



पारादीप पत्तन प्राधिकरण
PARADIP PORT AUTHORITY
MARINE DEPARTMENT
PARADIP PORT - 754 142, ODISHA (INDIA)

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 COUNCIL RvA

No.:MD/ACCTS/WK-R/5/2022/ 289

Dated, the 3rd March 2023

To

M/s. National Technology Centre for Ports, Waterways and Coasts (NTCPWC).
 Department of Ocean Engineering.
 Indian Institute of Technology Madras,
 Chennai-600036, India.

Kind Attn: Prof. K. Murali, Prof. in-Charge, NTCPWC, IIT Madras

Sub: Indigenous Vessel Traffic Management Information System for Paradip Port Authority
 – Procurement, supply and installation of New equipment, development of Indigenous
 VTS software system including Maintenance for a period of five years – Issue of Work
 order -reg

Ref: 1. M/s. NTCPWC cost proposal dated 17/09/2022.
 2. PPA's e-mail dated 26/09/2022.
 3. M/s. NTCPWC's recommendation dated 12/10/2022.

Dear Sir,

1. Kindly refer to the proposal forwarded vide 1st cited and the reconfirmation of the cost communicated vide your mail 3rd cited. Paradip Port Authority (PPA) is pleased to convey that the approval of competent authority for the cost proposal submitted by M/s. NTCPWC, IIT Chennai vide ref 3 cited and also placing the work order in favour of M/s. National Technology Centre for Ports, Waterways and Coasts (NTCPWC) for carrying out the work of Indigenous Vessel Traffic Management Information System For Paradip Port including Annual maintenance of five years by M/s. NTCPWC on nomination basis for an estimated value of Rs.15,49,02,720/- (Rupees Fifteen Crores Forty Nine Lakhs Two Thousand and Seven Hundred and Twenty only) plus GST and Freight, Insurance, Customs and WPC License Fee as per actuals.
2. The broad scope of the work and breakup of cost of the works covered under the work are furnished hereunder:

2.1 Schedule – I: Cost of Equipment

The overall cost for procurement of all identified New Equipment, as per the details at Annexure – I	Rs.6,73,12,000/-*. (Excluding GST and / or duty & taxes, transit insurance, freight, WPC fee, etc. as per actuals)
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- As intimated by NTCPWC, the cost indicated above is based on the rate determined through market enquiry. However, at the time of actual procurement, this amount may vary and only actuals will be payable by PPA mentioned above. PPA will release the payment / total cost of procurement with other duties & taxes and also GST as applicable. For any outsourcing is done, NTCPWC will undertake fair open competitive bidding process as per MOA of NTCPWC between MoPSW and IITM.

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PARADIP PORT AUTHORITY
MARINE DEPARTMENT

Apart from the cost mentioned above towards procurement of equipment, PPA shall arrange to provide/ establish the required civil infrastructure and also carry out the works relating to Mechanical, Electrical & power supply (MEP) at its own cost. However, NTCPCW shall render necessary advisory assistance for these facilities well in time with all requisites.

The cost towards handling, installation, commissioning and other services rendered by NTCPCW as detailed in Schedule-II hereunder shall be paid by PPA as per the invoice raised by NTCPCW.

2.2 Schedule – II: Handling, installation, commissioning and other services

The overall cost towards Handling, installation, commissioning and other services such as VTMS Software with 3D Technology, Oil Spillage Detection and ATON including VTMS Training (on site) to be rendered by NTCPCW in connection with the subject assignment is as per the details at Annexure – II	Rs. 4,92,55,360/- including 12% overhead charges (excluding GST)
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PPA shall release the payment of total cost towards Handling, installation, commissioning and other services as above along with GST as applicable against the invoice raised by NTCPCW.

2.3 Schedule – III: Annual Maintenance Cost

The overall cost towards Annual Maintenance Contract for VTMS Sensor & IT Hardware and AMC of VTMS Software for a period of 5 years, as per the details at Annexure – III	Rs.3,83,35,360/- including 12% overhead charges (excluding GST)
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NTCPCW is responsible for maintaining the facilities as detailed in Schedule I & II for a period of five years from the date of commissioning and/ or issuance of completion certificate by NTCPCW/ PPA, whichever is earlier.

PPA shall release the payment of total cost towards Annual maintenance as per the above schedule as per invoices raised by NTCPCW.

2.4 Payment Terms

2.4.1 Schedule I – Equipment Cost

100% of the overall cost* quoted for schedule I shall be payable within 7 days from the date of award of contract to the successful OEMs by NTCPCW.

