



NATIONAL DREDGING & MARINE SERVICES (PVT) LTD, (NDMS)

**Procurement of
Trailing Suction Hopper Dredger (TSHD) 10,000 m³ Hopper Capacity**

Tender Reference No. _____/NDMS-TSHD/2026

Two-Stage, Two-Envelope Procedure PPRA Rule 36 (d)

In accordance with the **Public Procurement Rules (PPRA) 2004**

through open tendering

July 2026

Employer

National Dredging & Marine Services (Pvt) Ltd., (NDMS)

BIDDING DOCUMENT

FOR

Procurement of Trailing Suction Hopper Dredger (TSHD) 10,000 m³ Hopper Capacity.

July 2026

TABLE OF ABBREVIATIONS

Abbreviation / Symbol	Full Form / Meaning
≥	Greater than or equal to
≤	Less than or equal to
ACS	Automatic Control System / Area Calculation System
AIS	Automatic Identification System
ARPA	Automatic Radar Plotting Aid
AUT	Automatic Ultrasonic Testing
BDS	Bid Data Sheet
BER	Bid Evaluation Report
BG	Bank Guarantee
BOQ	Bill of Quantities
CAD	Computer-Aided Design
CDR	Call Deposit Receipt
CP	Conditions Precedent
DEM	Digital Elevation Model
DOP / HDOP / VDOP	Dilution of Precision (Horizontal / Vertical)
DXF	Drawing Exchange Format
DWG	Drawing File Format (AutoCAD)
DWT	Deadweight Tonnage
ECDIS	Electronic Chart Display & Information System
EHS	Environment, Health & Safety
EoI	Expression of Interest
ETA	Estimated Time of Arrival
ETD	Estimated Time of Departure
FE	Foreign Exchange
GA	General Arrangement
GIS	Geographic Information System
GNSS	Global Navigation Satellite System
GT / GRT	Gross Tonnage / Gross Registered Tonnage
H&M	Hull & Machinery (Insurance)
HOP	Hopper (TSHD)
HSE	Health, Safety & Environment
IACS	International Association of Classification Societies
IHO	International Hydrographic Organization
IFB	Invitation for Bids
IMO	International Maritime Organization
INS	Inertial Navigation System
ISPS	International Ship & Port Facility Security Code
ISM	International Safety Management Code
ITB	Instructions to Bidders
JV	Joint Venture
KPT	Karachi Port Trust
LOA	Letter of Acceptance
LOH	Loss of Hire (Insurance)

Abbreviation / Symbol	Full Form / Meaning
LS	Lump Sum
MAB	Most advantageous bid
MARPOL	Marine Pollution Convention
MBES	Multi-Beam Echo Sounder
MRU	Motion Reference Unit
NDMS	National Dredging & Marine Services (Pvt) Ltd.
NLC	National Logistics Corporation
NT	Net Tonnage
O&M	Operation & Maintenance
OSRP	Oil Spill Response Plan
P&C	Particulars & Conditions
P&I	Protection & Indemnity (Insurance)
PC	Particular Conditions
PCAA	Pakistan Civil Aviation Authority
PMSA	Pakistan Maritime Security Agency
PQA	Port Qasim Authority
PPRA	Public Procurement Regulatory Authority
QCBS	Quality & Cost Based Selection
QA/QC	Quality Assurance / Quality Control
RFQ	Request for Quotation
RFP	Request for Proposal
RTK	Real-Time Kinematic
SBES	Single-Beam Echo Sounder
Sf	Financial Score
SOE	State-Owned Enterprise
SOLAS	Safety of Life at Sea Convention
SPM	Single Point Mooring
STCW	Standards of Training, Certification & Watch keeping
SVP	Sound Velocity Profiler
SOPEP	Shipboard Oil Pollution Emergency Plan
TOR	Terms of Reference
TSHD	Trailing Suction Hopper Dredger
TSS	Traffic Separation Scheme
USD	United States Dollar
VTS	Vessel Traffic Service
WGS-84	World Geodetic System 1984
WTI	Work Time Index (dredging productivity)

SECTIONS

Section	Title
Section I	Invitation for Bids (IFB)
Section II	Instructions to Bidders (ITB)
Section III	Eligibility Criteria (Pass/Fail)
Section IV	Technical Specifications & Scope of Work
Section V	Technical Evaluation Criteria (Scoring)
Section VI	Final Evaluation Criteria
Section VII	General & Special Conditions of Contract
Section VIII	Appendices & Forms
Section IX	Bill of Quantities (BOQ)

SECTION – I

INVITATION FOR BIDS (IFB)

National Dredging & Marine Services (Pvt) Ltd., (NDMS)

Procurement of Trailing Suction Hopper Dredger (TSHD) 10,000 m³ Hopper Capacity

Jul 2026

Tender Reference No.

National Dredging & Marine Services (Pvt) Ltd, (NDMS), invites sealed bids from eligible and reputable firms for **Procurement of Trailing Suction Hopper Dredger (TSHD) 10,000 m³ Hopper Capacity**.

1. Method of Procurement

Bidding shall be conducted under PPRA Rule 36(d) using the **Two-Stage, Two-Envelope Procedure**, in accordance with the **Public Procurement Rules (PPRA) 2004**, as amended.

2. Availability of Tender Documents

The tender fee Rs 20,000 will be deposited in shape of pay order along with the technical and financial offers in favor of “**National Dredging & Marine Services (Private) Limited**”. Bidding documents can be downloaded from the relevant websites.

3. Submission of Bids

Technical and Financial Proposals must be submitted in **separate sealed envelopes**, clearly marked. Each page of the bidding document shall be signed in ink, duly stamped, and submitted as part of the Technical Proposal. Bids must reach the undersigned office on or before the time mentioned in tender notice.

4. Bid Opening

Technical Proposals will be opened immediately after the submission deadline in the presence of bidders’ authorized representatives. Technical Bid shall be opened on 3 Aug 2026 at **1200**

hours in presence of parties or their authorized representatives who wish to be present.

Proceedings will be dealt strictly in accordance with PPRA Rules 36 (d).

5. Bid Security

- All bids (Technical) must be accompanied by a Bid Security in the amount of USD 100,000 or PKR 28 million in the form of a draft or Bank Guarantee drawn on a Pakistan commercial bank.
- The bid security must be submitted in accordance with the Instructions to Bidders (ITB).

6. Right to Accept or Reject

NDMS reserves the right to **accept or reject bids** in accordance with **PPRA Rule 33**, without assigning any reason and without incurring any liability.

7. Contact for Clarifications

All queries shall be addressed in writing to:

Director

National Dredging & Marine Services (Pvt) Ltd., (NDMS)

NLC Headquarters, Harding Road,

Rawalpindi, Pakistan

NDMS website: www.ndms.pk

Email: procurement@ndms.pk

Tel: 051-9052541, 051-9052536

SECTION – II

INSTRUCTIONS TO BIDDERS (ITB) & APPENDICES

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INSTRUCTIONS TO BIDDERS AND APPENDICES

(Note: These Instructions along with Tendering Data will not be part of Contract and will cease to have effect once the Contract is signed).

(A) GENERAL

IB.1 Scope of Bid

1.1 The Employer, National Dredging & Marine Services (Pvt) Ltd., (NDMS), invites sealed bids for the provision of:

- Procurement of Trailing Suction Hopper Dredger (TSHD) 10,000 m³ Hopper Capacity.

1.2 The bidding process shall follow the **Two-Stage, Two-Envelope** Procedure as prescribed under **PPRA Rule 36 (d)**.

IB.2 Eligible Bidders

2.1. Not used

2.2. Eligibility of Bidders

2.2.1 Legal Eligibility

To be eligible for bidding, a bidder must:

2.2.1.1 Be a legally registered entity under the relevant laws of Pakistan or the bidder's country of origin.

2.2.1.2 Hold valid registrations including NTN, STRN and relevant tax numbers.

2.2.1.3 For foreign bidders: provide documentary evidence confirming legal status in their home jurisdiction.

2.2.1.4 Comply with all applicable Pakistani laws relating to taxation, marine operations, labour, safety and commercial activities.

2.2.1.5 Submit complete legal documentation as listed in the Bid Data Sheet (BDS).

2.2.2 Blacklisting and Ineligibility

2.2.2.1 Bidders shall not be eligible if they have been:

- (a) Blacklisted or debarred by any Federal/Provincial Government agency, autonomous body, statutory authority, or international organization;
- (b) Suspended from participation in public procurement;

(c) Declared ineligible due to fraudulent, corrupt or unethical practices.

2.2.2.2 Bidders must submit a **Not-Blacklisted Affidavit** on judicial stamp paper.

2.2.2.3 Bidders engaged in litigation against NDMS that may affect contract performance may be declared ineligible.

2.2.2.4 Submission of falsified or misleading information shall result in immediate rejection.

2.2.2.5 The invitation for Bids is open to all prospective suppliers, manufacturers, or authorized agents / dealers subject to any provisions of incorporation or licensing by the respective national incorporating agency or statutory body established for that particular trade or business. Procuring agencies shall specify the registration/licensing requirements for the foreign bidders keeping in view the requirement of that business

2.2.3 Conflict of Interest

2.2.3.1 A bidder shall be considered to have a conflict of interest if:

- (a) The bidder or its affiliates submit more than one bid
- (b) The bidder's employees, directors, partners or agents have relationships with NDMS staff that could improperly influence procurement;
- (c) The bidder or its affiliates contributed to the preparation of specifications, TORs or tender documents.

2.2.3.2 Bidders must disclose all potential conflicts in writing.

2.2.3.3 The Employer reserves the right to reject a bid where conflict of interest exists without assigning any reason whatsoever.

2.2.4 Prohibited Practices

2.2.4.1 Bidders shall not engage in:

- Corrupt practices;
- Fraudulent practices;
- Collusive bidding;
- Coercive practices;
- Obstructive practices.

2.2.4.2 Any firm found involved in prohibited practices shall be rejected and may be recommended for blacklisting under PPRA Rule 19.

2.2.4.3 Bidders must sign the **Integrity Pact** in accordance with PPRA Rule 7.

2.2.5 Joint Ventures / Consortiums

2.2.5.1 Bidders may participate as a Joint Venture (JV), subject to:

- a. A legally executed and notarized JV Agreement;
- b. Clear identification of the Lead Partner;
- c. Joint and several liabilities of all partners;
- d. Submission of complete documentation for each JV member
- e. Foreign JV members complying with Pakistani registration and taxation requirements.
- f. Power of Attorney by all JV partners in favor of lead partner for: -
 - (1) Authorizing lead partner to sign and submit bid documents
 - (2) In case the JV is successful, to sign and execute agreement with NDMS. Notwithstanding the above, all JV partners shall be treated as principal obligors by NDMS for performance of obligations under the contract agreement.

2.2.5.2 The JV must collectively meet the technical and financial qualification criteria.

2.2.6 Bid Security (PPRA Rule 25)

2.2.6.1 Bids must include Bid Security as specified in the BDS.

2.2.6.2 A bid shall be **non-responsive** if:

- a. Bid Security is omitted;
- b. Bid Security amount is insufficient;
- c. Bid Security is not in an acceptable form;
- d. Bid Security validity is shorter than required.

2.2.6.3 Acceptable forms include Call Deposit Receipt (CDR), Bank Guarantee or Pay Order.

2.2.7 Non-Responsive Bidders

A bid will be declared non-responsive if:

- 2.2.7.1 Mandatory eligibility requirements are not met;
- 2.2.7.2 Required documentation is missing or incomplete;
- 2.2.7.3 Bid contains material deviations, reservations, or conditions;
- 2.2.7.4 Technical characteristics do not match the specifications;
- 2.2.7.5 Bid is incomplete, vague, or ambiguous in price or scope.

2.2.7.6 The bidder does not accept to the technical requirements of the procuring agency during the technical negotiation meetings, or offering an option not acceptable to the procuring agency.

2.2.7.7 The bidders who will submit conditional bid or attach any condition with their bid/ proposal.

2.2.8 Integrity, Transparency & Fair Dealing

2.2.8.1 Bidders shall adhere to the principles of fairness, transparency, and value for money.

2.2.8.2 Bidders must not attempt to influence the evaluation process.

2.2.8.3 Any violation may lead to rejection and subsequent legal action under PPRA Rules.

2.2.9 Participation of Foreign Bidders

2.2.9.1 Foreign bidders may participate provided they:

- a. Submit documents in English (or with certified translations);
- b. Comply with Pakistani customs, immigration, tax, and port regulations
- c. Operate vessels compliant with MARPOL, SOLAS, STCW, and applicable IMO standards;
- d. Provide class certificates from IACS-member classification societies.
- e. Have included all applicable taxes, duties, charges, CESS and levies **outside Pakistan.**

2.2.10 Eligibility Exclusions (PPRA Rules 4, 17, 30)

A bidder shall be excluded if it:

2.2.10.1 Attempts to submit multiple bids under different names;

2.2.10.2 Misrepresents or conceals material information;

2.2.10.3 Attempts to influence the procurement process;

2.2.10.4 Fails to meet any mandatory requirement of the tender.

2.2.11 Employer's Right to Reject (PPRA Rule 33)

2.2.11.1 The Employer reserves the right to accept or reject all bids without assigning any reason.

2.2.11.2 Reasons for rejection shall be recorded in writing in accordance with PPRA Rule 33.

2.2.12 Compliance with PPRA and Marine Regulations

2.2.12.1 Bidders must comply with:

- a. PPRA Rules 2004;

- b. Procurement of Services Regulations 2010
- c. All amendments/notifications issued by PPRA;
- d. Pakistan Marine and Seafarers' regulations;
- e. IMO conventions applicable to the vessels;
- f. Port regulations of KPT, PQA, GPA and PMSA as applicable.

2.2.12.2 Non-compliance shall result in rejection.

IB.3 Cost of Bidding

3.1 Cost of Bidding

- 3.1.1 The Bidder shall bear all costs associated with the preparation, submission, clarification, and negotiation of its bid.
- 3.1.2 The Employer shall in no case be responsible or liable for such costs, regardless of the outcome of the bidding process.

(B) BIDDING DOCUMENTS

IB.4 Contents of Bidding Documents

- 4.1 The Bidding Documents are those stated below and should be read in conjunction with any Addendum issued in accordance with Clause IB-6.
- a. Instructions to Bidders & Bidding Data Sheet.
 - b. Appendices & Standard Forms:
 - (1) Appendix A: Name of Eligible Countries
 - (2) Appendix B: Not Used
 - (3) Appendix C: Bid Form -Form of Technical Proposal
 - (4) Appendix D: Bid Form - Form of Financial Proposal
 - (5) Appendix E: Bid Security Form
 - (6) Appendix F: Form of Performance Security
 - (7) Appendix G: Form of Contract Agreement
 - (8) Appendix H: Integrity Pact
 - c. Terms of Reference (TOR)
 - d. Preamble to Bill of Quantities (BOQ)
 - e. Bill of Quantities (BOQ)

IB.5 Clarification of Bidding Documents (PPRA Rule 31)

- 5.1 A prospective Bidder requiring clarification of the Bidding Documents shall request the Employer in writing at the address indicated in the Bid Data Sheet (BDS).
- 5.2 Minutes of the pre-Bid meeting, if applicable, including the text of the questions asked by Bidders, including those during the meeting (without identifying the source) and the responses given, together with any responses prepared after the meeting will be uploaded on NLC/NDMS website. Any modification to the Bidding documents that may become necessary as a result of the pre-Bid meeting shall be made by the Procuring Agency exclusively through the use of an Addendum. Non-attendance at the pre-Bid meeting will not be a cause for disqualification of a Bidder.

IB.6 Amendment of Bidding Documents

- 6.1 At any time prior to the deadline for bid submission, the Employer may amend the Bidding Documents for any reason, whether to clarify, modify or correct errors.
- 6.2 Any amendment shall be issued as an Addendum and communicated in writing to all bidders who have obtained the Bidding Documents.
- 6.3 The Addendum shall be binding on all Bidders.

- 6.4 The Employer at its sole discretion and without assigning any reason, may extend the bid submission deadline if necessary, to allow bidders reasonable time to incorporate the amendment.

(C) PREPARATION OF BID

IB.7 Language of Bid

- 7.1 All documents comprising the Bid and all correspondence shall be written in English.
- 7.2 Documents submitted in another language must be accompanied by a certified English translation; in such cases, the English translation shall prevail.

IB.8 Documents Comprising the Bid

8.1 Technical Proposal

The Technical Proposal shall include (but not be limited to):

- a. General Arrangement drawing
- b. Lines Plan and Hull Form
- c. Capacity Plan
- d. Stability Booklet (approved by Classification Society)
- e. Operating and Maintenance Manuals for all major equipment
- f. Electrical Single-Line Diagram
- g. Piping and Instrumentation Diagrams (P&IDs)
- h. Dredging Control System Operating Manual
- i. Class Certificates and Survey Records
- j. Builder's Certificate or equivalent ownership documentation
- k. Technical Proposal Submission Form
- l. Bidder's Eligibility and Legal Documents
- m. Completed Third-Party Pre-Purchase / Asset Condition Assessment Report as per Appendix I (or valid exemption documentation for newly built vessels)."
- n. Certificate from OEM with manufacturing date of Dredger
- o. Signed and stamped copy of the bidding document (each page stamped & signed)
- p. Proof of purchase of bidding documents (original receipt and Pay Order copy)
- q. Compliance with Technical Specifications
- r. A comprehensive commissioning and initial operational spares package shall be provided, covering a minimum of 24 months of normal operation. A recommended spares list shall be submitted with the Tender.
- s. The Contractor shall provide operations & maintenance support for **3 years**. Additional 10 working days familiarization training package for NDMS staff is to be arranged by firm/supplier for the vessel operations, dredging system, navigation systems, and onboard maintenance procedures.
- t. On job Training of the NDMS crew on the dredger during the last year of the O&M period.

8.2 Financial Proposal

The Financial Proposal shall include:

- a. Financial Proposal Submission Form
- b. Any optional items

IB.9 Bid Prices and Currency

- 9.1 The Bids Prices quoted by the Bidder in the Form of Bid and in the Price Schedules shall conform to the requirements specified below or exclusively mentioned hereafter in the Bidding documents.
- 9.2 All items in the Schedule of Requirement must be listed and priced separately in the Price Schedule(s). If a Price Schedule shows items listed but not priced and neither explicitly denied, their prices shall be construed to be included in the prices of other items.
- 9.3 The Bid price to be quoted in the Form of Bid shall be the total price of the Bid.
- 9.4 Prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation on any account. A Bid submitted with an adjustable price will be treated as non-responsive and shall be rejected.
- 9.5 Prices shall be quoted on **CIF Karachi basis** unless otherwise specified in the BDS.

IB.10 Documents Establishing Bidder's Eligibility and Qualifications

10.1 General Requirement

- 10.1.1 The Bidder shall furnish documentary evidence establishing its eligibility to Bid and its qualifications to perform the Contract in accordance with the requirements of this Section and the Bidding Documents.

10.2 Eligibility of Bidder

- 10.2.1 The Bidder shall demonstrate that, at the time of Bid submission:
- a. it is a legally registered entity in its jurisdiction of incorporation;
 - b. it is duly registered for taxation and compliant with applicable tax laws;
 - c. it is not blacklisted, suspended, or debarred by any government, port authority, maritime administration, regulator, or international organization; and
 - d. it meets all eligibility conditions specified elsewhere in the Bidding Documents.

10.3 General Qualifications

- 10.3.1 The documentary evidence of the Bidder's qualifications to perform the Contract shall establish, to the Employer's satisfaction, that the Bidder:
- a. possesses the technical, operational, and managerial capability to provide the required dredger.;
 - b. has established safety, quality, and environmental management systems appropriate for marine operations;

- c. maintains (or will maintain) all relevant class, statutory and insurance certifications for the vessels and services offered;
- d. Has requisite after sales support; and
- e. in the case of a foreign Bidder, will be represented by an agent in Pakistan (if required) for operational coordination and compliance.

10.4 Not Used

10.5 Financial Capability Requirements

- 10.5.1 The Bidder shall demonstrate adequate financial capacity. For this purpose, the Bidder shall submit audited financial statements for the last three (3) financial years, together with evidence of access to sufficient working capital and/or confirmed credit lines.

10.6 Not Used

10.7 Proof of Experience and Qualification

- 10.7.1 To demonstrate compliance with the above requirements, the Bidder shall submit, as applicable:
- a. Client Completion Certificates;
 - b. Vessel particulars, class certificates, and statutory certificates;
 - c. Financial statements or audit reports; and
 - d. Any additional documentation requested by the Employer.

10.8 Non-Responsiveness

- 10.8.1 Failure to submit documentary evidence establishing compliance with any requirement of this Section shall result in the Bid being declared non-responsive, and such Bid shall not be considered further.

IB.11 Documents Establishing Conformity of Vessels, Equipment and Services

11.1 General Requirement

- 11.1.1 Technical Submission: Each Bidder shall submit, as part of their Technical Proposal, the following minimum information:
- a. Completed Technical Data Sheet with responses to all parameters listed in this Specification.
 - b. General Arrangement drawing of the proposed vessel.
 - c. Class Certificate(s) confirming current class status and vessel delivery date.
 - d. Confirmation of the vessel age.
 - e. List of main machinery makers with model designations.
 - f. Confirmation of compliance or documented technical deviations from each specification clause.
 - g. Confirmation of delivery period and payment terms.

- 11.1.2 **Deviations.** Where a Bidder cannot comply with a specific requirement, the deviation shall be clearly identified and an alternative, equivalent specification shall be provided for the Employer's evaluation. Unidentified deviations may result in rejection of the Bid.
- 11.1.3 **Warranty.** The Contractor shall provide a warranty period of not less than twenty-four (24) months from the date of delivery, covering all major mechanical, structural, and operational systems. Warranty terms shall be clearly stated in the Commercial Proposal. Additionally, the contractor shall provide comprehensive O&M for a period of 3 years from the date of delivery.
- 11.1.4 **After-Sales Support.** The Contractor shall demonstrate the capability to provide spare parts supply, technical support, and maintenance services during the operational life of the vessel. Global/ regional service network coverage shall be stated for all major OEM equipment suppliers.
- 11.1.5 The Bidder shall furnish, as part of its Bid, documentary evidence establishing that the vessels, equipment, systems, software, personnel and services offered fully conform to the requirements of the Bidding Documents.
- 11.1.6 The Bidder shall clearly identify the vessels and equipment being proposed, and the documentation submitted shall be sufficiently detailed to enable the Employer to verify technical compliance.

