



**DAI HUNG NAM PROJECT, DAI HUNG FIELD DEVELOPMENT,
BLOCK 05.1(a), OFFSHORE VIETNAM**

**Approved by Director
"OCD - VIETSOVPETRO"**

**PHAM THANH BINH
" _____ " _____ 2026.**

**TECHNICAL REQUIREMENT
FOR E&I CABLE TRAY/LADDER**

Ref No: WHP-DHN-E-X-2506

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**DAI HUNG NAM PROJECT, DAI HUNG FIELD DEVELOPMENT,
BLOCK 05-1(a), OFFSHORE VIETNAM
TECHNICAL REQUIREMENT FOR E&I CABLE
TRAY/ LADDER**

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**DAI HUNG NAM PROJECT, DAI HUNG FIELD DEVELOPMENT,
BLOCK 05-1(a), OFFSHORE VIETNAM
TECHNICAL REQUIREMENT FOR E&I CABLE
TRAY/ LADDER**

REVISION RECORD SHEET

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TABLE OF CONTENTS

1. GENERAL INFORMATION	5
2. DEFINITIONS AND ABBREVIATIONS	8
3. ORDER OF PRECEDENCE	10
4. SCOPE OF WORK/ SUPPLY	10
5. SPECIFIC INSTRUCTION TO VENDOR.....	16
6. LIST OF TECHNICAL DOCUMENTS.....	18
7. GENERAL INSTRUCTIONS FOR VENDOR'S DOCUMENTATION	20
8. VENDOR DATA REQUIREMENT LIST – VDRL	23
9. INSPECTION AND TEST REQUIREMENT	30
10. TECHNICAL EXCEPTION AND DEVIATION	35

APPENDICES

APPENDIX 1	-	MTO FOR ELECTRICAL AND INSTRUMENT CABLE TRAY/ LADDER AND ACCESSORIES ON DHN
APPENDIX 2	-	MTO FOR ELECTRICAL AND INSTRUMENT CABLE TRAY/ LADDER AND ACCESSORIES ON DH02
APPENDIX 3	-	MTO FOR ELECTRICAL AND INSTRUMENT CABLE TRAY/ LADDER AND ACCESSORIES ON FPU

1. GENERAL INFORMATION

1.1 OPERATOR

The operating company for Dai Hung field, Block 05-1(a) is Domestic Petroleum Operating Branch - Petrovietnam Exploration Production Corporation Limited (PVEP-POC).

1.2 SITE LOCATION

Dai Hung field of Block 05-1(a) is approximately 250 km from the coastline of the South-Eastern Vietnam and situated in a water depth of 110 m (average). The location map of Block 05-1(a) is as hereunder in Figure 1.2.1.

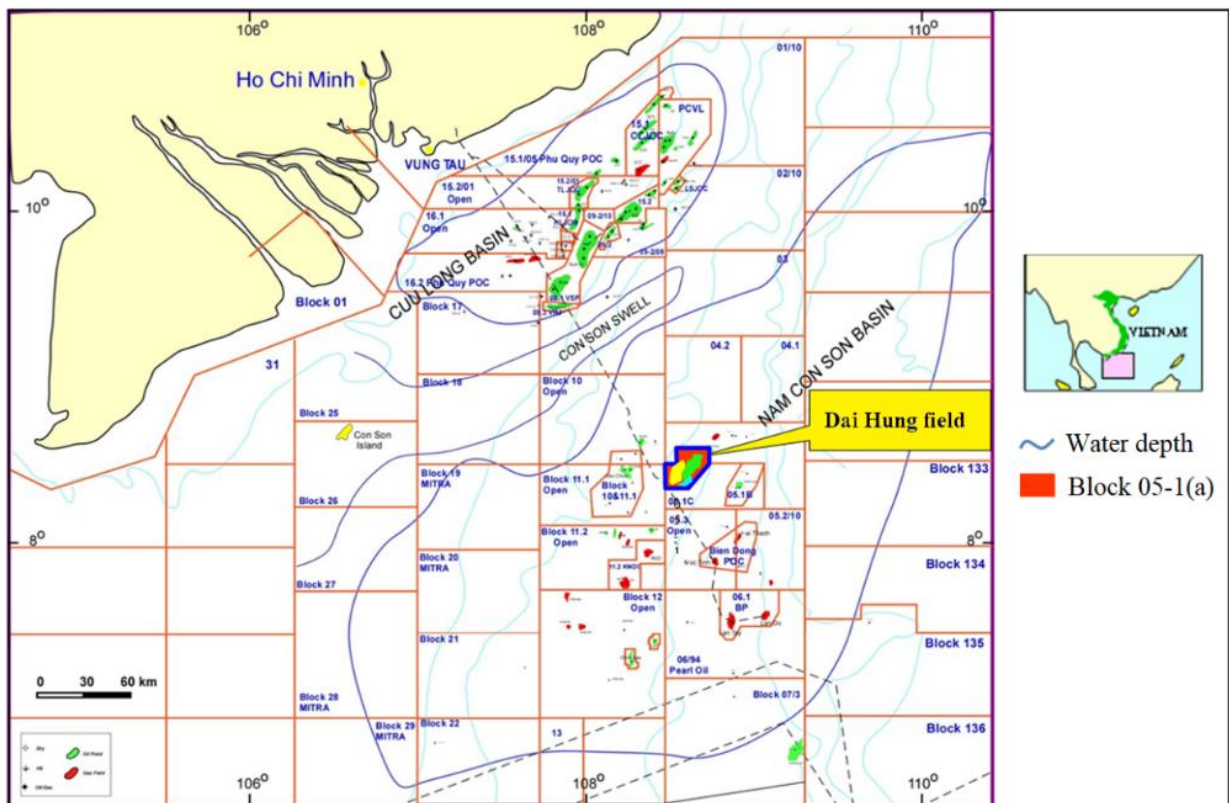


Figure 1.2.1: Block 05-1(a) Location

1.3 PROJECT DESCRIPTION

The current existing facilities within Dai Hung Field comprise of the followings:

- Floating Production Unit Dai Hung (FPU),
- The un-manned Wellhead platform DH01 (WHP-DH01) is located in northeast direction of FPU at a distance of about 2.5 km,
- The un-manned Wellhead platform DH02 (WHP-DH02) is located in southwest direction of FPU at a distance of about 5km,

DAI HUNG NAM PROJECT, DAI HUNG FIELD DEVELOPMENT, BLOCK 05-1(a), OFFSHORE VIETNAM TECHNICAL REQUIREMENT FOR E&I CABLE TRAY/ LADDER

- Mid depth buoys & Calm buoy,
- Subsea wells.
- Infield Pipelines:
 - + Dual 6” subsea pipeline to transport the liquid from WHP-DH02 to FPU.
 - + One 10” subsea pipeline to transport the liquid from WHP-DH01 to FPU.
 - + One 6” fuel gas pipeline to supply fuel gas from WHP-DH01 to FPU.
 - + One 8” water injection pipeline to supply water injection from FPU to WHP-DH01.
 - + One 6” oil export pipeline to transport product liquid from the FPU to the FSO.
 - + One 16” export gas pipeline to transport gas from WHP-DH02 to BK-TNG; and one 12” export gas pipeline length of approximately 5,21 km to transport gas from WHP-DH01 to subsea tie-in point of the 16” export gas pipeline above.
- Infield submarine cable system.

