

NAME OF TENDER:

**PROVISION OF 110 SQM
MEZZANINE FLOOR FOR RM
STORAGE AT LIOC
TERMINAL, TRINCOMALEE.**

Tender No :	LIOC/ENG/LT/02/2020-21
Due Date &Time :	05.04.2021 @ 14:00 Hrs

TECHNICAL/ COMMERCIAL BID



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
2 of 65

REF: LIOC/ ENG/ LT/ 01/ 2020-21

DATE: 26/ 03/ 2021

M/S. _____

Dear Sirs,

**SUBJECT: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE AT LIOC TERMINAL,
TRINCOMALEE.**

Dear Sir,

1.0 Following documents forming a part of the mentioned tender are enclosed in single set:

S/N	DESCRIPTION
PART A: TECHNICAL/ COMMERCIAL BID	
1	Notice Inviting Tender
2	Documents to be submitted by the tenderers
3	Form of tender & Appendix
4	Abbreviations and Notations
5	Undertaking Towards Document Submission
6	Proforma of Declarations to be Furnished by the Tenderers
7	Particulars of Bid Bond and tender fee
8	List Of Directors Of LIOC
9	Special terms and conditions of contract
10	Terms and conditions - Safety
11	Technical Specifications
12	Form of Agreement
13	Conditions of Contract Part I & Part II
14	Format for Bid Bond
15	Format for Performance Bond
PART B: PRICE BID	
16	Price bid

2.0 We request you to submit your lowest quotation for the work contained in the tender. Your offer complete in all respects must be submitted so as to reach this office of LIOC on or before **05/ 04/ 2021 at 14:00 hrs.** Offer may please be dropped in Engineering tender box kept in our office at address given below.

**LANKA LIOC PLC,
LEVEL 20, WEST TOWER, WORLD TRADE CENTRE,
ECHELON SQUARE, COLOMBO - 01, SRI LANKA**

3.0 Bid Bond: The bid bond for **LKR 49,560/-** in the form of demand draft (drawn in favour of Lanka IOC PLC payable at Colombo) (in the strictly as per the format enclosed) must be submitted strictly in the Technical Bid cover. However the empanelled parties are exempted from this.

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
3 of 65

- 4.0 Tender Fee: A tender fee of LKR 2,500/- by Demand draft only (in favour of Lanka IOC PLC payable at Colombo) shall be applicable.
- 5.0 The tender documents have been issued which containing the technical bid & price bid. The tenderers are advised to submit the bids in hard copy duly signed with stamp in a sealed cover along with tender fee and bid bond as mentioned above.
- 6.0 Submission of Tender Documents:
- 6.1 Tender Envelope duly sealed must be super scribed duly indicating the tender number, due date and time of opening, name of work tendered, address of tenderer.
- 6.2 Tenderers to note that LIOC shall not be responsible for the postal delays in dispatch and receipt of tender documents. Tenderers must also note that all pages of tender along with drawings issued must be signed with stamp and submitted as part of submission of tender.
- 7.0 Tenderers are advised to submit their quote strictly in the price bid document supplied by Lanka IOC. Tenderers also may please note that if price bids are submitted with any conditions/ counter condition(s), such tenders shall be treated as invalid, repeat invalid and shall result in rejection of the bids received notwithstanding the financial position of the tenderer based on the rates quoted for the tender.
- 8.0 Tenderers to note that LIOC shall not be responsible for the postal delays in dispatch and receipt of tender documents. Tenderers must also note that all pages of tender along with drawings issued must be signed with stamp and submitted as part of submission of tender.

Thanking You,

Yours Faithfully,
For LANKA IOC PLC.,

FOR SR. VICE PRESIDENT (ENGG)

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
4 of 65

NOTICE INVITING TENDER

1	Name of work	:	PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE AT LIOC TERMINAL, TRINCOMALEE.
2	Place of Work	:	LANKA IOC TERMINAL TRINCOMALEE.
3	Tender Ref	:	LIOC/ ENG/ LT/ 02/ 2020-21
4	Tender Fee	:	LKR 2,500/- (non refundable / non transferable) Demand draft drawn in favour of Lanka IOC PLC payable at Colombo.
5	Bid Bond	:	LKR 49,560.00 (By way of DD only)
5A	Mode of submission of bid bond	:	A. By Demand draft in favour of Lanka IOC PLC payable at Colombo
6	Tender Submission Address	:	SR. VICE PRESIDENT (ENGG), LANKA IOC PLC, LEVEL 20, WEST TOWER, WORLD TRADE CENTRE, ECHELON SQUARE, COLOMBO - 01, SRI LANKA
7	Due Date And Time	:	
	a) Submission Of Tenders	:	5 th April' 2021 @ 14:00 Hrs
	b) Opening Of Tenders (Technical Bid Only)	:	5 th April' 2021 @ 15:00 Hrs
8	Work Completion Time	:	12 Weeks
9	Number of parties to be selected	:	1 NO

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
5 of 65

DOCUMENTS TO BE SUBMITTED BY THE TENDERERS

- A. **TENDER FEE : LKR 2,500/-** by way of demand draft/ Bankers cheque drawn in favour of Lanka IOC PLC
- **BID BOND: LKR 49,560.00** by way of demand draft/ Bankers cheque drawn in favour of Lanka IOC PLC to be held for a period of 120 days from the date of tender opening. However the empanelled parties are exempted from this.
- B. Power of attorney/ Authorization for the person signing the tender documents.
- C. **LETTER OF UNDERTAKING (ON THE LETTERHEAD OF THE TENDERER)** as per format enclosed in the tender documents.
- D. Price bid with rates quoted in percentage in appropriate spaces provided. The price bid shall be duly signed with stamp.

SVP (ENGG)

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
6 of 65

FORM OF TENDER

NOTE: The Appendix forms parts of Tender; Tenderers are required to fill up all the blank spaces in this Tender Form and Appendix.

To: **Lanka IOC PLC**
20, West Tower,
World Trade Centre,
Echelon Square,
Colombo 01.

1. I/We, of
the undersigned, having examined the Form of Agreement, the Conditions of Contract, Form of Tender, Drawings, Specifications, Priced Bills of Quantities and the Schedule of Rates and Prices, do hereby offer and undertake to execute, complete and maintain the whole of the said works referred to in the schedule of the Form of Agreement in conformity with the said Drawings, Specifications and all other work in connection therewith and incidental falls pertinent thereto, to your entire satisfaction and strict accordance with the Conditions of Contract, at the rate and prices set forth in the said Priced Bill of Quantities and/or Schedule of Rate and Prices at the amount given at the end of the Priced Bills Of quantities or such other sums as may be ascertained in accordance with the Conditions of Contract.
2. And, I/We do hereby undertake to commence the works within **Seven (07) days** from the last date of acceptance of this Tender, if any, or at the instance of the Engineer's order to commence, and to complete and deliver the whole of the works as aforesaid duration calculated from the last day of the aforesaid period in which works are to be commenced.
3. And further, I/We do hereby undertake to obtain the guarantee of a Bank with your approval, to be jointly and severally bound with us in a sum not exceeding ten percent (10%) of the aforementioned sum for the due performance of the contract under the terms of a Bond to be approved by you.
4. And I/We further agree, in the event of my/our failing to execute the said agreement or the said Bond, if required within **Fourteen (14) days** of my/our being called upon to do so, at the latest then any acceptance of this tender by you, may be revoked by you on behalf of the Employer and that I/We shall be held responsible for all and any damages suffered by the Employer in consequence of such delay or failure.
5. Unless and until the formal agreement is prepared and executed, I/We do hereby agree, that this tender together with your written acceptance thereof, shall constitute a binding contract between the two parties.
6. I/We understand that you are not bound to accept the lowest or any tender you may receive.
7. I/We further undertake to abide by this tender for a period of **Hundred Twenty (120) days** from the last date fixed for "receiving of tenders" and that the same shall remain binding upon me/us and may be accepted at any time before the expiration of such period.

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
7 of 65

In witness whereof, I/We do set my hand/our respective hands hereto at
on this Day of Two Thousand and Twenty One.

Signature of Tenderer

in the capacity of and/or duly authorised to sign

this tender for and on behalf of

Signature

Seal & Address

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
8 of 65

APPENDIX TO FORM OF TENDER
Clause

Amount of Bond Guarantee	10	As per NIT
Period of Completion from Work order	41	As Stipulated By LIOC
Amount of Liquidated damages	47 (1)	1% per week or part thereof
Limit of Liquidated damages	47 (1)	10% of the Work Order
Amount of bonus (if any)	47 (3)	None
Period of Maintenances	49	As Stipulated By LIOC
Percentage of adjustment of		
Provisional sums	59 (4) (c)	Ten (10) percent
Mobilization Advance	60 (1)	Nil
Percentage of Retention	60 (4) (a)	Nil
Time within which payment to be made after certificate	60 (7)	14 days

In witness whereof, I/We do set my hand/our respective hands hereto at

on this Day of Two Thousand and Twenty.

Signature of Tenderer

in the capacity of and/or duly authorized to sign

this tender for and on behalf of

Signature

Seal & Address

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
9 of 65

ABBREVIATIONS & NOTATIONS

UNLESS OTHERWISE SPECIFIED FOLLOWING NOTATIONS/ ABBREVIATIONS SHALL BE APPLICABLE TO DOCUMENT

MM/mm	- MILLIMETER
SQMM/sqmm/mm ²	- SQUARE MILLIMETER
CM/cm	- CENTIMETER
SQCM/Sqcm	- SQUARE CENTIMETER
SFT/sft	- SQUARE FEET
M/m/rm/RM	- METRE / RUNNING METRE
SQM/sqm/m ²	- SQUARE METRE
CUM/cum/m ³	- CUBIC METRE
KG/kg	- KILOGRAM
MT	- METRIC TONNE
MS	- MILD STEEL
DIA/dia/Φ	- DIAMETER
NO (S) / Nos. / nos.	- NUMBER(S)
RCC	- REINFORCED CEMENT CONCRETE
E-I-C	- ENGINEER - IN - CHARGE
IS/BIS	- INDIAN STANDARD
API	- AMERICAN PETROLEUM INSTITUTE
JOB	- JOB LUMPSUM
EMD	- EARNEST MONEY DEPOSIT
ISD	- INITIAL SECURITY DEPOSIT
BG	- BANK GUARANTEE

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
10 of 65

UNDERTAKING TOWARDS DOCUMENTS SUBMISSION

We confirm that we have quoted the rates in this tender considering Inter-alia the:

1. Notice Inviting Tender
2. Price Bid document
3. Special Terms and Conditions of Contract
4. Technical Specifications & Scope Of Services
5. Terms & Condition - Safety
6. Form Of Agreement
7. Conditions of contract (Part I & Part II)
8. Statement of Credentials
9. All other documents forming part of tender

We certify that, we have received the complete Tender Documents as mentioned and have studied the same thoroughly before submitting the Bid. We accept all the terms & conditions specified therein.