11.2 Not Used

11.3 Supporting Documentation

- 11.3.1 The Bidder shall furnish any additional documents necessary to verify full technical compliance, which may include:
- International Oil Pollution Prevention Certificate (IOPP)
 - Sewage Treatment Plant Type Approval and Certificate
 - Garbage Management Plan
 - Ballast Water Management Plan (BWMP) and Certificate
 - MARPOL Oil Record Book, Garbage Record Book

11.4 Non-Conformity

- 11.4.1 Failure to provide sufficient documentary evidence of conformity with the technical requirements shall render the Bid non-responsive and such Bid shall not be considered further.

IB.12 Bid Validity (PPRA Rule 26)

- 12.1 Bids shall remain valid for 120 days from the date of opening of Technical Proposals.
- 12.2 A bid with a shorter validity period shall be rejected as non-responsive.

12.3 In exceptional circumstances, the Employer may request extension of the bid validity period; a bidder may refuse without forfeiting bid security.

IB.13 Bid Security (PPRA Rule 25)

13.1 All bids (Technical) must be accompanied by a Bid Security in the amount of **USD 100,000 or PKR 28 million** in the form of a draft or Bank Guarantee drawn on a Pakistan commercial bank.

13.2 Acceptable forms include:

- a. Call Deposit Receipt (CDR)
- b. Bank Guarantee from a Pakistani bank having AAA Rating or Pay Order

13.3 Failure to submit the Bid Security shall render the Bid non-responsive. The Bid Security must be submitted in a separate sealed envelope and included as part of the Technical Proposal only. It shall **not** be placed in, attached to or enclosed with the Financial Proposal. Any Bid in which the Bid Security appears in the Financial Proposal shall be declared non-responsive.

13.4 Bid Security shall remain valid for 28 days beyond the bid validity period.

13.5 Bid Security of unsuccessful bidders shall be returned promptly after award of contract.

13.6 Format and Signing of Bid

13.6.1 The Bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to bind the Bidder.

13.6.2 A written Power of Attorney or Board Resolution shall be included with the bid.

13.6.3 Any corrections shall be initialed by the authorized signatory.

(D) SUBMISSION OF BID

IB.14 Sealing and Marking of Bids

14.1 Preparation of Bid

14.1.1 Each Bidder shall prepare and submit the following:

a. Technical Proposal

1 Original + 2 Copies + Bid Security, placed in a sealed envelope clearly marked:

“TECHNICAL PROPOSAL WITH BID SECURITY– ORIGINAL” and **“TECHNICAL PROPOSAL WITH BID SECURITY – COPY”**

b. Financial Proposal

1 Original + 2 Copies, placed in a separate sealed envelope clearly marked:

“FINANCIAL PROPOSAL – ORIGINAL” and **“FINANCIAL PROPOSAL – COPY”**

14.1.2 Technical and Financial Proposals shall be prepared separately and must not be combined in the same envelope under any circumstance. In the event of the proposals being in one envelope, the bid shall immediately be rejected and the Bidder disqualified with no course to grievance redressal as this would be a material breach.

14.2 Inner Envelope Requirements

14.2.1 Each envelope (Technical and Financial) shall:

a. be sealed;

b. clearly state the Bidder’s name and address;

c. clearly identify the contents as:

- “TECHNICAL PROPOSAL” or
- “FINANCIAL PROPOSAL”;

d. be clearly marked with:

Project Title: “Procurement of Trailing Suction Hopper Dredger (TSHD) 10,000 m³ Hopper Capacity Vessel.”

Employer: National Dredging & Marine Services (Pvt) Ltd.

14.2.2 The Financial Proposal envelope shall additionally bear the warning:

“DO NOT OPEN WITH THE TECHNICAL PROPOSAL”

14.3 Outer Envelope Requirements

14.3.1 The sealed inner envelopes shall be placed in ONE outer sealed envelope, which shall:

- a. be addressed to the Employer at the address given in the Invitation for Bids;
- b. bear the Project Title and Contract Number;
- c. bear the Bidder's name and full address;
- d. state the date and time of Bid opening;
- e. bear the clear warning:

“DO NOT OPEN BEFORE THE DATE AND TIME OF BID OPENING”

14.3.2 If the outer envelope is not properly sealed or marked, the Employer shall assume no responsibility for misplacement or premature opening of the Bid.

14.4 Method of Delivery

14.4.1 The Bid shall be delivered:

- a. by hand, or
- b. by courier service, or
- c. by registered mail,

to the address specified in the Invitation for Bids.

14.4.2 Bids delivered with charges payable upon receipt shall not be accepted.

14.4.3 The Employer shall not be responsible for delays, loss or mis-delivery of Bids sent by mail or courier.

14.5 Identification for Late Bids

14.5.1 No late bids shall be accepted.

14.5.2 To enable return of late Bids unopened, the inner Technical Proposal envelope shall clearly indicate the Bidder's name and address.

14.6 Compliance

14.6.1 Non-compliance with the sealing and marking requirements specified in this Clause may result in the Bid being declared non-responsive.

15.15 Deadline for Submission of Bids

15.1 Bids must be received at the address specified in the BDS no later than the deadline stated therein.

15.2 Late bids shall be rejected and returned unopened.

15.3 The Employer may extend the submission deadline by issuing an Addendum.

15.4 Procurement Schedule / Tender Timeline

15.4.1 The following procurement schedule shall apply to the Procurement of Trailing Suction Hopper Dredger (TSHD) 10,000 m³ Hopper Capacity Vessel. All bidders are required to strictly adhere to the dates listed below. The schedule includes the publication of the tender, pre-bid meeting, deadline for submission of queries, bid opening events, evaluation stages, redressal periods required under PPRA Rules, issuance of the Letter of Acceptance, submission of the Performance Guarantee, contract signing, and mobilization.

15.4.2 The mobilization of the dredger shall take place at stipulated time by the contract, with the understanding that the vessel, its crew, and all necessary certificates are ready for immediate deployment according to the Contract requirements.

15.5. Tender/ Bidding Process Timeline

Stage	Event	Date (Tentative Timeline)	Remarks
Advertisement & Submission	Publication of Tender Notice	July 2, 2026 (Thu)	Notice published; the bidding cycle begins.
	Pre-Bid Meetings	July 9, 2026 July 17, 2026	Clarifications related to tender documents (1130 hrs) Meeting will be held at HQ NLC, Harding Road, Rawalpindi
	Bid Submission Deadline	Aug 3, 2026 (Mon) 1130 Hours	As per PPRA rules Venue: HQ NLC, Harding Road, Rawalpindi
Technical Bid Opening	Technical Bid Opening	Aug 3, 2026 (Mon) 1200 Hours	Conducted immediately after bid closing on the same day. All technical bids are opened publicly at this stage.

			Venue: HQ NLC, Harding Road, Rawalpindi
Technical Evaluation & Clarifications	Technical Evaluation Period, Technical Discussions/clarifications	August 4 - 11, 2026	Depending on number of proposals received & clarifications/ revisions etc.
Technical Evaluation Report	Announcement of Technical Evaluation report (TER)	August 13, 2026 (Thu)	Publications of result on the concerned websites.
Final Financial Bid Opening	Final Evaluation Report Announcement	Aug 20, 2026 (Thu)	After the technical evaluation is completed, the financial bids of the technically qualified bidders are opened publicly. This is the final bid opening.

The dates for announcement of TER and Financial Bid Opening are tentative and may change as per the time required for technical evaluation by the committee. However, the representatives / authorities interested to attend the meetings should remain available during these dates.

IB.16 Late Bids

16.1 Rejection of Late Bids

- 16.1.1 Any Bid received by the Employer after the deadline for submission of Bids prescribed in IB.15 shall be rejected without opening and returned unopened to the Bidder.
- 16.1.2 The Employer’s record of the official time of receipt shall be final and binding.

16.2 No Exceptions

- 16.2.1 Delays due to the following as well shall not be accepted as justification for late submission:
- a. delays by courier, mail service, or transport;
 - b. delays caused by the Bidder’s internal handling;
 - c. delays due to misdirection, misrouting, or delivery to the wrong office;
 - d. delays caused by weather, traffic, security protocols, or force majeure;
 - e. failure of third parties engaged by the Bidder.
- 16.2.2 It is solely the Bidder’s responsibility to ensure timely delivery, regardless of the delivery method chosen.

16.3 Record and Return of Late Bids

16.3.1 Late Bids shall be:

- a. recorded in the Employer’s bid receipt register as “Late Bid”;
- b. returned unopened to the Bidder at the Bidder’s own cost and risk; and
- c. not considered for evaluation under any circumstances.

16.4 Electronic Bids

16.4.1 Bids submitted by fax, telex, email, WhatsApp, or any electronic means shall be treated as non-compliant, and shall not be accepted.

IB.17 Modification, Substitution and Withdrawal of Bids

17.1 A Bidder may modify, substitute, or withdraw its Bid after submission, provided that written notice of the modification, substitution, or withdrawal is received by the Employer prior to the deadline for submission of Bids specified in IB.15.

17.2 Such notice shall be submitted in accordance with the sealing and marking requirements of IB.14, with the envelope clearly marked:

- “MODIFICATION”, or
- “SUBSTITUTION”, or
- “WITHDRAWAL”,

as applicable.

17.3 Only one modification or substitution request will be permitted per Bidder unless otherwise approved by the Employer in writing.

17.4 Conditions for Valid Withdrawal

17.4.1 A Bid withdrawn shall not be opened or evaluated.

17.4.2 A Bidder who withdraws its Bid prior to the submission deadline shall not be subject to forfeiture of the Bid Security.

17.5 Withdrawing After Submission Deadline

17.5.1 Withdrawal of a Bid after the deadline for submission but before the expiry of bid validity shall result in forfeiture of the Bid Security.

17.5.2 Requests for withdrawal received after the submission deadline shall not be accepted. The Bid shall remain sealed and shall be treated as submitted.

17.6 Modification or Substitution after Deadline

17.6.1 Requests to modify or substitute a Bid after the submission deadline shall not be accepted.

17.6.2 Any modification received after the deadline shall be returned unopened.

17.7 Restrictions on Withdrawal after Opening of Technical Proposals

17.7.1 If the Technical Proposals have been opened, any attempt to withdraw the Bid prior to completion of evaluation shall result in:

- a. Forfeiture of the Bid Security, and
- b. Possible disqualification from future tenders of the Employer.

17.8 No Alteration of Financial Proposal after Financial Opening

17.8.1 After the Financial Proposals have been opened, no Bidder may modify its Bid.

17.8.2 Any such attempt shall result in immediate rejection and forfeiture of the Bid Security.

17.9 Employer's Rights

17.9.1 The Employer reserves the right to reject any modification, substitution, or withdrawal request it considers inconsistent with the integrity of the tender process.

(E) BID OPENING AND EVALUATION

18.18 Bid Opening (PPRA Rule 28)

- 18.1 The Employer shall open only the Technical Proposals on the date and time specified in the Bid Data Sheet (BDS).
- 18.2 Bidder representatives may attend the opening.
- 18.3 Names of Bidders, bid details and inclusion of bid security shall be recorded.
- 18.4 Financial Proposals shall remain sealed until completion of technical evaluation/ negotiations.

18.5 Clarification of Bids (PPRA Rule 31)

- 18.5.1 During evaluation, the Employer may request clarification in writing.
- 18.5.2 After clarification, the bidder may submit revised technical proposal and supplementary financial proposal as per PPRA Rule 36 (d).
- 18.5.3 Failure to respond within the stipulated period may result in rejection.

18.6 Preliminary Examination of Bids

- 18.6.1 The Employer will examine whether:
 - a. All required documents have been submitted;
 - b. Bid Security is valid;
 - c. The bid is complete;
 - d. No material deviations exist.
 - e. Proof of purchase of documents has been attached

- 18.6.2 A materially incomplete bid shall be rejected.

18.7 Evaluation of Technical Proposals (PPRA Rule 29, 30)

- 18.7.1 The Procuring Agency shall examine the Bids to confirm that all terms and conditions specified in the GCC and the SCC have been accepted by the Bidder without any material deviation or reservation.
- 18.7.2 The Procuring Agency shall evaluate the technical aspects of the Bids submitted, to confirm that all requirements specified in Schedule of Requirements and Technical Specifications of the Bidding documents have been met without material deviation or reservation.
- 18.7.3 If after the examination of the terms and conditions and the technical evaluation, the Procuring Agency determines that the Bid is not substantially responsive in accordance with ITB, it shall reject the Bid.

18.8 Evaluation of Financial Proposals (PPRA Rule 29, 30)

- 18.8.1 Financial Proposals of technically qualified bidders shall be opened publicly.

18.9 Detailed Technical Evaluation Procedures

18.9.1 Evaluation Committee

The Employer shall appoint a Bid Evaluation Committee of technical, marine, operational, financial and procurement specialists. Experts may be consulted as needed.

18.9.2 Verification of Documents

Documents submitted for eligibility and qualification (IB.10) shall be verified, including:

- a. Completed Technical Data Sheet with responses to all parameters listed in this Specification.
- b. General Arrangement drawing of the proposed vessel.
- c. Capacity Plan and Tank Table.
- d. Class Certificate(s) confirming current class status and vessel delivery date.
- e. Confirmation of vessel being brand new.
- f. List of main machinery makers with model designations.
- g. Confirmation of compliance or documented technical deviations from each specification clause

18.9.3 Vessel Inspection or Virtual Assessment

The Employer may conduct:

- a. pre or post award physical inspection;
- b. virtual inspection (video, live feed);
- c. AIS movement checks;
- d. Seaworthiness confirmation.

Failure to facilitate inspection may lead to rejection.

Failure to meet any mandatory requirement results in Technical Non-Responsiveness.

18.10. Evaluation Philosophy

This procurement is being conducted in strict accordance with Rule 38 of the Public Procurement Regulatory Authority (PPRA) Rules, with the intent to award the contract to the **Most Advantageous Bid**. Given the highly technical and specialized nature of this procurement—which encompasses a broad asset base ranging from newly built vessels to ships up to three (3) years of age—a robust and detailed technical evaluation framework has been established. To ensure optimum balance between asset quality, operational capability, and economic value, the final evaluation will be determined using a Weighted Combined Score Method. The total evaluation score will be calculated by assigning **a 50% weight to the Technical Proposal and a 50% weight to the Financial Proposal**. The contract will be awarded to the responsive bidder achieving the highest combined score, ensuring the best value for money without compromising technical excellence.

IB.19 Process to be Confidential (PPRA Rule 41 in conjunction with Rule 48)

- 19.1 Subject to Clause 23 heretofore, no Bidder shall contact Employer and/or Consultant on any matter relating to its Bid from the time of the Bid opening to the time the Bid evaluation result is announced by the Employer. The final evaluation result shall be announced at least five (5) days prior to award of Contract. The announcement to all Bidders will include table(s) comprising discounted prices, price adjustments made, final evaluated prices and recommendations against all the Bids evaluated.
- 19.2 Any effort by a Bidder to influence Employer and/or Consultant in the Bid evaluation, bid comparison or Contract Award decisions may result in the rejection of his Bid. Whereas any Bidder feeling aggrieved may lodge a written complaint not later than five (5) days after the announcement of the Bid evaluation result; however, mere fact of lodging a complaint shall not warrant suspension of the procurement process.

(F) AWARD OF CONTRACT

IB.20 Basis of Award

20.1 Subject to IB.21, the Employer will award the Contract to the Bidder who:

- a. has submitted a substantially responsive Bid;
- b. has achieved the minimum technical qualification score in accordance with IB.20.2;
- c. has obtained the highest Combined Technical and Financial Score as calculated under IB.20.2; and

20.2 The award shall be made strictly in accordance with the **Most Advantageous Bid (MAB)**, the bid that offers the **best overall value** based on the disclosed criteria, not necessarily the lowest price using:

- 50% Technical Weightage, and
- 50% Financial Weightage,

and the highest combined score shall be ranked No. 1.

IB.21 Award of Contract (PPRA Rule 38)

21.1 The Employer shall award the Contract to the Most Advantageous Bid.

21.2 A Letter of Acceptance (LOA) shall be issued to the successful bidder.

21.3 The bidder shall submit the Performance Guarantee as specified in the BDS.

21.4 The Contract Agreement shall be signed within the time specified in the LOA.

IB.22 Employer's Right to Reject Bids (PPRA Rule 33)

22.1 The Employer may reject all bids at any time prior to acceptance.

22.2 Reasons for rejection shall be recorded in writing.

22.3 No compensation shall be made for bid preparation costs.

IB.23 Notification of Award

23.1 The Successful Bidder will be notified in writing through a Letter of Acceptance (LOA).

The LOA shall outline:

- a. the Contract value;
- b. Delivery timelines;
- c. performance security requirements;
- d. the deadline for signing the Contract Agreement.

23.2 Upon issuance of the LOA, the Bidder becomes bound to:

- a. furnish the Performance Security in accordance with IB.26;

- b. sign the Contract Agreement within the period specified;
- c. The successful bidder shall bear and pay all applicable stamp duty, as required under the laws of the Province of Sindh, on the Contract.

IB.24 Not Used

IB.25 Employer's Right to Accept any Bid and to Reject all Bids

25.1 Notwithstanding Clause IB.25, the Employer reserves the right to accept or reject a Bid, and to annul the bidding process and reject all Bids, at any time prior to award of Contract, without thereby incurring any liability to the affected Bidders or any obligation to inform the affected Bidders of the grounds for the Employer's action except that the grounds for its rejection shall upon request be communicated, to any Bidder who submitted a Bid, without justification of grounds. Rejection of all Bids shall be notified to all Bidders promptly.

IB.26 Performance Security

26.1 The successful Bidder shall furnish to the Employer a Performance Security equal to Seven percent (7%) of Contract Value in the form and the amount stipulated in the Conditions of Contract within a period of fifteen (15) days (or as mutually agreed) after the receipt of Letter of Acceptance.

26.2 Failure of the successful Bidder to comply with the requirements of Sub-Clauses IB.23 shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security.

IB.27 Signing of Contract Agreement

27.1 Upon receipt of Performance Security under the Conditions of Contract, the Employer will send to the successful Bidder the Form of Contract Agreement provided in the Bidding Documents, duly filled in and incorporating all agreements between the parties for signing and return it to the Employer.

27.2 The formal Agreement between the Employer and the successful Bidder shall be executed within five (5) days (or as mutually agreed) of the receipt of such Form of Contract Agreement by the successful Bidder from the Employer.

(G) ADDITIONAL INSTRUCTIONS

IB.28 Instructions not Part of Contract

28.1 Bids shall be prepared and submitted in accordance with the above Instructions to Bidders including Additional Instructions which are provided to assist Bidders in preparing their Bids, and do not constitute part of the Bid or the Contract Documents.

IB.29 Contract Documents

29.1 The Documents which will be included in the Contract are listed in the Form of Contract Agreement set out in these Bidding Documents.

IB.30 Sufficiency of Bid

30.1 Each Bidder shall satisfy himself before bidding as to the correctness and sufficiency of his Bid and of the rates and prices entered in the Schedule of Prices. Except insofar as it is otherwise expressly provided in the Contract, the rates and prices entered in the Schedule of Price shall cover all his obligations under the Contract and all matters and things necessary for the proper completion of the Works/facility.

IB.31 One Bid per Bidder

31.1 Each Bidder shall submit only one Bid either by himself, or as a partner in a joint venture. A Bidder who submits or participates in more than one Bid will be disqualified and Bids submitted by him shall not be considered for evaluation and award.

IB.32 Bidder to inform Himself

32.1 The Bidder shall, at his own cost and responsibility, obtain all information necessary for preparing his Bid and entering into the Contract, including all matters relating to dredging vessels.

32.2 The Bidder shall satisfy himself with all applicable Pakistani laws, marine and port regulations, environmental requirements, taxes, duties, fee structures, navigational restrictions, and any operational constraints relevant to the mobilization of the vessels. The Employer shall bear no responsibility whatsoever for providing or verifying any such information.

32.3 All permits, clearances, approvals, exemptions, waivers, authorizations, and licenses required for the mobilization including crew and equipment of the dredging vessels and related fees (if any), from the port of departure, shall be the sole responsibility of the Bidder and shall be obtained at the Bidder's own cost and risk.

32.4 No claim, adjustment, or additional payment shall be entertained at any stage due to the Bidder's failure to obtain, verify, or comply with any information, permission, waiver, or regulatory requirement necessary for the preparation of the Bid or execution of the Services.

IB.33 Training

33.1 Free of cost On Job operational and maintenance Training for a period specified in bid data sheet.

IB.34 Not Used

IB.35 Integrity Pact

35.1 The Bidder shall sign and stamp the Integrity Pact provided in Appendix H to Bid in the Bidding Documents for all Federal Government procurement contracts exceeding Rupees ten million. Failure to provide such Integrity Pact shall make the Bid non-responsive.

IB.36 General Performance of the Bidders

36.1 The Employer reserves the right to obtain information regarding performance of the Bidders on their previously awarded contracts / works. The Employer may in case of consistent poor performance of any Bidder as reported by the employers of the previously awarded contracts, inter alia, reject his bid.



SECTION – III

ELIGIBILITY CRITERIA (PASS/FAIL)

SECTION III: ELIGIBILITY CRITERIA (PASS/FAIL)

3.1 General

The following criteria are **non-negotiable prerequisites**. A Bidder failing any single criterion at this stage will be **immediately disqualified** and will not proceed to scored evaluation. No partial credit is awarded.

3.2 Mandatory Eligibility Criteria

S. No.	Mandatory Criterion	Evidence Required from Bidder	Compliance (C/NC)
1	Vessel Age — not more than three (3) years old at Tender Closing Date.	Builder's Certificate, Classification Society delivery record, or Delivery Certificate. Year of build and delivery date to be clearly stated.	
2	Valid Classification Certificate from an IACS member society (CCS, DNV, BV, LR, ABS or equivalent). No outstanding Class conditions or recommendations for commissioned vessel.	Current Classification Certificate. List of any class conditions or notations in force.	
3	Full compliance with SOLAS, MARPOL, STCW, ISM, and ISPS at time of Tender.	Copies of all applicable statutory certificates (SOLAS Safety Construction, Safety Equipment, Safety Radio, MARPOL IOPP, IAPP, MLC).	
4	Hopper capacity 10,000 m ³ (+10% Max).	Capacity Plan, Tank Table, or Classification Society-approved Capacity Booklet.	
5	Maximum dredging depth not less than 35m below the water surface.	Technical datasheet, manufacturer's specification, or sea trial records confirming maximum dredging depth.	
6	Twin main propulsion engines; minimum 3,500 kW continuous rating each.	Main engine manufacturer's data sheets with rated power, speed, and fuel type.	
7	Dredge pump installed power: minimum 2,300 kW per pump (total ≥ 4,600 kW).	Dredge pump manufacturer's data sheet confirming installed power and pump model.	