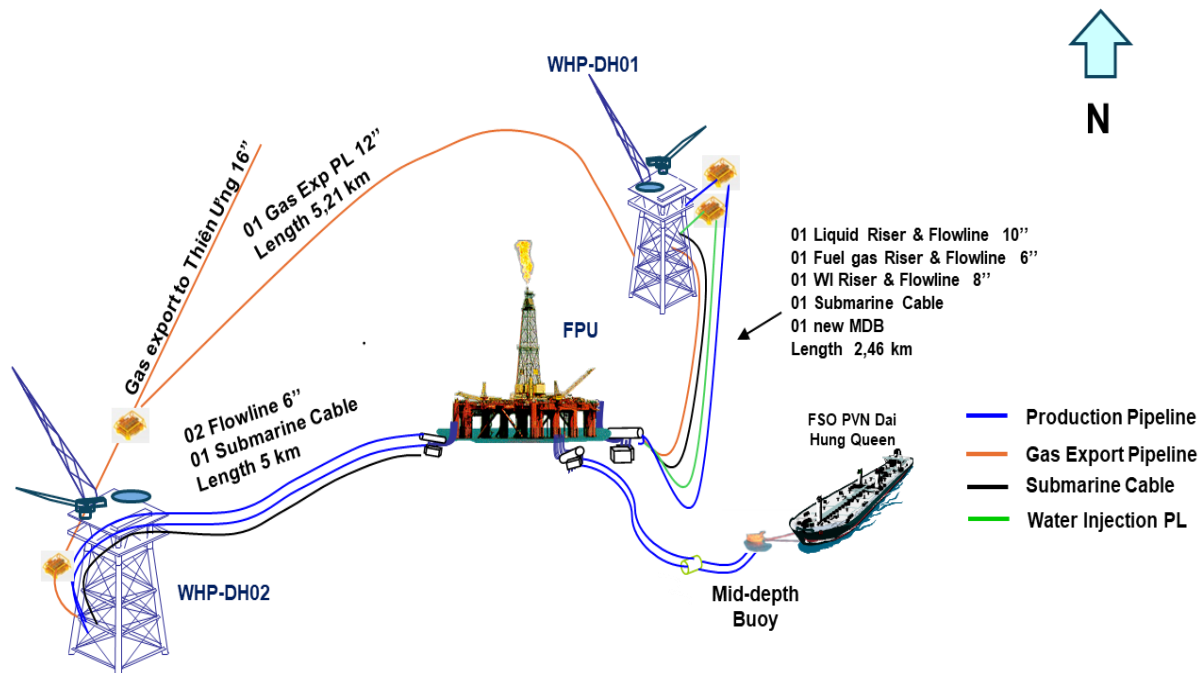


Figure 1.3.1: Current Existing Dai Hung field facilities

Dai Hung Nam (DHN) area is located in the southern part of Dai Hung field, approximately 3.5 km from the existing WHP-DH02 and 7.5 km from the current location of the FPU.

The field facilities in Dai Hung Nam Field Development are as follows:

- New unmanned wellhead platform WHP-DHN located near WHP-DH02. WHP-DHN will be designed with 12 well slots for drilling by jack-up rig. Full wellstream of WHP-DHN will be routed to a Production Separator (on WHP-DHN) then the separated liquid is transported to FPU for further processing, a separated associated gas is exported to BK-TNG.
- Infield Pipelines
 - + One liquid rigid pipeline, transporting separated liquid from WHP-DHN to FPU through subsea tie-in point of existing 10" liquid flowline from WHP-DH01 to FPU.
 - + One gaslift rigid pipeline, transporting gaslift from WHP-DHN to WHP-DH02.
 - + One export gas/source gas, transporting separated associated gas/source gas from WHP-DHN to subsea tie-in point of 16" existing export gas pipeline and via versa.
 - + One water injection rigid pipeline, transporting water injection from FPU to WHP-DHN through subsea tie-in point of existing 8" water injection flowline from FPU to WHP-DH01.
- Modification works on WHP-DH02 and FPU for connection and processing.

Scheme of Dai Hung Nam Field Development is presented as below.

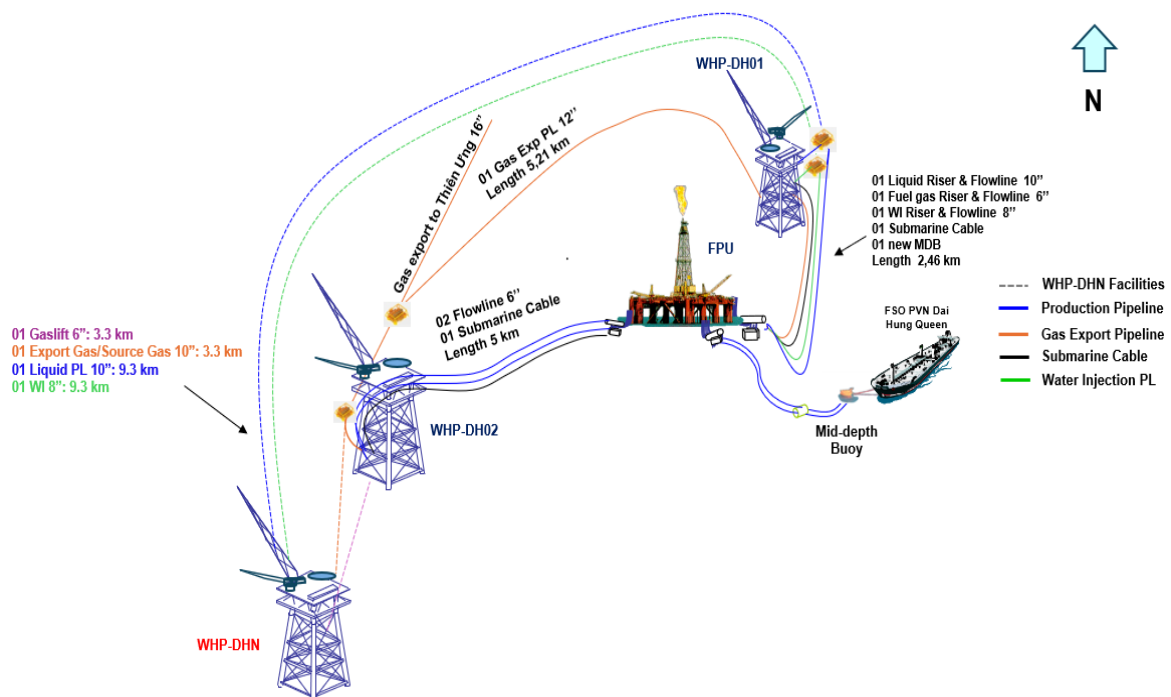


Figure 1.3.2: Dai Hung Nam Field Development Scheme

2. DEFINITIONS AND ABBREVIATIONS

2.1 DEFINITIONS

PROJECT	Dai Hung Nam Project
CLIENT/PVEP-POC	Domestic Petroleum Operating Branch – PetroVietnam Exploration Production Corporation Limited (PVEP-POC)
EpCI	Engineering, Procurement, Construction, Installation, Hook-Up and Commissioning
CONTRACTOR /VSP	Vietsovpetro Joint Venture
SUB-CONTRACTOR	An individual or business firm contracting to perform part of EpCI contract
VENDOR/SUPPLIER/ MANUFACTURER	Party responsible for the manufacturing and/or supply of materials, equipment, technical documents/drawings, and services to perform the duties specified by CLIENT/CONTRACTOR
THIRD PARTY PARTY)	(3 rd The independent agency appointed by VENDOR/ SUB-VENDOR/ CONTRACTOR/ SUPPLIER and to perform design appraisals/manufacturing surveillance activities at the VENDOR/ SUB-VENDOR/ CONTRACTOR/ SUPPLIER's works with respect to the subject work on behalf of the VENDOR/ SUB-VENDOR/ CONTRACTOR/ SUPPLIER. Third Party Agency is among Big 4 (DNV, LR, ABS, BV) or belong to member of the International Association of Classification Societies (IACS) approved by CLIENT
PURCHASER	It is an entity belonging to the CLIENT or CONTRACTOR responsible to issue order for any product or services complete with all technical and commercial documents
CERTIFICATION AUTHORITY/CA	The authority engaged by the CLIENT to review, appraise and certify the WORK in accordance with the applicable codes, standards and specifications

**DAI HUNG NAM PROJECT, DAI HUNG FIELD DEVELOPMENT,
BLOCK 05-1(a), OFFSHORE VIETNAM
TECHNICAL REQUIREMENT FOR E&I CABLE
TRAY/ LADDER**

WORK	The goods and services provided to the CLIENT by the VENDOR/SUPPLIER/MANUFACTURER
Correspondence	Letters, Faxes, Transmittals, Emails, Minutes of Meetings
Document	Comprises of all Correspondence, Technical Deliverables, Shop Drawings, and Vendor Data, Technical Query, CONTRACTOR /CLIENT's Supplied Data, etc.