2.4.2 Schedule II – Handling, installation, commissioning and other services

1. 30% of the overall cost* quoted for schedule II shall be payable within 30 days from the date of award of contract to NTCPCW by PPA.
2. 30% of the overall cost* quoted for schedule II shall be payable within 30 days from the date of successful delivery of all material at site.
3. 20% of the overall cost* quoted for schedule II shall be payable, once 50% of the equipment brought to the site are installed.
4. Balance 20% of the overall cost* quoted for schedule II shall be payable, after commissioning of all the equipment.

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PARADIP PORT AUTHORITY
MARINE DEPARTMENT

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2.4.3 Schedule III – Annual Maintenance

1. 25% of the Annual Maintenance cost quoted for schedule III shall be payable in advance within 30 days from the date of commencement of the Annual Maintenance for each year.
2. Balance AMC cost for individual year's Annual Maintenance cost quoted in Schedule III, shall be payable in advance, within 30 days from the date of commencement of AMC for each quarter on the submission of quarterly bills.
3. NTCPWC shall depute one competent person on site throughout the tenure of AMC.

Note - * - The overall cost mentioned at the relevant places refers to the amount indicated in the respective schedule and/ or updated after determining the actual cost involved particularly under schedule I, plus duties, taxes, GST, overheads, corpus funds and other statutory funds as per the details mentioned elsewhere in the schedule.

3. Contract Period:

The total contract period including Supply of equipment, development of the indigenous software system of VTMS including installation and commissioning shall be 12 months from the 10th day from the date of issue of work order.

4. Exclusion provisions

Since NTCPWC - IITM is a technological arm of Ministry of Ports Shipping and Waterways (MoPSW) and functioning under Indian Institute of Technology Madras (IITM), a technical institute under Ministry of Education (MoE), security deposit/ performance security, liquidated damages/ penalty etc are not applicable. However, any LD imposed on any 3rd party and realized, will be passed on to PPA. Any 3rd party claim for reasons solely attributable on the part of NTCPWC will be the responsibility of NTCPWC.

NTCPWC will ensure that any defects with the VTMS system is attended by a competent person within 24 hrs of reporting. NTCPWC will also ensure procurement of spares as required within shortest possible time. PPA will reimburse the cost of the spares including freight, insurance and other statutory levies as per actuals.

5. Resolution of Dispute, if any:

The Board and NTCPWC shall make every effort to resolve amicably, by direct informal negotiations, any disagreement or dispute of negotiation, the matter shall be referred to Conciliation Committee as per Circular No. AD/LEO/122-02/2012 (Vol-1)/3016, dtd.17.11.2021 of Secretary, PPA (Erstwhile PPT).

6. Signing of the Agreement:

NTCPWC shall prepare and sign the agreement in a non-Judicial stamp paper of Rs.100/* within 30 days from the date of issue of work order or within such extended time as approved by PPA. Till such time a formal agreement is executed, the proposal submitted by NTCPWC and this work order shall form a binding contract between PPA and NTCPWC.

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PARADIP PORT AUTHORITY
MARINE DEPARTMENT

7. Guarantee/warranty period:

The Product supplied shall be governed by a warranty provision/ guarantee for a minimum period of 12 months from the date of commissioning as per the standard conditions of OEMs. NTCPCWC shall give back to back warranty to PPA on the basis of the warranty provided by OEMs against any defects due to materials or bad workmanship.

8. Test Certificate, Drawing and Manuals:

NTCPWC shall ensure that necessary test reports/certificates including Origin Certificate are enclosed with the individual product/equipment supplied by the OEM and endorse the same to PPA.

NTCPWC is also responsible to collect the following records either in English or with English transcription from the contractor/ OEMs and endorse the same to PPA.

- a. Equipment, Hardware and Software manuals
- b. Instructions and Catalogues
- c. Working drawings of the equipment showing all the parts of the equipment being supplied.

9. Insurance of the equipment:

NTCPWC shall insure and/ or ensure that the OEMs obtain proper insurance from an authorized agency, to cover all the equipment spares, accessories and consumables which form part of this work order against loss or damage till the same is commissioned and handed over to Paradip Port. The insurance should also cover transit risk, loss or damage to third party persons and property during the same period.

10. No escalation on quoted price shall be allowed. However the difference on the statutory levies due to change in Govt. policy will be paid/recovered by PPA as the case may be.

You are requested to acknowledge the receipt and acceptance of the above work order and arrange signing of the agreement within the period mentioned above.

Encl.: Annexure of Equipment.

