



**PETROVIETNAM OIL CORPORATION
JOINT STOCK COMPANY**

PROJECT

**EXPANSION OF 40,000M³ STORAGE CAPACITY
AT PETEC HAI PHONG**

PACKAGE

ENGINEERING, PROCUREMENT, CONSTRUCTION AND INSTALLATION

**TECHNICAL REQUISITION DOCUMENT FOR

BOLTS & NUTS**

A	18/11/2025	Issued for Bid	NMH	PQP	PQP	VLT
Rev.	Date	Purpose	Prepared	Checked	Reviewed	Approved



EPC CONTRACTOR



**PTSC THANH HÓA THANH HÓA - ĐẠI DŨNG III -
PHƯƠNG ANH CONSORTIUM**

Document No.:

PETEC-DD-TRD-009

	<p align="center">EXPANSION OF 40,000M³ STORAGE CAPACITY AT PETEC HAI PHONG</p>	
<p align="center">TECHNICAL REQUISITION DOCUMENT FOR BOLTS & NUTS</p>		<p>Document No.: PETEC-DD-TRD-009</p> <hr/> <p>Revision: A</p>

REVISION RECORD SHEET

No	Content of Revision	Rev	Date (dd/mm/yyyy)
1	Issued for Bidding	A	18/11/2025





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1. INTRODUCTION

1.1. PROJECT BACKGROUND

Project name: Expansion of 40,000m³ Storage Capacity at PETEC Hai Phong Petroleum Terminal Project

Client: PETEC HAI PHONG

Contractors: PTSC THANH HOA – DAI DUNG III– PHUONG ANH

The total expanded capacity is 40,000m³ as follows:

- 01 tank 10,000m³ tank (with float): containing RON95 – T33
- 03 tanks of 10,000m³: containing DO - T34, T35, T36
- 01 tanks of 1500m³ containing fire water and auxiliary items....

1.2. PURPOSE

This document outlines the minimum technical requirements for the design, manufacture, testing, inspection, packing & transportation, commissioning activities and documentation of Bolts & Nuts.

The BIDDER/ MANUFACTURER shall ensure that all materials and services supplied meet the requirements of this document, the Material Take-Off, Project Specifications and the Codes & Standards and Specifications referenced herein.

2. SCOPE OF SUPPLY AND WORK

2.1. ITEMS AND QUANTITIES

The items and quantities shall be as specified in the Attachment #1 Material Take Off (MTO).



2.2. SCOPE OF SUPPLY AND SERVICE

All items shall be completed in accordance with the requirements specified in this requisition such as MTO, project specifications and other documents attached herewith.

Refer to Attachment #1 Material Take Off (MTO) for the detailed.

2.3. SCOPE OF WORK

The BIDDER/ MANUFACTURER will use his current, pre-engineered, or standard designs to meet the requirements specified below, as well as the MTO, project specifications, and any attachments attached to these documents.

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Design, manufacturing, testing, painting, supply, packing and delivery all items as specify in the Attachment #1 Material Take Off (MTO).

The BIDDER/ MANUFACTURER shall also provide supervision of complete erection, site testing, start up and commissioning and performance guarantee testing of these items, if required.

2.4. OUT OF SCOPE

Storage items at site.

Fabrication and installation Piping works.

2.5. DELIVERY TIME

The contractor shall carry out the work in accordance with the project schedule.

For more details, please refer to Attachment #5 Project Schedule.

3. TECHNICAL REQUIREMENTS

3.1. GENERAL

The Package shall be strictly in accordance with specifications, codes, and standards specified in Attachment #2 Technical Support Document.



Compliance by the BIDDER/ MANUFACTURER with the provision of this specification does not relieve him of his responsibility to furnish the package/ material and accessories of a proper design to meet the specified duty and / or local codes governing health and safety.

All applicable documents mentioned below are attached with the request for inquiry. However, if the BIDDER/ MANUFACTURER is not in possession of any of the listed or referenced PURCHASER documents, it shall be BIDDER/ MANUFACTURER's sole responsibility to obtain them from the PURCHASER. Otherwise, it shall be assumed that the BIDDER/ MANUFACTURER has received, read and understood the total contents of the documents.

All materials and parts shall be new and un-used and free from defects and imperfections that would adversely affect the life or performance of the system.

Vendor data shall include detailed design drawings and updated data sheets of each material and appurtenances.

All documentation related to facilitating design appraisal approvals and inspection from Purchaser appointed Certification Authority (CA) and QA/QC Inspector (ITP) shall also be included in Vendor's scope of supply

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3.2. DESIGN LIFE, AVAILABILITY AND RELIABILITY

The design life of the facility and all associated equipment, components and systems is minimum 25 years.