2.2 ABBREVIATIONS

AC	Alternating Current
CO	Certificate of Origin
CQ	Certificate of Quality
DC	Direct Current
DD	Design Data/Dossier
FD	Fabrication Data/Dossier
IEC	International Electrotechnical Commission
HAC	Hazardous Area Classification
HFE	Human Factors Engineering
IOM	Installation and Operation Manual
ITP	Inspection & Test Plan
MDR	Manufacturers Data Report
OEM	Original Equipment Manufacturer
PQP	Project Quality Plan
QA/QC	Quality Assurance/ Quality Control
TPI	Third-Party Inspector
TRP	Technical Requisition Package
VDRL	Vendor Documentation Register List
VDS	Vendor Data Schedule

3. ORDER OF PRECEDENCE

In the event of conflict between this Specification, and any other Specification, Datasheet, Code or Regulation, SUB-CONTRACTOR/VENDOR/SUPPLIER/MANUFACTURER shall inform in writing and receive written clarification from CONTRACTOR before proceeding with the work.

The order of precedence shall be:

- Certification Authority Rules, Local Regulations and applicable National Code or Standard of Vietnam
- Purchase Order
- PVEP-POC Specifications
- International Codes and Standards
- Project datasheets together with project specification

4. SCOPE OF WORK/ SUPPLY

All engineering works to be done by the VENDOR original cable tray/ladder manufacturer (OEM). If in any event, a third-party engineering company is appointed, a supporting agreement letter to be submitted evaluated, and approved by CLIENT/PURCHASER.

Cable Tray/Ladder Manufacturing, Assembly, Testing and utilization of QA/QC standards must be at OEM factory or OEM appointed third party factory with Authorization Certificate or Letter.

VENDOR shall Design, Manufacture, Supply, Inspection, Preservation, Testing, Delivery of E&I Cable Tray/Ladder hereinafter referred to as "Goods", accordance to this Technical Requirement, attachments, and codes and standards. These shall include but not limited to the following:

**DAI HUNG NAM PROJECT, DAI HUNG FIELD DEVELOPMENT,
BLOCK 05-1(a), OFFSHORE VIETNAM
TECHNICAL REQUIREMENT FOR E&I CABLE
TRAY/ LADDER**

S.N	Item / Tag	Qty	Description	Remark
1	E&I Cables Tray/Ladder and Accessories on WHP-DHN			
1.1	N/A	1 Lot	<p>Appendix 1: MTO for Electrical and Instrument Cable Tray/ Ladder on DHN.</p> <p>Cable Trays/Ladders shall be GRP & SS316 (For flare system).</p>	Refer to Doc No. WHP-DHN-E-S-0011-Specification for Electrical Bulk Material
1.2	N/A	1 Lot	<p>Complete set of GRP Cable Ladder/Tray Accessories for item 1.1:</p> <p>All required accessories, bolts, nuts, washers, insulation sleeve and Teflon insulation pad, earth jumper, spring washer, covers, covers clamps, splice plates connect, hold down clamps, (etc) to complete installation GRP Cable Ladder/Tray.</p> <p>Vendor to calculate and propose quantity of accessories, including 20% spare for installation.</p>	
2	E&I Cables Tray/Ladder and Accessories on WHP-DH02			
2.1	N/A	1 Lot	<p>Appendix 2: MTO for Electrical and Instrument Cable Tray/ Ladder on DH02.</p> <p>Cable Trays/Ladders shall be SS316.</p>	Refer to Doc No. WHP-DHN-E-S-0011-Specification for Electrical Bulk Material

**DAI HUNG NAM PROJECT, DAI HUNG FIELD DEVELOPMENT,
BLOCK 05-1(a), OFFSHORE VIETNAM
TECHNICAL REQUIREMENT FOR E&I CABLE
TRAY/ LADDER**

S.N	Item / Tag	Qty	Description	Remark
2.2	N/A	1 Lot	<p>Complete set of SS316 Cable Ladder/Tray Accessories for item 2.1:</p> <p>All required accessories, earth jumper, bolts, nuts, washers, insulation sleeve and Teflon insulation pad, earth jumper, spring washer, covers, covers clamps, splice plates connect, hold down clamps, (etc) to complete installation SS316 Cable Ladder/Tray.</p> <p>Vendor to calculate and propose quantity of accessories, including 20% spare for installation.</p>	
3	E&I Cables Tray/Ladder and Accessories on FPU			
3.1	N/A	1 Lot	<p>Appendix 3: MTO for Electrical and Instrument Cable Tray/ Ladder on FPU.</p> <p>Cable Trays/Ladders shall be SS316.</p>	Refer to Doc No. WHP-DHN-E-S-0011-Specification for Electrical Bulk Material
3.2	N/A	1 Lot	<p>Complete set of SS316 Cable Ladder/Tray Accessories for item 3.1:</p> <p>All required accessories, earth jumper, bolts, nuts, washers, insulation sleeve and Teflon insulation, spring washer, Covers, covers clamps, splice plates connect, hold down clamps (etc) to complete installation SS316 Cable Ladder/Tray.</p> <p>Vendor to calculate and propose quantity of accessories, including 20% spare for installation.</p>	

**DAI HUNG NAM PROJECT, DAI HUNG FIELD DEVELOPMENT,
BLOCK 05-1(a), OFFSHORE VIETNAM
TECHNICAL REQUIREMENT FOR E&I CABLE
TRAY/ LADDER**

S.N	Item / Tag	Qty	Description	Remark
VENDOR's Scope of Work/ Supply. These shall include but not limited to the following:				
1. Design, Calculation and Fabrication				
1.1	-	1 Lot	<p>Design, engineering, manufacture, quality assurance/quality control, load test, inspection, and testing (witnessed), complete packing and forwarding, transportation and storage preservation & provide documentation for review and approval.</p> <p>The goods shall be manufactured in accordance with the applicable specification, attachments, codes, and standards. Materials shall be chosen with due regard to the project specification and be fit for the duty described. The goods shall be suitable for installation in an environment described in project specification.</p>	
1.2	-	1 Lot	<p>Performance Guarantee and Warranty for the goods. VENDOR shall guarantee interchangeability of equal type, quality, and quantity of damage goods in the event not meeting the project requirement.</p>	
2. Inspection and Testing				
2.1	-	1 Lot	<p>Complete submission of all necessary Type Test Certificates, perform inspection, QA/QC, and testing requirements including performance acceptance test defined in the specification (e.g Compliance to IEC</p>	

**DAI HUNG NAM PROJECT, DAI HUNG FIELD DEVELOPMENT,
BLOCK 05-1(a), OFFSHORE VIETNAM
TECHNICAL REQUIREMENT FOR E&I CABLE
TRAY/ LADDER**

S.N	Item / Tag	Qty	Description	Remark
			60364) along with all supporting testing documentation and certificate. The goods offered shall, preferably, be standard types in regular production by VENDOR. All goods shall be type tested and certified by an independent testing Authority. Inspection, Testing and Certification of complete cable tray/ladder manufacturing shall be in accordance with Specifications for E&I Bulk Material, and other referenced documents in Project Specifications.	
3. Certification				
3.1	-	1 Lot	All required/ necessary certificates (CO/CQ, type approval certificate, routine test report, type test report, etc..)	
4. Spare Parts				
4.1	-	-	Not Applicable	
5. Lifting and Special Tools				
5.1	-	-	Not Applicable	
6. Preservation, Packing and Delivery				
6.1	-	1 Lot	The goods shall be packing in a high-quality wooden package and to be properly secure for export packing suitable for transportation and storage. The packages shall be properly tagged to ensure proper identification during shipment and delivery.	