Signature of the Tenderer/ Authorized Representative

Name & Address: _____

Seal: _____

Telephone Nos.: _____

Date:

Place:

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
11 of 65

PROFORMA OF DECLARATIONS TO BE FURNISHED BY THE TENDERERS

DECLARATION - 'A'

We declare that we have complied with the Conditions of Contract (Part I & II)

Date :

Place :

**Tenderer's signature
Seal**

DECLARATION - 'B'

We declare that we do not have any employee who is related to any officer of LIOC PLC

OR

We have the following employees working with us who are near relatives of the Officer Director of LIOC

Name of the employee of the Tenderer	Name & designation of the Officer of LIOC

Date :

Place :

**Tenderer's Signature
Seal**

DECLARATION - 'C'

The Tenderer is required to state whether he is a relative of any Director of LIOC or the Tenderer is a firm in which any Director of LIOC or his relative is a partner or any other partners of such a firm or alternately the Tenderer is a private company in which Director of LIOC is a member or Director.

S/N	PARTICULARS	DETAILS
1	Name of the Tenderer and his relations with the Director in LIOC.	
2	Name of the Director of LIOC who is related to the Tenderer.	
3	Name of the Director of LIOC who is a member or a Director of the firm.	

Date :

Place :

**Tenderer's
Signature & Seal**

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
12 of 65

DECLARATION - 'D'

Tenderer is required to state whether they have employed any retired Director and above rank officer of LIOC in their firm. If so, details hereunder to be submitted.

S/N	PARTICULARS	DETAILS
1	Name of the person	
2	Post last held in LIOC	
3	Date of retirement	
4	Date of employment in the firm	

Date :
Place :

Tenderer's
Signature & Seal

N.B.

- A separate sheet may be attached, if the above is not sufficient.
- Strike out whichever is not applicable. If the tenderer employs any person subsequent to signing the above declaration and the employee/s so appointed happens to be the near relatives of the Officer/Director of LIOC, the tenderer should submit another declaration furnishing the name/s of such employee/s who is/are related to the officer/s of LIOC
- List of Directors of LIOC board is attached.

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
13 of 65

LIST OF DIRECTORS OF LANKA IOC PLC

SN	NAME OF THE DIRECTORS & ADDRESS
01	Mr. Ranjan kumar Mohapatra , Chairman LIOC, Director (HR) Indian Oil Corporation Limited, Indian Oil Bhavan, G-9, Ali Yavar Jung Marg, Bandra (East), <u>Mumbai (India) - 400 051.</u>
02	Mr. Vigyan Kumar , Director LIOC, LIOC, ED (Retail Sales), Indian Oil Corporation Limited, Indian Oil Bhavan, G-9, Ali Yavar Jung Marg, Bandra (East), <u>Mumbai (India) - 400 051.</u>
03	Mr. D.R.Paranjape , Director/ LIOC, CGM (Finance), Indian Oil Corporation Limited, (Marketing Division), Indian Oil Bhavan, G-9, Ali Yavar Jung Marg, Bandra (East), <u>Mumbai (India) - 400 051.</u>
04	Mr. Manoj Gupta , Managing Director, LIOC, 20 th Floor, West Tower, World Trade centre, Colombo - 01, Sri Lanka.
05	Prof. Lakshman R. Watawala , Director, Lanka IOC PLC, No: 102/ 5, Barnes Place, Colombo - 07, Sri Lanka.
06	Mr. Amitha Goonaratne , Director, Lanka IOC PLC, No 110, Noris Canal Road, Colombo - 10, Sri Lanka.

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
14 of 65

SPECIAL TERMS & CONDITIONS OF CONTRACT

1.0 SECURITY DEPOSIT/ PERFORMANCE BOND:

- 1.1 As per relevant clauses of Conditions of Contract, the successful tenderer shall pay security deposit up on placement of work order in any of the following modes.

A. INITIAL SECURITY DEPOSIT:

The successful tenderer within 14 days of receipt of acceptance of tender issued by owner shall deposit initial security deposit for an amount of 10% of the contract value in any of the following modes.

- a. Demand draft drawn in favour of LANK IOC PLC payable at Colombo.

OR

- b. Bank Guarantee (as per the format enclosed) valid for a period of 14 months from the date of completion work & to be submitted prior to commencement of works. The BG shall be subsequently extended for a period to cover the date of completion of the work. This BG shall be submitted directly by the bankers under their covering letter to the office of LIOC in a sealed cover.

- 1.2 Forfeiture of Security Deposit: All sums of compensation or other sums of money payable by the Contractor may be deducted from SD. In the event of SD being reduced from the original quantum due to recoveries as aforesaid the contractor shall within 15 days of such recoveries, make good deficiency in SD either by cash or by way of Demand Draft.

- 2.0 The contractor shall arrange all necessary power and water for the whole of the works mentioned in the Schedule of works. The Contractor shall have to make his own arrangement for laying cable/pipeline from the existing sources in the Terminal. Only flameproof cable and fittings of LIOC approved makes shall be allowed for tapping the power. Contractor should install approved metering device at their cost and prevailing rates shall apply for the quantity of power & water consumed.

- 3.0 Entire works should be carried out as per LIOC specifications, drawings and instructions at site. Any omissions / Deviations without LIOC approval in writing will result in rejection of contractor's claim payment.

- 4.0 All materials supplied by the contractor shall be of best quality and shall be approved by LIOC Engineer before use. All necessary test certificates shall be provided by the contractor.

- 5.0 Wherever supplies of materials are in the scope of Contractor, the same could be supplied only after obtaining written permission from LIOC Engineer.

- 6.0 The rates quoted shall be inclusive of all taxes and duties as applicable and no separate payment shall be made in this regard.

- 7.0 LIOC reserves the right to accept or reject in part or whole, any or all tenders without assigning any of the reason to it. Also LIOC reserves the right not to accept the lowest quotation and no query from the contractor will be entertained in these regards.

SIGNATURE OF TENDERER

SEAL

	TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21	Page 15 of 65
	TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE AT LIOC TERMINAL, TRINCOMALEE.	

8.0 The tenderers are requested to inspect the site and ascertain themselves with the site conditions, approach, power, water, lead etc. prior to quoting the rates.

9.0 **LOCATION OF SITE:** Lanka IOC terminal Trincomalee.

10.0 **WATER SUPPLY:**

10.1 The contractor shall arrange water/procure water required for the work at his own cost for all leads and lifts. LIOC shall not be responsible for supplying water and Contractor shall ensure timely and adequate supply of water to meet the schedule.

11.0 **POWER SUPPLY:**

11.1 The contractor shall make his own arrangement for power required for the work at his cost. DG set of suitable capacity may be installed and operated by the contractor at his cost. LIOC shall not be responsible for power supply and contractor shall ensure proper supply of electricity to meet the schedule.

The electrical works shall be carried out through Licensed Electrical personnel only.

12.0 **CONTRACTOR'S SCOPE OF SUPPLY:**

12.1 All materials including cement, sand, bricks, reinforcement, structural steel, consumables, testing appliances, tools and tackles necessary for completing the work shall be procured & supplied by the Contractor at his own cost unless otherwise specified in the schedule. No claim/ delay on this account will be entertained by the LIOC.

10.2 LIOC reserves the rights in selection of best make of materials to be procured by the contractors & contractor shall procure the same only up on the approval by site in charge.

13.0 **FIRM PRICE:**

13.1 Tenderer should quote their lowest and firm price. The price for supply of materials to be quoted on DDP Trincomalee. The price shall include inland freight, sea worthy packing, document charges, ocean freight, insurance etc. Prices so quoted shall remain firm till order is placed and thereafter until satisfactory completion of order. The price will not be subjected to escalation for any reason whatsoever.

13.2 Once the offer is accepted and agreement executed, the rates shall be valid till the completion of works in all respects and no escalation whatsoever will be entertained on any grounds. The rate quoted to include all taxes and duties including NBT as applicable & no variation or reimbursement shall be entertained due to revisions in statutory tax or levies imposed by the Government of Sri Lanka. **VAT alone if payable shall be to LIOC account.**

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
16 of 65

14.0 **MEASUREMENTS FOR WORKS/RECORD MEASUREMENTS/ BILLS:**

12.1 All the payment for quantities certified in the running account/ final bill shall be as per the details recorded in the standard measurement book of the LIOC and jointly signed by the Contractor/ site engineer of LIOC.

12.2 Method of measurement shall be strictly in accordance with the technical specification for this work.

12.3 The payment shall be as per the details entered in the standard Measurement Certificate bills of the LIOC.

15.0 **ON ACCOUNT PAYMENTS:**

On Account Bills shall be paid for the work done, measured and certified.

16.0 **PAYMENT TERMS:**

Measure and pay as per works completed. Up to 95% in running bills and 100% after successfully completion of works.

No advance payment shall be made to any contractor.

17.0 The rates include all leads & lift unless and otherwise specified & cost of all material labour, taxes, transport charges on materials at all levels, and overhead expenditure.

18.0 In case of any variation between the clauses stipulated in the special terms and those stipulated in general terms, works contract etc., the stipulations in the special terms and conditions shall take precedence.