8	Bow discharge / rainbow capability with minimum 70 m working range.	Technical description or operational manual extract confirming rainbow range.	
9	Emergency generating set outside machinery space, auto-start within 45 seconds.	Emergency genset datasheet and location drawing.	
10	International Oil Pollution Prevention Certificate (IOPP) current and valid.	Copy of valid IOPP Certificate.	
11	Sewage Treatment Plant with capacity \geq 2,800 L/day and IMO type approval.	STP type approval certificate and capacity datasheet.	
12	Completed Summary Compliance Table submitted with Tender.	Completed compliance table identifying any deviations with technical explanation.	
13	Length Overall (LOA) not more than 135 m.	Verify from GA drawing or Class Certificate.	
14	Beam \leq 22.5 m.	Verify from GA drawing.	
15	Moulded Depth \leq 9.0 m.	Verify from GA drawing.	
16	Design Draft between 6.0 m – 7.0 m.	Verify from GA drawing.	
17	Hull structural arrangement (longitudinal framing in hopper region confirmed).	Review midship section drawing or Class approval records. Bidder to provide a builder certificate.	
18	Double-hull / double-bottom in way of fuel tanks \geq 30 m ³ (MARPOL Annex I).	Review GA, tank plan, and IOPP certificate.	
19	Anti-corrosion coating system specification and quality.	Review coating specification and inspection records.	
20	Bidder shall not be blacklisted or debarred by any Federal/Provincial Government agency, autonomous body, statutory authority, or international organization.	Not-Blacklisted Affidavit on judicial stamp paper.	
21	Bidder must be a legally registered entity.	Registration documents, NTN, STRN, and relevant tax numbers.	
22	Bid Security submitted as required.	Bid Security in the form of Bank Guarantee, CDR, or Pay Order.	

23	Submission of a comprehensive, independent, Third-Party Pre-Purchase / Asset Condition Assessment Report conducted by an approved surveyor (DNV, BV, CCS, CMSC, or Sinotech Marine) within 60 days of bid closing. OR Valid exemption documentation for "As-New" assets (< 500 hrs & < 12 months old).	Completed and stamped Third-Party Assessment Report (covering all 8 Technical Areas) with the signed Appendix I Checklist. OR IACS Class Commissioning Portfolio + Sea Trial Logs + OEM Warranty Certificates for exempted vessels.	
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3.3 Financial Eligibility

S. No.	Criterion	Evidence Required	Compliance
1	Bidders	Audited financial statements for the last 3 years.	

Note: In the case of a Special Purpose Vehicle (SPV) or a single-ship operating company, the financial statement of the Parent/Holding Company or the Ultimate Beneficial Owner (UBO) may be submitted and will be accepted to meet this criterion.

SECTION – IV

TECHNICAL SPECIFICATIONS & SCOPE OF WORK

Key Specifications Summary

Parameter	Specification / Requirement
Vessel Type	Trailing Suction Hopper Dredger (TSHD)
Hopper Capacity	10,000 m ³ (+10% Max).
Vessel Age	Not more than 3 years old at Tender Closing Date
LOA	Not more than 135 m
Beam	Maximum 22.5 m
Depth	Maximum 9.0 m
Design Draft	6.0 m – 7.0 m
Service Speed (laden)	Minimum 13.0 knots at 90% MCR
Service Speed (ballast)	Minimum 13.5 knots at 90% MCR
Endurance / Range	Minimum 8,000 nautical miles
Main Engines	2 × ≥ 3,500 kW (twin-screw)
Dredge Pumps	2 × ≥ 2,300 kW each (total ≥ 4,600 kW)
Maximum Dredging Depth	Minimum 35 m
Bow Thruster	≥ 600 kW
Rainbow Range	Minimum 70 m
Pipeline Discharge	Minimum 2,000 m
Generating Sets	3 × ≥ 600 kW + 1 × 200 kW port + 1 × 120 kW emergency
Sewage Treatment	≥ 2,800 L/day

Bid Data Sheet (BDS)

Clause Ref.	Description	Data / Requirements
IB.1	Scope of Bid	<ol style="list-style-type: none"> 1) Procurement of Vessel Trailing Suction Hopper Dredger (TSHD) 10,000 m³ (+ 10% max) Hopper Capacity. 2) Provision of Crew for the operations and maintenance for 3 years 3) Operations and Maintenance of Dredger for 3 years less Fuel & Lubricants
IB.2	Eligible Bidders	As per PPRA Rule 19. Reputable firms allowed except India & Israel. JV permitted.
IB.3	Cost of Bidding	Bidder to bear all costs.
IB.7	Language of Bid	English only.
IB.8	Documents Comprising the Bid	Technical Proposal & Financial Proposal — Separate sealed envelopes.
IB.9	Currency	USD (Preference given to 60:40 - USD:PKR ratio in evaluation criteria)
IB.10	Qualification Requirements	Technical Compliance, Financial turnover, O&M provisioning
IB.12	Bid Validity (PPRA Rule 26)	120 days from opening of Technical Bids.
IB.13	Bid Security (PPRA Rule 25)	USD 100,000 OR PKR 28 million ; validity = bid validity + 28 days.
IB.14	Sealing & Marking	Technical & Financial separately sealed; both inside a third outer envelope.
IB.15	Deadline for Submission	As per tender notice
IB.15.5	Procurement Timeline	As per tender schedule (published, pre-bid, evaluation, LOA, contract signing).
IB.16	Late Bids	Not accepted.
IB.17	Withdrawal	Bidder can withdraw before Tech meeting subject to the Purchaser consent.
IB.18	Technical Bid Opening (PPRA Rule 28)	As per tender notice
IB.18.7	Evaluation Criteria	Most Advantageous Bid
IB.19	Confidentiality (PPRA Rule 41)	No contact with Employer during evaluation.
IB.20	Award Basis	Most Advantageous Bid (MAB)
IB.21	LOA Issuance (PPRA Rule 38)	After technical + final evaluation.
IB.22	Right to Reject (PPRA Rule 33)	Employer may reject bids. Moreover, no conditional bids are acceptable
IB.23	Notification of Award	Through Letter of Acceptance
IB.24	Variations	-

Clause Ref.	Description	Data / Requirements
IB.26	Performance Security	As per Contract Agreement; must be submitted within 15 days (or as mutually agreed) of LOA.
IB.27	Contract Signing	Within 05 days (or as mutually agreed) after submission of Performance Security.
IB.28–37	Other Conditions	Integrity Pact, JV rules, Eligibility, Technical Compliance, PPRA compliance.
IB.33	Training	Last year of Operations and Maintenance

SECTION – V

TECHNICAL EVALUATION CRITERIA (SCORING)

5.1 General

The maximum attainable score from the weighted scored evaluation is **1,000 points**. The table below sets out the evaluation categories and their relative weighting.

#	Evaluation Category	Weight (%)	Max Points
A	Vessel Age, General Condition & Classification	20%	200
B	Propulsion, Speed & Maneuvering	16%	160
C	Dredging System — Arms, Pumps, Hopper & Doors	16%	160
D	Discharge, Jet Pump & Rainbow System	10%	100
E	Electrical Plant & Generating Sets	10%	100
F	Auxiliary Machinery & Environmental Systems	6%	60
G	Navigation, Communication & Automation	6%	60
H	Deck Machinery, Safety & LSA	6%	60
I	Accommodation, HVAC & Crew Welfare	4%	40
J	Contractor Capability & After-Sales Support	6%	60
—	TOTAL	100%	1,000

5.2 Technical Evaluation Matrix

CATEGORY A: VESSEL AGE, GENERAL CONDITION & CLASSIFICATION (200 Points)

A.1 Vessel Age and Certifications

Criterion	Max Score	Evaluation Method / Scoring Guidance
Year of build / delivery — closer to new scores higher (e.g., 0–0.5 yr = 100, 0.5–1.0 yr = 80, 1–2 yr = 60, 2–3 yr = 40, >3 yr = FAIL)	100	Score based on documented delivery year vs Tender Closing Date. Builder's Certificate mandatory.
Class Society Prestige (IACS full member: DNV GL, LR, BV, ABS, CCS, KR, NK etc. = 20; non-IACS member = FAIL)	20	Review classification society membership status.
Third-Party Pre-Purchase Condition Assessment Report for the nominated TSHD as per table below	80	Third-Party Pre-Purchase Condition Assessment Report for the nominated TSHD as per Appendix I-1 (80 points). The survey must be executed exclusively by one of the approved independent entities (DNV, BV, CCS, CMSC, or Sinotech Marine). The evaluator

		<p>must explicitly cover the eight (8) mandatory technical areas (Main Engines, Gearboxes, Bow Thruster, Dredging Equipment, Automation, Navigation, Safety Systems, and Habitability). Quantitative measurements from this report (wear rates, UTG readings, oil analysis, and engine hours) will directly inform the scoring allocations within Categories B, C, and F of this technical evaluation."</p>
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Technical Scoring Matrix for TSHD Condition Assessment (Max: 80 Marks) - Appendix I-1

Parameter Category	Max Marks	Target Measurement / Evaluation Metric	Scoring Rules & Mark Allocation
1. Residual Structural Life <i>(Hull, Hopper Well, & Bottom Doors)</i>	20.0	Ultrasonic Thickness Gauging (UTG) compared to original "as-built" design drawings.	<ul style="list-style-type: none"> • 20.0 Marks: Steel wastage is < 1%. • 14.0 – 18.0 Marks: Steel wastage is 1% to 4%. • < 8.0 Marks: Steel wastage exceeds 5% or shows localized fatigue.
2. Dredge Pump & Line Degradation <i>(Impellers, Liners, Pipe Walls)</i>	16.0	Internal laser scanning or physical caliper thickness checks of abrasive contact areas.	<ul style="list-style-type: none"> • 16.0 Marks: Wear is < 5%, or components were 100% replaced with new parts. • 10.0 – 14.0 Marks: Wear is 5% to 20%. • 0.0 Marks: Wear exceeds 30%; immediate replacement required.
3. Machinery Health & Engine Wear <i>(Main Engines & Generators)</i>	16.0	Total running hours, crankshaft deflection logs, and Spectrometric Lube Oil Analysis.	<ul style="list-style-type: none"> • 16.0 Marks: Engine hours < 1,500 hrs; oil analysis is perfectly clean. • 10.0 – 14.0 Marks: Engine hours 1,500 to 15,000 hrs; clearances within maker limits. • 4.0 Mark: Engine hours > 15,000 hrs or oil shows metal wear particles.
4. Hydraulic & Deck Mechanical Wear <i>(Winches, Cylinders, Compensators)</i>	12.0	Pressure-drop test records, cylinder rod scoring inspection, and hydraulic hose integrity.	<ul style="list-style-type: none"> • 12.0 Marks: Zero oil leaks; pristine seals and hoses. • 8.0 Marks: Minor external weeping; system holds full pressure without drift. • 4.0 Mark: Visibly cracked hoses, rod scoring, or hydraulic pressure drop.
5. Living Conditions & Habitability <i>(Galley, Cabins, & HVAC Systems)</i>	8.0	Physical condition of crew quarters and compliance with Maritime Labour Convention (MLC).	<ul style="list-style-type: none"> • 8.0 Marks: Pristine quarters; fully functional central HVAC; zero insulation mold. • 4.0 Mark: Visible cosmetic wear on furniture, but fully hygienic and operational.

			<ul style="list-style-type: none"> • 0.0 Marks: Broken HVAC; substandard hygiene; MLC non-compliance.
6. Certified Asset Condition Grade <i>(Surveyor's Professional Opinion)</i>	8.0	Formal overall vessel condition rating issued by the approved evaluator (CCS, DNV, etc.).	<ul style="list-style-type: none"> • 8.0 Marks: Rated as "Excellent" or "Very Good". • 4.0 Mark: Rated as "Good". • 0.0 Marks: Rated as "Fair" or "Poor".

CATEGORY B: PROPULSION, SPEED & MANOEUVRING (160 Points)

B.1 Main Engines

Criterion	Max Score	Evaluation Method / Scoring Guidance
Main engine make and model; International tier-1 OEM preferred: MAN, Wärtsilä, Caterpillar, MTU = 24; Regional/ domestic reputable tier-2 = 18; Obsolete/ non-standard engines = 0	24	Evaluate OEM reputation, global / regional service network, and parts availability.
Engine hours since new or last major overhaul (lower hours score higher): < 1,500 total hours since new = 24; 1,500 to 15,000 hours since new with verified routine maintenance = 18; > 15,000 to 30,000 hours since new with verified routine = 10; > 30,000 hours = 0.	24	Review engine logbooks and maintenance records.
Installed power per engine: ≥ 3,800 kW MCR = 16; 3,400–3,799 kW = 12; 3,200–3,399 kW = 8; < 3,200 kW = 0	16	Verify from engine datasheet (MCR and continuous rated power).

B.2 Gearbox and Shaftlines

Criterion	Max Score	Evaluation Method / Scoring Guidance
Gearbox Design, Power Rating & Clutching; Tier-1 OEM preferred: (Renk, Flender, Reintjes, Kumera, Masson) = 12; regional/ domestic reputable tier-2 = 10; obsolete/ non-standard engines = 0	12	Evaluate the maker's reputation, service network, and structural capability to handle continuous dredging loads.
Main Propeller Technology & Material; Fixed Pitch Propeller (FPP) made of Nickel-Aluminum Bronze (NAB) or superior cavitation-resistant alloy, with zero blade deformation/	10	Verify propeller type and metallurgical composition from shipyard build drawings and Class certificates.

cracking = 10; FPP of lower grade a Cu3 or AB2 = 6; FPP of non-standard material (cast steel etc.) = 0.		
Running Hours & Wear Lifecycle; < 1,500 total hours since new = 10; 1,500 to 15,000 hours since new with verified routine maintenance = 6; > 15,000 to 30,000 hours since new with verified routine maintenance = 4; > 30,000 hours = 0.	10	Audit the machinery logbooks and 3rd-party physical clearance measurements (lower hours/wear score higher).

B.3 Service Speed

Criterion	Max Score	Evaluation Method / Scoring Guidance
Laden service speed: ≥ 13.5 kts = 16; 13.0 – 13.49 kts = 10; < 13.0 = 0	16	Review sea trial records at 90% MCR, design draft, calm water. Bidder to submit compliance.
Ballast speed: ≥ 14.0 kts = 8; 13.5 – 13.99 kts = 5; < 13.5 = 0	8	Review sea trial records.
Fuel endurance / range: ≥ 8,000 nm = 8; 6,000–7,999 = 5; < 6,000 = 0	8	Verify from fuel capacity plan and engine consumption data.

B.4 Bow Thruster

Criterion	Max Score	Evaluation Method / Scoring Guidance
Performance Capacity & Tunnel Design fitted with robust protective debris grids at tunnel openings to prevent stones/dredged debris from entering. Power output: ≥ 600 kW = 16; 500–599 kW = 10; < 500 kW = 5	16	Verify the continuous kW rating and physical protection arrangements from the shipyard drawings and technical specifications.
Propeller Type & Gear Unit Integrity; Controllable Pitch Propeller (CPP) for instant thrust reversal and superior maneuvering control = 8; Fixed Pitch Propeller (FPP) system (acceptable but less responsive) = 5	8	Assess the operational flexibility (Controllable Pitch vs. Fixed Pitch) and internal mechanical condition via the third-party survey report
Control Systems & Bridge Integration (Maneuvering Automation); Seamless integration with the main propulsion system; joystick/dynamic tracking capabilities; dual-station bridge control panels with digital	8	Review the interface capabilities and responsiveness of the thruster controls on the bridge and wings

pitch/RPM indicators = 8; Basic stand-alone analog joystick control panel with no integration into the main helm console =3	
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CATEGORY C: DREDGING SYSTEM — ARMS, PUMPS, HOPPER & DOORS (160 Points)

C.1 Suction Arms / Drag Arms

Criterion	Max Score	Evaluation Method / Scoring Guidance
Maximum dredging depth: ≥ 40 m = 18; 35–39.9 m = 15; 30–34.9 m = 10; 25–29.9 m = 6; < 25 m = 0	18	Review suction arm length, draghead geometry, and operational records confirming maximum dredging depth.
Drag arm design quality (make, pipe diameter, abrasion-resistant lining, trunnion type) • Maker Reputability (4 Marks): Tier 1 Global (e.g., IHC Mining, DAMEN, Royal Reesink) = 4; Tier 2 Quality Regional = 3; Unproven/Local = 0. • Pipe Diameter & Flow (4 Marks): Optimized for 10,000 m ³ capacity (Internal Diameter ≥ 900 –1000 mm) = 4; Minor restriction (800–899 mm) = 3; Highly restricted (< 800 mm) = 0. • Abrasion-Resistant Lining (4 Marks): Fully lined with premium wear plates/hard-facing (e.g., 400–500 HBW) throughout high-velocity bends = 4; Partial lining only at the draghead neck = 3; Unlined raw carbon steel = 0. • Trunnion & Joint Type (4 Marks): Heavy-duty cardan-type sliding trunnion with robust multi-axis swivels = 4; Standard fixed-rail or single-axis hinge trunnion = 2.	16	Review technical datasheet and maker's specification.
High-pressure water jet assistance on draghead for hard/clay soils • Full Premium Jet Integration (10 Marks): High-pressure jet system (> 10 –15 bar) integrated with specialized clay-cutting nozzles directly on an adjustable visored draghead. • Standard Jet Integration (7 Marks): Moderate pressure jet system (5–9 bar) acting purely as a fluidization aid for loose sand/silt. • No Jet Assistance (0 Marks):	10	Confirm from draghead and Jet Pump specification and system description.

Gravity-fed / mechanical scraping only (Unsuitable for cohesive clay/hard packed soils).		
<p>Lowering/raising time ≤ 5 minutes per arm confirmed</p> <ul style="list-style-type: none"> • Fast Cycle Performance (8 Marks): Confirmed launch/recovery cycle ≤ 3 minutes (Offers maximum dredging window efficiency). • Baseline Compliant (4 Marks): Confirmed cycle time between 3.1 and 5.0 minutes. • Non-Compliant (0 Marks): Slow winch/hydraulic system taking > 5 minutes to deploy or store the arms. 	8	Review operational records or system description.

C.2 Dredge Pumps

Criterion	Max Score	Evaluation Method / Scoring Guidance
<p>Installed dredge pump power (each): ≥ 2,700 kW = 16; 2,400–2,699 kW = 12; 2,000–2,399 = 8; < 2,000 = 0</p>	16	Review pump datasheet; confirm installed motor or engine power.
<p>Pump make and design quality (high-chrome iron casing/impeller, replaceable wear parts)</p> <ul style="list-style-type: none"> • Maker & Metallurgy (7 Marks): Tier 1 Global (e.g., IHC, Kawasaki, GIW, Danfoss) using premium High-Chrome cast iron (≥ 27% Cr, ~600 HBW) = 17; Tier 2 Regional Maker with standard hard-iron casting = 4; Unproven/Local = 0. • Wear Parts Serviceability (7 Marks): Fully independent, easily replaceable front/back wear plates and quick-release casing bolts = 7; Semi-replaceable liners requiring intensive welding = 3; Integrated casing with no distinct liners = 0. 	14	Review pump maker's datasheets.
<p>Production capacity stated (m³/hr): ≥ 14,000 = 16; 13,000–13,999 = 12; 11,000–12,999 = 8; <11,000 = 0</p>	16	Verify from production records or pump performance curves at stated soil conditions.
<p>Wear monitoring provision for impeller and casing</p> <ul style="list-style-type: none"> • Advanced Active Monitoring (8 Marks): Integrated electronic/ultrasonic wear sensors embedded in the casing and liners with real-time bridge telemetry. • Manual/Physical Provision (4 Marks): Physical inspection ports, wear-indicator 	8	Confirm from system description or O&M manual.

pins, or manual ultrasonic testing mapping points defined in manual. • No Specific Provision (0 Marks): Visual inspection only (requires full pump teardown to check thickness).		
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C.3 Hopper, Overflow & Bottom Doors

Criterion	Max Score	Evaluation Method / Scoring Guidance
Hopper capacity: 10,000 - 11,000 m³	14	Verify from Capacity Plan or Class-approved Capacity Booklet.
Number of bottom doors: $\geq 14 = 8$; $12 = 6$; $< 12 = 0$	8	Review GA and dredging system documentation.
Unloading time with all doors fully open: ≤ 5 min = 8; 5.1–7.0 min = 5; ≥ 7 min = 1	8	Review operational records or system design data.
Loading time at 35 m depth (density 1,350 kg/m³): ≤ 50 min = 8; 51–60 min = 6; > 60 min = 2	8	Verify from production data or simulation.
Adjustable overflow system for sediment retention / environmental compliance <ul style="list-style-type: none"> • Continuously Adjustable Telescopic Overflow with Anti-Turbidity Skirt (8 Marks): Actively controlled via hydraulic cylinders across the full loading cycle; suppresses air entrainment to minimize environmental plumes. • Fixed or Semi-Adjustable System (4 Marks): Ring-type manual adjustment or restricted vertical travel range. • No Active Overflow Control (0 Marks): Outdated 	8	Review overflow system design.
Density monitoring (nuclear or acoustic meters on suction and discharge) <ul style="list-style-type: none"> • Full Dual-Line Monitoring (8 Marks): Real-time, class-certified meters installed on both the suction pipe and discharge lines, fully integrated into the automated dredging computer. • Single-Line Monitoring (4 Marks): Monitoring provided only on the discharge line or suction line, not both. • No Non-Intrusive Monitoring (0 Marks): Manual calculations or raw pressure differential tracking only. 	8	Confirm from instrumentation list or system description.

