)A subsidiary of an entity incorporated, established or registered in such a country; or

(c)An entity substantially controlled through entities incorporated, established or registered in a such a country; or

(d)An entity whose beneficial owner is situated in such a country; or

(e)An Indian (or other) agent of such an entity; or

(f)A natural person who is a citizen of such a country; or

(g)A consortium or joint venture where any member of the consortium or joint venture falls under any of the above.

6. BIDDER (including the term tenderer, consultant or service provider in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.

7. CERTIFICATE

8.

COMPANY NAME AND SEAL:

9. DESIGNATION:

10. Explanation:

(a)Controlling Ownership interest means ownership of or entitlement to more than twenty-five per cent of shares or capital or profits of the company;

11. GOVERNMENT OF INDIA

DEPARTMENT OF SPACE

ISTRAC, BENGALURU: 560 058.

12. iii)In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals.

13. (iii).I/We _____hereby undertake that if the Certificate is found to be false at any given time ISRO/ISTRAC may treat this as a ground for immediate termination and further legal action in accordance with law can be initiated.

14. ii) In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership.

15. (ii). I/We hereby confirm that the country of origin of goods is _____

16. i) In case of a company or Limited Liability Partnership, the beneficial owner is a natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.

17. (i). I/WE _____ read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India. I / We _____ Certify that this bidder is not from such a country.

18. iv) Where no natural person is identified under (i) or (ii) or (iii) above, the beneficial owner is the relevant natural person who holds the position of senior managing official.

19. I / We _____ Certify that this bidder is from such a country and registered with the Competent Authority (i.e. Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT). Copy of Registration Certificate is enclosed.

20. NAME:

21. OR*

I/We _____ read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India.

22. Ref:Tender No _____ date _____

Our Quotation No. _____ date _____

23. REQUIREMENT OF REGISTRATION:

24. SIGNATURE:

25. (* Strike out whichever is not applicable).

26. Subject: Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs) 2017 - reg.

27. The beneficial owner for the purpose of (6) above will be as under:

28. (TO BE PRINTED ON THE LETTER HEAD OF THE VENDOR)

29. v) In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

4. MAKE IN INDIA UNDERTAKING (VENDORS SHALL SUBMIT THE BELOW CERTIFICATE ON THEIR LETTER HEAD DULY SIGNED)

1. The type of Class which the vendor belongs: Class-I or Class-II Local Suppliers as defined under DPIIT Order dtd 04/06/2020- Preference to Make in India Order-2017 Revision. (Class I local supplier means a supplier or service provider, whose goods, service or works offered for procurement, has local content equal to or more than 50% & Class II local supplier means a supplier or service provider, whose goods, services or works offered for procurement, has local content more than 20% but less than 50%). NOTE: Bidders offering imported products will fall under the category of Non-local suppliers. They cannot claim themselves as Class I Local suppliers/Class II Local suppliers by claiming the services such as transportation, insurance, installation, commissioning, training and after sales service support like AMC/CMC etc. as local value addition.

2. Percentage of local content for the quoted item.

3. Details of location (s) at which the local value addition is made

4. Provide self-certification that the item (s) offered meets the local content requirement for Class-I/Class-II Local Suppliers as the case may be.

C. Bid Templates

C.1 Technical Bid - Cesium clock for IRIMS and IRCDR

1. Cesium Clock with rack mount kit, test reports

Item specifications for Cesium Clock

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Device Type	Cesium Beam Frequency Standard	Yes / No / Explain		
2	Performance		-		
3	Accuracy	$\pm 1.0.E-12$	Yes / No / Explain		
4	Warm up time(typ)	30min(typ)	Yes / No / Explain		
5	Reproducibility	$\pm 1.0E-13$	Yes / No / Explain		
6	Settability		-		
7	Range	$\pm 1.0E-9$	Yes / No / Explain		
8	Resolution	$6.30E-15$	Yes / No / Explain		
9	Stability (Avg. Time (s) 1 10 100 1000 10000 100000 5 days 30 days	Stability) $\leq 1.2E-11$ $\leq 8.5E-12$ $\leq 2.7 E-12$ $\leq 8.5E-13$ $\leq 2.7E-13$ $\leq 8.5E-14$ $\leq 5.0E-14$ $\leq 5.0E-14$	Yes / No / Explain		
10	Flicker Floor Guaranteed	$\leq 5.0E-14$	Yes / No / Explain		