19.0 **COMPLETION TIME:**

19.1 Entire works shall be completed in a duration of **10 (TEN) WEEKS** from the date of handing over the site, which will be taken as 14th day from the date of issue of work order or the actual date of handing over of the site whichever is earlier.

20.0 **LIQUIDATED DAMAGES FOR DELAY IN COMPLETION OF WORKS:**

20.1 The contractual price payable shall be subject to adjustment by way of liquidated damages at the rate of 1% of order value per week subject to a total of 10% of the order value.

21.0 **SPECIAL CLAUSE:**

21.1 The contractor is required to take necessary care to protect to the existing nearby structure while carrying out his scope of work. Any damage caused to other property shall be rectified at his own cost.

22.0 **GUARANTEE:**

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
17 of 65

22.1 All workmanship and sub-contracted items should be guaranteed by the Vendor within the defect liability period mentioned in the tender. In the event of any defect in the equipment or workmanship manifesting themselves, the tenderer will replace/ repair the any defects at Vendor's cost and risk on due notice.

23.0 **TESTING OF MATERIALS/ WORKS:**

23.1 The Contractor shall carry out the various tests as enumerated in the technical specifications of this tender document and the technical documents that will be furnished to him during the performance of the work and no separate payment shall be made unless otherwise specified in schedule of rates.

23.2 All the tests either on the field or at outside laboratories concerning the execution of the work and supply of materials by the Contractor shall be carried out by Contractor at his own cost.

23.3 The work is subject to inspection at all times by the Site Engineer/ Engineer-in-Charge/ representatives nominated by LIOC. The Contractor shall carry out all instructions given during inspection and shall ensure that the work is being carried out according to the technical documents and the relevant codes of practice furnished to him during the performance of the work.

23.4 Any work not conforming to the execution drawings, specifications or codes shall be rejected forthwith and the contractor shall carry out the rectifications at his own cost.

23.5 All results of inspection & tests will be recorded in the inspection reports, proforma, which will be approved by the Site Engineer/ Engineer-in-Charge. These reports shall form part of the completion documents.

23.6 Inspection & acceptance of works shall not absolve the Contractor from any of his responsibilities under this Contract.

24.0 **BILL OF QUANTITIES:**

24.1 Bill of quantities are approximate and payment shall be made as per actual certified measurements. The contractor is not entitled for any sort of compensation towards excess materials procured / stored.

24.2 After the placement of the order the successful tenderer shall not be allowed to sublet or assign any part of the work order without LIOC's prior written consent.

24.3 In case of any new items operated, detailed rate analysis will be done in consultation with the contractor to arrive at rates. However, final decision on rate shall solely be with LIOC.

25.0 **AUTHORISED REPRESENTATIVE:**

25.1 The successful tenderer within 14 days of receipt of acceptance of tender, name an engineer responsible for the job at site on behalf of the contractor. Bidder should give in writing to the LIOC, the name of his authorised and qualified engineer who will supervise the work and shall remain at the site during execution of the job.

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
18 of 65

26.0 SITE CLEANING:

- 26.1 The Contractor shall take care for cleaning the working site from time to time for easy access to work site and also from safety point of view.
- 26.2 Working site should be always kept cleared upto the entire satisfaction of the Engineer-in-Charge. Before handing over any work to owner the contractor in addition to other formalities to be observed as detailed in the document,- shall clear the site to the entire satisfaction of Engineer-in-Charge.

27.0 MISCELLANEOUS REQUIREMENTS:

- 27.1 It shall be contractor's responsibility to obtain approval for any revision and/or modifications decided by the contractor from the Owner/Engineer-in-Charge before implementation. Also such revisions and/or modification if accepted / approved by the Owner/Engineer-in-Charge shall be carried out at no extra cost to the owner.
- 27.2 Any changes required during and/or after approval for detailed construction drawings due to functional requirements or for efficient running of system keeping the basic parameters unchanged and which has not been indicated by the Contractor in the data / drawings furnished along with the offer, will be carried out by the contractor at no extra cost to the owner.
- 27.3 All expenses towards mobilization & demobilization including bringing in equipment, clearing the site etc. shall be deemed to be included in the prices quoted and no separate payments on account of such expenses shall be entertained.
- 27.4 It shall be entirely Contractor's responsibility to provide, operate & maintain necessary construction equipments, scaffoldings and safety gadgets, cranes and other lifting tackles, tools and appliances to perform the work in a workman like and efficient manner & complete all jobs as per time schedules.
- 27.5 Preparing approaches and working area for movement and operation of the cranes, levelling the areas for assembly and erection shall also be the responsibility of the Contractor. The Contractor shall acquaint himself with access availability, facilities such as railway siding, local labour etc. to provide suitable allowances in his quotation. The Contractor, at his own cost, may have to build temporary access roads to aid his own work which shall also be taken care while quoting for the work
- 27.6 The procurement and supply in sequence and at the appropriate time of all materials & consumables shall be entirely the Contractor's responsibility. Rates for execution of work will be inclusive of supply of all these items.

28.0 SAFETY:

- 28.1 Since works have to be carried out in petroleum storage and distribution establishment, the contractor should ensure that day to day operations, safety and security of the location are not affected in any way on account of the works being carried out. In case of any damage to our properties due to the negligence on the part of the contractor or their workmen, the contractor will be held responsible and liquidated damages as assessed by the LIOC would be recover from them.

SIGNATURE OF TENDERER

SEAL

	TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21	Page 19 of 65
	TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE AT LIOC TERMINAL, TRINCOMALEE.	

28.2 When hot works are involved, the following safety precautions have to be strictly observed before commencement of works.

- All hot works operations should be carried out under the supervision of our representative and also under the supervision of responsible representative of the contractor.
- All hot work operations should be undertaken only after issue of hot work permits by the location in charge on day to day basis.
- It should be ensured that the surrounding area is free from oil, rags, oil spillage and other sources of ignition and the area is cleaned/ sprinkled with sand or dry earth. It should also be ensured that metallic trays filled with DCP powder are kept for collecting the welding arc/ hot metal cutting.
- Hot work should commence only after positioning the portable fire extinguishers and sand/ dry powder in readiness at site and hydrant system made available at the nearest point.
- Match boxes, lighters etc used for hot work should be kept in the custody of the supervisor only.
- If hot work has to be carried out in a place close to storage tanks or any other facility under operation, it is necessary to provide screen wall made of AC sheets to segregate the area to prevent sparks traveling to the hazardous area.
- It should be ensured that no workman carries match boxes or any other source of ignition with them while entering the premises or inside the premises. After the hot work operation of the day, the following precaution should be taken.
 - Welding sets should be switched off and power mains disconnected. If the connection is taken from a temporary switch board the fuse carriers should be removed and handed over to the supervisor.
 - Gas cylinder and the cutting sets should be properly closed and the equipment removed to a safe place.
 - The site of work should be examined to ensure that it is free from hot splatters and any other source of ignition.
 - All the work men of the contractors should be moved out of the premises.

29.0 **SAFETY PRECAUTIONS & HOT WORK:**

29.1 Contractor shall have to take all safety precaution for carrying out hot work in the premises after obtaining hot work permit from location in charge at his own cost as directed by the Engineer-In-Charge. Necessary safety equipment such as safety belts, helmets and other equipments are to be positioned by the contractor and use as per requirement.

29.2 Any casualty or damage caused to property or person by any untoward incidents while executing this contract will be at the contractor's risk and cost.

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
20 of 65

- 29.3 The contractor shall also abide by hot work permits to be taken on day to day basis from the location as per policy of the LIOC.
- 29.4 The successful tenderer shall be responsible for observance of all conditions as per Appendix III furnished along with GCC with regard to safety.
- 29.5 The tenderers are advised to submit their offer strictly as per the terms and conditions and specifications contained in the tender document and not put forth conditions/ counter conditions. Conditional tenders received subsequent to the pre bid meeting tenders shall render the offer liable for rejection.
- 29.6 Tenderers to note that the rates quoted for items contained in the price schedule shall be inclusive of all the works involved for according all assistance to the LIOC for commissioning the system. It may be noted that commissioning assistance shall be limited to supply of all labour, stud bolts, nuts, washers, gaskets which give way during commissioning.
- 30.0 **MATERIAL WITHOUT APPROVAL**
- 30.1 Any material brought without prior written approval, shall be entirely at the risk and cost of the Contractors.
- 30.2 If contractor brings defective/substandard materials at site it shall be the responsibility of the contractor for the removal and disposal of the same at his cost. LIOC shall not entertain any claim for the contractor in this account in case the contractor fails to remove such materials within 15 days after notice in writing to the contractor LIOC reserves the right to dispose such materials at the entire risk and the cost of the contractor.
- 30.3 Work order quantities are approx. and payment shall be made only as per actual measurements. The contractor is not entitled for any sort of compensation towards materials procured /stored in excess of the measured quantity, if any.
- 30.4 Excess quantities over that mentioned in work order or extra item or deviation in work order should not be carried out by the contractor unless he has been asked to do so in writing and if carried out without such written approval the same will be at risk and cost of the contractor.
- 30.5 Detailed measurements of works carried out shall be taken jointly by the contractor and LIOC representative at every stage of work before proceeding to next stage
- 30.6 The entire works shall be carried out under the supervision of the authorized representative of LIOC.
- 31.0 While carrying out the work, extreme care should be taken to ensure the safety of the personnel engaged by the contractor for the work and the men working with other contractor and LIOC personnel. Contractor shall obtain required License from the Labor officer if required as per law before starting the work.
- 32.0 LIOC reserves the right to operate or not to operate any items mentioned in the schedule.

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
21 of 65

33.0 Any additional items of work that become necessary during the course of execution shall be authorized and approved for full details of the work by LIOC representative before execution of the same.

34.0 LIOC reserves right to have the choice of the best material which are in the contractor's scope of supply.

SR. VICE PRESIDENT (ENGG.)
LANKA IOC PLC,

I / We confirm that I / We have gone through the above conditions carefully and agree to abide by the same

Signature of Tenderer :

Name :

Title :

+

Address :

Date & Seal :

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
22 of 65

TERMS & CONDITIONS - SAFETY

Since the works have to be carried out in Petroleum storage and distribution establishment, the contractors should ensure that day to day operations, safety & security of the location are not affected in any way on the account of the work being carried out. In case of any damage to LIOC properties due to negligence on the part of the contractor or their workmen, the contractor will be held responsible and liquidated damages as asserted by the corporation would be recovered from them.