CATEGORY D: DISCHARGE, JET PUMP & RAINBOW SYSTEM (100 Points)

D.1 Jet Pump (High-Pressure Water Pump)

Criterion	Max Score	Evaluation Method / Scoring Guidance
<p>Make, Model & Origin</p> <ul style="list-style-type: none"> • Tier 1 Premium Western Origin (15 Marks): Engineered and manufactured by globally recognized marine pump specialists (e.g., IHC Mining, Damen, Sulzer, KSB, Flowserve) with a proven track record on international TSHDs. • Tier 2 High-Quality Regional/Asian Origin (10 Marks): Built by prominent Japanese or South Korean makers (e.g., Shinko, Naniwa) or reputable local design institutes with regional tracking. • Tier 3 Unproven / Local Brand (0 Marks): Unbranded or small local workshop equipment with no marine track record. 	15	Review technical data sheets, shipyard procurement list, and country of origin certificates.
<p>Installed Jet Pump Power & Pressure (Each pump capacity)</p> <ul style="list-style-type: none"> • Power \geq 1,500 kW or Pressure \geq 10–15 bar (20 Marks): High-pressure capability required to effectively cut heavy clay profiles. • Power 1,000–1,499 kW or Pressure 8–9.9 bar (15 Marks): Good standard performance for medium sand fluidization • Power 600–799 kW or Pressure 5–7.9 bar (10 Marks): Marginal performance; prone to clogging in heavy clay beds. • Power $<$ 600 kW or Pressure $<$ 5 bar (0 Marks): Insufficient for a 10,000 m³ TSHD. 	20	Confirm from machinery list and system description.
<p>Priming System & Automation Integration</p> <ul style="list-style-type: none"> • Fully Automated (15 Marks): Auto-priming system integrated with the bridge dredging console (one-touch start/stop and automated pressure relief valve regulation). • Manual / Semi-Automated (10 Marks): Manual priming required or standalone local control panel only. • No Advanced Controls (0 Marks): Hard-wired start/stop with no remote telemetry or safety override integration. 	15	Confirm from system control description or electrical/piping schematics.

<p>VFD control and seawater-compatible materials (bronze/duplex SS)</p> <ul style="list-style-type: none"> • Full Premium Compliance (10 Marks): The jet pump features a dedicated Variable Frequency Drive (VFD) for precise pressure control • Standard/Partial Compliance (6 Marks): Outfitted with VFD control, but uses standard Marine Bronze or High-Tensile Brass housings • Substandard Configuration (2 Marks): Fixed-speed motor with no VFD control 	<p>10</p>	<p>Confirm from electrical line diagrams, automation system layouts, and pump material certificates.</p>
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D.2 Bow Discharge / Rainbow & Pipeline

Criterion	Max Score	Evaluation Method / Scoring Guidance
<p>Rainbow range: ≥ 90 m = 15; 70–90 m = 10; < 70 m = 5 or below</p>	<p>15</p>	<p>Review operational records or system design data.</p>
<p>Pipeline discharge distance: $\geq 3,000$ m = 15 2,000–3,000 m = 10; $< 2,000$ m = 5</p>	<p>15</p>	<p>Verify from system design data.</p>
<p>Number of dedicated discharge pumps (≥ 2 preferred)</p> <ul style="list-style-type: none"> • 2 or more dedicated pumps capable of working in series (10 Marks): Allows maximum pressure build-up for long-distance pumping or dual-line shore discharge. • 1 single high-capacity dedicated pump (5 Marks): Vulnerable to total system downtime if the single pump fails or jams. • 0 dedicated pumps / shared suction pumps only (0 Marks): Severely limits discharge pressure and versatility. 	<p>10</p>	<p>Confirm from machinery list and piping schematics.</p>

CATEGORY E: ELECTRICAL PLANT & GENERATING SETS (100 Points)

E.1 Main Generating Sets

Criterion	Max Score	Evaluation Method / Scoring Guidance
<p>Power output per genset:</p> <ul style="list-style-type: none"> • ≥ 750 kW = 30 Marks (Ensures ample electrical margin for auxiliary systems) • 600 – 749 kW = 20 Marks • < 600 kW = 10 Marks 	<p>30</p>	<p>Review electrical load analysis and generator datasheets.</p>

<p>Make of generating sets (international OEM with global spares)</p> <ul style="list-style-type: none"> • Tier 1 Global OEM (20 Marks): Built by top-tier global brands (e.g., Caterpillar, Cummins, MAN, Scania) with a verified global parts and field technician network. • Tier 2 Regional OEM (15 Marks): Built by reputable regional Asian/ Local brands with parts availability limited outside their domestic/ regional corridor. • Tier 3 Unproven / Local Maker (0 Marks): Local brands with no international marine network support. 	20	Verify maker's international service network, spare parts hubs, and shipyard procurement list.
<p>Power Management System (PMS) — auto load sharing, auto-start</p> <ul style="list-style-type: none"> • Advanced Automated PMS (20 Marks): Full automatic load sharing, auto-start/stop based on network load demand, seamless automated synchronization, and fast automated blackout recovery functionality. • Standard Automated PMS (10 Marks): Standard auto-start and load sharing, but lacks automated blackout recovery or requires manual configuration for synchronization. • Manual / Basic Control (0 Marks): Basic switchboard with manual synchronization and manual load monitoring 	20	Confirm from automation topology and PMS control system descriptions.

E.2 Port and Emergency Generators

Criterion	Max Score	Evaluation Method / Scoring Guidance
<p>Port generator capacity:</p> <ul style="list-style-type: none"> • ≥ 250 kW = 15 Marks (<i>Allows full auxiliary operation at port without running main gensets</i>) • 200 – 249 kW = 10 Marks. • < 200 kW = 5 Marks 	15	Review harbor/port electrical load profiles and port genset datasheet.
<p>Emergency generator: auto-start, outside machinery space, ≥ 18 hrs fuel</p> <ul style="list-style-type: none"> • Full Premium Compliance (15 Marks): Fully compliant with SOLAS rules; auto-starts within 45 seconds of a blackout, located completely outside the main machinery space above the bulkhead deck, and features a dedicated fuel tank holding ≥ 18 hours of runtime. 	15	Verify from General Arrangement (GA) layout, fuel system schematics, and SOLAS safety certificates

<ul style="list-style-type: none"> • Partial Compliance (8 Marks): Located outside the machinery space but has a smaller fuel tank capacity (< 18 hours) or a semi-automated backup startup sequence. • Non-Compliant (0 Marks): Located inside the main machinery space or fails basic automated safety guidelines. 		
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CATEGORY F: AUXILIARY MACHINERY & ENVIRONMENTAL SYSTEMS (60 Points)

F.1 Environmental Compliance Systems

Criterion	Max Score	Evaluation Method / Scoring Guidance
<p>Oily Water Separator (OWS): (MARPOL Annex I)</p> <ul style="list-style-type: none"> • Full Compliance (10 Marks): OWS certified to hold bilge discharge ≤ 15 ppm, integrated with an automated Oil Discharge Monitoring & Control (ODMC) 3-way valve bypass system. • Marginal Compliance (8 Marks): Standard separator exists but lacks real-time automated logging/control telemetry. • Non-Compliant (0 Marks): Fails basic bilge discharge limits. 	10	Review International Oil Pollution Prevention (IOPP) certificate and OWS type approval.
<p>Sewage Treatment Plant (STP): (MARPOL Annex IV & Port Regulations)</p> <ul style="list-style-type: none"> • Premium Port-Optimized Capacity $\geq 2,800$ L/day (10 Marks): Certified fully compliant with strict IMO MEPC nutrient removal standards. Allows the vessel to work continuously in restricted harbor boundaries without discharging raw/semi-treated blackwater. • Baseline Port Capacity (5 Marks): Standard biological treatment plant but lacks advanced chemical/nutrient sterilization phases. • Non-Compliant (0 Marks): Basic holding tank only (forces frequent shore discharge or sailing out to open sea to empty). 	10	Review STP type approval certificate and datasheet.
<p>Main Engines Emissions Compliance: (MARPOL Annex VI)</p> <ul style="list-style-type: none"> • IMO Tier III Compliant (10 Marks): Outfitted with active SCR/EGR or running on LNG/dual-fuel 	10	Review NOx Technical File.

(Mandatory for many modern port emission zones).• IMO Tier II Compliant (8 Marks): Mandatory baseline standard only. • Non-Compliant (0 Marks): Fails basic trading limits.		
Ballast Water Management System (BWMS): (BWM Convention) • Full D-2 Standard Compliance (10 Marks): Approved active BWMS (UV, Electro-chlorination, or filtration) installed and certified. • Partial Compliance (5 Marks): BWM plan exists but treatment hardware is uncertified or missing type approval. • Non-Compliant (0 Marks): No ballast treatment mechanism.	10	Review BWM certificate and treatment system details.

F.2 Key Auxiliary Systems

Criterion	Max Score	Evaluation Method / Scoring Guidance
Fuel system: double-hull tanks, twin purifiers, twin transfer pumps • Premium Protected Setup (5 Marks): All fuel oil service/settling tanks feature double-hull protection alongside fully redundant twin fuel purifiers/separators. • Standard Setup (3 Marks): Twin purifiers provided but features single-hull integrated hull tanks. • Non-Compliant (0 Marks): Single purifier arrangement with no redundancy.	5	Review fuel system description.
Fire Protection Systems: (SOLAS Compliance) • Premium Integrated Layout (10 Marks): Total flooding Fixed CO2 system for the Engine Room (ER), localized high-pressure water mist firefighting systems, and fully addressable fire detection panel. • Baseline Layout (5 Marks): Standard CO2 room and basic regional detection zones, lacking localized automatic mist protection. • Non-Compliant (0 Marks): Outdated or incomplete firefighting setups.	10	Review fire safety plan and system list.
Automation & UMS Notation: AMS/IAS • Full UMS Class Notation (5 Marks): Alarm Monitoring System / Integrated Automation System (AMS/IAS) features full wheelhouse	5	Confirm Unmanned Machinery Space (UMS) notation eligibility from Class certificates.

<p>machinery alarm replication allowing continuous unmanned engine room operations. • Attended Machinery Only (3 Marks): Basic centralized alarm panel requiring continuous watchkeeping crew on site. • Non-Compliant (0 Marks): Scattered manual gauges with no integrated warning system.</p>		
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CATEGORY G: NAVIGATION, COMMUNICATION & AUTOMATION (60 Points)

G.1 Navigation Systems

Criterion	Max Score	Evaluation Method / Scoring Guidance
<p>Dual ECDIS, X-band + S-band ARPA radar, Class A AIS, dual gyrocompass, VDR, DGPS</p> <ul style="list-style-type: none"> • Full Premium Layout (15 Marks): Dual redundant Electronic Chart Display and Information Systems (ECDIS) paired with both an X-band (high resolution for close quarters) and S-band radar plus Automatic Radar Plotting Aid (ARPA) radar system. • Standard Layout (10 Marks): Single ECDIS with paper backup, or lacking independent ARPA frequency bands. • Non-Compliant (0 Marks): Fails basic international maritime safety (SOLAS) bridge requirements. 	15	Review bridge equipment list and type approvals.
<p>GNSS: GPS + BeiDou / GLONASS / Galileo multi-constellation</p> <ul style="list-style-type: none"> • Multi-Constellation Support (10 Marks): Simultaneous tracking of GPS plus at least two other major global constellations (BeiDou, GLONASS, or Galileo) to ensure zero signal drops near harbor structures. • Dual-Constellation Support (6 Marks): Standard GPS + GLONASS tracker setup only. • Single-Constellation Support (2 Marks): Legacy GPS-only tracking with no multi-satellite redundancy. • Non-Compliant (0 Marks): No type-approved satellite navigation receiver. 	10	Review GNSS receiver specifications.
<p>Dedicated dredging positioning / production management system (maker, features)</p>	15	Review system description, features, and compatibility.

<ul style="list-style-type: none"> • Advanced Real-Time 3D System (15 Marks): Capable of differential positioning & dual frequency depth measurement, fully integrated with 3D digital terrain software (e.g., Dredgepack). Displays exact draghead depth and hopper loading status relative to the seabed. • Basic 2D Positioning System (8 Marks): Standard 2D tracking software indicating boat position but lacking real-time, sensor-driven depth visualization. 		
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G.2 Communication Systems

Criterion	Max Score	Evaluation Method / Scoring Guidance
<p>Full GMDSS A1/A2/A3; Satellite (Inmarsat or VSAT); two EPIRBs; Navtex</p> <ul style="list-style-type: none"> • Unrestricted Sea Areas A1+A2+A3 (10 Marks): Complete Global Maritime Distress and Safety System (GMDSS) suite for open-ocean operations, including integrated satellite terminals (Inmarsat-C or Iridium) and MF/HF radio setups. • Coastal Sea Areas A1+A2 Only (5 Marks): Restricted to VHF/MF radio zones; lacks global satellite distress equipment infrastructure. • Non-Compliant (0 Marks): Fails basic safety radio mandates. 	10	Review comms equipment list and type approvals.
<p>PABX ≥ 40 stations; PA system; 10+ portable radios; intercom system</p> <ul style="list-style-type: none"> • Fully Compliant Large Capacity (10 Marks): Digital Private Automatic Branch Exchange (PABX) managing ≥ 40 internal extensions, combined with an integrated Public Address (PA) intercom network featuring 10 or more strategic speaker points across the hull and machinery decks. • Restricted Capacity Layout (5 Marks): Small capacity phone system (< 40 lines) or insufficient PA coverage zones across loud machinery spaces. • Non-Compliant (0 Marks): No integrated shipboard phone or emergency intercom systems. 	10	Review internal communication system description.

CATEGORY H: DECK MACHINERY, SAFETY & LSA (60 Points)

H.1 Deck Cranes & Winches

Criterion	Max Score	Evaluation Method / Scoring Guidance
<p>Crane 1 SWL ≥ 8 T at max outreach confirmed (knuckle-boom / jib type)</p> <ul style="list-style-type: none"> • Highly Optimized Capacity (10 Marks): Electro-hydraulic knuckle or telescopic boom crane with a Safe Working Load (SWL ≥ 8 tonnes at full outreach. Covers provision areas and the fuel/slurry manifold seamlessly. • Standard Capacity (6 Marks): SWL between 5.0 and 7.9 tonnes with restricted outreach. • Substandard Capacity (2 Marks): SWL < 5.0 tonnes; insufficient for lifting heavy spare machinery part 	10	Review crane datasheet and load certificate.
<p>Crane 2 SWL ≥ 20 T capable of lifting heaviest draghead — confirmed</p> <ul style="list-style-type: none"> • Heavy Maintenance Rated (10 Marks): Specialized heavy-duty deck crane with an SWL capability to handle the weight of draghead and visors ≥ 20 tonnes. Allows full onboard maintenance of the trailing suction arm elements. • Intermediate Capacity (5 Marks): SWL handles minor pipe components but cannot lift the main draghead body without external shipyard crane assistance. • Deficient Capacity (0 Marks): Fails to meet basic machinery maintenance weight requirements. 	10	Review crane datasheet, load certificate, and draghead weight.
<p>Anchor windlasses + aft mooring winches as specified</p> <ul style="list-style-type: none"> • High-Torque Heavy Duty (5 Marks): Combined windlass/mooring winches with high braking holding loads, outfitted with independent hydraulic or electric drives capable of handling strong harbor currents. • Standard Setup (2.5 Marks): Shared drive system or lower braking load tolerances. 	5	Review deck machinery list and motor ratings.

Substandard Setup (0 Marks): Undersized windlass for a 10,000 m ³ vessel displacement		
<p>Dredging winches integrated with dredge control system</p> <ul style="list-style-type: none"> • Fully Coordinated Triple-Winch Layout (5 Marks): High-speed hydraulic/electric winches dedicated individually to the Trunnion, Intermediate joint, and Draghead. Features fail-safe multi-disc brakes and active tension monitoring. • Shared/Synchronized Wire Setup (2.5 Marks): Fewer independent winch drums, complicating separate arm segment adjustments. • Non-Compliant (0 Marks): Lacks independent power braking or automated overload slip safety systems. 	5	Confirm from system description.

H.2 Life-Saving Appliances

Criterion	Max Score	Evaluation Method / Scoring Guidance
<p>Two (2) fully enclosed lifeboats ≥ 34 persons each; SOLAS approved</p> <ul style="list-style-type: none"> • Complete Compliance (5 Marks): Two fully enclosed, gravity-davit-launched lifeboats (one on port, one on starboard) with 100% crew capacity coverage on each side, equipped with compression-ignition engines. • Non-Compliant (0 Marks): Fails basic SOLAS commercial vessel safety equipment mandates. 	5	Confirm from SOLAS Safety Equipment Certificate and vessel certificate.
<p>Life rafts, EPIRBs, SARTs, lifejackets, immersion suits — all SOLAS compliant</p> <ul style="list-style-type: none"> • Full Marine Safety Array (5 Marks): Hydrostatic-release inflatable life rafts with 100% crew capacity redundancy on both sides, combined with complete type-approved arrays of lifebuoys (with lights/smoke), lifejackets. • Incomplete Array (2 Marks): Missing cold-water immersion suits or lacks localized life raft redundancy profiles. • Non-Compliant (0 Marks): Inadequate LSA equipment counts. 	5	Review LSA list and Safety Equipment Certificate.

CATEGORY I: ACCOMMODATION, HVAC & CREW WELFARE (40 Points)

I.1 Vessel Habitability and Crew Welfare Assessment

Criterion	Max Score	Evaluation Method / Scoring Guidance
<p>Living Accommodation & Hygiene 9–10: Immaculate cabins/mess rooms. Excellent water pressure and instant hot water. Spotless galley.7–8: Clean spaces. Minor cosmetic wear on furniture. Fully functioning galley and toilets.5–6: Noted wear-and-tear. Water pressure is usable but weak. Housekeeping needs improvement.3–4: Broken cabin fittings. Inadequate hot water. Pests or poor hygiene found in the galley.0–2: Blocked toilets. Black mold in cabins. Unsanitary food prep areas. Total failure.</p>	10	Visual and physical verification
<p>HVAC & Air Quality Control 9–10: Perfect temperature (20–24°C). Zero odors. Filter replacement logs are perfectly up-to-date.7–8: Temperature is stable. Minor airflow adjustments needed in isolated cabins. Logs are current.5–6: System is struggling in extreme weather but remains safe. Sluggish airflow in some areas.3–4: Stale air or strong odors. Temperatures consistently too hot or cold. Filters clogged.0–2: HVAC total failure. No fresh air circulation. Toxic or hazardous air quality.</p>	10	Auxiliary machinery specifications, HVAC maintenance log and visual and physical verification
<p>Crew Recreation & Leisure Facilities 9–10 Marks (Excellent): Gym equipment is modern, fully functional, and safe. Lounges feature updated entertainment systems (large smart TVs, current movie databases, gaming consoles) and a premium selection of indoor games (such as table tennis, foosball, or darts) in pristine condition.7–8 Marks (Good): All recreational spaces are clean and fully accessible. Gym equipment is complete but shows normal wear. TVs, media players, and</p>	10	Ship’s facility description, 3D plans and GA drawings..

<p>board games are fully functional with only minor cosmetic wear.5–6 Marks (Satisfactory): Leisure spaces are functional but basic or dated. Gym has limited workout options. TVs or indoor games are older models but still usable for crew relaxation.3–4 Marks (Action Required): Gym machinery is broken or unsafe to use. Entertainment systems are malfunctioning, and indoor games are broken, missing pieces, or stored in restricted areas.0–2 Marks (Critical Failure): No dedicated recreation room or gym exists. Shared spaces are completely repurposed for storage. Total lack of leisure, gaming, or physical fitness infrastructure for the crew.</p>		
<p>Medical Facilities & Sound Insulation 9–10: Fully stocked medical locker. Spotless hospital bed. Cabins are exceptionally quiet and vibration-free.7–8: Medical inventory is complete. Hospital is clean. Noise and vibration levels are within normal limits.5–6: Medical supplies near expiry. Noise/vibration is noticeable but does not prevent sleep.3–4: Expired medications or missing key first-aid items. Excessive noise/vibration disrupting crew rest.0–2: Unusable, dirty hospital space. Structural noise or vibration levels exceed safe legal limits</p>	10	Audit the ship’s hospital locker against the mandatory WHO/Flag State medical inventory list.

CATEGORY J: CONTRACTOR CAPABILITY & AFTER-SALES SUPPORT (60 Points)

J.1 Warranty, Contractual Terms & After-Sales Support

Criterion	Max Score	Evaluation Method / Scoring Guidance
<p>Supply Chain, Spare Parts & Logistics 11-15 (Excellent): Contractor maintains a fully stocked local inventory of critical OEM spares. Proven express dispatch system with capability to clear customs to avoid asset downtime.8 – 11 (Good): Good stock of common wear-and-tear components. Agreements are in place for fast</p>	15	Verify the Contractor’s supply chain arrangements.

<p>dispatch of major components, with reasonable lead times.5 – 8 (Satisfactory): Minimal local stock held. Most parts must be ordered overseas on demand, resulting in standard commercial shipping delays.</p>		
<p>Service SLA, Response Time & Technical Support 11– 15 (Excellent): Contractually guarantees immediate remote support and physical technician mobilization within 24 hours of notification anywhere globally.8 – 11 (Good): Reliable support framework with a guaranteed on-site response within 48 hours. 5 – 8 (Satisfactory): Basic technical support via email or phone during normal working hours only. Mobilization timelines are flexible and subject to technician availability.</p>	15	Review the Service Level Agreement (SLA) terms, looking for guaranteed response windows for both remote support and on-site attendance.
<p>3-Year O&M and Crew Provisioning Capability 11 – 15 Marks (Excellent): Provides a comprehensive, optimized 3-year O&M manual tailored to the asset. Demonstrates a robust, crew management with 100% STCW-compliant, highly experienced personnel. Rotation, relief, and emergency crew standby plans are flawless, guaranteeing zero operational disruption.8 – 11 Marks (Good): Clear and logical 3-year maintenance plan. Crewing and recruitment strategies are solid, utilizing verified third-party manning agencies. All proposed crew meet mandatory regulatory qualifications, and standard rotation schedules are adequately defined. 5 – 8 Marks (Satisfactory): Basic O&M plan provided but lacks asset-specific customization. Crew provisioning relies on open-market hiring on an as-needed basis, which introduces minor mobilization or training delay risks. Qualifications meet the bare regulatory minimums.</p>	15	Audit the contractor’s submitted 3-year lifecycle maintenance strategy, including preventive schedules, dry-docking support alignment, and software/system update workflows.
<p>Contractual, Legal & Regulatory Compliance 11 – 15 (Excellent): Unconditional acceptance of all contract clauses, including strict Liquidated Damages (LDs) for delays and uncapped liability</p>	15	Analyze the contractor's formal mark-up or deviation list against your standard terms and conditions (T&Cs), focusing

<p>for gross negligence. Flawless regulatory compliance with comprehensive, high-limit insurance coverage. 8 – 11 (Good): Acceptance of core legal terms with minor, standard commercial deviations. All required certifications and insurance policies are fully valid. 5– 8 (Satisfactory): Contractor requests multiple revisions to payment terms, delivery timelines, and warranty liabilities. Legal framework is acceptable but requires negotiation to protect the buyer from moderate risk. Insurance limits meet the bare minimum required.</p>	<p>on liability caps, liquidated damages, termination rights, and governing law.</p>
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5.3 Technical Evaluation Summary Table

Bidders shall note that the following summary table will be used to compile the final technical score:

Cat.	Category	Max Pts	Bidder's Score	Remarks
A	Vessel Age, General Condition & Classification	200		
B	Propulsion, Speed & Maneuvering	160		
C	Dredging System — Arms, Pumps, Hopper & Doors	160		
D	Discharge, Jet Pump & Rainbow System	100		
E	Electrical Plant & Generating Sets	100		
F	Auxiliary Machinery & Environmental Systems	60		
G	Navigation, Communication & Automation	60		
H	Deck Machinery, Safety & LSA	60		
I	Accommodation, HVAC & Crew Welfare	40		
J	Contractor Capability & After-Sales Support	60		
	TOTAL	1,000		

5.4 Technical Qualification Threshold

To qualify for financial bid opening, a bidder must achieve a minimum technical score of **70% (700 points out of 1,000)** .