11	SSB Phase Noise Offset (Hz) for 10 MHz Output 1 10 100 1000 10000 100000	<= -100 dBc <= -130 dBc <= -145 dBc <= -150 dBc <= -154 dBc <= -154 dBc	Yes / No / Explain		
12	SSB Phase Noise Offset (Hz) for 5 MHz Output 1 10 100 1000 10000 100000	<= -106 dBc <= -136 dBc <= -145 dBc <= -150 dBc <= -154 dBc <= -154 dBc	Yes / No / Explain		
13	Frequency Outputs Frequency Format Amplitude Harmonic Connector Load Impedance Location	100kHz & 1MHz (1 each) Sine >= 1 Vrms <= -40 dBc BNC 50 ohms Rear Panel	Yes / No / Explain		
14	Frequency Outputs Frequency Format Amplitude Harmonic Non harmonic Connector Load Impedance Location	5 & 10 MHz (2 outputs programmable to 5 or 10 MHz) Sine >= 1 Vrms <= -40 dBc <= -80 dBc Type N 50 ohms Rear Panel	Yes / No / Explain		
15	Timing Outputs Format Amplitude Pulse width Rise Time Jitter Connector Load impedance Location	1PPS >= 2.4V into 50 ohms (TTL Compatible) 20 μ s <=5 ns <=1ns rms BNC 50 ohms Rear panel (2 no), Front panel (1 no)	Yes / No / Explain		
16	Timing inputs Sync input Connector Load impedance Location Amplitude Pulse width Rise time Jitter	1PPS BNC 50 ohms One front panel, One rear panel +2 to +10V Max 100ns min to 100 μ s max <= 50ns <= 1 ns rms	Yes / No / Explain		
17	Other Standard Features		-		

18	LCD screen display with keypad		-		
19	Standard Performance Tube		-		
20	Internal Battery Back up		-		
21	Remote System Interface & Control		-		
22	RS-232-C (DTE Configuration) for complete remote control and interrogation of all instrument functions and parameters		-		
23	Alarm (TTL) , connector : BNC, Location : Rear Panel		-		
24	Output TTL : High, Normal and Low, fault		-		
25	Circuit is TTL open collector with internal pull-up resistor circuit can Sync up to 10 mA		-		
26	Environmental & Physical Specifications		-		
27	Operating Temperature	0 °C to 55 °C	Yes / No / Explain		
28	Non-operating	-40 °C to 70 °C	Yes / No / Explain		
29	Humidity	0 to 95% RH (45 °C max)	Yes / No / Explain		
30	Magnetic Field	DC, 55, 60Hz, 0 to 2 gauss peak- any orientation	Yes / No / Explain		
31	Shock and Vibration	MIL-T-28800D, type III, class 5 Hammer Blow shock test, Mil-S-901C, Grade A Class I, Type A Mil-STD, 167-1 (Phase Noise)	Yes / No / Explain		
32	Atmospheric Pressure	<=1E-13 change in frequency for pressure down to 19kPa (equivalent to an altitude of 12.2 Km)	Yes / No / Explain		