For all cold works and hot works involved at site, following safety precautions have to be strictly observed before commencement of hot works.

- a. All hot works should be carried out under the supervision of LIOC representative and also under the supervision of a responsible representative of the contractor.
- b. All hot work operations should be undertaken only after issue of hot work permit by Site Engineer on a day to day basis.
- c. It should be ensured that surrounding area is free of oil rags, spillages and other sources of ignition and the area cleaned and sprinkled with dry sand / earth. It should also be ensured that metallic trays filled with DCP are kept for collecting the welding arc / hot metal cutting.
- d. Hot work should commence only after positioning the portable fire extinguishers and sand / dry powder in readiness at site and hydrant system made available at the nearest point.
- e. Match boxes, lighters etc. used for hot work should be kept in the custody of supervisor.
- f. If hot work has to be carried out in a place close to storage tanks or any other facility under operation, it is necessary to provide a screen wall made of AC sheets to segregate the area to prevent the sparks traveling to the hazardous area.
- g. It should be ensured that no workmen carry matchboxes or any other source of ignition with them while entering the premises or inside the premises. After the hot work operation of the day, the following precautions should be taken.
 - Welding sets should be switched off and the power mains disconnected. If the connection is taken from temporary switchboard, the fuse carriers should be removed and handed over to the supervisor.
 - Gas cylinders and cutting sets should be properly closed and the equipment removed to a safe place.
 - The site of work should be examined to ensure that it is free from hot splatters and any other source of ignition.
 - All the workmen of the contractor should be moved out of the premises.

Note: Successful tenderer to strictly follow the instruction of Fire department of the terminal including instructions being given from time to time by the terminal personnel in order to ensure safety at all points of time throughout the execution of works.

SR. VICE PRESIDENT (ENGG.)
LANKA IOC PLC,

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
23 of 65

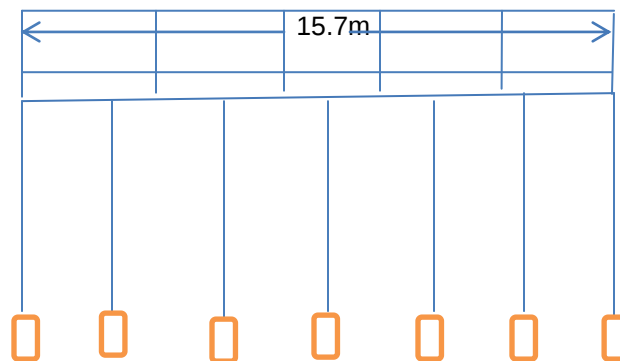
TECHNICAL SPECIFICATIONS

SIGNATURE OF TENDERER

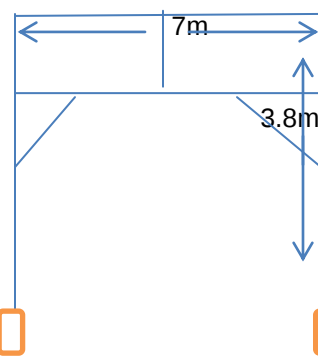
SEAL

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

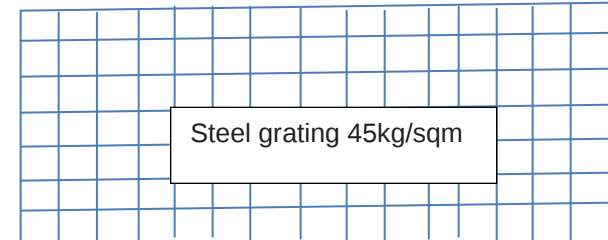
1.0 Scope of works: Construction of Mezzanine floor of 110 sqm as shown in the figure below:



"I" Beam 300 X 150 x 5.5



MC 150 X 75 X 5.7



1. Total available area = 15.7×7 = 110
2. Steel Grating weight (3mm) = 110×45 = 4,950 kg
3. "I" Beam 300 X 150 x 5.5 = 15.7×32.69 = 514kg
4. "I" Beam 200 X 100 x 4.5 = 83×18.52 = 1,540kg
5. MC 150 X 75 X 5.7 = 242×16.8 = 4,066kg
6. Steel weight for stair case = 1,000 kg
7. Steel weight for hand trail = 680 kg
8. Total steel weight for mezzanine floor = **12.75 MT**



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
25 of 65

SPECIFICATIONS STRUCTURALS STEEL WORKS

GENERAL

The contractor is expected to visit site to get himself acquainted with prevailing site conditions i.e. availability of water, power, approach road etc before quoting for this tender. The contractor shall be entirely responsible for provision of all such utilities. No delay shall be entertained on this account.

The contractor may have to arrange temporary power connection from the local Electric Supply Authority by his own effort and cost. Alternatively contractor shall have to carry out the work with his own DG sets at no extra cost.

For payment purpose against items, of supply fabrication and erection of steel of all types, the weight shall be calculated based on section given in the standard steel tables and physical verification whichever is less. The net fabricated dimensions edge to edge shall be taken into account. The measurement shall exclude any allowance for wastage and weld metal etc.

INSPECTION

Engineer-in-Charge or his authorized representative or third party appointed by IOC shall have free access at all reasonable time to inspect those parts at the manufacturer's works which are connected with the fabrication of the steel work and shall be provided with all reasonable facilities for satisfying himself that the fabrication is being undertaken in accordance with the provision of this contract.

Inspection shall be made at site/ at the place of manufacture prior to dispatch of the fittings. The inspection shall be conducted so as not to interfere unnecessarily with the operation of work.

Should any structure or part of a structure be found not to comply with any of the drawings and specifications, it shall be rejected. No structure or part of the structure once rejected shall be re-submitted for test except in case where the LIOC considers the defects as rectifiable.

Defects which may appear during fabrication shall be made good by the contractor.

The suitability and capacity of all plants & equipments used for erection shall be to the satisfaction of the engineer.

DOCUMENTS TO BE SUBMITTED BY CONTRACTOR : (FOUR COPIES EACH)

Welders qualification test report as per IS-817.

Electrode and material test certificates from the manufacturer.

HOT WORK PERMIT

No hot work is permitted without issuance of hot work permit by location in-charge. at existing locations. After completion of work the site should be cleared of all scrap, contractor's equipment and machinery used in fabrication.

SIGNATURE OF TENDERER

SEAL

SPECIFICATIONS FOR STRUCTURAL STEEL WORK

SCOPE: This specification covers the general requirements for supply, fabrication, painting, transport and erection of structural steel and steel tubes for General Building Construction, Plant Structures, Pipe Racks, Equipment Supports, Cable Trays and other Miscellaneous work consisting of elements such as; but not limited to:

Columns, beams, plate girders, trusses, bracings, purlins, sag rods, staircases, ladders, monorails, portal frames, cross overs, trusses, tie runner etc.

- Hand railing, motor pit railing.
- Stair treads and flooring of chequered plate and gratings.
- Anchorages such as inserts and holding down bolts.

The supply shall also include fastenings like nuts, bolts and washers, welding rods, oxyacetylene gas and primer/finish paint. The work shall be carried out as per drawings, standards and instructions furnished by the Engineer. Plate work such as tanks, chimney, vessels, bunkers are excluded from the contractors scope.

GENERAL

The structural works described hereunder is the Scope of Works for the project.

DESIGN

The structural steelwork shown on the drawings and described in this specification has been designed to BS 449.

SLIP FACTOR: A slip factor of 0.45 has been used in the design of friction grip joints.

DEFINITIONS

SHOP DRAWING: Drawings showing all necessary information to fabricate the structural steelwork.

CONTRACTORS' DRAWINGS

Approval by the Consultant of drawings prepared by the Contractor does not relieve the contractor of the responsibility for accuracy of detail dimensions on drawings, nor for the general fit up of parts to be assembles on site.

GENERAL REQUIREMENTS

CODE OF PRACTICE: Comply with BS 449 and this specification. In case of conflict, the requirements of this specification take precedence.

CONSTRUCTION INFORMATION

SIGNATURE OF TENDERER

SEAL



Lanka IOC

TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

Page

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

FABRICATION: Provide the following information at least 2 weeks before commencing fabrication.

Complete and Co-coordinated shop drawings.

Details of welding procedures in accordance with BS 5135 for all welds.

QUALITY CONTROL

WELDERS: All welders employer for the project should possess valid certificate issued by an appropriate authority.

All welds are to be tested by the Inspecting Authority in accordance with the following schedule.

Fillet weld: 20% of the total lengths of all fillet welds to be selected by the Consultant are required to be tested.

MATERIALS - SECTIONS PLATES BARS

HOT ROLLED SECTIONS, PLATES AND BARS: Steel to BS 4360. Quality grades as noted on the drawings.

DIMENSIONS AND TOLERANCES

PLATES AND BARS	: to BS 4360
HOT ROLLED SECTIONS	: to BS 4 Part 1
ANGLES	: to BS 4848 : Part 4
HOLLOW SECTIONS	: to BS 4848 : Part 2

CONDITION OF STEEL: Steel for fabrication is not to be more heavily pitted or rusted than grade C of Swedish Standard 05 59 00.

MATERIALS - STRUCTURAL FASTNERS

ORDINARY BOLTS AND NUTS: to BS 3692 Grade 8.8. Dimensions may be in accordance with BS 4190.
HIGH STRENGTH FRICTION GRIP BOLT: BS 4395: Part 2

WASHERS: BS 4320.

SPRING WASHERS: BS 4464

SURFACE FINISH

GALVANIZED: bolt assemblies are to be galvanized in accordance with BS 729.

MATERIALS

WELDING CONSUMABLES: All welding consumables used for the arc welding of carbon manganese steels are to comply with BS 5135.

MECHANICAL PROPERTIES: Welding consumables and procedures are to give mechanical properties for the deposited weld metal not less than minimal specified for the parent metal.