Only bidders achieving this minimum threshold shall have their Financial Proposals opened and evaluated.

SECTION – VI

FINAL EVALUATION CRITERIA

6.1 General

This procurement is being conducted in strict accordance with Rule 38 of the PPRA Rules, 2004 with the intent to award the contract to the **Most Advantageous Bid (MAB)**.

6.2 Evaluation Philosophy

Given the highly technical and specialized nature of this procurement—which encompasses a broad asset base ranging from newly built vessels to ships up to three (3) years of age—a robust and detailed technical evaluation framework has been established. To ensure optimum balance between asset quality, operational capability, and economic value, the final evaluation will be determined using a **Weighted Combined Score Method**.

6.3 Weighted Scoring Formula

The total evaluation score will be calculated as follows:

Component	Weightage
Technical Proposal Score	50%
Financial Proposal Score	50%
Combined Total	100%

Formula:

$$\text{Final Score} = (\text{Technical Score} \times 50\%) + (\text{Financial Score} \times 50\%)$$

6.4 Award Decision

1. The contract will be awarded to the responsive bidder achieving the highest combined score, ensuring the best value for money without compromising technical excellence.
2. The Lowest Responsive Bid among technically qualified bidders shall receive the maximum Financial Score (100 points). Other bidders will receive Financial Scores calculated in proportion to their financial proposals.
3. Only bidders who:
 - Have submitted a substantially responsive Bid;
 - Have passed all mandatory Eligibility Criteria (Section III);
 - Have achieved the minimum technical qualification score of 700 points (70%) (Section V.4);

shall have their Financial Proposals opened and evaluated.

6.5 Financial Score Calculation

Criterion	Methodology
Financial Score	The bidder with the lowest responsive bid shall receive 100 points.
	All other bidders shall receive a score calculated using the formula:
	$(\text{Lowest Responsive Bid} / \text{Bidder's Bid}) \times 100$
	Additional 8 marks will be added in the financial score, to the firm offering 60% USD and 40% PKR payment ratio. Any firm offering a different ratio of USD vs PKR will be rated accordingly @ 1 mark per 5% deviation in USD.

6.6 Combined Score Ranking

Bidders shall be ranked according to their final combined score:

$$\text{Combined Score} = (\text{Technical Score} / 10 \times 0.50) + (\text{Financial Score} \times 0.50)$$

The bidder with the highest Combined Score shall be declared the Most Advantageous Bidder and recommended for contract award.

6.7 Payment Terms

Payment Milestone	% of Contract Price less Cost of Crew and O&M	Condition
Advance Payment	10%	Against advance bank guarantee of AAA rating scheduled bank of Pakistan,
Flag Change & Pre-Departure Formalities	30%	Successful completion of Acceptance Test / Site Acceptance Test and Successful flag change and completion of all pre-departure formalities and proof of mobilization.
Arrival of vessel at Karachi	30%	Vessel arrives at Karachi and makes arrival notice to relevant authorities
Commencement of Dredging Works at Karachi	30%	Sequel to clearance formalities, vessel commences dredging and successfully complete 6-weeks of dredging operations.
O&M / Crew Cost	Paid in equal quarterly instalments	Contractor shall submit quarterly invoices for the Manning and O&M charges of the TSHD.



SECTION – VII

GENERAL & SPECIAL CONDITIONS OF CONTRACT

IB.37

GENERAL SPECIFICATIONS

37.1 General

37.1.1 Classification and Compliance

The vessel shall be classed with a recognized IACS member classification society. Acceptable societies include, but are not limited to: CCS, BV, DNV, Lloyd's Register (LR), Bureau Veritas (BV), or American Bureau of Shipping (ABS), or equivalent. The vessel shall be maintained in class at the time of delivery, with no outstanding class conditions or recommendations.

The vessel shall fully comply with the following international conventions and applicable national regulations at the time of Tender:

- SOLAS (International Convention for the Safety of Life at Sea) — as amended
- MARPOL 73/78 (International Convention for the Prevention of Pollution from Ships) — Annexes I, II, IV, V, and VI
- STCW (Standards of Training, Certification and Watchkeeping)
- MLC 2006 (Maritime Labour Convention)
- ISM Code (International Safety Management Code)
- ISPS Code (International Ship and Port Facility Security Code)
- Load Line Convention (1966 as amended)
- Applicable IHO and IALA Standards for navigation equipment

37.1.2 Principal Dimensions

The vessel shall generally conform to the following dimensional envelope. Minor deviations from the stated ranges may be accepted provided that the vessel meets all stated operational and performance requirements.

Parameter	Specification / Requirement
Length Overall (LOA)	Not more than 135 m
Length Between Perpendiculars (LBP)	113 m – 123 m
Beam (Moulded)	Maximum 22.5 m
Depth (Moulded)	Maximum 9.0 m
Design Draft (Moulded)	6.0 m – 7.0 m
Maximum Scantling Draft	As per Classification Society requirements
Hopper Capacity	10,000 m ³ (+10% Max).
Lightweight (Approx.)	Bidder to state
Maximum Displacement	Bidder to state
Deadweight (at design draft)	Bidder to state

37.1.3 Hull Structure

The hull shall be of all-welded steel construction. The structural design philosophy shall comply with the requirements of the Classification Society and shall incorporate:

- Longitudinal framing system in way of the hopper/mud tank region, providing adequate strength, stability, and fatigue resistance under dynamic dredging loads.
- Transverse framing in way of ends and non-hopper regions where appropriate.
- Double-hull or equivalent construction in way of fuel oil tanks and other critical compartments to minimize environmental risk in accordance with MARPOL Annex I.
- High-strength steel shall be employed in high-stress regions, including hopper enclosure plating, keel plating, and suction pipe bearing structures, to optimize weight and structural performance.
- Hopper tank plating and internal structural members shall be suitably protected against abrasive wear, corrosion, and impact from heavy slurry loads.
- Anti-corrosion coatings shall be applied throughout, with cathodic protection systems fitted on the underwater hull.

37.1.4 Navigation Class / Trading Area

The vessel shall be designed and certificated for unrestricted (unlimited) ocean navigation in accordance with the applicable Classification Society rules. The vessel shall be suitable for tropical and subtropical climates, with appropriate allowances for high ambient air and sea water temperatures.

37.1.5 Speed and Performance

Parameter	Specification / Requirement
Service Speed (laden)	Minimum 13.0 knots at 90% MCR, design draft
Service Speed (ballast)	Minimum 13.5 knots at 90% MCR
Maximum Speed	Bidder to state
Endurance / Range	Minimum 8,000 nautical miles at service speed
Fuel Type	MGO / VLSFO compliant with MARPOL Annex VI

37.1.6 Crew Complement

The accommodation shall be designed for a total complement of not less than thirty-five (35) persons, including officers, ratings, dredging crew, and technical personnel. Private or semi-private cabins shall be provided to international standards as a minimum.

37.2 PROPULSION SYSTEM

37.2.1 Main Engines

The vessel shall be fitted with two (2) main diesel engines driving the vessel through independent shaftlines (twin-screw arrangement). The engines shall be from a reputable international manufacturer with a proven track record in marine dredging applications.

Parameter	Specification / Requirement
Number of Main Engines	2 (Two)
Minimum Power (each)	3,500 kW (continuous rating) MCR
Engine Speed	Medium speed (approx. 500 – 750 rpm)
Type	4-stroke turbocharged diesel
Fuel	Capable of operating on MGO/VLSFO (sulphur ≤ 0.5%)
Emission Standard	IMO Tier II as minimum (Tier III preferred where applicable)
Cooling System	Central fresh-water cooling with sea-water heat exchangers
Starting System	Compressed air starting with minimum two (2) independent air reservoirs
Engine Control	Local and remote (bridge) control capability
Classification	Classed and certified by applicable Classification Society

37.2.2 Gearboxes and Shaftlines

- Two (2) reduction gearboxes, one per main engine, with suitable reduction ratio for the propeller selected. Gearboxes shall be rated for continuous dredging loads and shall incorporate clutching arrangements as required.
- Intermediate shafting, stern tubes, and shaft seals shall be designed for the vessel's operational profile. Shaft seals shall be of the oil-lubricated or water-lubricated type compliant with MARPOL requirements (no oil-to-sea discharge).
- Fixed Pitch Propellers (FPP) of proven technology will be considered.
- Propeller material shall be Nickel-Aluminum Bronze (NAB) or equivalent corrosion- and cavitation-resistant alloy/ material.
- Kort nozzles or equivalent flow-optimization devices shall be fitted where the design benefits justify their inclusion.

37.2.3 Rudders and Steering

Parameter	Specification / Requirement
Rudder Type	High-lift, balanced, semi-spade or equivalent
Number of Rudders	Two (2), one per shaftline
Steering Gear	Hydraulic ram type with dual pump set; meets SOLAS requirements

Steering System	Autopilot + manual steering; variable-frequency drive starting
Steering Angle Range	Minimum $\pm 35^\circ$ each side (hard-over to hard-over)
Hard-Over Time	≤ 30 seconds (hard-over to hard-over at full speed)

37.3 ELECTRICAL PLANT & GENERATING SETS

37.3.1 Electrical System Overview

Parameter	Specification / Requirement
Ship's Service Voltage	AC 400 V, 3-phase, 50 Hz
Emergency Voltage	AC 400 V / DC 24 V (essential services)
Switchboard	Main Switchboard (MSB), Emergency Switchboard (ESB)
Power Management	Automatic Power Management System (PMS) with load sharing
Shore Connection	Shore power inlet provision, compatible with international shore connection

37.3.2 Main Generating Sets

Parameter	Specification / Requirement
Number of Sets	Three (3)
Power Output (each)	Minimum 600 kW
Engine Type	4-stroke diesel, turbocharged
Manufacturer	Reputable international OEM with global service network
Classification	Classed by Classification Society
Automatic Start	Auto-start on bus failure or overload; parallel operation capable

37.3.3 Port (Harbour) Generating Set

Parameter	Specification / Requirement
Number of Sets	One (1)
Power Output	Minimum 200 kW
Purpose	Hotel loads while berthed; reduced fuel consumption in port

Auto-transfer	Automatic load transfer from main generators in port
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37.3.4 Emergency Generating Set

Parameter	Specification / Requirement
Number of Sets	One (1)
Power Output	Minimum 120 kW
Start Requirement	Auto-start within 45 seconds of main power failure (SOLAS)
Location	Outside machinery space, above freeboard deck
Fuel Autonomy	Minimum 18 hours at full emergency load
Services Supplied	All SOLAS-required emergency services: navigation lights, GMDSS, fire pumps, emergency lighting, bilge pumps, steering gear, etc.

37.4 BOW THRUSTER

Parameter	Specification / Requirement
Number of Units	One (1)
Type	Retractable or tunnel transverse thruster
Power Output	Minimum 600 kW
Drive System	Variable Frequency Drive (VFD) with electric motor; continuous duty rated
Pitch	Fixed pitch or controllable pitch as per manufacturer's design
Control	Bridge console, joystick, and local control panel
Purpose	Manoeuvring assistance in confined waters, port approach, and dredging station-keeping
Classification	Classed; meets relevant Classification Society rules for thrusters

The bow thruster shall be capable of continuous operation at full power without time restrictions, allowing sustained low-speed maneuvering during dredging operations.

37.5 DREDGING SYSTEM

37.5.1 Suction Arms / Drag Arms

The vessel shall be fitted with two (2) suction arms (drag arms / trailing arms), one on each side of the vessel, designed for efficient dredging in varying seabed conditions:

Parameter	Specification / Requirement
Number of Suction Arms	Two (2), port and starboard
Configuration	Double suction arm (twin rake) — trailing arm type
Maximum Dredging Depth	Minimum 35 m below the water surface at 45 degree angle
Soil Suitability	Sand, silty sand, clay, and mixed soils including gravel
Draghead Type	Suitable for medium to dense soils; with high-pressure water jet assistance for hard/clay soils
Lowering / Raising	Hydraulically operated; lowering and raising time ≤ 5 minutes per arm
Pipe Diameter	To be stated by Bidder (typically 900 mm – 1,100 mm ID)
Trunnion Connection	Flexible gimbal-type connection to accommodate vessel motions
Material	Abrasion-resistant steel lining at high-wear sections

37.5.2 Dredge Pumps

The vessel shall be fitted with two (2) dredge pumps, providing the primary suction and transport of slurry from the seabed to the hopper.

Parameter	Specification / Requirement
Number of Pumps	Two (2) — one per suction arm / shaftline
Installed Power (each)	Minimum 2,300 kW (total installed dredge pump power ≥ 4,600 kW)
Pump Type	Centrifugal, horizontal, single-stage or as proven design
Casing Material	High-chrome iron or equivalent wear-resistant alloy/material
Impeller Material	High-chrome iron, or equivalent wear-resistant alloy/material replaceable
Pump Speed	Designed for optimal slurry flow at specified production rates
Seal Type	Mechanical or gland packing type suitable for sand-slurry duty
Suction Velocity	Designed to prevent settling in pipework under design soil conditions
Production Capacity	Minimum 13000m ³ /hr

37.5.3 Hopper and Overflow System

Parameter	Specification / Requirement
Hopper Capacity	10,000 m ³ (+10% Max) (to overflow level)
Internal Width / Configuration	Bidder to state — optimised for loading efficiency and stability
Overflow System	Adjustable overflow weir/pipe system to maximise sediment retention and minimise turbidity
Bottom Dump Doors	Minimum 12 hydraulically operated conical bottom doors; remote operated from bridge
Unloading Time (Bottom Dump)	Maximum 7 minutes with all doors fully open
Loading Time (typical)	Approximately 60 minutes at 35 m dredging depth, slurry density 1,350 kg/m ³
Density Monitoring	In-line nuclear or acoustic density meters on suction and discharge pipelines
Water Ballast	Hopper useable for ballast water during transit — ballast pump and valving provided
Internal Coating	Heavy-duty anti-corrosion and abrasion-resistant lining throughout

37.6 JET PUMP, DISCHARGE & RAINBOW SYSTEM

37.6.1 High-Pressure Water (Jet) Pump

Parameter	Specification / Requirement
Number of Pumps	Minimum two (2); second unit preferred for redundancy
Type	High-pressure centrifugal seawater pump
Flow Rate	Minimum 2,800 m ³ /h
Purpose	Water injection to draghead for hard soil cutting; suction booster; pipeline flushing
Drive	Electric motor with VFD control
Material	Bronze / duplex stainless steel impeller and casing; suitable for seawater duty

37.6.2 Bow Discharge / Rainbow System

Parameter	Specification / Requirement
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Capability	Rainbowing/bow discharge for beach nourishment and reclamation
Normal Working Range (Rainbow)	Minimum 70 m from vessel bow
Pipeline Discharge Distance	Minimum 2,000 m via flexible pipeline connection
Discharge Pump	Dedicated booster pump(s) for pipeline operation; Bidder to state capacity and head
Discharge Pipe Diameter	Bidder to state (typically 600 mm – 800 mm)
Energy Dissipation	Anti-surge / energy dissipation arrangement to protect pipeline on bow discharge
Valve Control	Remote-operated hydraulic or electric valves on all main discharge lines
PLC Automation	Discharge system shall be integrated with the PLC-based dredging control system for automated operation

37.6.3 Discharge Pump

Parameter	Specification / Requirement
Number of Pumps	As required by the design; minimum two (2) dedicated discharge pump
Type	Centrifugal slurry or water pump
Installed Power	Bidder to state (adequate for minimum 2 km pipeline discharge)
Drive	Electric motor or mechanical drive; Bidder to state
Control	Integrated with dredging management system

37.7 AUXILIARY MACHINERY

37.7.1 Ballast and Bilge System

Parameter	Specification / Requirement
Ballast pumps	Minimum two (2) ballast pumps of adequate capacity for filling/emptying ballast tanks within acceptable timescales
Bilge system	Self-priming bilge pumps, dedicated bilge main with branch connections to all watertight compartments. Bilge alarm system with high-level floats in all major compartments.
Oil-water separator (OWS)	Minimum 15 ppm effluent quality (MARPOL Annex I compliant) with automatic 15 ppm monitor,

	alarm, and overboard shut-off valve.
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37.7.2 Fuel Oil System

Parameter	Specification / Requirement
Fuel Tank Capacity	Minimum range of 8,000 nautical miles at service speed; Bidder to state tank capacity
Fuel Tank Protection	Double-hull or double-bottom construction around all fuel tanks $\geq 30 \text{ m}^3$ (MARPOL)
Transfer Pumps	Minimum two (2) fuel oil transfer pumps with filters and meters
Day Tanks	Separate day tanks for each engine; gravity feed with overflow return
Purifiers	Minimum two (2) fuel oil purifiers / clarifiers
Bunker Connections	Port and starboard bunker connections with oil pollution prevention valve and drip trays

37.7.3 Lubricating Oil System

- Separate lube oil sump tanks, transfer pumps, purifiers, and storage tanks for main engines, generators, and gearboxes.
- All lube oil tanks to be in compliance with MARPOL double-skin requirements where applicable.

37.7.4 Fresh Water System

Parameter	Specification / Requirement
Domestic FW Tanks	Capacity for minimum 10 days' consumption at full crew
Hot Water System	Central hot water heating system with calorifiers

37.7.5 Compressed Air System

- Main air compressors: minimum two (2) for starting air service; sufficient capacity to provide a minimum of twelve (12) consecutive start attempts.
- General service air compressors: minimum two (2) for deck, engine room, and dredging tool air requirements.
- Air receivers: starting air receivers and service air receivers with appropriate sizing.

37.7.6 Sewage Treatment

Parameter	Specification / Requirement
Treatment Capacity	Minimum 2,800 L/day (full crew at maximum complement)
Standard	Complies with IMO Resolution MEPC.227(64) or latest amendment
Certificates	IMO Sewage Treatment Plant (STP) type approval and IOPP Certificate
Holding Tank	Sewage holding tank for use in restricted discharge areas

37.7.7 Hydraulic Power System

A central hydraulic power unit (HPU) or dedicated hydraulic units shall supply hydraulic power to all consumers, including but not limited to:

- Dredging arm lowering/raising systems
- Hopper bottom door operation
- Deck cranes and winches
- Steering gear (dedicated hydraulic circuit)
- Anchor windlasses and mooring winches

Hydraulic systems shall use fire-resistant or biodegradable hydraulic fluid where required by class or flag state regulations. All HPUs shall be fitted with oil temperature control, filtration to ≤ 25 micron, and low-level alarms.

37.7.8 Fire Protection System

Parameter	Specification / Requirement
Engine Room	Fixed CO ₂ total flooding system (IMO MSC.1/Circ.1318 compliant)
Auxiliary Engine Room	Fixed CO ₂ total flooding system
Machinery Spaces (General)	Pressure water mist system as supplementary protection
Accommodation and Service Spaces	Automatic sprinkler or pressure water mist; smoke detectors throughout
Paint Store / Flammable Stores	Fixed CO ₂ or FM-200 system
Fire Detection	Addressable fire detection and alarm system covering all spaces

Portable Equipment	CO ₂ and dry powder extinguishers throughout; foam extinguishers in engine room
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37.7.9 Alarm Monitoring System (AMS)

The vessel shall be fitted with an integrated Alarm and Monitoring System (AMS / IAS) providing:

- Real-time monitoring of all major machinery parameters: temperatures, pressures, levels, flow rates, vibration.
- Visual and audible alarms on bridge, engine control room (ECR), and duty officer cabin.
- Remote alarm capability to designated officer's cabin.
- Unattended machinery space (UMS) notation capability in accordance with Classification Society requirements.
- Data logging with trend analysis and historical records.

37.7.10 CCTV System

Parameter	Specification / Requirement
Number of Cameras	Minimum 30 monitoring points
Coverage	Bridge wings, main deck, engine room, dredge arm areas, hopper, accommodation entrances, mooring stations, and crew recreation areas
Recording	Continuous digital recording with minimum 30-day storage
Remote Access	Local monitors at bridge and ECR; remote viewing capability

37.8 DECK MACHINERY

37.8.1 Anchor Windlasses and Mooring Winches

Parameter	Specification / Requirement
Anchor Windlasses	Two (2) combined anchor windlass and mooring winch units at forecastle
Mooring Winches (Aft)	Minimum two (2) mooring winches at stern
Drive	Hydraulic or electric; variable speed
Capacity	Adequate for vessel displacement, chain size, and mooring line as per Classification requirements
Anchors and Chain	As per Classification Society requirements for vessel size and trading area
Capstans	Minimum two (2) auxiliary capstans for mooring assistance

37.8.2 Deck Cranes

Parameter	Specification / Requirement
Number of Cranes	Minimum two (2) deck cranes
Safe Working Load (SWL)	Crane 1: Minimum 8 tonnes Crane 2: Minimum 20 tonnes (capable to lift dragheads if heavier),
Type	Knuckle-boom or jib type, hydraulically operated
Purpose	Handling of dredging equipment spares (dragheads, impellers), provisions, and general deck cargo
Certification	Load tested and certified as per Classification Society requirements
Controls	Pendant and remote radio control

37.8.3 Dredging Winches

- Hydraulically operated suction arm positioning and tension winches for precise control of drag arm angles and penetration depth during dredging.
- Suitable wire rope capacity, drum size, and pull force to handle arm loads at maximum dredging depth.
- Integrated with dredging control system for automated depth control.

37.8.4 General Deck Fittings

- Mooring bitts, fairleads, and chocks of adequate strength throughout.
- Gangway or accommodation ladder: a suitable telescopic gangway or accommodation ladder shall be provided on both sides.
- Life-saving appliances (LSA): as required by SOLAS.