33	EMI	conducted and radiated emissions per CISPR 11/EN 55011, group 1, class A	Yes / No / Explain		
34	EMC	per Mil-STD-461C, Part 7, class B, dc magnetic field up to 7.8 Gauss	Yes / No / Explain		
35	AC Power requirements		-		
36	Operating Voltage	220, 240Vac \pm 10%, 50Hz \pm 10%	Yes / No / Explain		
37	Power		-		
38	Operating AC Power	50W	Yes / No / Explain		
39	Warm up AC Power	100W	Yes / No / Explain		
40	DC Power requirements		-		
41	22 to 42 VDC		-		
42	Operating DC Power	45W	Yes / No / Explain		
43	Warm up DC Power	85W	Yes / No / Explain		
44	Internal Stand by Battery		-		
45	Capacity	45 minutes from full charge	Yes / No / Explain		
46	Charge time	16 hours max from fully discharged state	Yes / No / Explain		
47	Charge source	AC input power supply	Yes / No / Explain		
48	MTBF	>160,000 Hrs	Yes / No / Explain		
49	REMOTE MONITORING & CONTROL SPECIFICATIONS		-		
50	The system should support RS232 interface for remote monitoring and control		-		

51	The ISTRAC system shall interface with clock to acquire the monitoring parameters on a single physical port		-		
52	The product shall output the status on query		-		
53	Vendor shall provide supporting documents that defines the interface needed to communicate with the clock with respect to the control commands and output data format		-		
54	System shall have single monitoring command to get the complete status of the system		-		
55	Monitoring data shall be byte aligned and be of fixed length		-		
56	All parameters controlled locally should be available for remote commanding		-		
57	No check sum should be included in the M&C data		-		
58	Password protection for connections should be disabled		-		

2. Extended Warranty

Item specifications for Extended Warranty

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Extended Warranty (Apart from 02 years standard warranty for cesium electronics)	03 Years extended warranty for cesium electronics	Yes / No / Explain		
2	Warranty should start from the date of acceptance of the unit at ISTRAC.		-		

3	If unit is required to be sent to Factory for repair under warranty for both standard warranty and extended warranty, it is vendor's responsibility to send unit from Bengaluru to OEM and bring back to ISTRAC Bangalore as per ISTRAC Purchase terms and conditions. All charges during warranty period(both standard and extended) shall be borne by vendor		-		
4	During the delivery of the items vendor shall provide duly authorized warranty certificates from Original Equipment Manufacturer (OEM) only. Warranty certificates from any other company other than OEM is not acceptable.		-		
5	During the warranty period in case of any failure of the unit, first attempts will be made to diagnose the fault locally with remote assistance via phone/e-mail/fax from the vendor.		-		
6	Vendor shall provide Standard warranty of 2 years for electronics and 10 years on cesium beam tube. Warranty will start from the date of receipt of item at SCC ISTRAC. Extended warranty shall be for 03 years for cesium electronics beyond the standard warranty		-		

Common Specifications (Applicable for all items)

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Device Type	Cesium Beam Frequency Standard	Yes / No / Explain		
2	Performance		-		
3	Accuracy	$\pm 1.0.E-12$	Yes / No / Explain		
4	Warm up time(typ)	30min(typ)	Yes / No / Explain		
5	Reproducibility	$\pm 1.0E-13$	Yes / No / Explain		
6	Settability		-		
7	Range	$\pm 1.0E-9$	Yes / No / Explain		
8	Resolution	$6.30E-15$	Yes / No / Explain		
9	Stability (Avg. Time (s) 1 10 100 1000 10000 100000 5 days 30 days	Stability) $\leq 1.2E-11$ $\leq 8.5E-12$ $\leq 2.7 E-12$ $\leq 8.5E-13$ $\leq 2.7E-13$ $\leq 8.5E-14$ $\leq 5.0E-14$ $\leq 5.0E-14$	Yes / No / Explain		
10	Flicker Floor Guaranteed	$\leq 5.0E-14$	Yes / No / Explain		
11	SSB Phase Noise Offset (Hz) for 10 MHz Output 1 10 100 1000 10000 100000	≤ -100 dBc ≤ -130 dBc ≤ -145 dBc ≤ -150 dBc ≤ -154 dBc ≤ -154 dBc	Yes / No / Explain		
12	SSB Phase Noise Offset (Hz) for 5 MHz Output 1 10 100 1000 10000 100000	≤ -106 dBc ≤ -136 dBc ≤ -145 dBc ≤ -150 dBc ≤ -154 dBc ≤ -154 dBc	Yes / No / Explain		