SIGNATURE OF TENDERER

SEAL



Lanka IOC

TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

Page

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

GROUT

Grout is have a minimum compressive strength at 28 days of 60 N/mm^2 and is to be of the following form. The grout is to be pressure grouted Conbextra GP manufactured by FOSROC Construction Chemicals or equivalent approved by the Consultant.

WORKMANSHIP

IDENTIFICATION

MARKING: Mark all materials to ensure that they are used as specified.

DOCUMENT: provide all mill certificates and manufacturer's certificates to show evidence of materials are provided as specified. Mill certificates and manufacture certificates shall be provided by the Contractor for each batch of steel materials delivered to the site. Steel materials delivered to the site, if not accompanied by any certificates shall be rejected.

STORAGE

Steelwork shall be kept in a clean place and in manner to prevent damage to the steelwork.

WORKMANSHIP - GENERAL

CUTTING

PROCESS: Cut steel by an automatic or semi-automatic process.

HAND FLAME CUTTING: Use only when approved by the Consultant.

GRINDING: remove burrs, sharp arises and ragged edged by grinding.

ACCURACY OF FABRICATION

ACCURACY: fabricate steelwork to an accuracy that will enable erection within the specified limits to take place without inducing excessive stresses, deflection or distortion into the structure.

LENGTH: members with both ends to be supported by existing structure or other proposed steelwork are not to deviate from the detailed length by more than 3mm for members 10m or less, 4mm for members greater than 10m in length.

STRAIGHTNESS: the deviation of a member from a straight line drawn between both ends of the member is not to exceed the greater of 3mm or 0.1% of the distance between both ends of the member.

WORKMANSHIP - WELDING

GENERAL

ARC WELDING: arc welding of carbon and carbon manganese steels is to comply with BS 5135.

WELDING PROCEDURES

SIGNATURE OF TENDERER

SEAL



Lanka IOC

TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

Page

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

WELDING PROCEDURES: approved to BS 4870: part 1 by the Contractor.

DISTORTION: Welding procedures and sequence of fabrication are to be such that distortion is reduced to a minimum.

WELDERS: approval tested to BS 4871: part 1

WELDING CONSUMABLES: store, handle and use in accordance with the manufacture's recommendations.

TACK WELDING: to comply with BS 5135

TEMPORARY ATTACHMENTS: welding of temporary attachments required for fabrication or erection is to comply with BS 5135.

BUTT WELDS: use run-on and run-off plates in making butt welds to ensure full throat thickness at the ends. They are to comply with the following requirements.

The specification for the plates is to be identical to that for the material being welded.

The plates are to be prepared in the same manner as the parts being joined.

After completion of welding the plate are to be removed by cutting. The surfaces where they were attached are to be ground smooth and inspected for cracks.

REMOVAL OF SLAG: remove slag by light hammering, wire brushing or other methods that do not deform the surface of the weld.

WORKMANSHIP - BOLTING

HOLES

FORMING: drill or punch and ream all holes unless agreed otherwise.

SIZE: holes for ordinary bolts are to be of diameter not more than 2mm greater than the diameter of the bolt for bolts up to 24mm diameter, and not more than 3mm greater than the diameter of the bolt for bolts over 24mm diameter, except in steel base plates and where noted on the drawings.

HSFG FASTENERS: holes to comply with BS 4604.

MAKE UP OF BOLT ASSEMBLIES: for all bolt assemblies the strength grade combination of bolt/nuts/washers is to be as prescribed or recommended in the relevant British Standard.

CONDITION OF BOLTS: bolt assemblies are to be in such condition immediately before installation that the nut turns freely on the bolt.

GALVANISED NUTS: re-tap nuts in galvanised bolt assemblies after galvanising.

WASHERS

WASHERS: each bolt assembly is to contain at least one washer placed under the part being rotated.

TAPER WASHERS: place under bolt heads and nuts bearing on surfaces sloping 3 degrees or more from a plane at right angles to the bolt axis.

SIGNATURE OF TENDERER

SEAL



Lanka IOC

TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

Page

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

INSTALLATION OF SPRING WASHERS: tighten bolt assemblies containing spring washers until the spring washer is completely flattened.

LOCKING OF NUTS: secure nuts used in connections subject to vibration or reversal of stresses to prevent loosening. If not specified on the drawings include the proposed method in the erection details.

LIMITS TO LENGTH: the length of bolt is to be such that at least one clear thread shows above the nut after tightening, and at least one thread plus the thread run out is clear between the nut and the unthreaded shank of the bolt.

HIGH STRENGTH FRICTION GRIP FASTENERS

USE: the use of high strength friction grip bolts is to comply with BS 4704

TIGHTENING METHOD: tighten high strength friction grip bolts using the 'torque-control' method.

LOAD INDICATING WASHERS: use in accordance with the manufacturer's recommendations.

DISCARDED BOLT ASSEMBLIES: if after tightening a bolt or nut is slackened off for any reason the complete bolt assembly is to be discarded and not re-used in the works.

WORKMANSHIP-ERECTION

GENERAL: check before erection of any steelwork that work abutting the steelwork to be erected has been correctly placed in position and level.

ERECTION STRESSES: not exceed the stress limit given in BS 449 during handling and erection.

ALIGNMENT: align each part of the structure as soon as practicable after it has been erected. Do not make permanent connections between members until sufficient of the structure has been aligned, leveled, plumbed and temporarily connected to ensure that members will not be displaced during the subsequent erection or alignment of the remainder of the structure.

THERMAL CUTTING: do not use thermal cutting equipment on site unless agreed otherwise for specific applications.

SITE WELDING: where site welding is required, provide suitable staging, platforms and weather protection for welding operations with all safety precautions.

GROUTING

GROUTING. Do not carry grouting until the steel beam has been aligned and properly connected at its ends.

SPACE: immediately before grouting, the space is to be clean and free of all extraneous matter.

PROPRIETARY GROUT: prepare, mix and place in accordance with the manufacturer's recommendations.

QUALITY CONTROL & TEST CERTIFICATES

SIGNATURE OF TENDERER

SEAL



Lanka IOC

TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

Page

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

STEELS: provide mill or test certificates to demonstrate that steels used in the work conform with this specification. Mill certificates shall be provided for each batch of steel materials delivered to the site.

BOLTS: provide test certificates to demonstrate that bolts used in the Work conform with this specification. Test certificates shall be provided for each batch of bolts and nuts materials delivered to site.

SCOPE OF WELD EXAMINATION

FILLET WELDS: subject to the following non-destructive examinations:

Visual inspection to BS 5289

Penetrant test BS 6443 or magnetic particle test to BS 6072

Ultrasonic examination to BS 3923: Part 1 or to an equivalent standard for welds with a leg length greater than 12mm.

INSPECTING AUTHORITY: examination of welds is to be carried out by the Inspecting Authority.

RECORDS: keep records of all weld examinations.

BOLTED CONNECTIONS: following complete assembly of all bolted connections, check the fit and tightness at least 5% of the bolts at locations to be agreed with the Consultant.

FREQUENCY OF TESTING STEEL MATERIALS

The Contractor shall allow for testing steel materials BS 4360 by an accredited laboratory. Tests shall be carried out prior to commencement of work and prior to change of source of steel plate materials.

STEEL WORK CORROSION PROTECTION SPECIFICATION

GENERAL

Do not treat surfaces to be encased in concrete unless specified. See structural drawings for protective treatments and notes.

DEFINITIONS

DFT: minimum dry film thickness of a paint coating. Minimum local thickness of a sprayed metal or galvanized coating.

HDG GALVANIZING: galvanizing in accordance with BS 729.

MATERIALS

PROPRIETARY MATERIALS

EVIDENCE OF COMPLIANCE: Before commencement of the work, provide evidence to demonstrate that the proposed materials comply with the specification.

MANUFACTURE'S INSTRUCTIONS

MANUFACTURE'S INSTRUCTIONS: obtain from the manufacturer of any proprietary product detailed instructions on the use of the product, specific to the situation found on the Contract.

USE OF PRODUCT: comply with the manufacturer's instructions for the use of any product. If these are in conflict with the requirements.

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
32 of 65

LIST OF CODES AND STANDARDS

BRITISH STANDARDS

BS 4	Structural steel section Part 1: specification for hot rolled sections
BS 427	Method for Vickers hardness test Part 1: testing of metals
BS 729	Hot dip galvanised coating on iron and steel articles.
BS 1449	Steel plate, sheet and strip Part 1: specification for carbon and carbon manganese plate, sheet and strip
BS 1706	Electroplated coating of cadmium and zinc on iron and Steel
BS 2853	The design and testing of steel overhead runway beams
BS 2989	Specification for continuously hot-dip zinc coated steel : Wide strip, sheet/plate and slit wide strip.
BS 2994	Specification for cold rolled steel sections.
BS 3382	Electroplated coatings on threaded components Part 1: Cadmium on steel components Part 2: Zinc on steel components
BS 3692	ISO metric precision hexagon bolts, screws and nuts.
BS 3923	Methods for ultrasonic examination of welds. Part 1: Manual examination of fusion welds in ferritic steels
BS 4190	ISO metric black hexagon bolts, screws and nuts
BS 4320	Metal washers for general engineering purposes
BS 4360	Specification for weldable structural steels
BS 4395	High strength friction grip bolts and associated nuts and washers for structural engineering. Part 1: General grade. Part 2: Higher grade bolts and nut and general grade washers. Part 3: Higher grade bolts (wasted shank), nuts and general grade washers.
BS 4464	Spring washers for general engineering and automobile purpose(metric series)
BS 4604	The use of high strength friction grip bolts in structural steel work. Metric series. Part 1: General Grade Part 2: Higher Grade (Parallel shank) Part 3: Higher Grade (Wasted shank)
BS 4848	Hot rolled structural steel sections Part 2: Hollow sections Part 4: Equal and Unequal angles
BS 4870	Specification for approval testing of welding procedures. Part 1: Fusion welding of steel
BS 4871	Specification for approval testing of welder working to approved welding procedures. Part 1: Fusion welding of steel.
BS 4921	Standardized coatings on iron and steel articles
BS 4933	ISO metric block cup and countersunk head bolts and screw with hexagon nuts.
BS 5135	Specification for the processor arc welding of carbon and manganese steels.
BS 5289	Code of practice for visual inspection of fusion welded joints. BS 5950 Structural use of steel work in building Part 1: Code of practice for design in simple and continuous construction hot rolled sections. Part 2: Specification for materials, fabrication and erection hot rolled sections
BS 5996	Method of ultra sonic testing and specifying quality grades of ferritic steel plate.