37.9 NAVIGATION SYSTEMS

37.9.1 Positioning and Navigation Equipment

Parameter	Specification / Requirement
GNSS Positioning	GPS + BeiDou / Glonass/ Galelio, dual-mode GNSS receivers (minimum two units, primary and backup)
DGPS / RTK	DGPS receivers for precision positioning during dredging (minimum 1–2 m accuracy)
ECDIS	Type-approved ECDIS units with up-to-date official ENC's; back-up chart system provided
Radars	X-band (9 GHz) and S-band (3 GHz) pulse radars with ARPA; both classed and type-approved
AIS	Class A AIS transponder, type-approved
Gyrocompass	Minimum two (2) gyrocompasses (main and backup)
Magnetic Compass	Standard magnetic compass with deviation table

Speed Log	Doppler or electromagnetic speed log (through-water and over-ground)
Echo Sounder	Single-beam (dual frequency 33/210 kHz) echo sounder
Autopilot	Track-pilot (autopilot) integrated with ECDIS and GNSS
VDR	Voyage Data Recorder (VDR) — type-approved; records GPS, radar images, AIS, bridge audio, engine parameters, and key alarms
Wind Instruments	Anemometer and wind direction indicator on bridge
Rate of Turn Indicator	Type-approved rate of turn (ROT) indicator

37.9.2 Dredging Positioning

The vessel shall be equipped with a dedicated dredging management and positioning system providing:

- Real-time vessel position, heading, and speed display on dredging control console.
- Drag arm position tracking and seabed profile monitoring.
- Production monitoring: instantaneous and cumulative production volumes.
- Integration with the vessel's GNSS and ECDIS systems.
- Data logging and reporting functions for production records.

37.10 COMMUNICATION SYSTEMS

37.10.1 External Communications (GMDSS)

The vessel shall be equipped with a complete GMDSS installation appropriate for the trading area (Sea Area A1/A2/A3 as applicable), including:

Parameter	Specification / Requirement
VHF Radio	Minimum two (2) DSC-equipped VHF radiotelephones (one with DSC watch receiver)
MF/HF Radio	Combined MF/HF DSC radio transceiver with NBDP/telex capability
Satellite Communication	Inmarsat Fleet One (or equivalent VSAT) for voice, data, and distress
EPIRB	Two (2) float-free EPIRBs (406 MHz COSPAS-SARSAT), hydrostatic release
SART	Two (2) radar SARTs or AIS-SARTs as required by SOLAS
Navtex	Navtex receiver for maritime safety information
Emergency Communication	GMDSS battery backup for minimum 6 hours

37.10.2 Internal Communications

Parameter	Specification / Requirement
PABX System	Programmable telephone exchange — minimum 40-station capacity; covers all major spaces
UHF/VHF Walkie-Talkies	Minimum 10 portable radios provided; docking/charging stations on bridge and ECR
PA System	General alarm and public address (PA) system covering all spaces
Engine Room Telegraph	Electronic telegraph with digital display and repeat-back confirmation
Intercom	Talk-back intercom system at key locations: bridge, ECR, forecastle, stern, dredge control room

37.11 AIR CONDITIONING & HVAC

Parameter	Specification / Requirement
Scope of AC	All accommodation spaces, bridge, ECR, dredging control room, and offices
System Type	Centralised marine air conditioning system; individual cabin temperature control
Design Ambient	Outdoor air: 40°C dry bulb / 32°C wet bulb (tropical design conditions)
Indoor Design	22°C–26°C with appropriate humidity control
Refrigerant	Ozone-friendly (non-CFC/HCFC) refrigerant per Montreal Protocol
Ventilation	Combination of mechanical supply/exhaust and natural ventilation where applicable
Engine Room Ventilation	Forced mechanical ventilation with adequate overpressure to prevent gas ingress
Accommodation Ventilation	Mechanical supply air with HEPA filtration; natural ventilation in non-AC areas
Standby Capacity	Minimum N+1 redundancy for compressor units in central AC plant

Air conditioning and ventilation systems shall be designed in accordance with MLC 2006 requirements for crew welfare and comfort. All systems shall be suitable for continuous operation in tropical ambient conditions.

37.12 ACCOMMODATION & LIVING SPACES

37.12.1 Cabins

Parameter	Specification / Requirement
Total Complement	Minimum 35 persons
Officers' Cabins	Single occupancy cabins with private or semi-private toilet/shower facilities
Crew Cabins	4-6 - berth cabins; toilet/shower facilities on same deck
Captain's Suite	Captain's cabin, day room, and private toilet/shower
Minimum Cabin Area	Per MLC 2006 requirements (officers ≥ 7.5 m ² ; ratings ≥ 4.5 m ² per person)
Furniture	Bunk, wardrobe, desk, chair, and storage provided in each cabin
Air Conditioning	Suitable control mechanism

37.12.2 Mess Rooms and Galley

- Officers' mess room and crew mess room, sized to seat the respective complement in one sitting.
- Fully equipped galley with commercial-grade cooking equipment, ventilation hood, refrigerators, and dishwasher.
- Separate cold stores:
 - Meat and fish freezer: -18°C , capacity for minimum 14 days' stores.
 - Vegetable refrigerator: $+4^{\circ}\text{C}$.
 - Dry goods store: $+15^{\circ}\text{C}$.
- Provision crane or lift for loading stores from deck.

37.12.3 Recreation and Welfare

- Crew recreation/lounge room with television, entertainment system, and social seating.
- Fitness/exercise room with gym equipment.
- Laundry room with washing machines and dryers.
- Hospital/sick bay fitted and certified to SOLAS/MLC requirements, with first aid equipment.
- Ship's office, meeting room, and library/internet access area.

37.12.4 Safety Equipment (LSA)

Parameter	Specification / Requirement
Lifeboats	Two (2) fully enclosed, motor-propelled lifeboats, capacity ≥ 34 persons each; SOLAS approved
Rescue Boat	As per SOLAS and Class compliance requirement
Life Rafts	As per SOLAS and Class compliance requirement

Lifebuoys	per SOLAS and Class compliance requirement
Lifejackets	As per SOLAS and Class compliance requirement
Immersion Suits	As per SOLAS and Class compliance requirement
Rescue Ladder	Pilot ladder and combination ladder as required

37.13 DREDGING CONTROL & AUTOMATION

Parameter	Specification / Requirement
PLC System	International OEM PLC platform (e.g., Siemens, Allen-Bradley, Schneider); fully redundant
Dredge Control Console	Ergonomic console on bridge or dedicated dredging control room with touch-screen HMI
Automation Capability	Automated loading cycle: auto-depth control, production optimisation, overflow management
Real-Time Display	Vessel position, arm position, dredging depth, pump performance, hopper level, density
Data Logging	Continuous logging of all operational parameters; minimum 60-day data retention
Alarms	Full alarm integration with AMS/IAS system; critical alarms annunciated on bridge
Reporting	Automated production reports exportable in standard data formats (CSV, PDF)
Remote Diagnostics	Provision for remote diagnostics and software updates via secure satellite link

37.14 ENVIRONMENTAL SYSTEMS & COMPLIANCE

37.14.1 Oil Pollution Prevention

- Oil-water separator rated to MARPOL Annex I requirements (15 ppm overboard discharge limit).
- Oily water holding tank for port disposal where discharge is prohibited.
- All fuel tanks in double-hull or equivalent arrangements as required by MARPOL Annex I for vessels of this size.
- Oil discharge monitoring and control (ODMC) system.

37.14.2 Exhaust Emissions

- Main engines and generators shall comply with IMO Tier II (minimum) NO_x emission limits (MARPOL Annex VI).
- SO_x compliance: vessel shall use VLSFO (≤ 0.5% Sulphur) or shall be fitted with an approved exhaust gas cleaning system (scrubber) in ECA zones.
- Ozone depleting substances: all refrigerants shall be non-CFC/HCFC compliant.

37.14.3 Turbidity and Overflow Management

- Overflow system shall be designed to maximize sediment retention in the hopper and minimize suspended solids discharge.

- Provision for overflow diffuser/reduction measures to reduce turbidity plume during loading.
- Dredging activities shall be capable of compliance with applicable environmental permit conditions.

37.14.4 Certificates and Documentation

- International Oil Pollution Prevention Certificate (IOPP)
- Sewage Treatment Plant Type Approval and Certificate
- Garbage Management Plan
- Ballast Water Management Plan (BWMP) and Certificate
- MARPOL Oil Record Book, Garbage Record Book

37.15 GENERAL REQUIREMENTS FOR BIDDERS

37.15.1 Technical Submission

Each Bidder shall submit, as part of their Technical Proposal, the following minimum information:

- Completed Technical Data Sheet with responses to all parameters listed in this Specification.
- General Arrangement drawing of the proposed vessel.
- Capacity Plan and Tank Table.
- Class Certificate(s) confirming current class status and vessel delivery date.
- Confirmation of vessel age (not more than three (3) old at Tender Closing Date).
- List of main machinery makers with model designations.
- Summary of dredging production data and operational track record.
- Confirmation of compliance or documented technical deviations from each specification clause.

37.15.2 Deviations

Where a Bidder cannot comply with a specific requirement, the deviation shall be clearly identified and an alternative, equivalent specification shall be provided for the Employer's evaluation. Unidentified deviations may result in rejection of the Bid.

37.15.3 Inspection Rights

The Employer reserves the right to inspect the proposed vessel prior to contract award, either physically or through a nominated independent surveyor, at the Bidder's cost.

37.15.4 Warranty

The Contractor shall provide a warranty period of not less than twenty-four (24) months from the date of delivery, covering all major mechanical, structural, and operational systems. Warranty terms shall be clearly stated in the Commercial Proposal. Additionally, contractor is to provide comprehensive O&M for 3 years from the date of delivery.

37.15.5 After-Sales Support

The Contractor shall demonstrate the capability to provide spare parts supply, technical support, and maintenance services during the operational life of the vessel. Global service network coverage shall be stated for all major OEM equipment suppliers.

37.15.6 Long-Term Spare Supportability

The Bidder shall confirm the availability of genuine OEM spare parts whenever required for all major machinery, dredging equipment, navigation systems, and automation hardware onboard the TSHD for a minimum period of fifteen (15) years from the date of delivery at discounted rates.

37.15.7 Site Acceptance Test (SAT) - Arrangements

As part of the commissioning and acceptance process, the Supplier shall conduct a comprehensive Site Acceptance Test (SAT) at Supplier's facility for a duration of ten (10) consecutive working days. The Purchaser's SAT team shall consist of up to ten (10) personnel, including dredging specialists, marine engineers, navigators, electrical/automation specialists and Project managers. All expenditures related to the Purchaser's SAT team shall be borne by the Supplier, including travelling, boarding/ lodging, transportation. The Supplier shall provide a detailed itinerary and confirmation of arrangements at least 30 days prior to the scheduled SAT commencement.

37.16 Pre-Delivery Maintenance & Docking Compliance

Prior to sailing to Karachi, the Supplier shall ensure that all scheduled maintenance, class-mandated surveys, and docking requirements have been fully complied with and are up-to-date as per the applicable Classification Society and Flag State regulations. The vessel shall not require any major maintenance,

dry-docking, or unplanned overhaul within the first twenty-four (24) months following delivery to the Purchaser.

37.17 Detailed Scope – 3-Year Operations & Maintenance (O&M) including Manning

The Supplier shall provide comprehensive Operations & Maintenance (O&M) services for the TSHD for a period of thirty-six (36) months from the date of delivery/acceptance, excluding only POL (fuel, lube oil, hydraulic oil & grease, which shall be provided by the Purchaser). The detailed scope is as follows:

37.17.1 A. Level of Maintenance:

1. Preventive Maintenance: All scheduled, planned preventive maintenance activities as per the OEM manuals and Class Society requirements for all onboard machinery, including but not limited to main engines, generators, dredge pumps, hydraulic systems, deck machinery, and automation systems.
2. Corrective Maintenance: All unscheduled repairs and corrective actions required to restore any system to full operational capability, excluding major capital overhauls (e.g., complete rebuild of main engines, gearboxes, or dredge pumps) unless such major failures are caused by a defect covered under the Supplier's warranty, or arise from the Supplier's negligence or failure to perform proper preventive maintenance.
3. Consumables & Spares: The Supplier shall supply all necessary consumable items (filters, belts etc) and wear-and-tear spare parts required for the full 36-month period. Major spare parts (engines, gearboxes, pump casings) shall also remain the responsibility of the Supplier. All items shall be delivered DDP (import/ custom clearance is the responsibility of Supplier)

B. Manning & Crew Provisioning:

1. The Supplier shall provide a full, STCW-compliant crew for the entire 36-month period, including all officers, ratings, dredge operators, and technical support personnel as required for safe and efficient 24/7 operation.
2. Crew Rotation: The Supplier shall manage complete crew rotation cycles. The maximum continuous onboard tenure for any crew member shall preferably not exceed three (3) months, unless mutually agreed otherwise. The Supplier shall submit a clear crew rotation and relief plan as part of the Technical Proposal.
3. Travel & Transportation: The Supplier shall bear all costs associated with international travel to/from Pakistan for crew joining and repatriation, visa processing, medical fitness certificates, and STCW documentation. Local transportation/ security for crew between the airport, accommodation, and vessel during port stays.

C. Documentation & Reporting:

1. The Supplier shall submit monthly maintenance reports, machinery running hour logs, consumption reports, and a quarterly vessel condition assessment to the Purchaser.
2. All maintenance activities shall be recorded in the vessel's Planned Maintenance System (PMS) and made available for Purchaser's audit at any time. Supplier.

37.18 Insurance Requirements – Vessel & Crew (3-Year O&M Period)

The Supplier shall, at its own cost and expense, procure and maintain comprehensive insurance coverage for the Vessel, its machinery, and all crew/personnel for the entire duration of the 3-year Operations & Maintenance (O&M) period. Including Hull & Machinery Spaces, Protection & Indemnity (P&I) Insurance and Crew Insurance

37.19 Summary Compliance Table

Bidders shall complete the following table, indicating compliance status against each major category.
 Use: C = Compliant | PC = Partially Compliant (explain) | NC = Non-Compliant (explain)

Specification Section	Key Requirement	Compliance (C / PC / NC)
Vessel Age	Brand New or up to 3 years old	
Classification	IACS Member Society; in class, no conditions	
Principal Dimensions	Within stated envelope; hopper 10,000m ³ (+10% Max).	
Propulsion	Twin screw; speed (laden \geq 13.0 knots) (ballast \geq 13.5 knots) at 90% MCR	
Main Engines	2 \times \geq 3,500 kW continuous; IMO Tier II Nox	
Generating Sets	3 \times \geq 600 kW + 1 \times 200 kW port + 1 \times 120 kW emergency	
Bow Thruster	1 \times \geq 600 kW; continuous duty	
Dredge Arms	2 \times drag arms; depth \geq 35 m	
Dredge Pumps	2 \times \geq 2,300 kW each	
Hopper / Doors	\geq 10,000 m ³ (+10% Max).; \geq 12 bottom doors; unload \leq 7 min	
Jet Pump	\geq 2,500 m ³ /h high-pressure	
Rainbow / Discharge	\geq 70 m rainbow; \geq 2 km pipeline discharge	
Navigation	ECDIS, X+S Radar, DGPS, VDR, AIS	
Communication	Full GMDSS; Satellite; PABX \geq 40 stations	
Fire Protection	CO ₂ (ER) + water mist; addressable detection	
LSA	2 \times enclosed lifeboats (34 pax) + 4 \times rafts (20 pax)	
Accommodation	\geq 35 persons; International standard compliant	
Air Conditioning	Full AC; tropical design (40°C ambient)	
MARPOL / Environmental	IOPP, IAPP, STP 2,800 L/d certificates	
Dredging Automation	PLC-based international OEM; automated loading cycle	

Note: Any response of 'PC' or 'NC' shall be accompanied by a detailed technical explanation and, where applicable, an alternative offered specification

38. General Conditions of Contract

A. General

1. Definitions

1.1 Unless the context otherwise requires, the following terms whenever used in this Contract shall have the same meaning and shall be interpreted as indicated

- a. "Applicable Law" means the laws and any other instruments having the force of law in the Government's Country, or in such other country as may be specified in the Special Conditions of the Contract (SC), as they may be issued and in force from time to time;
- b. "Procuring Agency" means:-
- c. any Ministry, Division, Department or any Office of the Government;
- d. any authority, corporation, body or organization established by or under a Law or which is owned or controlled by the Government;
- e. "The Contract" means an agreement enforceable by law;
- f. "The Contract Price" means the price payable to the Bidder under the Contract for the full and proper performance of its contractual obligations;
- g. "Ancillary Services" means those services ancillary to the provision of Goods, such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Bidder covered under the Contract;
- h. "GCC" means the General Conditions of Contract contained in this section;
- i. "SCC" means the Special Conditions of Contract by which the GCC may be amended or supplemented;
- j. "Day" means calendar day unless indicated otherwise.
- k. "Effective Date" means the date on which this Contract comes into force and effect.
- l. "The Bidder" means the individual or corporate body whose Bids to provide the Goods has been accepted by the Procuring Agency;
- m. "The Project Site," where applicable, means the place or places named in Bids Data Sheet and technical Specifications;
- n. "Government" means the Government of Pakistan;
- o. "Subcontractor" means any entity to which the Bidder subcontracts any part of the Goods.
- p. "Service" means any object of procurement other than goods or works;
- q. "Party" means the Procuring Agency or the Bidder, as the case may be, and "Parties" means both of them;
- r. "Foreign Currency" means any currency other than the currency of the country of the Procuring Agency;
- s. "Completion Date" means the date of completion of the contract by the Bidder as certified by the Procuring Agency;
- t. "In Writing" means communicated in written form with proof of receipt;
- u. "Local Currency" means the currency of Pakistan;

2. Application and Interpretation

- 2.1 These General Conditions shall apply to the extent that they are not superseded by provisions of other parts of the Contract.
- 2.2 In interpreting these Conditions of Contract headings and marginal notes are used for convenience only and shall not affect their interpretations unless specifically stated; references to singular include the plural and vice versa; and masculine include the feminine. Words have their ordinary meaning under the language of the Contract unless specifically defined.

3. Applicable Law

- 3.1 The contract shall be governed and interpreted in accordance with the laws of Pakistan, unless otherwise specified in SCC.

4. Governing Language

- 4.1 The Contract as well as all correspondence and documents relating to the Contract exchanged between the Bidder and the Procuring Agency, shall be written in the **English language** unless otherwise stated in the SCC. Supporting documents and printed literature that are part of the Contract may be in another language provided these are accompanied by an accurate translation of the relevant passages in English, in which case, for purposes of interpretation of the Contract, this translation shall govern.

5. Notices

- 5.1 Any notice, request, or consent made pursuant to this Contract shall be in writing and shall be deemed to have been made when delivered in person to an authorized representative of the Party to whom the communication is addressed, or when sent by registered mail, telex, telegram, or facsimile to such Party at the address specified in the SCC.

6. Delivery/Location

- 6.1 The Goods shall be delivered to such locations as the Procuring Agency may approve and as specified in SCC.

7. Authorized Representatives / Authority of Member in charge

- 7.1 Any action required or permitted to be taken, and any document required or permitted to be executed, under this Contract by the Procuring Agency or the Bidder may be taken or executed by the officials specified in the SCC.

B. Commencement, Completion, Modification, and Termination of Contract

8. Effectiveness of Contract

- 8.1 This Contract shall come into effect on the date the of issuance of LOA or Contract is signed by both parties (whichever is earlier) and such other later date as may be stated in the SCC.

9. Delivery Period

- 9.1 The Bidder shall delivery the goods as per contract and availability of Key Experts not later than the number of days after the Effective Date specified in the SCC.

10. Crew, Operation and Maintenance

- 10.1 The bidders is responsible for provision of crew for a period specified in SCC. The charges and insurances for the crew inside and outside of the Pakistan for the period of employment as per the SCC is responsibility of bidder.

- 10.2 The bidder is responsible for the operation and maintenance of Dredger for a period specified in SCC.

11. Starting Date/Expiration Date

11.1 Same as clause **GCC 8** or at such other date as may be specified in the **SCC**.

11.2 Unless terminated earlier pursuant to Clause **GCC 15** hereof, this Contract shall expire at the end of such time period after the Effective Date as specified in the **SCC**.

12. Entire Agreement

12.1 This Contract contains all covenants, stipulations and provisions agreed by the Parties. No agent or representative of either Party has authority to make, and the Parties shall not be bound by or be liable for, any statement, representation, promise or agreement not set forth herein.

13. Modification

13.1 Any modification or variation of the terms and conditions of this Contract, including any modification or variation of the scope, may only be made by written agreement between the Parties. However, each Party shall give due consideration to any Bids for modification or variation made by the other Party.

13.2 In cases of any modifications or variations, the prior written consent of the Procuring Agency is required.

14. Force Majeure

14.1 Definition

For the purposes of this Contract, “Force Majeure” means an event which is beyond the reasonable control of a Party and which makes a Party’s performance of its obligations under the Contract impossible or so impractical as to be considered impossible under the circumstances.

14.2 No Breach of Contract

The failure of a Party to fulfill any of its obligations under the contract shall not be considered to be a breach of, or default under, this Contract in so far as such inability arises from an event of Force Majeure, provided that the Party affected by such an event (a) has taken all reasonable precautions, due care and reasonable alternative measures in order to carry out the terms and conditions of this Contract, and (b) has informed the other Party as soon as possible about the occurrence of such an event.

14.3 Extension of Time

Any period within which a Party shall, pursuant to this Contract, complete any action or task, shall be extended for a period equal to the time during which such Party was unable to perform such action as a result of Force Majeure.

14.4 Payments

During the period of their inability to deliver as a result of an event of Force Majeure, the Bidder shall be entitled to continue to be paid under the terms of this Contract, as well as to be reimbursed for additional costs reasonably and necessarily incurred by them during such period for the purposes of the Services and in reactivating the Service after the end of such period.

15. Termination

15.1 By the Procuring Agency

The Procuring Agency may terminate this Contract in case of the occurrence of any of the events specified in paragraphs (a) through (e) of this Clause. In such an occurrence the Procuring Agency shall give at least thirty (30) calendar days' written notice of termination to the Bidder in case of the events referred to in (a) through (d); at least sixty (60) calendar days' written notice in case of the event referred to in (e);

- a. If the Bidder fails to remedy a failure in the performance of its obligations hereunder, as specified in a notice of suspension;
- b. If the Bidder becomes (or, if the Bidder consists of more than one entity, if any of its members becomes) insolvent or bankrupt or enter into any agreements with their creditors for relief of debt or take advantage of any law for the benefit of debtors or go into liquidation or receivership whether compulsory or voluntary;
- c. If the Bidder fails to comply with any final decision reached as a result of arbitration proceedings;
- d. If, as the result of Force Majeure, the Bidder is unable to perform a material portion of the Services for a period of not less than sixty (60) calendar days;
- e. If the Procuring Agency, in its sole discretion and for any reason whatsoever, decides to terminate this Contract;

15.2 By the Bidder

The Bidder may terminate this Contract, by not less than thirty (30) calendar days' written notice to the Procuring Agency, in case of the occurrence of any of the events specified in paragraphs (a) through (d) of this Clause.