13	Frequency Outputs Frequency Format Amplitude Harmonic Connector Load Impedance Location	100kHz & 1MHz (1each) Sine >= 1Vrms <= - 40 dBc BNC 50 ohms Rear Panel	Yes / No / Explain		
14	Frequency Outputs Frequency Format Amplitude Harmonic Non harmonic Connector Load Impedance Location	5 & 10 MHz (2 outputs programmable to 5 or 10 MHz) Sine >= 1 Vrms <= -40 dBc <= -80 dBc Type N 50 ohms Rear Panel	Yes / No / Explain		
15	Timing Outputs Format Amplitude Pulse width Rise Time Jitter Connector Load impedance Location	1PPS >= 2.4V into 50 ohms (TTL Compatible) 20 μ s <=5 ns <=1ns rms BNC 50 ohms Rear panel (2 no), Front panel (1 no)	Yes / No / Explain		
16	Timing inputs Sync input Connector Load impedance Location Amplitude Pulse width Rise time Jitter	1PPS BNC 50 ohms One front panel, One rear panel +2 to +10V Max 100ns min to 100 μ s max <= 50ns <= 1 ns rms	Yes / No / Explain		
17	Other Standard Features		-		
18	LCD screen display with keypad		-		
19	Standard Performance Tube		-		
20	Internal Battery Back up		-		
21	Remote System Interface & Control		-		

22	RS-232-C (DTE Configuration) for complete remote control and interrogation of all instrument functions and parameters		-		
23	Alarm (TTL) , connector : BNC, Location : Rear Panel		-		
24	Output TTL : High, Normal and Low, fault		-		
25	Circuit is TTL open collector with internal pull-up resistor circuit can Sync up to 10 mA		-		
26	Environmental & Physical Specifications		-		
27	Operating Temperature	0 °C to 55 °C	Yes / No / Explain		
28	Non-operating	-40 °C to 70 °C	Yes / No / Explain		
29	Humidity	0 to 95% RH (45 °C max)	Yes / No / Explain		
30	Magnetic Field	DC, 55, 60Hz, 0 to 2 gauss peak- any orientation	Yes / No / Explain		
31	Shock and Vibration	MIL-T-28800D, type III, class 5 Hammer Blow shock test, Mil-S-901C, Grade A Class I, Type A Mil-STD, 167-1 (Phase Noise)	Yes / No / Explain		
32	Atmospheric Pressure	<=1E-13 change in frequency for pressure down to 19kPa (equivalent to an altitude of 12.2 Km)	Yes / No / Explain		
33	EMI	conducted and radiated emissions per CISPR 11/EN 55011, group 1, class A	Yes / No / Explain		
34	EMC	per Mil-STD-461C, Part 7, class B, dc magnetic field up to 7.8 Guass	Yes / No / Explain		

35	AC Power requirements		-		
36	Operating Voltage	220, 240Vac ± 10%, 50HZ ± 10%	Yes / No / Explain		
37	Power		-		
38	Operating AC Power	50W	Yes / No / Explain		
39	Warm up AC Power	100W	Yes / No / Explain		
40	DC Power requirements		-		
41	22 to 42 VDC		-		
42	Operating DC Power	45W	Yes / No / Explain		
43	Warm up DC Power	85W	Yes / No / Explain		
44	Internal Stand by Battery		-		
45	Capacity	45 minutes from full charge	Yes / No / Explain		
46	Charge time	16 hours max from fully discharged state	Yes / No / Explain		
47	Charge source	AC input power supply	Yes / No / Explain		
48	MTBF	>160,000 Hrs	Yes / No / Explain		
49	REMOTE MONITORING & CONTROL SPECIFICATI ONS		-		
50	The system should support RS232 interface for remote monitoring and control		-		