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
33 of 65

BS 6072	Method of magnetic practice flaw detection
BS 6363	Specification for welded cold formed steel structural hollow sections
BS 6443	Method of penetrant flaw detection
BS 6780	Specification for through thickness reduction of area of steel plates and wide flats.

MATERIAL SPECIFICATIONS STRUCTURAL WORKS

STRUCTURAL SECTIONS

Structural steel work shall conform to IS:808 - latest Edition.

Structural steel materials shall be of SAIL, ISSCO, Vizag Steel or TISCO make and shall be conforming to **IS-2062 Gr A**

Angles upto ISA 50, flats and square bars shall be of any BIS approved manufacturer duly approved by Engineer-in-Charge.

Sectional weight as per IS standard will be considered for payment purposes.

WELDING ELECTRODES

Welding electrodes shall conform to Covered electrodes for manual metal arc welding of carbon and carbon maganese steel/American Welding Society, AWS - A5.1 - "Carbon Steel covered Arc Welding Electrodes" - AWS classification Nos. E7015 / E7016 / E7018.

Product piping: Root run: E 6010; Fill Up: E 6018

Water piping : Root/ Fill up: E 6013

Welding electrodes of any of the following makes can be used :

ESAB India Ltd.	GEE Limited
Advani Orlekon	D & H Welding
D & H Sechron Electrodes Ltd	Kobe Steels
Honavar Electronics Ltd.	Modi Arc Electrodes Co
Mailam Metallogen (P) Ltd.	Anand Arc Electrodes Pvt. Ltd.

PERFORMANCE QUALIFICATION BY OTHERS

Site Engineer may accept a performance qualification made by certified agencies with the specific approval of the Engineer-In-Charge.

The Contractor shall obtain a copy from the certified agencies of the performance qualification test record & submit the same to Engineer-In-Charge with specific recommendation & approval of Inspector with the following details.

SIGNATURE OF TENDERER

SEAL

	TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21	Page 34 of 65
	TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE AT LIOC TERMINAL, TRINCOMALEE.	

The name of the agency.
The name of the welder or welding operator.
The procedure identification.
The date of successful qualification.

QUALIFICATION RECORD

The Contractor shall maintain a self-certified record, available to the Engineer-In-Charge and the Inspector. The records will have the following details:

The procedure used.

The welders and welding operators employed showing the date and results of procedure and performance qualifications

The identification symbol assigned to each welder and welding operator.

WELDING MATERIALS

FILLER METAL

Filler metal shall conform to the requirements of ASME Section IX. filler metal, not yet incorporated in ASME Section IX may be used with IOC approval, if a procedure qualification test is first successfully made.

CLEANING

Internal and external surfaces to be thermally cut or welded shall be clean. They will be free from paint oil rust scale and other material that would be detrimental to either the weld or the base metal when heat is applied.

END PREPARATION

End preparation is acceptable only if the surface is reasonably smooth and true, and slag from oxygen or arc cutting is cleaned from thermally cut surfaces.

Discolouration remaining on a thermally cut surface is not considered detrimental oxidation.
End preparation, for groove welds specified in ASME or as specified, which meets the WPS is acceptable.

WELDER'S IDENTIFICATION SYMBOL

Each qualified welder and welding operator shall be assigned an identification symbol. Unless otherwise specified in the engineering design, each weld or adjacent area shall be marked with the identification symbol of the welder or welding operator .In addition of marking the weld, appropriate records shall be maintained.

TACK WELDS

Tack welds at the root of the joint shall be made with filler equivalent to that to be used in the root pass.

Tack welds shall be made by a qualified welder or welding operator.

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
35 of 65

Tack welds shall be fused with the root pass weld, except that those which have cracked shall be removed. Bridge tacks (above the weld) shall be removed.

Tack welds used in assembling shall be removed and surface grinded properly and gaps filled with weld metal.

PEENING

Peening is prohibited on the root pass and final pass of a weld.

CLIMATIC CONDITIONS

No welding shall be done if there is impingement on the weld area, of rain, snow, sleet or excessive wind or if the weld area is frosted or wet.

Electrodes for welding shall be stored in a dry place (HOT CASE) in their original packets or cartons.

FILLET AND SOCKET WELDS

Fillet welds, including socket welds, may vary from convex to concave. The size fillet weld shall be as per engineering design.

FORMAT FOR WELDING PROCEDURE SPECIFICATIONS (WPS)

1. Contractor's Name _____
- 2 By _____
3. WPS No.(s) _____ Date _____
4. Supporting PQR No. (s) _____
5. Revision No. _____ Date _____
5. Types of Welding _____
Process (es) (Automatic, Manual, Machine or Semi Automatic)

Notes :

- 1) Tenderers to sign Pg. Nos. ____ to ____ in token of acceptance of formats.
- 2) Details have to be filled in by the successful tenderer at the time of acceptance of W.O.

WA. JOINT

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
36 of 65

1. Joint Design _____
2. Backing (Yes) _____ (No) _____
- 3 Type of Backing Material _____

Notes:

- a) The general arrangement of the parts to be welded should be shown by sketches, drawings, weld symbols or written detailed description. The root spacing and the details of weld groove should be specified.\
- b) The contractor should attach the sketches to illustrate joint design, weld layers and bead sequence e.g. for notch toughness procedures, for multiple process procedures etc.

WC1. POSITIONS

1. Position(s) of Groove _____
2. Welding Progression : Up _____
Down _____
3. Position(s) of Fillet _____

WC2. PREHEAT

1. Preheat Temp. Minimum _____
- 2 Interpass Temp. Max _____
- 3 Preheat Maintenance _____

Note: Continuous or special heating where applicable should be recorded

WC3. GAS

- 1 Shielding Gas(es) _____
- 2 Percent Composition _____
(mixtures)
- 3 Flow Rate _____

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
37 of 65

4 Gas Backing _____

5 Trailing Shielding Gas _____

WC4. ELECTRICAL CHARACTERISTICS

1 Current AC or DC _____ Polarity _____

2. Amps. (Range) _____ Volt~ (Range) _____

3 Tungsten Electrode _____
Size & Type (Pure Tungsten~2% Thoriated etc.)

4 Mode of Metal Transfer _____
For GNAW (Spray arc, short circuiting arc etc.)

5. Electrode Wire feed _____
speed range

Notes:

- a. Amps. and volts range should be recorded for each electrode size, position and thickness etc.
- b This information may be listed in a tabular form similar to that shown above

WC5. TECHNIQUE

1. String or Weave Bead _____

2. Orifice or Gas Cup Size _____

3. Initial and Interpass Cleaning _____
(Brushing, Grinding etc.)

4. Method of Back Gouging _____

5. Oscillation _____

6. Contact Tube to Work Distance _____

7. Multiple or Single Pass (per side) _____

8. Multiple or Single Electrodes _____

9. Travel Speed (Range) _____

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
38 of 65

10. Peening _____

11. Other _____

WB. STEEL PLATES MATERIAL (BASE METAL)

1. P.No. _____ Group No. _____ To P. No. _____ Group No. _____

OR

2. Specification _____ Specification _____

to

type and grade _____ type and grade _____

OR

3 Chem. Analysis _____ Chem Analysis _____

and Mech. Prop. _____ and Mech. Prop. _____

4. Thickness Range :

5- Base Metal : Groove _____ Fillet _____

6. Deposited : Groove _____ Fillet _____
Weld Metal

7. Plate thickness range Groove _____ Fillet _____

8. Other _____

WC. ELECTRODES

1. F.No. _____ Other _____

2. A.No. _____ Other _____

3. Spec. No. (SFA) _____

4. AWS No. (Class) _____

5. Size of filler metals _____

(Electrode, Cold Wire, Hot Wire etc.)

SIGNATURE OF TENDERER

SEAL

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
40 of 65

FORMAT FOR PROCEDURE QUALIFICATION RECORD (PQR)

1. Contractor's Name _____
2. PQR No. _____
3. Date _____
4. WPS No. _____
5. Welding Process(es) _____
(Type - Manual, Automatic, Semi-Auto)

**PA. JOINTS
GROOVE DESIGN OF TEST COUPON**

Note :

For combination qualifications the deposited weld metal thickness shall be recorded for each filler metal or process weld.

PB. STEEL PLATES MATERIAL (BASE METAL)

1. Material Spec. _____
2. Type of Grade _____
3. P.No. _____ To P.No. _____
4. Thickness of Test Coupon _____
5. Size Test Coupon _____
6. Other _____

PC. WELDING ELECTRODES (FILLER METALS)

1. Weld Metail Analysis A-No. _____
2. Size of Filler Metal _____
3. Filler Metal E-No. _____
4. SPA Specification _____

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
41 of 65

5. AWS Classification_____

6. Other _____

PC1. POSITION

1. Position of Groove _____

2. Weld Progression (Up, down)_____

3. Other _____

PC2. PREHEAT

1. Preheat Temp. _____

2. Interpass Temp. _____

3. Other _____

PC3. GAS

1. Types of Gas of Gases_____

2. Composition of Gas Mixture _____

3. Other_____

PC4. ELECTRICAL CHARACTERISTICS

1. Current _____

2. Polarity _____

3. Amps. _____

4. Volts _____

5. Tungsten Electrode Size_____

6. Other _____

PC5. TECHNIQUE

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
42 of 65

1. Travel Speed _____
 2. String or Weave Bead _____
 3. Oscillation _____
 4. Multipass or Single
Pass (per side) _____
 5. Single or Multiple
Electrodes _____
 6. Other _____
-

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
43 of 65

TENSILE TEST

SPECIMEN NO.	WIDTH	THICKNESS	AREA	ULTIMATE TOTAL LOAD Kgs.	ULTIMATE UNIT STRESS Mpa	TYPE OF FAILURE AND LOCATION

GUIDED BEND TEST

TYPE AND FIGURE NO.	RESULT

TOUGHNESS TEST

SPECIMEN NO.	NOTCH LOCATION	NOTCH TYPE	TEST TEMP.	IMPACT VALUES	LATERAL EXP.	MILES	DROP WEIGHT	
					% SHEAR		BREAK	NO BREAK

FILLET WELD TEST

1. RESULT

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
44 of 65

Satisfactory :

Yes _____

No _____

2. PENETRATION INTO PARENT METAL :

Yes _____

No _____

3. MACRO -RESULTS _____

OTHER TESTS

1. TYPE OF TEST _____

2. DEPOSIT ANALYSIS _____

3. OTHERS _____

1. WELDER's NAME _____

2. CLOCK NO. _____ STAMP NO. _____

3. TEST CONDUCTED BY _____

4. LABORATORY TEST NO. _____

This is to certify that the statements in this record are correct. We also certify that the test welds were prepared, welded and tested in accordance with the requirements of Section IX of the ASME Code.