- a. If the Procuring Agency fails to pay any money due to the Bidder pursuant to this Contract and not subject to dispute within forty-five (45) calendar days after receiving written notice from the Bidder that such payment is overdue.
- b. If, as the result of Force Majeure, the Bidder is unable to perform a material portion of the Services for a period of not less than sixty (60) calendar days.
- c. If the Procuring Agency fails to comply with any final decision reached as a result of arbitration.
- d. If the Procuring Agency is in material breach of its obligations pursuant to this Contract and has not remedied the same within forty-five (45) days (or such longer period as the Bidder may have subsequently approved in writing) following the receipt by the Procuring Agency of the Bidder's notice specifying such breach.

C. Obligations of the Bidder

16. General

16.1 Standard of Performance

The Bidder shall deliver the product, in accordance with generally accepted professional standards and practices, and shall observe sound management practices, and employ appropriate technology and safe and effective equipment, machinery, materials and methods. The Bidder shall always act, in respect of any matter relating to this Contract or to the Services, as a faithful adviser to the Procuring Agency, and shall at all times support and safeguard the Procuring Agency's legitimate interests in any dealings with the third parties.

16.2 Law Applicable to Goods

The Bidder shall deliver the goods in accordance with the Contract and in accordance with the Law of Pakistan and shall take all practicable steps to ensure that any of its Experts and Sub-Bidders, comply with the Applicable Law.

17. Conflict of Interests

17.1 Bidder Not to Benefit from Commissions and Discounts.

The remuneration of the Bidder shall constitute the Bidder's sole remuneration in connection with this Contract or the Services, and the Bidder shall not accept for their own benefit any trade commission, discount, or similar payment in connection with activities pursuant to this Contract or to the Services or in the discharge of their obligations under the Contract, and the Bidder shall use their best efforts to ensure that the Personnel, any Subcontractors, and agents of either of them similarly shall not receive any such additional remuneration.

17.2 Bidder and Affiliates Not to be Otherwise Interested in Project

The Bidder agree that, during the term of this Contract and after its termination, the Bidder and its affiliates, as well as any Subcontractor and any of its affiliates, shall be disqualified from providing Goods for any project resulting from or closely related to the Services.

18. Prohibition of Conflicting Activities

Neither the Bidder nor its Subcontractors nor the Personnel shall engage, either directly or indirectly, in any of the following activities:

- a. during the term of this Contract, any business or professional activities in the Government's country which would conflict with the activities assigned to them under this Contract;
- b. during the term of this Contract, neither the Bidder nor their Subcontractors shall hire public employees in active duty or on any type of leave, to perform any activity under this Contract;

19. Confidentiality

19.1 Except with the prior written consent of the Procuring Agency, the Bidder and the Experts shall not at any time communicate to any person or entity any confidential information acquired in the course of the contract.

20. Insurance to be Taken Out by the Bidder

20.1 The Bidder(a) shall take out and maintain, and shall cause any Subcontractors to take out and maintain, at its (or the Subcontractors', as the case may be) own cost but on terms and conditions approved by the Procuring Agency, insurance against the risks, loss or damage, and for the coverage, as shall be specified in the SCC; and (b) at the Procuring Agency's request, shall provide evidence to the Procuring Agency showing that such insurance has been taken out and maintained and that the current premiums have been paid.

21. Bidder's Actions Requiring Procuring Agency's Prior Approval

21.1 The Bidder shall obtain the Procuring Agency's prior approval in writing before taking any of the following actions:

- (a) appointing such members of the Personnel not provided by the Bidder;
- (b) changing the Program of activities; and
- (c) any other action that may be specified in the SCC.

22. Reporting Obligations

22.1 The Bidder shall submit to the Procuring Agency the reports and documents in the numbers, and within the periods as prescribed by the Procuring Agency.

23. Liquidated Damages

23.1 If the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the Procuring Agency shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in SCC of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the performance security (or guarantee) specified in SCC. Once the said maximum is reached, the Procuring Agency may consider termination of the Contract pursuant to **GCC Clause 14**.

24. Not Used

25. Lack of performance penalty

If the Bidder has not corrected a Defect within the time specified in the Procuring Agency's notice, a penalty for Lack of performance will be paid by the Bidder. The amount to be paid will be calculated as a percentage of the cost of having the Defect corrected, assessed as specified in the SCC.

26. Performance Guarantee

26.1 Within Fifteen (15) days from the issuance of acceptance letter from the Procuring Agency, the successful Bidder shall furnish the Performance Guarantee in shape Bank Guarantee from AA Schedule bank of Pakistan at the discretion of the PA in the amount **specified in SCC**. In case the amount of Bids security is equal or greater than the proceeds of the Performance Guarantee shall be payable to the Procuring agency as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

26.2 The Performance Guarantee shall be denominated in the currency of the Contract, or in a freely convertible currency acceptable to the Procuring agency and shall be in the acceptable form as specified in SCC.

26.3 24.3 The Performance Guarantee will be discharged by the Procuring agency and returned to the Supplier not later than thirty (30) days following the date of completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless otherwise **specified in SCC**.

27. Fraud and Corruption

27.1 The Procuring Agency requires the Supplier to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the Bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.

28. Sustainable Procurement

28.1 The Bidder shall conform to the sustainable procurement contractual provisions, if and as specified in the SCC.

D. Bidder's Personnel

29. Description of Personnel

29.1 The titles, agreed job descriptions, minimum qualifications, and estimated periods of engagement in the carrying out of the Services of the Bidder's Key Personnel. The Key Personnel listed by title as well as by name are hereby approved by the Procuring Agency.

30. Removal and/or Replacement of Personnel

30.1 Except as the Procuring Agency may otherwise agree, no changes shall be made in the Key Personnel. If, for any reason beyond the reasonable control of the Bidder, it becomes necessary to replace any of the Key Personnel, the Bidder shall provide as a replacement a person of equivalent or better qualifications.

30.2 If the Procuring Agency finds that any of the Personnel have (i) committed serious misconduct or have been charged with having committed a criminal action, or (ii) have reasonable cause to be dissatisfied with the performance of any of the Personnel, then the Bidder shall, at the Procuring Agency's written

request specifying the grounds thereof, provide as a replacement a person with qualifications and experience acceptable to the Procuring Agency.

30.3 The Bidder shall have no claim for additional costs arising out of or incidental to any removal and/or replacement of Personnel.

E. Obligations of the Procuring Agency

31. Assistance and Exemptions

31.1 The Procuring Agency shall use its best efforts to ensure that the Government shall provide the Bidder such assistance and exemptions as specified in the SCC.

32. Change in the Applicable Law

32.1 If, after the date of this Contract, there is any change in the Applicable Law with respect to taxes and duties which increases or decreases the cost of the related Services rendered by the Bidder, then the remuneration and reimbursable expenses otherwise payable to the Bidder under this Contract shall be increased or decreased accordingly by agreement between the Parties, and corresponding adjustments shall be made to the amounts referred in the SCC.

33. Not Used

F. Payments to the Bidder

34. Contract Price

34.1 The price payable shall be in USD unless otherwise specified in the SCC. Prices charged by the Supplier for Goods delivered under the Contract shall not vary from the prices quoted by the Supplier in its Bid.

35. Terms and Conditions of Payment

35.1 Payments will be made to the Bidder according to the payment schedule stated in the SCC and as per actual invoice submitted by the Bidder.

35.2 Unless otherwise stated in the SCC, the advance payment shall be made against the provision by the Bidder of a bank guarantee of AAA rating from Schedule bank of Pakistan for the same amount, and shall be valid for the period stated in the SCC. Any other payment shall be made after the conditions listed in the SCC for such payment have been met, and the Bidder have submitted an invoice to the Procuring Agency specifying the amount due.

36. Currency of Payment

36.1 Any payment under this Contract shall be made in the currency(ies) specified in the SCC.

G. Quality Control

37. Identifying Defects

37.1 The principle and modalities of Inspection of the Goods by the Procuring Agency shall be as indicated in the SCC. The Procuring Agency shall check the Bidder's performance and notify him of any Defects that are found. Such checking shall not affect the Bidder's responsibilities. The Procuring Agency may instruct the Bidder to search for a Defect and to uncover and test any service that the Procuring Agency considers may have a Defect. Defect Liability Period is as defined in the SCC.

38. Correction of Defects, and Lack of Performance Penalty

38.1 The Procuring Agency shall give notice to the Bidder of any Defects before the end of the Contract. The Defects liability period shall be extended for as long as Defects remain to be corrected.

38.2 Every time notice a Defect is given, the Bidder shall correct the notified Defect within the length of time specified by the Procuring Agency's notice.

38.3 If the Bidder has not corrected a Defect within the time specified in the Procuring Agency's notice, the Procuring Agency will assess the cost of having the Defect corrected, the Bidder will pay this amount, and a Penalty for Lack of Performance.

39. Taxes and Duties

39.1 A Supplier shall be entirely responsible for all taxes, duties, fees, insurances etc., incurred until delivery of the contracted Goods to the Procuring Agency. Import taxes & duties inside Pakistan will be paid by Procuring Agency.

H. Settlement of Disputes

40. Alternate Dispute Resolution

40.1 The disputes between the parties to the contract may be settled in accordance with Rule 66 of the Public Procurement Rules, 2025.

40.2 The procuring agency shall refer the matter to the mutually decided Arbitrator.

40.3 The fee for the Arbitrator shall be specified in Pak Rupees and shall be borne and shared equally by the contracting parties.

39. Special Conditions of Contract

The following Special Conditions of Contract shall supplement the General Conditions of Contract. Whenever there is a conflict, the provisions herein shall prevail over those in the Conditions of Contract. The corresponding clause number of the GCC is indicated in parentheses.

No of GCC	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
GCC 1	<p>Definitions</p> <p>The Procuring Agency is: National Dredging & Marine Services,</p> <p>The Supplier is:</p> <p>The title of the subject procurement is: Procurement of Trailing Suction Hopper Dredger (TSHD) 10,000 m³ Hopper Capacity</p>
GCC 2	<p>Applicable/Governing Law: The Contract shall be interpreted in accordance with the laws of Islamic Republic of Pakistan</p>
GCC 3	<p>Language: The language of the Contract, all correspondence and communications to be given, and all other documentation to be prepared and supplied under the Contract shall be in English.</p>
GCC 5	<p>Notices:</p> <p>The addresses for the notices are:</p> <p>Procuring Agency: NDMS C/o NLC HQ, Harding Road, Saddar Cantt, Rawalpindi 051-9052536 051-9052541 procurement@ndms.pk</p> <p>Contractor/ Bidder: [Name, address and telephone number]. The Contractor/ Bidder's Representative(s) [Name, address, telephone number and e-mail address]</p>
GCC 6.1	<p>The Authorized Representatives are:</p> <p>For the Procuring Agency: Procuring Agency: NDMS C/o NLC HQ, Harding Road, Saddar Cantt, Rawalpindi 051-9052536 051-9052541 procurement@ndms.pk</p> <p>For the Bidder:</p>

	<p>Name: Designation:</p> <p>Address:</p>
GCC 8	Effectiveness of the contract: The date of issuance of LOA/Signing Contract (whichever is earlier)
GCC 9	Delivery Period: Mobilization and CIF delivery within 30 days after issuance of LOA/Signing Contract (whichever is earlier)
GCC 10	<p>Crew Employment Period: 3 Years (extendable on mutual agreement)</p> <p>Operation and Maintenance Period: 3 Years (Less fuel & lubricants)</p>
GCC 15	Termination: In the event of termination of the contract due to any reason as already defined in the General Conditions of Contract, the Bidder shall be responsible for providing to the Authority the Goods till the time of alternate arrangements.
GCC 17	Conflict of Interest: The Procuring Agency reserves the right to determine on a case-by-case basis whether the Bidder should be disqualified from providing goods or services due to a conflict of a nature described in Clause GCC 17.
GCC 23	Liquidated Damages: If the Bidder fails to provide services as required under the contract or in case of any data loss/data breach or any incident compromising the data security or other such failures related to any services, the Bidder shall pay to the Procuring Agency as Liquidated Damages at a rate of 1 - 2% of the Contract value, in accordance with the extent of performance failure & the cost of investigating such incidents as judged by the Authority.
GCC 24	Performance Guarantee: The amount of performance guarantee shall be 7% of the contract price in acceptable form of Bank Guarantee from AA rating scheduled bank of Pakistan.
GCC 35	<p>Payment terms:</p> <ul style="list-style-type: none"> • 10% advance against advance bank guarantee of AAA rating scheduled bank of Pakistan. • 30% on Successful completion of Acceptance Test prior to delivery, Successful flag change, completion of all pre-departure formalities and proof of mobilization. • 30% on Vessel arrival at Karachi and arrival notice given to relevant authorities. • 30% Sequel to clearance formalities, commencement of vessel dredging operations and successful completion of 6-weeks dredging operations. <p>Payment for Warranty Period / Manning Period:</p> <ul style="list-style-type: none"> • The contract value for the operation and maintenance period shall be paid in equal quarterly instalments. The Contractor shall submit quarterly invoices for the Manning, operation and Maintenance charges of the TSHD
GCC 38	Currency of Payment: All the payments to be released to the contractor/Bidder shall be in USD. However, Additional 8 marks will be added in the financial score, to the firm offering 60% USD and 40% PKR payment ratio. Any firm offering a different ratio of USD vs PKR will be rated accordingly @ 1 mark per 5% deviation in USD.

GCC 39	Identifying Defects: The Authority reserves the right at any time to inspect the dredger being provided.
GCC 42	<p>Following is the guidance for Dispute Resolution:-</p> <p>i. If any dispute of any kind whatsoever shall arise between the Authority and the Bidder in connection with or arising out of the Contract, including without prejudice to the generality of foregoing, any question regarding its existence, validity, termination and the execution of the Contract – whether during developing phase or after their completion and whether before or after the termination, abandonment or breach of the Contract – the parties shall seek to resolve any such dispute or difference by mutual diligent negotiations in good faith within 14 (fourteen) days following a notice sent by one Party to the other Party in this regard.</p> <p>ii. At future of negotiation the dispute shall be resolved through mediation and mediator shall be appointed with the mutual consent of the both parties.</p> <p>iii. At the event of failure of mediation to resolve the dispute relating to this contract such dispute shall finally be resolved through binding Arbitration by sole arbitrator in accordance with Arbitration Act 1940. The arbitrator shall be appointed by mutual consent of the both parties. The Arbitration shall take place in Islamabad, Pakistan and proceedings will be conducted in English language.</p> <p>iv. The cost of the mediation and arbitration shall be shared by the parties in equal proportion however the both parties shall bear their own costs and lawyer’s fees regarding their own participation in the mediation and arbitration. However, the Arbitrator may make an award of costs upon the conclusion of the arbitration making any party to the dispute liable to pay the costs of another party to the dispute.</p> <p>v. Arbitration proceedings as mentioned in the above clause regarding resolution of disputes may be commenced prior to, during or after completion of the contract.</p> <p>Notwithstanding any reference to the arbitration herein, the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree that the Authority shall pay the Bidder any monies due to the Bidder.</p> <p>Rules of procedure for arbitration proceedings: Any dispute between the Authority and a Bidder who is a national of the Islamic Republic of Pakistan arising in connection with the present Contract shall be referred to adjudication or arbitration in accordance with the laws of the Islamic Republic of Pakistan including Arbitration Act 1940, however above provision shall prevail in referring the case to the Arbitrator.</p>

	<p>Place of Arbitration and Award: The arbitration shall be conducted in English language and place of arbitration shall be at Islamabad/Rawalpindi. The award of the arbitrator shall be final and shall be binding on the parties.</p>
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SECTION – VIII

APPENDICES AND FORMS



Appendix A: NAME OF ELIGIBLE COUNTRIES

All except India and Israel. (*Including Crew/Man power*)

Appendix B: EVIDENCE OF BIDDER'S CAPABILITY

Note:

Bidders shall provide the following information as separate annexures and indicate below the Bid Reference (page / section / annex number) for each requirement.

S. No.	Information to be Supplied (Specific to Dredging Vessels)	Bid Reference
1	Name of Bidder, registered business address, country of incorporation.	
2	Type of firm (sole proprietor, partnership, corporation, JV) and names of owners/partners. For JV: notarized JV Agreement.	
3	Financial Information (MANDATORY): <ul style="list-style-type: none"> Audited financial statements for last 3 years. 	
5	Location and address of vessel ownership/company headquarters or fleet management base.	
6	Complete Technical data of the dredger.	
7	Shipyard/manufacturing/overhaul facilities (if applicable): testing capacity, dry-dock capability, warranty support, suppliers.	
8	Quality Control & Safety: <ul style="list-style-type: none"> Dredging production monitoring system. QA/QC plan. ISO certifications (9001/14001/45001). ISM Code compliance. 	
9	Human Resources: <ul style="list-style-type: none"> Names, qualifications, resumes of key personnel (Dredge Master, Chief Engineer, Hydrographer Cat A/B). Permanent staff strength. Number of qualified marine engineers, dredge operators, hydrographers.	
10	Number of years in marine dredging or maritime construction.	
11	Banking Details: <ul style="list-style-type: none"> Banking references with authority for inquiry. 	

S. No.	Information to be Supplied (Specific to Dredging Vessels)	Bid Reference
	<ul style="list-style-type: none"> • Overdraft/credit limits, facility amount & validity. 	
12	Health, Safety & Environmental (HSE) Plans: OSRP, MARPOL compliance, garbage plan, ballast water plan, crew medical certifications.	
13	Vessel Certification: IACS Class Certificate, Load line Certificate, Safety Equipment Certificate, Safety Construction Certificate, Radio Certificate, Flag-state documentation.	
14	Mobilization Plan: Mobilization timeline, towing arrangements, port clearance process, insurance, transit duration, bunkering plan.	
15	Insurance Coverage: P&I, H&M, towage insurance, pollution liability.	
16	Local Presence: Details of the Pakistani office/agent for operations, spares, permits, regulatory support.	
17	Compliance with Pakistan Laws: Customs clearance capability, tax registration (where applicable), work visas, marine operation permits, port authority approvals.	
23	Subcontractor (if any): Details, roles, experience, subcontracting agreements.	
24	Any additional information demonstrating marine capability, operational readiness, fleet strength, or technical competence.	

FORM OF TECHNICAL PROPOSAL

[On Bidder's Letterhead]

(To Be Submitted in a Separate Sealed Envelope Marked "TECHNICAL PROPOSAL")

To: National Dredging & Marine Services (Pvt) Ltd., (NDMS)

Subject: *Technical Proposal – Procurement of Trailing Suction Hopper Dredger (TSHD) 10,000 m³ Hopper Capacity.*

We hereby submit our Technical Proposal in accordance with the requirements of the bidding documents. All information provided is complete, true, and conforms to the evaluation criteria.

We hereby confirm that the Bid Security is included in a sealed envelope in the TECHNICAL proposal submitted. Proof of purchase of bidding documents is attached.

We confirm that this Bid and the Employer's written acceptance thereof shall constitute a binding contract between us until the formal Contract Agreement is prepared and executed.

Authorized Person:

Name: _____

Designation: _____

Signature & Stamp: _____

Date: _____

Appendix D: Bid Form

FORM OF FINANCIAL PROPOSAL

[On Bidder's Letterhead]

(To Be Submitted in a Separate Sealed Envelope Marked "FINANCIAL PROPOSAL")

Tender Title:

Procurement of Trailing Suction Hopper Dredger (TSHD) 10,000 m³ Hopper Capacity.

Employer:

National Dredging & Marine Services (Pvt) Ltd., (NDMS)

Tender No.: _____

Bidder's Name: _____

Registered Address: _____

Country of Incorporation: _____

Telephone: _____

Email: _____

Bid Submission Date: _____

DECLARATION

We, the undersigned, hereby submit our **Financial Proposal** for the services described in the Bidding Documents.

This proposal is submitted strictly in accordance with:

- the Instructions to Bidders (ITB),
- the General & Special Conditions of Contract, and
- all Addenda issued up to the date of submission.

We confirm that:

**Bidding Document for Supply of
Trailing Suction Hopper Dredger (TSHD) 10,000 m³ Hopper Capacity**

- All prices are on CIF KARACHI basis and inclusive of all insurance, taxes, duties and Marine licenses and fees of Dredger till delivery.
- All prices are inclusive of all insurances for the crew inside and outside of the Pakistan for the period of employment as per the SCC.
- All prices are quoted as per the requirements of the pricing schedules contained in the Tender.
- This Financial Proposal is binding upon us and remains valid for the period specified in the Bidding Documents.
- We confirm that this Bid and the Employer's written acceptance thereof shall constitute a binding contract between us until the formal Contract Agreement is prepared and executed.

AUTHORIZED SIGNATORY

Name: _____

Designation: _____

Signature: _____

Date: _____

Company Stamp: _____

Appendix E: BID SECURITY FORM (Bank Guarantee)

Security Executed on _____
(Date)

Name of Surety (Bank) with Address: _____
(Scheduled Bank in Pakistan)

Name of Principal (Bidder) with Address _____

Penal Sum of Security Rupees _____ (Rs. _____)

Bid Reference No. _____

KNOW ALL MEN BY THESE PRESENTS, that in pursuance of the terms of the Bid and at the request of the said Principal (Bidder) we, the Surety above named, are held and firmly bound unto

(hereinafter called the 'Employer') in the sum stated above for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Bidder has submitted the accompanying Bid dated _____ for Bid No. _____ for _____ (Particulars of Bid) to the said Employer; and

WHEREAS, the Employer has required as a condition for considering said Bid that the Bidder furnishes a Bid Security in the above said sum from a Scheduled Bank in Pakistan or from a foreign bank duly counter-guaranteed by a Scheduled Bank in Pakistan, to the Employer, conditioned as under:

- (1) that the Bid Security shall remain in force up to and including the date 28 days after the deadline for validity of bids as stated in the Instructions to Bidders or as it may be extended by the Employer, notice of which extension(s) to the Surety is hereby waived;
- (2) that the Bid Security of unsuccessful Bidders will be returned by the Employer after expiry of its validity or upon signing of the Contract Agreement; and
- (3) that in the event of failure of the successful Bidder to execute the proposed Contract Agreement for such work and furnish the required Performance Security, the entire said sum be paid immediately to the said Employer pursuant to IB.26 of the Instruction to Bidders for the successful Bidder's failure to perform.