All components which for practical, safety or cost-efficiency reasons are unable to meet the required design life shall be identified as soon as possible. Their expected service life shall be informed to PURCHASER and provision made in the system design for maintenance to extend component life or routine change-out.

3.3. PROTECTIVE COATING AND PAINTING

Surface preparation and coating of all exposed metal parts shall be in accordance with the Painting Specification which attached in the Attachment #2 Technical Support Document.

3.4. PREPARATION FOR SHIPMENT

Bolts and Nuts shall be prepared for export shipment and shall be created to provide maximum protection during shipment and extended outdoor storage.

Any bolts and nuts liable to be damaged during shipment shall be disassembled, packed separately, shipped with the unit and reassembled onsite under the supervision of Vendor 's commissioning/start-up technician.

Each crate shall be clearly identified in accordance with the customer's specification. As a minimum the crate shall be marked with the Purchase Order number, the item number, the shipping mass and the delivery address.

Bolts and nuts shall be protected against damage during transportation and erection.

The bolts and nuts shall be suitably preserved to maintain in good condition throughout the phases of storage until ready to be operated.

Bolts and nuts shall be protected with an easily removable rust-preventive coating.



Bolts and nuts shall be suitably protected for shipment and securely anchored during transit. Separate or loose parts shall be completely boxed with identification tag.

Tools and spare parts shall be packed in metal boxes suitable for long term storage. The boxes shall be galvanized or coated in accordance with Project requirement.

3.5. GUARANTEE AND WARRANTY

The BIDDER/ MANUFACTURER shall have final and total responsibility for the design and performance of all specification for material supplied under this document.

The BIDDER/ MANUFACTURER shall replace and install without cost to the PURCHASER any materials, supplies which fails under design conditions due to defects in material or workmanship if the defect is observed and/or such failure occurs within the

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guarantee/warranty period. Acceptance of this order will signify acceptance of all conditions of this guarantee.

The guarantee period shall be at least 24 months from the date of delivery or 18 months from the date of operation, whichever comes first.

3.6. SPARE PARTS

3.6.1. START-UP AND COMMISSIONING SPARES

The BIDDER/ MANUFACTURER shall include, as part of his bid, a detailed, price list of start-up and commissioning spares which shall be supplied as part of the original purchase package.

3.6.2. TWO YEAR SPARES

The BIDDER/ MANUFACTURER shall include, as part of his bid, a detailed, list of recommended spare parts for two years continuous operation. These spares shall be costed for separate purchase.

3.7. CONFLICTING REQUIREMENTS

BIDDER/ MANUFACTURER shall notify PURCHASER of any conflicts between this TRD, specifications, the related data sheets, the Codes and Standards and any other specifications noted herein. Resolutions and/or interpretation precedence shall be obtained from Purchaser in writing before proceeding with the design/ manufacture.

3.8. DEVIATION LIST

BIDDER/ MANUFACTURER's quotation shall be in full conformity with PURCHASER's requirements. Unless exceptions, deviations or alternatives are clearly defined and listed on the attached PURCHASER's form "Deviation List" and submitted with BIDDER/ MANUFACTURER 's quotation, the requirements and conditions of this Requisition shall be deemed to be accepted by the BIDDER/ MANUFACTURER.



4. INSPECTION AND TESTS

Inspection and tests shall be made by the BIDDER/ MANUFACTURER in accordance with:

Test & Inspection should be carried out acc. to the applicable codes, specification and standards.

Maker's standard plan & procedure as approved by PURCHASER.

Local regulation, if any.

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The OWNER and/or PURCHASE inspector shall hold a right to be present at any manufacturing stage of the items and/or materials.

Refer to Attachment #4 Vendor Data Document List for the detailed.



5. VENDOR DOCUMENT REQUIREMENT

The BIDDER/ MANUFACTURER shall fill in all required technical information for the forms in “Attachment #3 – Technical Documentation Forms”. In particular, the form “Attachment #3.1 – Technical Bid Requirement Forms” is mandatory. Failure to complete this form will render the bid invalid.

The CONTRACTOR must complete the forms, documents, and drawings as listed in “Attachment #4 – Vendor Data Documents List”.