Manufacturer _____

Date _____ By _____

Detail of record of tests are illustrative only and may be moulded to conform to the type and number of tests required by the Code.

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
45 of 65

CONTRACTORS RECORD OF WELDER QUALIFICATION TESTS

Welder Name _____

Check No _____ Stamp No _____

Using WPS No _____ Revision _____

The above welder is qualified for the following ranges

SN.	DESCRIPTION	RECORD ACTUAL VALUES USED IN QUALIFICATION	QUALIFICATION
1	Process		
2	Process Type		
3	Backing (Metal, weld, flux etc)		
4	Material Specs		
	a. Plate thickness		
	b. Groove		
	c. Fillet		
5	Filler Metal		
	Spec No		
	Class		
	F. No		
6	Position		
7	Weld Progression		
8	Gas Type		
9	Elec. Charac		
	a Current		
	b Polarity		

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
46 of 65

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
47 of 65

GUIDED BEND TEST RESULTS

TYPE & FIGURE NO.

RESULT

RADIOGRAPHIC TEST RESULTS

For alternative qualification of groove welds by radiography Radiographic
Results_____

FILLET WELD TEST RESULTS

Fracture Test_____

(Describe the location, nature & size of any crack or tearing of the specimen)

Length and Percent of Defects_____ INCHES_____%

Macro Test - Fusion _____

Appearance - Fillet Size(ing) _____in. X_____ in.

Convexity _____in. or Concavity _____

Test Conducted by _____

Laboratory - Test No. _____

This is to certify that the statements in this record are correct and that the test welds were prepared, welded and tested in accordance with the requirements of Section IX of the ASME Code.

Organisation _____

Date _____

By _____

Details of record tests are illustrative only and may be modified to conform to the type & number of tests required by the Code.

Note : Any essential variables in addition to those above shall be recorded.

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
48 of 65

ELECTRODE QUALIFICATION TEST RECORD

Date_____

Test started On_____

Test completed on_____

A. DETAILS _____

1. Tested at_____
2. Work order no._____
3. Sponsoring Agency_____
4. Manufacturer's Name_____
5. BrandName _____
6. Welding positions_____
7. In combination with (if any) _____
8. Reference Code & Classification_____
9. Special requirements (if any) _____
10. Batch No. with date & size _____

SN.	ELECTRODE SIZE	BATCH NO.	DATE OF MANUFACTURE	REMARKS

B. TESTS

All weld tests_____

Base material used _____

Buttering used _____ Yes/No.

Preheat Temperature _____ Deg.C

Interpass Temperature _____ Deg.C

PWHT details soaking Tem./Time_____

Visual Examination _____

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
49 of 65

WELDER'S IDENTIFICATION CARD

PHOTOGRAPH

- | | | |
|----|---------------------|---|
| 1. | Name | - |
| 2. | Identification | - |
| 3. | Date of Testing | - |
| 4. | Valid until | - |
| 5. | Process | - |
| 6. | Thickness | - |
| 7. | F. No. | - |
| 8. | Approval of welding | - |
| 9. | Position | - |

Approved by

Employee's Signature
with Seal

SIGNATURE OF TENDERER

SEAL

**SPECIFICATION FOR CLEANING & PAINTING STRUCTURAL WORK****GENERAL**

These specifications define basic requirements for painting of structural work.

It is deemed that the work shall be carried out by the contractor with the best quality of specified material and workmanship at his own cost.

Adequate numbers of required tools, brushes, blast material, scaffolding, shot/sand blasting equipment, air compressors etc. shall be arranged by the contractor at site.

During storage and application of paints, the paint manufacturer's instructions shall be strictly followed. Particular attention shall be paid to the following:

- Proper storage avoiding exposure and extreme temperature.
- Specified surface preparation.
- Mixing and thinning.
- Application of paints and the recommended time intervals between consecutive paint coats.

Two pack paint system will be mixed by mechanical means. The Engineer-In-Charge may allow hand mixing of small quantities at his discretion.

Painting shall be done only after the mechanical completion and testing on systems are completed.

The 'Fire Red' colour paint shall be used for painting fire water net work, hydrants monitors, hose boxes etc.

SCOPE OF PAINTING

Scope of painting work covered in the specification shall include:

- Structural steel work, walk ways, supports, ladders etc.
- All above fittings including identification marks).
- Supply of all primers, paints and all other material required for painting.

SURFACE PREPARATION

In order to achieve the maximum durability, one or more of following methods of surface preparation shall be followed before blast cleaning.

MANUAL OR HAND TOOL CLEANING

This normally consists of hand descaling and/or hammering, hand scrapping and hand wire brushing. Rust, mill scales, weld spatters, old coatings and other foreign matter shall be removed by hammering, scrapping tools, emery paper cleaning, wire brushing or combination of the above methods. On completion of cleaning, loose material shall be removed from the surface by clean rags and the surface shall be brushed swept, re-dusted and blown off with compressed air to remove all loose matter. For repainting of existing

SIGNATURE OF TENDERER

SEAL

tanks, Non ferrous tools should be used for cleaning.

MECHANICAL OR POWER TOOL CLEANING

Power tool cleaning shall be done by mechanical striking tools, chipping hammers, grinding wheels or rotating steel wire brushes. Excessive brushing of surface shall be avoided as it can reduce paint adhesion. On completion of cleaning, the detached rust, mill scale etc. shall be removed by clean rags and / or washed by water or steam and thoroughly dried with compressed air jet before application of paint.

APPLICATION OF PRIMER AND PAINT

- Before application of primer, the surface shall be cleaned of dust etc. All paints shall be thoroughly stirred up prior to and during their application.
- Application of coats shall not be carried out if the atmospheric temperature is less than 5°C or if the temperature exceeds 40°C in the shadow, 50°C due to the influence of sun or if relative humidity exceeds 85% or in case of adverse weather conditions like rain, fog, dust storm etc.
- Coating media shall be applied in uniform thickness. All slots, recesses, grooves, corners, angles and interstices shall be covered by paint. Sag and runs shall be distributed or removed and new paint shall be applied uniformly.
- Paint containers shall be opened only prior to utilisation and shall be carefully closed immediately after withdrawal of paint. Expiry date of the paint should be checked before opening the container. Paint, which have become unserviceable during storage, shall not be applied. All painting material shall be kept in weather proof barracks and shall be kept cool and dry.
- Irrespective of the method of surface preparation, the first coat of primer must be applied on dry surface. This should be done immediately and in any case within 4 hours of cleaning of surface. Sweet blasting of the blasted surface should be carried out in case of more than 4 hours delay in painting.
- The brushes will conform to IS:384. The width of the brushes shall not be more than 15 cms.
- Paint shall be applied by brush/conventional spray/ airless spray. During spraying the paint shall be maintained thoroughly mixed in the spray gun.
- Contractor shall obtain approval for specification for spraying installation concerned, the type of equipment, nozzle diameter, pressure setting etc. The paint shall be sprayed uniformly. Surfaces impossible to be coated by spraying must be painted by brush.
- Painting work shall be done in day time only preferably between 9AM to 5PM..
- Successive coats in paint system shall be slightly different in shade for easy identification. Shade of each coat shall be decided by Engineer-In-Charge.

Lettering ,painting directional signs and relevant data shall be painted in suitable size as directed by Engineer in Charge.

INSPECTION AND TESTING

- Required painting materials for application shall be procured directly from manufacturers as per specification. Manufacturer's test certificates for every batch should be submitted to Engineer-in-Charge without which paints will not be accepted.
- Engineer-in-Charge at his discretion may call for tests for paint formulations. Contractor shall arrange to have tests performed including batch wise test of wet paints for physical

SIGNATURE OF TENDERER

SEAL



and chemical analysis at no extra costs to the LIOC.

- The painting work shall be subject to inspection by Engineer-in-Charge at all times. Following aspects will be considered during inspection and contractor shall offer the work for inspection and approval of Site Engineer before proceeding with the next stage. The record of inspection shall be maintained in the registers. Stages of inspection are as follows
 - Surface preparation
 - Primer Application
 - Each coat of paint
- Any defect noticed during the inspection is to be rectified by the contractor to the satisfaction of Engineer-in-Charge proceeding further.
- Irrespective of the inspection, repair and approval at intermediate stages of work, contractor shall be responsible for making good any defects found during the final inspection/guarantee period/defect liability period as defined in general condition of contract.
- Dry film thickness (DFT) shall be checked and recorded after application of each coat and extra coat of paint should be applied to make up the DFT specified without any extra cost to the LIOC.
- The contractor has to position an ELCOMETER at site for checking the paint thickness by the site engineer.
- The contractor shall arrange and keep Holiday Detector at site.

PAINT MANUFACTURERS

An indicative list given below of paint manufactures whose product conforming to the respective qualities specified herein may be considered for use. However, site engineer reserves the right to reject any material of these manufacturers which do not confirm to the specifications

- a. M/s Asian Paints India Ltd.
- b. M/s Bombay Paints Ltd
- c. M/s Berger Paints India Ltd
- d. M/s Kansai Nerolac Paints Ltd
- e. M/s PPP Sigma Kalon Paints
- f. M/s Jenson & Nicholson India Ltd
- g. M/s Akzo Nobel Paints
- f. M/s Shalimar Paints Ltd.