51	The ISTRAC system shall interface with clock to acquire the monitoring parameters on a single physical port, Offered product should support this requirement.		-		
52	The product shall output the status on query		-		
53	Vendor shall provide supporting documents that defines the interface needed to communicate with the clock with respect to the control commands and output data format		-		
54	System shall have single monitoring command to get the complete status of the system		-		
55	Monitoring data shall be byte aligned and be of fixed length		-		
56	All parameters controlled locally should be available for remote commanding		-		
57	No check sum should be included in the M&C data		-		
58	Password protection for connections should be disabled		-		

59	Terms and Conditions		-		
60	Use of highly reliable screened components should be ensured.		-		
61	The vendor shall supply, along with the system, the detailed operation, maintenance and other supporting manuals in English (both soft copy and hard copy).		-		
62	During the warranty period in case of any failure of the unit, first attempts will be made to diagnose the fault locally with remote assistance via phone/e-mail/fax from the vendor.		-		
63	The quoted cost for cesium clock should include, rack mount flange kit, Final Test report charges all inclusive		-		
64	Place of delivery of cesium clocks shall be ISTRAC stores Bengaluru.		-		

65	At the time of technical evaluation if required by ISTRAC , The Vendor shall demonstrate the compliance of the offered product to all the tendered specifications.		-		
66	Vendor shall give documentary proof for the operation of the offered product in continuously operating reference station/precise timing facility/equivalent facility for more than 3 years.		-		
67	During the delivery of the items vendor shall provide duly authorized warranty certificates from Original Equipment Manufacturer (OEM) only. Warranty certificates from any other company other than OEM is not acceptable.		-		

68	<p>If unit is required to be sent to Factory for repair under warranty for both standard warranty and extended warranty , it is vendor's responsibility to send the unit from Bangalore to OEM and bring back to ISTRAC Bangalore as per ISTRAC purchase terms and Conditions , All charges during warranty period (both standard and extended)shall be done by Vendor.</p>		-		
69	<p>Vendor shall provide Standard warranty of 2 years for electronics and 10 years on cesium beam tube. Warranty will start from the date of receipt of item at SCC, ISTRAC, Bengaluru. Extended warranty shall be for 03 years for cesium electronics beyond the standard warranty</p>		-		

70	Offered product shall be supported by the OEM for at-least 10 years from the date of purchase order for any replacement, repair of the supplied equipment.		-		
71	When the items requires repair (Both under standard warranty and extended warranty), ISTRAC will bring back the faulty item from IRIMS locations to Bengaluru for repair.		-		
72	Installation of Cesium Clock at respective IRIMS Locations(where the clocks will be deployed) is ISTRAC responsibility. However Vendor is responsible for successful demonstration of the specifications of the product at SCC, ISTRAC Bengaluru.		-		

73	To and fro charges shall be borne by the vendor during repair under warranty(including both standard warranty and extended warranty period), failing which offer will not be considered.		-		
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Supporting Documents required from Vendor

1. Technical data sheet and operating manuals

5 additional documents can be uploaded by the vendor

C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	If unit is required to be sent to Factory for repair under warranty, it is vendor's responsibility to send the unit to factory (OEM) and bring back repaired unit to ISTRAC Bengaluru	Yes / No / Explain	
2	Vendor shall provide Standard warranty of 2 years for electronics and 10 years on cesium beam tube. Warranty will start from the date of receipt of item at ISTRAC. Extended warranty shall be for 03 years for cesium electronics beyond the standard warranty	Yes / No / Explain	
3	During the delivery of the items vendor shall provide duly authorized warranty certificates from Original Equipment Manufacturer (OEM) only. Warranty certificates from any other company other than OEM is not acceptable.	Yes / No / Explain	
4	Payment Term (Our normal terms of payment is 100% within 30 days from the date of receipt and acceptance of the item at our site)	Yes / No / Explain	
5	Taxes and other costs, if any	Yes / No / Explain	
6	Delivery Period	Yes / No / Explain	
7	Delivery Term	Yes / No / Explain	
8	Security Deposit: FD or BG for 3% of PO value to be submitted after receipt of PO and valid till supply & acceptance.	Yes / No / Explain	
9	Performance Bank guarantee : BG for 3% of PO value to be submitted while claiming payment valid till end of warranty period with a claim period of 60 days.	Yes / No / Explain	
10	SD-cum-Warranty (PBG) (in lieu of SD & PBG as a single instrument): BG for 3% of PO value to be submitted after receipt of PO valid till end of warranty period with a claim period of 60 days.	Yes / No / Explain	