**DAI HUNG NAM PROJECT, DAI HUNG FIELD DEVELOPMENT,
BLOCK 05-1(a), OFFSHORE VIETNAM
TECHNICAL REQUIREMENT FOR E&I CABLE
TRAY/ LADDER**

S.N	Item / Tag	Qty	Description	Remark
			<p>Export packing, boxing & preservation are suitable for seaworthy and inland transport and outdoor storage for a minimum initial period of 12 months.</p> <p>The goods must be packaged separately in three (3) packages for WHP-DHN, WHP-DH02 and FPU.</p>	
6.2.	-	1 Lot	Transportation from manufacturing location to PTSC Downstream Port, Ho Chi Minh, Vietnam.	
7. VENDOR's Documentation				
7.1	-	1 Lot	<p>Complete VENDOR Documentation including necessary submission to Vietnamese Local Authorities, including O&M manuals, certification dossier and VENDOR data books, in native, PDF format and hard copies as specified in the requisition/specification.</p> <p>Documentation as per the requirement specified in the VDRL and all other referenced Specifications and Standards for each type item of goods. Shipping documentation as per project requirements. All documentation shall be in English language. Separate documentation for each item shall be provided by VENDOR, including electronic files in native format. Final documentation folder (IOM, MDR)</p>	
8. VENDOR's Supporting and Supervision				

**DAI HUNG NAM PROJECT, DAI HUNG FIELD DEVELOPMENT,
BLOCK 05-1(a), OFFSHORE VIETNAM
TECHNICAL REQUIREMENT FOR E&I CABLE
TRAY/ LADDER**

S.N	Item / Tag	Qty	Description	Remark
8.1	-	-	Not Applicable	

VENDOR should draw upon his existing, proven pre-engineered or standard designs to satisfy the functional requirements described below, appendices and attachments to this Technical Requirement.

VENDOR shall submit full technical details of VENDOR's furnished equipment packages, which shall meet the requirements detailed herein. Aspects of the requirement which cannot be met shall be identified and variances explained, and to be either approved or disapproved by the PURCHASER / CLIENT.

The equipment shall be designed, manufactured, inspected, assembled, and tested in accordance with the requirements in the enquiry document, considering preservation and transport requirements.

VENDOR's Deviations/ Exceptions shall be listed and submitted to PURCHASER for approval. VENDOR shall consider all applicable project specifications and industry code and standards as listed in the specification.

VENDOR shall submit the List of manufacture(s) / subcontractor(s) and country of origin in its proposal for PURCHASER evaluation.

VENDOR without any prejudice shall have a single point of responsibility to ensure the manufacturers comply with the specifications and international codes and standards in terms of quality assurance and product certification. Any schedule impact and cost for replacement because of rejection or defective items shall be fully under VENDOR's responsibility.

5. SPECIFIC INSTRUCTION TO VENDOR

The following are specific instructions to VENDOR for the purchase of the goods.

- VENDOR shall supply the product, listed in Section 4.0, which strictly complied with its Electrical Bulk Material Take-off, Instrument Material Take-Off and its Specifications provided in this Technical Requisition. Any deviations shall be called for CLIENT/PURCHASER's attention, and a written agreement shall be made prior to proceeding.

**DAI HUNG NAM PROJECT, DAI HUNG FIELD DEVELOPMENT,
BLOCK 05-1(a), OFFSHORE VIETNAM
TECHNICAL REQUIREMENT FOR E&I CABLE
TRAY/ LADDER**

- The VENDOR shall notify the CLIENT/PURCHASER immediately when a non-conforming product/ work is identified which requires repair, rework, replacement, or a concession. The CLIENT/PURCHASER will review the non-conformance and either agree with VENDOR's proposed repair procedure or agreed with a concession or reject the product/ work with good working replacement. Non-conformities and proposed corrective actions shall be properly and systematically documented for CLIENT/PURCHASER's appraisal/ approval.
- Electronic Copies (USB) of documents are required where indicated on VENDOR Data Requirements List (VDRL).

5.1 YEAR OF MANUFACTURE

E&I Cable Trays/Ladders and all components supplied by VENDOR shall be brand new, unused, and manufactured within two (02) years from the Letter of Award (LOA) date. Refurbished components are not acceptable.

5.2 COUNTRY OF ORIGIN

VENDOR to specify clearly the Country of Origin manufacturing location. The Goods must be produced by a proven quality tracked manufacturer from EU/G7, Korea, Singapore, Malaysia, Thailand and Indonesia. List of Manufacturer include Ogleand, Enduro Composites, Intralink, Tristar, Intech or qualified manufacturer approval by CLIENT/ PURCHASER.

In light of the ongoing geopolitical instability in the Middle East, the Client discourages Vendors from proposing Goods originating from countries within this region. Should a Vendor proceed with offering Middle Eastern-sourced Goods, they must provide comprehensive and verifiable evidence—including a detailed risk mitigation plan—to demonstrate that such instability will not adversely affect the manufacturing process and/or logistical routes, ensuring strict adherence to the project's delivery schedule. Furthermore, the Vendor shall acknowledge that the Client reserves the right to make the final assessment regarding the acceptance of the proposed origin of Goods, and the Client's decision in this matter shall be final and binding.

5.3 EXPERIENCE

The VENDOR shall provide Manufacture's track record showing the experience of supplying at least three (03) similar projects in the most recent years (Oil & Gas Service).

The VENDOR shall provide VENDOR's track record showing the experience of supplying at least one (01) completed/successful Offshore project in the most recent years which have similarity in term of product specification, type, capacity and quantity for Oil & Gas Service requirement.

There is no history of major issues on the Manufacturer's E&I cable tray/ladder recorded in the most recent years.

5.4 DELIVERY TERM & TIME

All GOODS shall be delivered at PTSC Downstream Port, Rach Dua Ward, Ho Chi Minh City, Vietnam Delivery time of GOODS, including time for vendor data review, packing/handling, shipping, transportation, and delivery...will be not later than 126 calendar day after issue of Letter of Award (LOA).

Note: Bidder/Vendor has to follow Vietsovpetro's HSE policy when delivery Goods to PTSC Downstream Port, Rach Dua Ward, Ho Chi Minh City, Vietnam

5.5 WARRANTY

All of the goods shall be furnished with Warranty Certificate for **18 months** from delivery time or **12 months** after commissioning completion, whichever comes first.

6. LIST OF TECHNICAL DOCUMENTS

This section identifies the applicable technical documents to be used for this package. The documents shall be included but not limited to the following.