6. ATTACHMENT

No.	Attachment	Document	Remark
1.	Attachment #1	Material Take Off (MTO)	
2.	Attachment #2	Technical Support Document	
3.	Attachment #3	Technical Bid Proposal	
4.	Attachment #4	Vendor Data Documents List	
5.	Attachment #5	Project Schedule	

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**ATTACHMENT #1
MATERIAL TAKE OFF (MTO)**



PROJECT: EXPANSION OF 40,000M³ STORAGE CAPACITY AT PETEC HAI PHONG
MTO OF BOLT & NUTS (PROCESS)





No.	NAME	SPECIFICATION	DESSCRPTION	MATERIAL	SIZE 1 (INCH)	BOLT LENGTH (MM)	UNIT	DES. Q.TY	SPARE	TOTAL	REMARK
1	BOLT	1A1	70 MM LONG STUD BOLT FULLY THREADED WITH 2 HEAVY HEX NUTS ASME B1.1, B16.5 & B18.2.2	A193 Gr.7 / A194 Gr.2H Hot Dip Galvanized	1/2	70	Set	32	3	35	
2	BOLT	1A1	90 MM LONG STUD BOLT FULLY THREADED WITH 2 HEAVY HEX NUTS ASME B1.1, B16.5 & B18.2.2	A193 Gr.7 / A194 Gr.2H Hot Dip Galvanized	5/8	90	Set	112	7	119	
3	BOLT	1A1	100 MM LONG STUD BOLT FULLY THREADED WITH 2 HEAVY HEX NUTS ASME B1.1, B16.5 & B18.2.2	A193 Gr.7 / A194 Gr.2H Hot Dip Galvanized	5/8	100	Set	892	27	919	
4	BOLT	1A1	110 MM LONG STUD BOLT FULLY THREADED WITH 2 HEAVY HEX NUTS ASME B1.1, B16.5 & B18.2.2	A193 Gr.7 / A194 Gr.2H Hot Dip Galvanized	3/4	110	Set	1168	36	1204	
5	BOLT	1A1	120 MM LONG STUD BOLT FULLY THREADED WITH 2 HEAVY HEX NUTS ASME B1.1, B16.5 & B18.2.2	A193 Gr.7 / A194 Gr.2H Hot Dip Galvanized	3/4	120	Set	1368	42	1410	
6	BOLT	1A1	130 MM LONG STUD BOLT FULLY THREADED WITH 2 HEAVY HEX NUTS ASME B1.1, B16.5 & B18.2.2	A193 Gr.7 / A194 Gr.2H Hot Dip Galvanized	7/8	130	Set	564	17	581	
7	BOLT	1A1	140 MM LONG STUD BOLT FULLY THREADED WITH 2 HEAVY HEX NUTS ASME B1.1, B16.5 & B18.2.2	A193 Gr.7 / A194 Gr.2H Hot Dip Galvanized	7/8	140	Set	900	27	927	



PROJECT: EXPANSION OF 40,000M³ STORAGE CAPACITY AT PETEC HAI PHONG
MTO OF BOLT & NUTS (FIRE FIGHTING)





No.	NAME	SPECIFICATION	DESCRIPTION	MATERIAL	SIZE 1 (INCH)	BOLT LENGTH (MM)	UNIT	DES. Q.TY	SPARE	TOTAL	REMARK
1	BOLT	1A1	70 MM LONG STUD BOLT FULLY THREADED WITH 2 HEAVY HEX NUTS ASME B1.1, B16.5 & B18.2.2	A193 Gr.7 / A194 Gr.2H Hot Dip Galvanized	1/2	70	Set	4	1	5	
2	BOLT	1A1	80 MM LONG STUD BOLT FULLY THREADED WITH 2 HEAVY HEX NUTS ASME B1.1, B16.5 & B18.2.2	A193 Gr.7 / A194 Gr.2H Hot Dip Galvanized	5/8	80	Set	4	1	5	
3	BOLT	1A1	90 MM LONG STUD BOLT FULLY THREADED WITH 2 HEAVY HEX NUTS ASME B1.1, B16.5 & B18.2.2	A193 Gr.7 / A194 Gr.2H Hot Dip Galvanized	5/8	90	Set	16	2	18	
4	BOLT	1A1	100 MM LONG STUD BOLT FULLY THREADED WITH 2 HEAVY HEX NUTS ASME B1.1, B16.5 & B18.2.2	A193 Gr.7 / A194 Gr.2H Hot Dip Galvanized	5/8	100	Set	516	16	532	
5	BOLT	1A1	110 MM LONG STUD BOLT FULLY THREADED WITH 2 HEAVY HEX NUTS ASME B1.1, B16.5 & B18.2.2	A193 Gr.7 / A194 Gr.2H Hot Dip Galvanized	3/4	110	Set	304	13	317	
6	BOLT	1A1	120 MM LONG STUD BOLT FULLY THREADED WITH 2 HEAVY HEX NUTS ASME B1.1, B16.5 & B18.2.2	A193 Gr.7 / A194 Gr.2H Hot Dip Galvanized	3/4	120	Set	616	19	635	
7	BOLT	1A1	130 MM LONG STUD BOLT FULLY THREADED WITH 2 HEAVY HEX NUTS ASME B1.1, B16.5 & B18.2.2	A193 Gr.7 / A194 Gr.2H Hot Dip Galvanized	7/8	130	Set	96	7	103	
8	BOLT	1A1	140 MM LONG STUD BOLT FULLY THREADED WITH 2 HEAVY HEX NUTS ASME B1.1, B16.5 & B18.2.2	A193 Gr.7 / A194 Gr.2H Hot Dip Galvanized	7/8	140	Set	48	4	52	
9	BOLT	1A1	160 MM LONG STUD BOLT FULLY THREADED WITH 2 HEAVY HEX NUTS ASME B1.1, B16.5 & B18.2.2	A193 Gr.7 / A194 Gr.2H Hot Dip Galvanized	5/8	160	Set	200	12	212	
10	BOLT	1A1	170 MM LONG STUD BOLT FULLY THREADED WITH 2 HEAVY HEX NUTS ASME B1.1, B16.5 & B18.2.2	A193 Gr.7 / A194 Gr.2H Hot Dip Galvanized	3/4	170	Set	8	1	9	