11	<p>DELAY IN COMPLETION / LIQUIDATED DAMAGES :If the Contractor fails to deliver the stores within the time specified in the Contract or any extension thereof, the Purchaser shall recover from the Contractor as Liquidated Damages a sum of one-half of one per cent (0.5%) of the Contract price of the undelivered stores for each calendar week of delay. The total liquidated damages shall not exceed ten percent (10%) of the contract price of the unit or units so delayed. Stores will be deemed to have been delivered only when all their component parts are also delivered. If certain components are not delivered in time, the stores will be considered as delayed until such time as the missing parts are delivered.</p>	Yes / No / Explain	
12	Warranty	Yes / No / Explain	
13	Validity	Yes / No / Explain	
14	<p>Name and Address of the company on whom purchase order to be placed (OEM if any should be added in your E-Procurement profile under Add Agent/Principal without fail). Address indicated here must be available in your profile as a Principal/Agent failing which PO will be placed on the e-procurement address available in the profile.</p>	Yes / No / Explain	
15	<p>Certificate of Undertaking: Any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods or services (including consultancy services and non consultancy services) or works (including turn-key projects) only if the bidder is registered with the Competent authority (i.e. DPIIT). Hence, it is mandatory to furnish Certificate of Undertaking as indicated in the tender document.</p>	Yes / No / Explain	

16	Foreign vendors are permitted to quote. 1. Class -I and Class-II Local suppliers as per make in India policy are also eligible to participate in the bid. 2. The percentage of local content should be specifically mentioned in the offer if the quote is from Class-I or Class-II local supplier 3. Preference will be given to class-I Local Supplier and in their absence, class-II Local suppliers and in their absence Non-Local suppliers will be considered.	Yes / No / Explain	
17	Percentage of local content for the quoted item.	Yes / No / Explain	
18	Details of location (s) at which the local value addition is made	Yes / No / Explain	
19	GeM Seller ID: As per Gol OM No. 6/9/2020-PPD dated 24.08.2020 and DO No. 170/CEO-GeM/2020, sellers providing Goods and Services to Central Government Organizations shall be registered on GeM and obtain a unique GeM registered ID. Hence please get registered in GeM and furnish your GeM Seller ID.	Yes / No / Explain	
20	Any other terms	Yes / No / Explain	
21	This is a Dual Part Tender. 1) Please submit your Offers separately for Technical and Price Bid under relevant Template. Please upload Price Bid under Price Bid only and nowhere else. If price is mentioned anywhere other than Price Bid, your offer will not be considered. 2) Please provide your compliance separately for (a) Performance Bank Guarantee clause (b) Liquidated Damages clause (c) Security Deposit clause and (d) Submission of Certificate of Undertaking (e) Make In India Clause	Yes / No / Explain	

C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	Remark
1	Cesium Clock with rack mount kit, test reports	1.0 - 2.0 Nos.		-		
		3.0 - 4.0 Nos.		-		

		5.0 - 8.0 Nos.		-		
		9.0 - 12.0 Nos.		-		
2	Extended Warranty	1.0 - 2.0 Nos.		-		
		3.0 - 4.0 Nos.		-		
		5.0 - 8.0 Nos.		-		
		9.0 - 12.0 Nos.		-		

Common charges (Applicable for all items)

P&F Charges	
Freight Charges	
Installation Charges	
Documentation & Handling Charges	
Other Charges (If any)	