6.1 GENERAL SPECIFICATION AND DOCUMENTS

WHP-DHN-A-P-1029	Vendor Data Instruction & Implementation Procedure
WHP-DHN-E-X-2004	TRP for E&I Cable Tray/Ladder

6.2 PROJECT DOCUMENTS

WHP-DHN-E-A-0001	Electrical Design Basis
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**DAI HUNG NAM PROJECT, DAI HUNG FIELD DEVELOPMENT,
BLOCK 05-1(a), OFFSHORE VIETNAM
TECHNICAL REQUIREMENT FOR E&I CABLE
TRAY/ LADDER**

WHP-DHN-E-S-0007	Specification for Electrical Requirement for Package Equipment
WHP-DHN-E-S-0011	Specification For Bulk Material
WHP-DHN-E-S-0014	Specification for Earthing and Bonding System
WHP-DHN-E-B-0001	Electrical Bulk Material Take-Offs
WHP-DH02-E-B-7101	Electrical Bulk Material Take-Offs
FPU-DH1-E-B-0003	Electrical Bulk Material Take-Offs
WHP-DHN-I-S-0004	Specification for Instrument Requirement Package Equipment
WHP-DHN-I-B-0006	Instrument Material Take-Off - Cable Ladder & Tubing Trays
WHP-DH02-I-B-0106	Instrument Material Take-Off - Cable Ladder & Tubing Trays
FPU-DH1-I-B-0305	Instrument Material Take-Off - Cable Ladder & Tubing Trays
WHP-DHN-C-B-0001	Telecom Bulks Material Take Off – Cable Ladder Tray
WHP-DH02-C-B-0101	Telecom Bulks Material Take Off – Cable Ladder Tray
FPU-DH1-C-B-0301	Telecom Bulks Material Take Off – Cable Ladder Tray

6.3 DRAWINGS

WHP-DHN-E-D-7001	Electrical Typical Installation Details – Cable Tray & Ladder
WHP-DHN-E-D-5002-01	Electrical Cable Ladder & Tray Layout - Index Sheet
WHP-DHN-E-D-5002-02	Electrical Cable Ladder & Tray Layout - Main Deck
WHP-DHN-E-D-5002-03	Electrical Cable Ladder & Tray Layout - Helideck
WHP-DHN-E-D-5002-04	Electrical Cable Ladder & Tray Layout - Wellhead Access Deck & Mezzanine Deck

**DAI HUNG NAM PROJECT, DAI HUNG FIELD DEVELOPMENT,
BLOCK 05-1(a), OFFSHORE VIETNAM
TECHNICAL REQUIREMENT FOR E&I CABLE
TRAY/ LADDER**

WHP-DHN-E-D-5002-05	Electrical Cable Ladder & Tray Layout - Cellar Deck
WHP-DHN-E-D-5002-06	Electrical Cable Ladder & Tray Layout - Sub Cellar Deck
WHP-DHN-E-D-5002-07	Electrical Cable Ladder & Tray Layout - Sea Deck
WHP-DHN-I-D-2101-01	Instrument Ladder Layout-Cover Sheet
WHP-DHN-I-D-2101-02	Instrument Ladder Layout-Notes Legend
WHP-DHN-I-D-2101-03	Instrument Ladder Layout-Main Deck
WHP-DHN-I-D-2101-04	Instrument Ladder Layout-Wellhead Access and Mezzanine Deck
WHP-DHN-I-D-2101-05	Instrument Ladder Layout-Cellar Deck
WHP-DHN-I-D-2101-06	Instrument Ladder Layout-Sub Cellar Deck

7. GENERAL INSTRUCTIONS FOR VENDOR’S DOCUMENTATION

Vendor Data Instruction & Implement Procedure (WHP-DHN-A-P-1029) to be referred to for the general instructions for VENDOR’s documentation.

CLIENT/PURCHASER’s requirements relating to the preparation, format, and submission of VENDOR data documentation, shall comply with Vendor Data Instruction & Implement Procedure (WHP-DHN-A-P-1029) and this requirement.

The English language and SI units shall be used in all correspondence, documents, drawings and transmittals.

7.1 TECHNICAL DOCUMENT REQUIREMENT FOR BIDDING

VENDOR is requested to submit a complete of Technical Documentations as a part of its bid document and the minimum requirements as below:

- Scope of work/supply with detailed manufacturer, place of manufacture, place of testing of each item of equipment offered along with that of its key components and quantity (no information or any information such as “or equal”, “or equivalent” is not acceptable).
- VENDOR shall supply with the bid proposal full set of type test reports that have been conducted on the type of offered Cable Tray/Ladder.
- Routine test report issued by Manufacturer (sample).

**DAI HUNG NAM PROJECT, DAI HUNG FIELD DEVELOPMENT,
BLOCK 05-1(a), OFFSHORE VIETNAM
TECHNICAL REQUIREMENT FOR E&I CABLE
TRAY/ LADDER**

- GRP Cable tray/ladder: The VENDOR shall supply with the bid proposal full set of type test reports that have been conducted on the offered Cable Tray/Ladder in accordance with IEC 61537. Type Approval Certificate issued by a recognized testing authority in accordance with the latest standards of IEC 61537, IEC 60243-1, ASTM E-84 (Class 1 rating), BS 476 or IEC 60695-2-11 for flame retardant, IEC 60754 for zero halogen and ISO 4582 (or IEC equivalent) for UV resistant.
 - + Cable Tray/ Ladder shall be NEMA 20C as per NEMA FG 1 standard, with a nominal load rating of 150 kg per running meter (irrespective of rack width and minimum safety factor of 1.5). The supporting span shall be at a maximum span of 3000mm. Fire Rating / Surface Flammability to BS 476 Part 7 or ASTM E84 Class 1.
 - + Halogen Free to IEC 60754-1
 - + Flame Propagation to BS 476 Part 6
 - + UV Protection to BS 2782
 - + Smoke Emission to BS 6853
 - + High Temperature Flame Test to IEC 332 Part 3
 - + Anti-static property to IEC 60079-0

- SS316 Cable tray/ladder: The VENDOR shall supply with the bid proposal full set of type test reports that have been conducted on the offered Cable Tray/Ladder in accordance with IEC 61537. Type Approval Certificate issued by a recognized testing authority in accordance with the latest standards of IEC 61537, IEC 60243-1, ASTM E-84 (Class 1 rating), BS 476 or IEC 60695-2-11 for flame retardant, IEC 60754 for zero halogen and ISO 4582 (or IEC equivalent) for UV resistant.
 - + Cable ladder and tray systems shall comply with IEC 61537 and shall be made of 316 stainless steel.
 - + Resistance against corrosion for ladder and tray is classified as 9D in accordance with IEC 61537.

**DAI HUNG NAM PROJECT, DAI HUNG FIELD DEVELOPMENT,
BLOCK 05-1(a), OFFSHORE VIETNAM
TECHNICAL REQUIREMENT FOR E&I CABLE
TRAY/ LADDER**

- + Free base area classification for perforation in cable tray length shall be class 'B'. For cable ladder length, free base area classification shall be class 'X'.
- + Cable ladder/tray covers in excess of 300mm shall have supplementary fastening using two stainless steel bands per length. Maximum side rail height shall be 150mm for ladders and 50mm for trays.
- + Stainless steel cable trays / cable ladders shall be heavy duty type with minimum 1.5 mm thickness for cable tray and 2 mm for cable ladder. Straight lengths shall be standard 3-metres long. Maximum rung spacing for ladders shall be 300mm. Cable ladders shall be return flange type.
- + Installed cables shall be fastened by means of Nylon sheathed stainless steel cable tie wraps, in which it shall be provided to every 3m of horizontal tray and every 1m of vertical ladders.
- + Suitable insulating packers shall be provided to galvanically isolate stainless steel cable ladders and cable trays from support structures.
- Detailed technical specification or description with signature and stamp from Manufacturer.
- Deviations or Exceptions List.
- Catalogue or Manufacturer's technical data/specification with highlighted Model or Part number and technical parameters.
- General Arrangement Drawing for the goods (WxDxH) overall dimension, weight, part, material...), signed and stamped by Manufacturer.
- List of VENDOR's documents and drawings.
- VENDOR's track record (apply for VENDOR is Trader): Similar Project with copied contract, detailed bill of material in the most recent years.
- HSE policy, HSE Management Procedure(s) and Annual Safety Reports in recent years.
- Manufacturing/ Packager procedure including QA/QC.
- Engineering, Procurement, Manufacturing, Test, Delivery Schedule.