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ATTACHMENT #2

TECHNICAL SUPPORT DOCUMENT

- *Att #2.1 Specifications*

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**ATTACHMENT #3
TECHNICAL BID PROPOSAL**

- *Att #3.1 Technical Bid Requirement forms*
- *Att #3.2 Technical forms*
- *Att #3.3 Technical Bid Clarification form*



**TECHNICAL BID EVALUATION
FOR
TRD - 009 BOLTS & NUTS**

Client:	PETEC TRADING AND INVESTMENT CORPORATION	TRD No.:	TRD-009
Contract No.:		Rev.:	A
Document No.:		Material/Service:	
Revision:		Date:	18-Nov-25

Item	Description	Specification requirements	Qty	Unit	[Bidder 1 name]		[Bidder 2 name]	
					Bidder Offer	TBE	Bidder Offer	TBE
I. QUOTATION DETAILS								
1	Quotation Ref No	Informative						
2	Quotation date	Informative						
3	Office location	Informative						
II. GENERAL REQUIREMENT								
1	Company profiles	For information						
2	Experience List	Experienced on offshore pipeline design and similar works						
III. Process System								
1	Origin	VTA						
2	Trademark	VTA						
3	Model	VTA						
4	Standard							
4.1	Type	Long Stud Bolt fully threaded with 2 heavy hex nuts						
4.2	Standard design	ASME 16.5 & B18.2.2						
5	Material	A193 Gr.B7 / A194 Gr 2H						
6	Delivery time	VTA						
VI. Fire Fighting System								
1	Origin	VTA						
2	Trademark	VTA						
3	Model	VTA						
4	Standard							
4.1	Type	Long Stud Bolt fully threaded with 2 heavy hex nuts						
4.2	Standard design	ASME 16.5 & B18.2.2						
5	Material	A193 Gr.B7 / A194 Gr 2H						
6	Delivery time	VTA						
VII. EVALUATION CONCLUSION					TECHNICALLY PASSED (PARTIAL)(*)		TECHNICALLY PASSED	

Abbreviations:

- 1 C : Comply
- 2 NC : Not Complied
- 3 NCA : Not Complied but Acceptable
- 4 I : Information/
- 5 H : Hold/ to be finalized before Contract Award

Note:

(*)

Prepared by

NMH

Checked by



PAD

Reviewed by

PQP

Approved by

VLT

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ATTACHMENT #4

VENDOR DATA DOCUMENTS LIST

- *Att #4.1 Vendor Data Documents List*

VENDOR DATA DOCUMENTS LIST (VDRL)

No.	Description	With Bid	Final	Remark
1	Company Profile Brochure		x	
2	Vendor Data Index & Schedule		x	
3	Material Mill Test Certificate		x	- Follow EN10204, Type 3.1
4	Packing List		x	
5	Certificate of Original (CO)		x	
6	Certificate of Quality (CQ)		x	
7	Bill of Lading (B/L)		x	

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**ATTACHMENT #5
PROJECT SCHEDULE**