**Bidding Document for Supply of
Trailing Suction Hopper Dredger (TSHD) 10,000 m³ Hopper Capacity
BS-2**

NOW THEREFORE, if the successful Bidder shall, within the period specified therefore, on the prescribed form presented to him for signature enter into a formal Contract with the said Employer in accordance with his Bid as accepted and furnish within twenty-eight (28) days of his being requested to do so, a Performance Security with good and sufficient surety, as may be required, upon the form prescribed by the said Employer for the faithful performance and proper fulfilment of the said Contract or in the event of non-withdrawal of the said Bid within the time specified for its validity then this obligation shall be void and of no effect, but otherwise to remain in full force and effect.

PROVIDED THAT the Surety shall forthwith pay the Employer, the said sum upon first written demand of the Employer (without cavil or argument) and without requiring the Employer to prove or to show grounds or reasons for such demand, notice of which shall be sent by the Employer by registered post duly addressed to the Surety at its address given above.

PROVIDED ALSO THAT the Employer shall be the sole and final judge for deciding whether the Principal (Bidder) has duly performed his obligations to sign the Contract Agreement and to furnish the requisite Performance Security within the time stated above, or has defaulted in fulfilling said requirements and the Surety shall pay without objection the said sum upon demand from the Employer forthwith and without any reference to the Principal (Bidder) or any other person.

IN WITNESS WHEREOF, the above bounden Surety has executed the instrument under its seal on the date indicated above, the name and seal of the Surety being hereto affixed and these presents duly signed by its undersigned representative pursuant to authority of its governing body.

SURETY (Bank)

WITNESS:

Signature _____

1. _____

Name _____

Title _____

Corporate Secretary (Seal)

Corporate Guarantor (Seal)

2. _____

Name, Title & Address



**Appendix F: FORM OF PERFORMANCE SECURITY
(Bank Guarantee)**

Guarantee No. _____

Executed on _____

Expiry date _____

[Letter by the Guarantor to the Employer]

Name of Guarantor (Bank) with address: _____
(Scheduled Bank in Pakistan)

Name of Principal (Bidder) with address: _____

Penal Sum of Security (express in words and figures) _____

Letter of Acceptance No. _____ Dated _____

KNOW ALL MEN BY THESE PRESENTS, that in pursuance of the terms of the Bidding Documents and above said Letter of Acceptance (hereinafter called the Documents) and at the request of the said Principal we, the Guarantor above named, are held and firmly bound unto the _____ (hereinafter called the Employer) in the penal sum of the amount stated above for the payment of which sum well and truly to be made to the said Employer, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has accepted the Employer's above said Letter of Acceptance for _____ (Name of Contract) for the _____

_____ (Name of Project).

NOW THEREFORE, if the Principal (Bidder) shall well and truly perform and fulfill all the undertakings, covenants, terms and conditions of the said Documents during the original terms of the said Documents and any extensions thereof that may be granted by the Employer, with or without notice to the Guarantor, which notice is, hereby, waived and shall also well and truly perform and fulfill all the undertakings, covenants terms and conditions of the Contract and of any and all modifications of said Documents that may hereafter be made, notice of which modifications to the Guarantor being hereby waived, then, this obligation to be void; otherwise to remain in full force and virtue till all requirements of Conditions of Contract are fulfilled.



**Bidding Document for Supply of
Trailing Suction Hopper Dredger (TSHD) 10,000 m³ Hopper Capacity**

Our total liability under this Guarantee is limited to the sum stated above and it is a condition of any liability attaching to us under this Guarantee that the claim for payment in writing shall be received by us within the validity period of this Guarantee, failing which we shall be discharged of our liability, if any, under this Guarantee.

PS-2

We, _____ (the Guarantor), waiving all objections and defences under the Contract, do hereby irrevocably and independently guarantee to pay to the Employer without delay upon the Employer's first written demand without cavil or arguments and without requiring the Employer to prove or to show grounds or reasons for such demand any sum or sums up to the amount stated above, against the Employer's written declaration that the Principal has refused or failed to perform the obligations under the Contract which payment will be effected by the Guarantor to Employer's designated Bank & Account Number.

PROVIDED ALSO THAT the Employer shall be the sole and final judge for deciding whether the Principal (Bidder) has duly performed his obligations under the Contract or has defaulted in fulfilling said obligations and the Guarantor shall pay without objection any sum or sums up to the amount stated above upon first written demand from the Employer forthwith and without any reference to the Principal or any other person.

IN WITNESS WHEREOF, the above-bounden Guarantor has executed this Instrument under its seal on the date indicated above, the name and corporate seal of the Guarantor being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

Witness:

1. _____

Corporate Secretary (Seal)

2. _____

Name, Title & Address

Guarantor (Bank)

Signature _____

Name _____

Title _____

Corporate Guarantor (Seal)



Appendix G: FORM OF CONTRACT AGREEMENT

THIS CONTRACT AGREEMENT (hereinafter called the “Agreement”) made on the _____ day of _____ (month) 2026 between _____ (hereafter called the “Employer”) of the one part and _____ (hereafter called the “Bidder”) of the other part.

WHEREAS the Employer is desirous that certain Supplies, viz _____ should be Provided by the Bidder and has accepted a Bid by the Bidder for the supply and completion of such scope of work therein.

NOW this Agreement witnessed as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents after incorporating addenda / Clarification as agreed or otherwise, if any, except those parts relating to Instructions to Bidders shall be deemed to form and be read and construed as part of this Contract, viz:
 - (a) The Contract Agreement;
 - (b) The Letter of Acceptance;
 - (c) Addendum(s)/Clarifications;
 - (d) The completed Form of Bid (Form of Technical Bid & Form of Financial Bid);
 - (e) The Particular / Special Conditions of Contract;
 - (f) The General Conditions of Contract;
 - (g) The priced Bill of Quantities;
 - (h) The completed Appendices to Bid;
 - (i) The Specifications.
 - (j) _____ (any other)
3. In consideration of the payments to be made by the Employer to the Bidder as hereinafter mentioned, the Bidder hereby covenants with the Employer to supply and complete the Works therein in conformity and in all respects with the provisions of the Contract.
4. The Employer hereby covenants to pay the Bidder, in consideration of the supply and completion of the Works as per provisions of the Contract, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.



**Bidding Document for Supply of
Trailing Suction Hopper Dredger (TSHD) 10,000 m³ Hopper Capacity
CA-2**

IN WITNESS WHEREOF the parties hereto have caused this Agreement to be executed on the day, month and year first before written in accordance with their respective laws.

Signature of the Bidder

Signature of Employer

(Seal)

(Seal)

Signed, Sealed and Delivered in the presence of:

Witness:

Witness:

(Name, Title and Address)

(Name, Title and Address)



Appendix H: INTEGRITY PACT (PPRA Rule-7)

DECLARATION OF FEES, COMMISSION AND BROKERAGE ETC. PAYABLE BY THE SUPPLIERS OF GOODS, SERVICES & WORKS IN CONTRACTS WORTH PKR.10.00 MILLION OR MORE

Contract Number: _____

Dated: _____

Contract Value: _____

Contract Title: _____

[Name of Supplier] hereby declares that it has not obtained or induced the procurement of any contract, right, interest, privilege or other obligation or benefit from Government of Pakistan or any administrative subdivision or agency thereof or any other entity owned or controlled by it (GoP) through any corrupt business practice.

Without limiting the generality of the foregoing [Name of Supplier] represents and warrants that it has fully declared the brokerage, commission, fee etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juristic person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultations fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP, except that which has been expressly declared pursuant hereto.

[Name of Supplier] certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with GoP and has not taken any action or will not take any action to circumvent the above declaration, representative or warranty.

[Name of Supplier] accepts full responsibility and strict liability for making and false declaration, not making full disclosure, misrepresenting fact or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other right and remedies available to GoP under any law, contract or other instrument, be voidable at the option of GoP.

Notwithstanding any rights and remedies exercised by GoP in this regard, [Name of Supplier] agrees to indemnify GoP for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GoP in an amount equivalent to ten time the sum of any



Bidding Document for Supply of

Trailing Suction Hopper Dredger (TSHD) 10,000 m³ Hopper Capacity

commission, gratification, bribe, finder's fee or kickback given by [Name of Supplier] as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP.

[Buyer]

[Seller/Supplier]

Appendix I: MANDATORY THIRD-PARTY CONDITION ASSESSMENT CHECKLIST)

1. Technical Framework & Objective

To ensure a fair, transparent, and legally defensible evaluation under the 50% Technical / 50% Financial matrix, and to establish an even playing field between "as-new" and "up-to-3-years-old" Trailing Suction Hopper Dredgers (TSHD), all Bidders must submit a comprehensive, independent, third-party **Pre-Purchase / Asset Condition Assessment Report** along with their technical bid.

The primary objective of this report is to provide verifiable, quantitative data regarding the asset's structural degradation, machinery health, and remaining residual life. Reports failing to utilize the approved evaluators or omitting any of the prescribed parameters below shall be deemed non-responsive and will lead to **immediate technical disqualification**.

2. List of Approved Independent Third-Party Evaluators

To maintain complete international uniformity, trustworthiness, and technical competence, the physical inspection and subsequent report must be executed exclusively by one of the following authorized marine surveying organizations:

- **DNV** (Det Norske Veritas – Local Division)
- **BV** (Bureau Veritas – Local Division)
- **CCS** (China Classification Society)
- **CMSC** (China Marine Surveyors & Consultants)
- **Sinotech Marine** (Local Branch)

Note: The physical survey must be conducted no earlier than sixty (60) days prior to the official bid closing date.

3. Mandatory Technical Areas to be Covered in the Assessment Report

To prevent structural variations in reporting, the chosen evaluator must explicitly inspect, test, and provide quantitative measurements/data on the following **eight (8) specialized technical areas**:

Area I: Main Engines & Propulsion Systems

- **Operational Parameters:** Verification of original engine make, model, type, and Maximum Continuous Rating (MCR in kW) against shipyard "as-built" data.

- **Lifecycle Metrics:** Certified total running hours since new or since the last 100% Major Overhaul (MOH) executed by an authorized OEM service provider.
- **Environmental Compliance:** Provision of the official Engine International Air Pollution Prevention (EIAPP) certificate confirming compliance with IMO Tier II or Tier III NOx emissions standards.
- **Physical Health Indicators:** Submission of recent crankshaft deflection logs and a comprehensive Spectrometric Lube Oil Analysis tracking metal-wear particles.

Area II: Reduction Gearboxes & Propulsion Shaftlines

- **Internal Gear Inspection:** Close-up visual or borescope inspection of the reduction gear teeth flanks to check for micro-pitting, scoring, or spalling.
- **Shaftline Alignment & Clearances:** Measurement of tailshaft bearing clearances (poker gauge readings) and verification of intermediate shaft structural integrity.
- **Environmental Protection:** Physical verification of the stern tube shaft seals ensuring an eco-compliant design with **zero oil-to-sea discharge** (fully compliant with MARPOL Annex I/VEE regulations).
- **Propeller Condition:** Verification of propeller material (Nickel-Aluminium Bronze - NAB) and a close-up survey tracking edge pitting, surface roughness, or cavitation damage.
- **Flow-Optimisation:** Structural assessment of Kort nozzles or equivalent thrust-optimizing devices, if fitted.

Area III: Bow Thruster Assembly

- **Prime Mover & Drive Type:** Technical audit of the thruster manufacturer, model, drive mechanism (dedicated auxiliary engine or Variable Frequency Drive electric motor), and continuous output power (kW).
- **Tunnel & Grid Protection:** Visual inspection of the thruster tunnel plating and the structural integrity of the debris/stone protection grids at the tunnel openings.
- **Propeller System & Gear Pod:** Detailed survey of the lower gear housing and propeller blades (CPP vs. FPP), including a mandatory oil analysis of the pod lubricants to check for active water ingress or seal leakage.

Area IV: Dredging-Specific Equipment & High-Wear Components

- **Dredge & Jet Pumps:** Laser scanning or physical caliper thickness measurements of the inboard/submersible dredge pump casings, impellers, liners, and jet water pumps compared to factory defaults.

- **Trailing Suction Arms & Dragheads:** Structural weld and joint integrity testing of the trailing arms, gantry structures, swell compensators, winches, and draghead jetting systems.
- **Hopper & Discharge Systems:** Ultrasonic Thickness Gauging (UTG) of the hopper well walls, hopper linings, and bottom discharge valves/doors to calculate localized steel wastage percentages.

Area V: Asset Condition Grading & Habitability

- **Crew Living Conditions:** Visual audit of the cabins, mess rooms, galley, and central HVAC insulation system to ensure compliance with the Maritime Labour Convention (MLC) standards.
- **Certified Final Grade:** An explicit, formal concluding statement by the independent surveyor rating the overall vessel condition on a standardized qualitative scale (e.g., *Excellent, Very Good, Good, Fair, Poor*).

Area VI: Automation, PLC Systems, & Cyber-Security

- **Dredge & Machinery PLC Systems:** Comprehensive audit of the Programmable Logic Controllers (PLCs) governing the hopper gates, trailing arm suction positioning, and main engine synchronization. The surveyor must verify the system make (e.g., Siemens, Schneider, ABB) and ensure all hardware components are still fully supported by the manufacturer.
- **Software Licensing & Source Code:** Written verification from the bidder that all proprietary dredging automation software, vessel management networks, and monitoring screen systems have perpetual, fully transferred operational licenses with no outstanding subscription debts.
- **Power Management System (PMS):** Functional testing logs of the automated PMS to ensure seamless blackout prevention and automated load-sharing when shifting heavy power demands between propulsion and dredge pumps.

Area VII: Navigation, Communication, & Bridge Electronics

- **Integrated Bridge System (IBS):** Operational status check of all navigation aids including Radar (X-band and S-band), Electronic Chart Display and Information Systems (ECDIS), and Global Positioning Systems (DGPS/RTK necessary for precise dredging tracks).
- **Global Maritime Distress and Safety System (GMDSS):** Verification of radio communication logs, satellite communication arrays, and valid Shore-Based Maintenance Agreements.

- **Dredging Survey Software Integration:** Physical verification that the hydrographic survey computers, multi-beam echo sounder interfaces, and production monitoring profiles are operational and can communicate accurately with the bridge navigation matrix.

Area VIII: Firefighting, Life-Saving Appliances (LSA), & Safety Systems

- **Fixed Firefighting Installation:** Structural and pressure verification of the engine room and pump room fixed CO₂, water-mist, or foam firefighting suppression systems.
- **Lifeboats, Rescue Boats, and Davits:** Thorough check of the structural integrity of lifeboats/life rafts, load-testing certificates for the launch davits, and running logs for the rescue boat's engine.
- **Emergency Power & Isolation:** Functional verification of the Emergency Generator, automatic bus-tie transitions, and quick-closing fuel isolation valves.

4. Proviso for Exempted 'As-New' TSHD Assets:

Bidders proposing a newly constructed, un-delivered TSHD shall be **exempted** from submitting a freshly executed Third-Party Condition Assessment Report, provided the asset meets the following strict criteria at the time of bid submission:

- a. The total cumulative running hours on any primary main engine or auxiliary dredge pump engine do not exceed **500 hours**.
- b. The chronological age of the vessel is less than **twelve (12) months** from the date of its initial Class Commissioning Certificate.

To claim this exemption, the Bidder must instead submit the complete IACS Class Commissioning Portfolio, including signed Sea/Dredging Trial Logs, the Shipyard Certificate of Delivery, and formal OEM manufacturer warranty confirmations. The Master Data Checklist (Appendix I) must still be completed by referencing the corresponding pages of the official commissioning or sea-trial documents.

MANDATORY THIRD-PARTY CONDITION ASSESSMENT CHECKLIST

Instructions to Bidders & Evaluators: This checklist must be completely filled out, signed, and stamped by the authorized independent third-party marine surveying organization. Every row must reference the exact page or section number of the accompanying physical report where the quantitative proof is located. **Omission of any "Mandatory" field will result in technical disqualification.**

Part 1: Vessel Administrative Data

Item #	Data Parameter	Required Input / Metric	Verification Document Source	Page Ref in Report	Status
1.1	Vessel Name & IMO Number	Text & Unique 7-Digit Identifier	Certificate of Registry		MANDATORY
1.2	Year of Build / Asset Age	YYYY (Must be ≤ 3 Years Old)	Builder's Certificate		MANDATORY
1.3	Current Classification Society	Must be IACS Member (CCS, DNV, BV, etc.)	Class Certificate of Fitness		MANDATORY
1.4	Date of Physical Survey	DD/MM/YYYY (Within last 60 days)	Field Survey Log		MANDATORY

Part 2: Technical Parameters & Quantitative Measurement Log

Area I: Main Engines & Propulsion Systems

Item #	Technical Parameter	Measurement / Target Metric	Unit / Target	Actual Measured Value	Page Ref
2.1	Engine Make & Model	Verify Premium Tier-1 OEM status	Text		
2.2	Installed Power per Engine	Maximum Continuous Rating (MCR)	kW (≥ 3,900 preferred)		
2.3	Accumulated Engine Hours	Total running hours since new / major overhaul	Hours		
2.4	Emission Compliance	Verified IMO Tier standard	Tier II (Min) / Tier III		

2.5	Crankshaft Deflection	Alignment drift within maker tolerances	Pass / Fail		
2.6	Spectrometric Lube Oil Analysis	Fe, Cu, Cr wear-metal levels	Green / Amber / Red		

Area II: Reduction Gearboxes & Propulsion Shaftlines

Item #	Technical Parameter	Measurement / Target Metric	Unit / Target	Actual Measured Value	Page Ref
3.1	Gearbox Model & PTO Config	Verify heavy-duty dredging multi-PTO capability	Text		
3.2	Internal Gear Teeth Condition	Visual/borescope check for pitting/spalling	Clear / Pitted		
3.3	Tailshaft Bearing Clearances	Poker gauge wear-down measurement	mm		
3.4	Stern Tube Shaft Seals	MARPOL compliant, zero oil-to-sea discharge	Pass / Fail		
3.5	Propeller Material & Condition	Verify NAB alloy and cavitation roughness index	Text / ISO Grade		
3.6	Flow-Optimisation Devices	Presence and structural weld check of Kort nozzles	Present / None		

Area III: Bow Thruster Assembly

Item #	Technical Parameter	Measurement / Target Metric	Unit / Target	Actual Measured Value	Page Ref
4.1	Thruster Capacity & Drive	Output power and drive mechanism type	kW / (Electric/Diesel)		
4.2	Propeller Mechanics	Operational configuration type	CPP / FPP		
4.3	Tunnel Plating & Grids	Visual inspection of debris/stone safety grids	Intact / Distorted		

4.4	Gear Pod Oil Integrity	Laboratory check for active water-in-oil ingress	ppm Water		
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Area IV: Dredging-Specific Equipment & High-Wear Components

Item #	Technical Parameter	Measurement / Target Metric	Unit / Target	Actual Measured Value	Page Ref
5.1	Dredge & Jet Pump Casings	Internal laser scanning thickness profile	% Wear vs. As-Built		
5.2	Impellers & Liners Wear	Volumetric erosion check	% Wear vs. As-Built		
5.3	Hopper Wall Steel Thickness	Ultrasonic Thickness Gauging (UTG) profile	% Wastage		
5.4	Bottom Discharge Valves	Hydraulic sealing and seal wear degradation	Pass / Fail		
5.5	Trailing Arms & Gantries	Non-Destructive Testing (NDT) of load welds	Clear / Cracked		

Area V: Automation, PLC Systems, & Cyber-Security

Item #	Technical Parameter	Measurement / Target Metric	Unit / Target	Actual Measured Value	Page Ref
6.1	PLC Hardware Make & Model	Verification of active OEM manufacturer support	Text (Siemens/ABB/etc.)		
6.2	Software Licenses	Perpetual, fully transferred operational codes	Valid / Expired		
6.3	Power Management System	Blackout prevention and load-sharing execution	Pass / Fail		

Area VI: Navigation, Communication, & Bridge Electronics

Item #	Technical Parameter	Measurement / Target Metric	Unit / Target	Actual Measured Value	Page Ref
7.1	Primary Navigation Aids	ECDIS, X/S-Band Radars, DGPS/RTK track systems	Functional / Defective		
7.2	Survey Software Interface	Hydrographic multi-beam integration telemetry	Synchronized / No		
7.3	GMDSS Array	Communication status and shore maintenance logs	Valid / Invalid		

Area VII: Firefighting, Life-Saving Appliances (LSA), & Safety Systems

Item #	Technical Parameter	Measurement / Target Metric	Unit / Target	Actual Measured Value	Page Ref
8.1	Fixed Fire Suppression	Engine/pump room fixed CO2/foam bottle pressure	Bar / Valid Cert		
8.2	Lifeboats & Davits	Structural survey and launch davit load tests	Valid Cert / Date		
8.3	Emergency Generator	Automated bus-tie connection runtime test	Seconds to Load		
8.4	Quick-Closing Valves	Remote fuel-tank isolation trip test activation	Pass / Fail		

Area VIII: Asset Condition Grading & Habitability (Max 2.5 Marks Profile - Combined)

Item #	Technical Parameter	Measurement / Target Metric	Unit / Target	Actual Measured Value	Page Ref
9.1	MLC Code Compliance	Crew quarters, galley, and mess hygiene audit	Compliant / Non-Comp		
9.2	Central HVAC System	Insulation mold check and temperature load test	Pass / Fail		

9.3	Certified Overall Grade	Formal final condition rating by approved entity	<i>Excellent / VG / Good</i>		
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Part 3: Official Attestation by Approved Evaluator

We hereby certify that the physical condition, quantitative measurements, and technical documentation of the Trailing Suction Hopper Dredger (TSHD) named above have been independently audited in accordance with the prescribed parameters of this tender.

Name of Surveying Enterprise: _____

Lead Surveyor Name & License #: _____

Signature & Official Corporate Stamp: _____

Date of Execution: _____

SECTION – IX

BILL OF QUANTITIES

BILL OF QUANTITIES (BOQ)

Ser	Item Title	Quantity	Unit Price	Total Price	Delivery Location	Country of Origin
1	Procurement of Vessel Trailing Suction Hopper Dredger (TSHD) 10,000 m ³ (+10% Max) Hopper Capacity					
2	Provision of Crew for the operations and maintenance for 3 years					
3	Operations and Maintenance of Dredger for 3 years less Fuel & Lubricants					
	Total					