**DAI HUNG NAM PROJECT, DAI HUNG FIELD DEVELOPMENT,
BLOCK 05-1(a), OFFSHORE VIETNAM
TECHNICAL REQUIREMENT FOR E&I CABLE
TRAY/ LADDER**

- Workload Capacity (current workload in 2026 and 2027, including existing and committed contracts and proposed workload for this proposal)
- Workshop layout and facilities
- Authorized/Supporting or Commitment letter from manufacturer of the goods to confirm to provide their offered products with fully technical support in case of VENDOR award the Contract.
- List of manufacturer(s) and / subcontractor(s) / Sub-vendor(s) including country of origin in its.

All documents and drawings in VENDOR proposal shall be provided with one (01) original and two (02) copies and one (01) set of electronic copies on USB.

8. VENDOR DATA REQUIREMENT LIST – VDRL

8.1 NOTES TO VENDOR

Data marked with a 'C' in the Critical column is to be expedited as a priority.

Please tick in the 'Accept' columns on VDRL to verify you are able to supply the data.

1. * = Additional 2 copies of these Data/Documents to be shipped with equipment/materials.
2. CF Data/Documents due 2 weeks after receipt of FA Data/Documents by VENDOR.
3. MDR Data/Documents due 2 weeks after shipment.
4. IOM Data/Documents due 4 weeks before shipment.

VENDOR DATA REQUIREMENT LIST – VDRL

VDRL Code	Data/Document Description	Critical	Accept	With Tender	For Approval		Final Data/Doc.	
				No. Copies	No. Copies	Date Required	No. Copies (Note 2)	DD/F D/IOM
1	Commercial/Contractual							
C01	Vendor Data Schedule (VDS)	C		4P+1E	1E	3wks AW	4P+1E	M
C02	Manufacturing and Delivery/Construction Schedule	C		4P+1E	1E	4wks AW	4P+1E	
C03	Sub-Contract Work Proposal							

**DAI HUNG NAM PROJECT, DAI HUNG FIELD DEVELOPMENT,
BLOCK 05-1(a), OFFSHORE VIETNAM
TECHNICAL REQUIREMENT FOR E&I CABLE
TRAY/ LADDER**

VDRL Code	Data/Document Description	Critical	Accept	With Tender	For Approval		Final Data/Doc.	
				No. Copies	No. Copies	Date Required	No. Copies (Note 2)	DD/F D/IOM
C04	Safety Policy and Performance Records	C		4P+1E	1E	4wks AW	4P+1E	M
C05	Insurance Confirmation	C				2wks AD	4P+1E	I
C06	Delivery, Handling and Packing Proposals	C			1E	4wks BD	4P+1E	I
C07	Statement of Conformance with Specification	C		4P+1E	1E	2wks AW	4P+1E	M
C08	Vendor's Sub-Orders							
C09	Warranty/Guarantee Confirmation	C		4P+1E	1E	2wks BD	4P+1E	M
C10	Certificates Of Origin, Certificates of Quality (CO, CQ)	C			1E	4wks BD	4P+1E	FD
2	Drawing – General							
D01	General Arrangement Drawings	C		4P+1E	1E	2wks AW	4P+1E	M
D02	Assembly Drawings							
D03	Shop Detail Drawings Mechanical / Structural							
D04	Installation Drawings (As Applicable)	C			1E	4wks BD	4P+1E	FD
D05	Process Flow Diagrams including Mass and Heat Balance	C						
D06	Piping and Instrument Diagram (P&ID) Drawings	C						
D07	All Approved “As-Built”-Drawings and Datasheets	C			1E	6wks BD	4P+1E	FD/IO M
3	Mechanical/Structural							
M01	Foundation Load and Anchor Bolt Location							
M02	Detail Drawings Mechanical / Structural							
M03	Drive Assembly Details							
M04	Input / Output Nozzle Schedules							
M05	Mechanical Design Calculations							
M06	Structural Design Calculations							
M07	Pipe Stress Calculations							
M08	Mechanical/Process Data Sheets							
M09	Other Design Engineering Data Analysis							
4	Instrument/Electrical							
J01	Package Electrical Termination Drawings							

**DAI HUNG NAM PROJECT, DAI HUNG FIELD DEVELOPMENT,
BLOCK 05-1(a), OFFSHORE VIETNAM
TECHNICAL REQUIREMENT FOR E&I CABLE
TRAY/ LADDER**

VDRL Code	Data/Document Description	Critical	Accept	With Tender	For Approval		Final Data/Doc.	
				No. Copies	No. Copies	Date Required	No. Copies (Note 2)	DD/F D/IOM
J02	Panel Layout and Details							
J03	Panel Wiring Diagrams							
J04	Instrument / Fire and Gas Location Plans / Cable Layouts							
J05	Instrument / Fire and Gas Installation Details / Hook-ups							
J06	Loop Diagrams							
J07	Shutdown and Control Function Charts, Safe Charts							
J08	Alarm / Trip Set Point List							
J09	Electrical Wiring Diagrams and Schematics							
J10	Electrical Schematic Diagrams							
J11	Electrical Single Line Diagrams							
J12	Sequence and Logic Diagrams, Cause and Effect Diagrams							
J13	Instrument / Electrical Datasheets							
J14	Functional Design Specifications							
J15	Cable block diagram, SR Data link Address & Screen Graphics							
5	Data – General							
G01	Descriptive Literature and Catalogue Information			4P+1E	1E	4wks AW	4P+1E	I/M
G02	Sub Vendor/ Supplier Data Sheets			4P+1E	1E	4wks AW	4P+1E	I/M
G03	Recommended Spare Parts For 2 Year Operation, Priced							
G04	Recommended Spare parts for Start-up & Commissioning, Priced							
G05	List of Special Tools			4P+1E	1E	4wks BD	4P+1E	IOM
G06	Surface Preparation and Paint System Specification							
G07	Design/ Engineering Calculations	C			1E	4wks AW	4P+1E	DD
G08	Foundation Static and Dynamic Load Calculations							
G09	Bills of Material/ Packing List	C			1E	4wks BD	4P+1E	FD
G10	Commissioning and Site Acceptance Test Procedures							
G11	Factory Acceptance Test Procedure				1E	8wks BT	4P+1E	FD
G12	Cable Schedule							
G13	Nameplate Details							

**DAI HUNG NAM PROJECT, DAI HUNG FIELD DEVELOPMENT,
BLOCK 05-1(a), OFFSHORE VIETNAM
TECHNICAL REQUIREMENT FOR E&I CABLE
TRAY/ LADDER**

VDRL Code	Data/Document Description	Critical	Accept	With Tender	For Approval		Final Data/Doc.	
				No. Copies	No. Copies	Date Required	No. Copies (Note 2)	DD/F D/IOM
G14	Instrument Index							
G15	I/O Schedules							
G16	Centre of Gravity Sketch/ Calculation							
G17	Process / Utility Calculation							
G18	Weight Control Calculation							
G19	Lubrication Requirements							
G20	Maximum Acceptable Nozzle Forces and Moments							
G21	Special Requirements (Grounding, etc.)				1E	AC	AC	AC
G22	Dynamic Characteristics: Lateral & Torsional Analysis							
G23	Loading, Transport and Unloading Details				1E	6wks BD	4P+1E	FD
G24	Preservation and Storage Procedure				1E	8wks BD	4P+1E	FD
G25	Lifting Lug Details / Calculations							
G26	Spreader Bar and Sling Certification							
G27	Hazardous Area Dossier							
G28	Hardware Standard Software Data/Documentation							
G29	Equipment Specific Software Data/Document							
6	Data – Performance							
P01	Performance and Test Procedure	C			1E	6wks AW	4P+1E	FD
P02	Performance Curves and Data, Chart							
P03	Completed Client Data Sheets							
P04	Trial Assembly Procedure							
P05	HSE Policy/Plan/ Procedures	C			1E	2wks AT	4P+1E	FD
P06	Noise Test Data/ Procedures							
P07	FAT Results (performance, leak and functional systems tests., etc.)	C			1E	2wks AT	4P+1E	FD
P08	Commissioning and Site Acceptance Test Results							
P09	NDT (MT. PT, UT, RT.,etc.)/ PMI Procedures							
P10	Hydrotest/ Leak Test Procedures							
P11	Cleaning, Flushing & Drying Procedures							
P12	Insulation Procedure							