Yours sincerely,

Dy. Conservator
Paradip Port Authority

Copy to:

1. All HoDs, PPA / The CVO, PPA
2. HM, PPA / SHS I/c, PPA / Communication Officer, PPA
3. PA to DC, PPA / Office Order Guard File.
4. Sr. Dy. Director, EDP Cell, PPA with a request to publish in the PPA website.

ANNEXURE – LIST OF EQUIPMENTS

Sl. No.	Description		
(i)	VTMIS Sensors	Qty	Unit
1	19/18 feet Dual polarized array	1	Nos.
	X-Band Radar Scanner (SOLID STATE RADAR)		
	25KW X-band Radar Transceiver (built-in)		
	Oil Spill processing Module (built-in)		
	Data and Power cables a) Installation kit b) Technical Manual		
	Radar digital overlay interface unit (RDIU) a) RDIU standalone device purposed for digitizing and initial processing of the analog radar signals with quantization performance up to 100 MHz frequency, up to 14-bit resolution. b) RDIU connection to the Radar Processor computer using dedicated 1 Gbps Ethernet network card.		
	Radar Digital Processor. Intel Core i7 4GHz processor a) 8GB RAM b) 2x 1Gbps Ethernet network adapters, supporting Jumbo packets 9K or 16K c) Standard PCI-bus (32bit\33MHz) PC card d) Windows 10 Operating System		
2	19/18 feet Dual polarized array	1	Nos.
	S-Band Radar Scanner		
	25/30KW S-band Radar Transceiver (built-in)		
	Data and Power cables a) Installation kit b) Technical Manual		
	Radar digital overlay interface unit (RDIU) a) RDIU standalone device purposed for digitizing and initial processing of the analog radar signals with quantization performance up to 100 MHz frequency, up to 14 bit resolution. b) RDIU connection to the Radar Processor computer using dedicated 1 Gbps Ethernet network card.		

	Radar Digital Processor. Intel Core i7 4GHz processor a) 8GB RAM b) 2x 1Gbps Ethernet network adapters, supporting Jumbo packets 9K or 16K c) Standard PCI-bus (32bit\33MHz) PC card d) Windows 10 Operating System		
3	AIS Class -A Transceiver Base station (With Virtual ATON generation facility) RF Antenna with mounting kit accessories AIS frequency duplexer module (built-in) Data and Power cables a) Installation kit b) Technical Manual AIS digital overlay interface unit	1	Nos.
4	VHF Class-A 50/25W RF Antenna AIS frequency duplexer module (built-in) Data and Power cables	2	Nos.
5	Digital VHF Line interface Unit Digital VHF Multiplexer VoIP Interface Module Digital VHF Remote workstation Intel Core i7 4GHz processor a) Windows 10 operating system (64- bit) b) 8GB RAM c) 1x free PCI Express X1 slot Digital VHF Recording unit ESI Maya44 XTe PCIe card provides 4x mono inputs with provision for 12x audio mono interfaces. Microphone and PTT Data and Power cables a) Installation kit b) Technical Manual	1	No.
6	Meteorological station MET Digital Console MET digital overlay interface unit Data and Power cables a) Installation kit b) Technical Manual	1	Nos.

(ii)	VTMIS IT Hardware's inclusive of on-site Supply, Setup, Installation and Commissioning	Qty	Unit
1	VTMIS Multi Tracking Server a) Windows Server Operating system - 2 X 1.8 TB and 8 x 4 GB RAM.	1	Nos.
	VTMIS Sensor Processing Server a) Windows Server Operating system - 2 X 1.8 TB and 8 x 4 GB RAM.	1	Nos.
	VTMIS Database Server a) Windows Server Operating system - 2 X 1.8 TB and 8 x 4 GB RAM	1	Nos.
2	DMZ Network Units - L3 - 24 port Giga byte	1	Lot
	LAN Network Units - L3 - 24 port Giga byte		
	WAN Network Units - L3 - 24 port Giga byte		
	Media Convertors		
	Timer server		
	Video Wall Server		
	SAN switch		
	SAN storage -350 TB		
	KVM Console - 8 port		
	42 U – Network and Component Rack		
	Retractable – base support for servers		
	Network and Data Cable		
	Power Cable		
	Cable conduit housings		
3	Workstations a) Windows 10 or 11. 1 TB with 8 GB RAM b) High End Graphics Resolution Module c) VTMIS Standby – Live track module d) VTMIS Standby – Playback track module e) 27" Screen – GUI modules f) UI Modules	3	Nos.
4	Video wall display 99-inch, Workstation display and associated accessories. a) Windows 10 or 11. 500 GB with 8 GB RAM b) High End Graphics Resolution Module c) 3D Viewing Module d) Video Wall Server Module e) Video Content Analytical Module f) Digital Control Module	2	Lot