**DAI HUNG NAM PROJECT, DAI HUNG FIELD DEVELOPMENT,
BLOCK 05-1(a), OFFSHORE VIETNAM
TECHNICAL REQUIREMENT FOR E&I CABLE
TRAY/ LADDER**

VDRL Code	Data/Document Description	Critical	Accept	With Tender	For Approval		Final Data/Doc.	
				No. Copies	No. Copies	Date Required	No. Copies (Note 2)	DD/F D/IOM
P13	Pickling, Passivation Procedure							
P14	Manufacturing Procedure Specification	C			1E	2wks AW	4P+1E	FD
P15	Bolt Tightening Procedure	C			1E	4wks AW	4P+1E	FD
P16	Surface Preparation and Painting Procedure							
P17	Non-Conformance Control Procedure	C			1E	4wks AW	4P+1E	FD
P18	Material Control, Storage & Traceability Procedure	C			1E	4wks AW	4P+1E	FD
P19	Packing, Handling & Delivery Procedure	C			1E	4wks AW	4P+1E	FD
P20	Load Test Procedures							
P21	Weight Control Procedure							
P22	Other Relevant Inspection/Performance/Testing Procedures				1E	AC	AC	FD
7	QA/Certification							
Q01	QA Accreditation Certification (Management System Certification, API Monogram, Certificate of Authorization U-stamp ASME, etc..)	C			1E	4wks AW	1O/1CT C+3P +1E	FD
Q02	Contract Quality Plan				1E	4wks AW	4P+1E	FD
Q03	Welding Specification Procedures & Qualification Test Records (WPS & PQR)							
Q04	Inspection and Test Plan	C			1E	6wks AW	4P+1E	FD
Q05	Electrochemical/ Potential Test Reports							
Q06	Calibration Procedures & Results							
Q07	Electrical Type Test Certificates/ Results							
Q08	Hydrotest/Leak Test Reports							
Q09	Material Certification (Mill Test Certificates, Inspection Certificates, MRIR, Material Traceability Records, etc.)							
Q10	Dimension/Rolling/Forming Check Reports							
Q11	Approval of Relevant Authorities (3 rd Party Inspection Certificates, Statement of Conformity, Etc.)	C			1E	2wks BD	1O+3P +1E	FD

**DAI HUNG NAM PROJECT, DAI HUNG FIELD DEVELOPMENT,
BLOCK 05-1(a), OFFSHORE VIETNAM
TECHNICAL REQUIREMENT FOR E&I CABLE
TRAY/ LADDER**

VDRL Code	Data/Document Description	Critical	Accept	With Tender	For Approval		Final Data/Doc.	
				No. Copies	No. Copies	Date Required	No. Copies (Note 2)	DD/F D/IOM
Q12	Statement of Code Compliance (U-Stamp certificates, Type Approval Certificates, etc.)							
Q13	Hazardous Area Electrical Equipment Certification							
Q14	Post Weld Heat Treatment Records							
Q15	Welder/Welding Operator Qualification Test Records/Certificates							
Q16	Mock-up Testing Procedure							
Q17	NDT/ PMI Reports							
Q18	Weld Maps							
Q19	Blasting, Painting Reports							
Q20	Vendor/Sub-supplier Progress Report	C			1E	W	4P+1E	FD
Q21	Vendor Technical Query (VTQ)	C			1E	2wks AT	1O+3P+1E	FD
Q22	The Final Inspection Release Notes (IRN)	C			1E	4wks BD	1O+3P+1E	FD
Q23	Third Party Inspection Report of Source Inspection Services (If applicable)	C			1E	1wks AT	1O+3P+1E	FD
Q24	Non-Conformance Reports (If applicable)	C			1E	AC	1O/1CT C+3P+1E	FD
Q25	Trial Fit Reports							
Q26	Weight Control Report							
Q27	Other Relevant QA/QC/ Performance Inspection/ Testing Reports				1E	2wks AT	AC	FD
8	Manuals & Indices							
R01	Installation Operation and Maintenance Manual	C			1E	4wks BD	4P+1E	IOM
R02	Manufacturer's Data Report (MDR for goods/products of sub-manufacturers/sub-suppliers., etc...)	C			1E	2wks AT	4P+1E	IOM
R03	Data Manual				1E	4wks BD	4P+1E	IOM
R04	Training Manuals (Operation and Maintenance)							
9	Miscellaneous							
Z01,Z02, ...	Speciality Document as identified on Vendor Document Schedule				1E	AC	AC	AC

**DAI HUNG NAM PROJECT, DAI HUNG FIELD DEVELOPMENT,
BLOCK 05-1(a), OFFSHORE VIETNAM
TECHNICAL REQUIREMENT FOR E&I CABLE
TRAY/ LADDER**

VDRL Code	Data/Document Description	Critical	Accept	With Tender	For Approval		Final Data/Doc.	
				No. Copies	No. Copies	Date Required	No. Copies (Note 2)	DD/F D/IOM
10	Final Documentation							
DB	Vendor Manufacturer Data Books (Including Manufacturer Data Books for DD-Design Data; FD-Fabrication Data); IOM-Installation, Operation & Maintenance Data)	C			1E	2wks AD	(Note 1)	
DB-001	Manufacturer Data Book Index	C			1E	2wks AD	(Note 1)	
DD-001	Design Data (includes all document/dossier/drawings., etc. categorised DD)	C			1E	2wks AD	(Note 1)	
FD-001	Fabrication Data (includes all document/dossier/drawings., etc. categorised FD)	C			1E	2wks AD	(Note 1)	
IOM-001	Installation, Operation & Maintenance Data (includes all document/dossier/drawings., etc. categorised IOM)	C			1E	2wks AD	(Note 1)	

a) Note 1: 01 master set + 03 copy sets + 02 sets of colours scanned files (one scanned file for one document).

b) Note 2: For the original documents that have been provided to CLIENT for payment purposes, COMPANY shall provide certified true copies (CTC) in the as-built dossier.

c) Legends:

C	Critical data
W	Weekly
AD	After Dispatch
AC	Approved/Agreed by Client and/or Company
AW	After Award
CF	Certified Final
E	Electronic
I	Included in IOM
DD	Design Data/Dossier
FD	Fabrication Data/Dossier
IOM	Installation and Operation & Maintenance Manual Data/Dossier
M	Included in MDR
P	Paper Print Document in black or colour as required
BD	Before Delivery
BT	Before Test
AT	After Test
O	Original (Original is a document in hard copy issued by the manufacturer, supplier, certification party, relevant entities for the product/goods/service).
CTC	Certified True Copy (Certified true copy is a hard copy of a hard/electronic original that has been certified with wet signature and stamp "CERTIFIED TRUE COPIED" by manufacturer/supplier as being completely accurate and true to the original. The Vendor, manufacturer, supplier shall be responsible for this authentication and full compliance with contractual or other obligations.).

9. INSPECTION AND TEST REQUIREMENT

The **VENDOR** shall assume final responsibility for the inspection and testing of the equipment in accordance with the requirements of the referenced codes and standards. The **VENDOR** shall be responsible for obtaining statutory approval in the instance where the equipment is subject to such approval. Inspection and testing shall be in accordance with applicable specified Project Specifications, Codes and Standards. Inspection and Test Plans (ITP) shall be submitted to the **CLIENT/PURCHASER** for review at the Bid stage. The agreed ITP shall be part of **VENDOR** scope of supply. The **VENDOR** shall indicate in its Bid the location of key production, inspection or testing activities (as identified in the Inspection and Testing Plan). These locations shall not be changed at all times. **VENDOR**'s ITP shall include the minimum activities and requirement as described in the typical ITP.

The **CLIENT/PURCHASER** and/or **CLIENT/PURCHASER**'s inspection authority shall be given at any time full access to **VENDOR**'s premise to inspect the **VENDOR**'s manufacturing facilities, including major sub-**VENDOR**'s manufacturing facilities, to confirm that satisfactory quality assurance and production procedures are being implemented. The **VENDOR** shall make available all relevant QA procedures and records for review.

The **VENDOR** shall provide to the **CLIENT/PURCHASER** or **CLIENT/PURCHASER**'s representative, without charge, all facilities and access for satisfying himself that the equipment being manufactured shall be in accordance with the requirement of this Technical Requisition, relevant datasheet, Codes and Standards.

**DAI HUNG NAM PROJECT, DAI HUNG FIELD DEVELOPMENT,
BLOCK 05-1(a), OFFSHORE VIETNAM
TECHNICAL REQUIREMENT FOR E&I CABLE
TRAY/ LADDER**

Inspection Activity		Definition of Inspection Activity
Approval	A	A point is defined where Vendor/Supplier is required to submit document/dossier for approval before proceeding with the next relevant work steps.
Document	D	Document provided/submitted
Hold	(H)	The activities or inspections shall not be performed without witnessed by specified Parties. Notification to The Relevant Parties is compulsory in agreed notification days. The Vendor/Supplier shall not change/deviate this point unless formally notified by The Relevant Parties.
Monitor	(M)	Witnessing or inspections by specified Parties is not mandatory, but optional. No notification is required. The Relevant Parties may witness/inspect the activities during monitoring or quality control management visits.
Witness	(W)	The activities or inspections shall not be performed without witnessed by specified Parties. Notification to The Relevant Parties is compulsory in agreed notification days. The Vendor/Supplier may proceed with works in case the Relevant Parties do not attend.
Verify	(V)	Verification of inspection, manufacturing, testing or document activity
Review	(R)	A point is defined as which a record/dossier is required. The nominated Party is required to review/endorse these records/ dossiers. The review shall be complied with Purchase Order.
Other		Additional activity as required by VENDOR and subject to CLIENT acceptance

TECHNICAL REQUIREMENT FOR E&I CABLE TRAY/ LADDER

The below inspection and testing matrix specifies the minimum requirements. **VENDOR** to prepare and submit the detailed ITP for this package with Bid document to evaluate.

In case **VENDOR** is a Trader, **VENDOR** shall take full responsibility for the interface between **PURCHASER** and Manufacturer.

Action No.	Activity Description	Procedure /Specification Reference	Acceptance Criteria	Documentation	Inspection / Surveillance Activities		
					VENDOR	CLIENT/ PURCHASER	CLIENT's Certification Authority (*)
1	Attend Pre-award Meeting				W	W	-
2	Review Inspection & Testing Plan / Schedule				D	R	-
3	Attend Pre-manufacturing Meeting				H	H	-
4	Attend Pre-inspection Meeting				-	-	-
5	Calculation and Drawings Approval / Review				D	A/R	-
6	Approval / Review Weld Procedures				-	-	-
7	Approval Welder Qualification Records				-	-	-
8	Approval / Review NDE & Fabrication Procedures				-	-	-
9	Approval NDE Personnel Qualification Records				-	-	-

TECHNICAL REQUIREMENT FOR E&I CABLE TRAY/ LADDER

Action No.	Activity Description	Procedure /Specification Reference	Acceptance Criteria	Documentation	Inspection / Surveillance Activities		
					VENDOR	CLIENT/ PURCHASER	CLIENT's Certification Authority (*)
10	Review QA/QC Documentation				D	R	-
11	Review Materials Test Certificates / Reports				D	R	-
12	Special Tests on Materials				-	-	-
13	Materials Inspection (Visual & Dimensions)				D	R	
14	Transfer of Material Identification Marks				-	-	-
15	Positive Material Identification (PMI)				-	-	-
16	Radiographic Examination				-	-	-
17	UT Examination				-	-	-
18	Magnetic Particle Examination				-	-	-
19	Liquid Penetrant Examination				-	-	-
20	Visual and Dimensions Check				W	W	-

TECHNICAL REQUIREMENT FOR E&I CABLE TRAY/ LADDER

Action No.	Activity Description	Procedure /Specification Reference	Acceptance Criteria	Documentation	Inspection / Surveillance Activities		
					VENDOR	CLIENT/ PURCHASER	CLIENT's Certification Authority (*)
21	Pickling and Passivation Check				-	-	-
22	Surface Preparation & Inspection				-	-	-
23	Painting & Coating and Inspection (Including Visual, DFT Measurement & "Holiday" Testing)				-	-	-
24	Name Plate				-	-	-
25	Final Inspection – Verify Compliance Against Specifications / P&ID / Approved Drawings				D	R	-
26	Release Note from Client/ TPI / AI / CA				D	R	-
27	Preparation for Shipment				M	R	-
28	Weighing of Equipment				W	V	-
29	Final Documentation (IOM/MDR)				D	R	-

10. TECHNICAL EXCEPTION AND DEVIATION

VENDOR must clearly identify his exceptions to the scope of supply with a detailed note of deviation request. All technical exceptions shall be subjected to CLIENT's/PURCHASER's approval in writing. Cost impact and/or schedule impact due to the technical exceptions shall be derived and presented clearly by VENDOR. VENDOR is required to cater an "alternative" proposal for all the exceptions taken. Those alternatives shall be approved by CLIENT/PURCHASER before work execution.

If there are exceptions, VENDOR shall submit the technical exception list together with his bid using the format provided in the Technical Bid Form.

The list shall contain the following information:

- Exception (title)
- Specification Clause Number
- Reason for non-compliance
- Cost and delivery impact to comply
- Alternative proposal (for compliance with the intent of the specification)

The technical exception list shall be signed and stamped.

If exceptions are not stated in the Bid, it shall be interpreted by CLIENT/PURCHASER as full compliance with the technical requisition, project specifications and all reference documents listed.



**DAI HUNG NAM PROJECT, DAI HUNG FIELD DEVELOPMENT,
BLOCK 05-1(a), OFFSHORE VIETNAM
TECHNICAL REQUIREMENT FOR E&I CABLE
TRAY/ LADDER**



**APPENDIX 1:
MTO FOR ELECTRICAL AND INSTRUMENT CABLE TRAY/ LADDER AND
ACCESSORIES ON DHN
(PGAE 06)**



**DAI HUNG NAM PROJECT, DAI HUNG FIELD DEVELOPMENT,
BLOCK 05-1(a), OFFSHORE VIETNAM
TECHNICAL REQUIREMENT FOR E&I CABLE
TRAY/ LADDER**



**APPENDIX 2:
MTO FOR ELECTRICAL AND INSTRUMENT CABLE TRAY/ LADDER AND
ACCESSORIES ON DH02
(PGAE 03)**



**DAI HUNG NAM PROJECT, DAI HUNG FIELD DEVELOPMENT,
BLOCK 05-1(a), OFFSHORE VIETNAM
TECHNICAL REQUIREMENT FOR E&I CABLE
TRAY/ LADDER**



**APPENDIX 3:
MTO FOR ELECTRICAL AND INSTRUMENT CABLE TRAY/ LADDER AND
ACCESSORIES ON FPU
(PGAE 02)**