	<ul style="list-style-type: none"> g) Adjustable Mechanical mounting brackets h) Data and Power cables 		
5	<p>Bio metric, CCTV, DGPS and associated accessories.</p> <ul style="list-style-type: none"> a) Command control room IN out Biometric access b) Command Control room CCTV coverage c) Server room IN out Biometric access d) Server room CCTV coverage e) Power room IN out Biometric access f) Power room CCTV coverage g) Signal station – Entry & Exit CCTV Coverage h) DGPS Station i) DGPS Interface unit j) DGPS antenna k) Bio metric Server l) CCTV NVR m) Power and Data Cable 		
6	<p>Online UPS and Batteries</p> <ul style="list-style-type: none"> a) ATS Panel b) AVR c) UPS d) Batteries e) Power Distribution panel f) Power cable g) Electrical accessories 		

ANNEXURE – Handling, installation, commissioning and other services

Handling, Installation, Commissioning and other services			
Sl. No.	Description	Qty	Units
(i)	Handling	1	Lot
1	Preparation of technical specifications of all equipment's, tender document of various major components of work and furnishing clarification during the bidding stage, evaluation of the technical, as well as financial offers and making suitable recommendation. a) Site Survey b) Pre-bid Technical documents and design c) BoQ Preparations d) Tender Preparation for Equipment e) Tender evaluation and shortlisting/selection of eligible bidder f) Work order processing g) Preparation of Pre-Installation plans		
(ii)	Pre-delivery verification, Factory acceptance test a) Pre-Installation Technical Specification validation b) Pre-Installation Operations validation c) Pre-Installation of functional checks d) BoQ Validation e) Project planning and coordination of all the works f) Specification of required equipment and installation conditions.		
(iii)	Engineering services for installation of sensor equipment, setup and configuration. a) Equipment delivery and inspection b) Commissioning and Site Acceptance Tests of the entire system. c) Factory Acceptance Tests (FAT arrangement) for the equipment part of supply. d) Development of system design documentation		
(iv)	Other Services		
	a) Post-delivery verification, Site inspection and functionality test. b) Technical coordination during the warranty period.		

Indigenous i-VTMIS Software		
Sl. No.	Description	Qty
(i)	Indigenous i-VTS Basic SW	1
1	Server configuration standalone Client Terminal SW	
2	Server configuration Redundant Client Terminal SW	
3	AIS Sensor SW Module	
4	ARPA Radar Sensor Interface	
5	Default Alarm settings	
(ii)	Indigenous i-VTS - AIM & Navigation	
1	Radar Processor interface	
2	Weather Station Interface	
3	VTS Remote Interface - Type 1	
4	Voice Data Recording Interface	
5	CCTV Controller Interface	
6	Digital Electronics user chart editing	
7	Advanced Intelligence Maneuvering (AIM)	
8	Integrated VTS Information System Client Terminal SW	
9	Data Recording Terminal	
10	Virtual ATON	
(iii)	Indigenous i-VTS Additional Modules	
1	3D VTS basic Remote Terminal Module	
2	Oil spill Imaging and detection Terminal Module	
(iv)	VTMIS Training	Qty
1	Classroom and Hands-on Training including OEM training sessions.	1



Annexure – Annual Maintenance Cost

Sl. No	Description	Cost in Lakhs				
		Year 1*	Year 2	Year 3	Year 4	Year 5
1	AMC for VTMS sensor & IT Hardware	50,41,120	53,43,520	56,63,840	60,04,320	63,63,840
2	AMC for VTMS software	15,92,640	17,69,600	19,64,480	21,78,400	24,13,600
	Total	66,33,760	71,13,120	76,28,320	81,82,720	87,77,440

Note –

1. The cost furnished for the year 1 is exclusive of the warranty obligations of the original manufacturer (OEM) as per the terms of the agreement with OEMs.
2. Upgradation of the Software, if any, is not covered under the AMC. If the system warrants such upgradation, the same shall be undertaken by NTCPCW at a mutually agreed term.
3. Replacement of spares, VTS sensors, IT hardware and/ or other associated hardware, if any, is not covered under the AMC. NTCPCW will also ensure procurement of spares as required within shortest possible time. PPA will reimburse the cost of the spares including freight, insurance and other statutory levies as per actuals.