SIGNATURE OF TENDERER

SEAL

**LIST OF APPROVED MAKES FOR MATERIALS**

NOTE: Tenderers to note that the materials to be procured and supplied as part of the tender invited shall be strictly in accordance furnished in the specifications. The successful tenderer to obtain prior permission of LIOC and get the approvals before positioning the materials.

FORM OF AGREEMENT

THIS AGREEMENT is made and entered into on this day ofTwo Thousand Twenty between Lanka IOC PLC, herein after called and referred to as the Employer of the ONE PART and a Company duly incorporated under the Companies Ordinance and having it's registered office at , (hereinafter called and referred to as the Contractor which term or expression as herein used shall as and when the context so requires or admits of construction mean, and include the said Lanka IOC PLC , their heirs, successors and administrators) of the OTHER PART.

WHEREAS the Employer is desirous that the works more fully described in the documents attached hereto be executed, completed maintained and has accepted the tender dated by the Contractor for the execution, completion and maintenance of the said works.

NOW THIS AGREEMENT WITNESSED as follows: -

- (1) The words and expressions in the agreement shall have the meaning assigned to them in the conditions of contract, which is part and parcel of this agreement and hereinafter referred to.
- (2) The following documents shall be deemed to form, be read with and construed as part and parcel of this agreement
 - (a) The Tender aforesaid
 - (b) Special terms & conditions
 - (c) Conditions of Contract - Parts I & II
 - (d) Tender schedule (Bills of Quantities)
 - (e) Specifications
 - (f) Memorandum of understanding if any
- (3) The Contractor shall execute, complete, commission, test, hand-over and maintain the works and remedy defects, in conformity in all respects with the provisions of the contract, more fully described in the Drawings, Tender schedule (Bills of Quantities), Specifications and Conditions of Contract aforesaid, in consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned.

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
54 of 65

- (4) The Employer shall pay the Contractor the Contract price at the times and in the manner described by the aforesaid Schedule of payments. In consideration of the execution, completion and maintenance of the works aforesaid.

In witness whereof the party of the first part has set his hand hereunto and the party of the second part has caused its common seal be hereunto affixed and signed on the day and year aforementioned.

ON BEHALF OF EMPLOYER

ON BEHALF OF CONTRACTOR

.....

.....

.....

.....

Signed, sealed and delivered
by the said parties in the presence of :

Witnesses

(1)

(2)

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
55 of 65

CONDITIONS OF CONTRACT PART I

SIGNATURE OF TENDERER

SEAL



Lanka IOC

TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
56 of 65

CONDITIONS OF CONTRACT PART I

L IOC PLC

CONDITIONS OF CONTRACT PART I

General Conditions of Contract shall be in accordance with the following publication by the Institute for Construction Training and Development (ICTAD)- Sri Lanka of the Ministry of Housing, Construction and Public Utilities. (Formerly of the Ministry of Local Government, Housing and Construction)

Conditions of Contract for works of Building & Civil Engineering in Sri Lanka (with Forms of Tender & Agreement) revised edition / January 1989 ICTAD Publication No. SCA/1.

Conditions of particular application are as per Conditions of Contract Part II.

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
57 of 65

CONDITIONS OF CONTRACT PART II

SIGNATURE OF TENDERER

SEAL



CONDITIONS OF CONTRACT PART II

CLAUSE 1 : Definitions and interpretations

1.1.1 : The Employer is

Lanka IOC PLC
20, West Tower,
World Trade Centre,
Echelon Square,
Colombo 01.

1.1.2 : Sub-clause 1.1.2 is deleted and the following is substituted therefore

The Contractor means the person who has contracted for the works herein specified and its successors and not any assignee of such person.

1.1.3 : Sub-clause 1.1.3 is deleted and the following is substituted therefore
Engineer or Architect or Consultant referred in this tender document is the person appointed by the Employer to act as Engineer for the purpose of this contract.

1.1.14 : Sub-clause 1.1.14 is deleted and the following is substituted therefore

“Approved” and “Approval” means approved in writing including subsequent written confirmation of previous oral approval.

1.1.17 : The following new Sub-clause 1.1.17 is added

“Day” means calendar day.

1.2 : Sub-clause 1.2 is deleted and the following is substituted therefore

Words importing the singular only also include the plural and vice versa and words importing the masculine gender shall include the feminine and neuter genders.

CLAUSE 2 : Duties and Power of Engineer’s Representative

2(1) : The approval of the “Employer” is required before the “Engineer” can execute his duties in accordance with or as defined by the limits of the following clauses:

(a) Clause 4 Sub-letting

Consenting to the sub-letting of a part of the works if the value of such part exceeds one percent (1%) of the sum indicated in the letter of Acceptance

(b) Clause 51 Variations

SIGNATURE OF TENDERER

SEAL



Ordering a variation if the value of such variation is likely to exceed one percent (1%) of the sum indicated in the letter of Acceptance or Rupees One Million, whichever is less.

(c) Clause 27 Fossils etc.

(d) Clause 40 Suspension of work

CLAUSE 5 : Language/s and Law

5.1 : The Language is English

5.2 : First sentence "Except..... of the Contract". In the clause 5.2 is deleted and the following is substituted therefore:-

"The provisions of each of the following documents shall always prevail over those of the documents listed below it [Eg: The document listed in (c) will prevail over the document listed in (f)]:-

- (a) The Contract Agreement (when completed)
- (b) Special terms & conditions
- (c) Part I of these Conditions
- (d) Part II of these Conditions
- (e) Tender schedule (Bills of Quantities)
- (f) Specifications
- (g) Any other document forming part of the contract.

CLAUSE 9 : Contract Agreement

The following sentence is added to Clause 9 as the last sentence:-

"The stamp duty on the contract agreement is payable by the Contractor".

CLAUSE 10 : Performance Bond

10(1) Delete Clause 10 and substitute as follows:

"The Contractor shall obtain security for the proper performance of the contract to a value of ten percent (10%) of the contract price and provide the Employer such security within fourteen (14) days after the receipt of the letter of acceptance. Such security or bond will be from a Licensed Commercial Bank in Sri Lanka in the form as annexed or any other form acceptable to the Employer. The costs of compliance with the requirements of this clause shall be borne by the Contractor".

10(2) The performance Security or Bond referred to in the Clause 10.2 shall remain valid until the issue of maintenance certificate in accordance with Clause 62(1).

CLAUSE 12 The following proviso is added:-

SIGNATURE OF TENDERER

SEAL

“PROVIDED however the Employer shall not be liable to pay any such additional costs if such conditions or obstructions are proved to be for reasons beyond its control.

CLAUSE 14 Programme to be furnished

The programme shall be submitted within fourteen (14) calendar days after receipt of the Letter of Acceptance.

CLAUSE 15 Construction Management Services

15(1) The portion of this clause starting from “The cost of in line 12 until the end of the clause is deleted and the following is substituted thereof:-

“The cost of this service is deemed to be included in the rates and prices quoted by the contractor and shall not be claimed separately by the Contractor”.

CLAUSE 19 Watching and Lighting

Add the following paragraph to this clause at the end thereof: -

“The Contractor shall indemnify the Employer in the event of any claim arising from any person as a result of the contractor not strictly adhering to the provisions of this clause.

“In the event of any claim or loss arising against or payable by the Employer as a result of the Contractor’s failure or negligence to strictly adhere to the provision of this clause, the Contractor shall be liable to indemnify and keep the Employer indemnified by reimbursement of such claim or loss in a sum certified by the Engineer which sum shall be deductible from the monies due to the Contractor from the Employer on any bill”.

CLAUSE 20 Care of works

Clause 20(1)

The word “accepted” occurring in line 30 of Sub-clause 20(1) be corrected to read “excepted”.

Clause 20(2) shall be deleted and the following new clause 20(2) be substituted therefore:

“20(2) The ‘excepted risks’ are (in the opinion of the Engineer) the risks for which the Contractor will not be able to obtain an insurance policy from an Insurance Company in Sri Lanka”.

CLAUSE 21 Insurance of works etc.,

The additional sum referred to in Clause 21(a) shall be ten percent (10%) of the amount stated in the letter of acceptance.

SIGNATURE OF TENDERER

SEAL



CLAUSE 22 Damage to persons and property

22(1) Item (c) be amended to read as follows:-

“Damage to property which is the unavoidable result of the execution or maintenance by the Contractor without negligence in accordance with the Contract.

22(2) The following proviso is added to the clause 22(2) at the end therefore: -

“PROVIDED such claims proceedings damages coats charges and expenses arise solely due to the negligence of the Employer”.

CLAUSE 24

24.1.1.1 Accidents and injury to workmen

Add the words “arising in respect thereof or in relation thereto. The amount certified by the Engineer as due and payable to the Employer by way of such indemnification shall be paid by the Contractor or deducted from the monies due from the Employer to the Contractor” at the end of this clause.

CLAUSE 36

36(2) Clause 36(2) is amended to read as follows: -

“(2) All samples shall be supplied by the Contractor at its own costs.

CLAUSE 45 The following sentence be added at the end of this clause: -

“For the purpose of this clause statutory days of rest means all the Mercantile Holidays as declared by the Government of Sri Lanka”.

CLAUSE 47

47(3) - Deleted-

CLAUSE 52 A new Sub Clause 52(6) is added as follows:

52(6) “Notwithstanding any other provision of the contract, if the Contractor intends to claim any additional payments, not mentioned in the Bills of Quantities, pursuant to any clause of these conditions or otherwise, the Contractor shall give notice of intent in writing to the Engineer within Twenty Eight (28) days after the event giving rise to the claim has first arisen”.

52(7) A new Sub Clause 52(7) is added as follows: -

Upon happening of the event referred to in Clause 52(6), the Contractor shall keep records as may be necessary to support any claim it may make. The Engineer upon receipt of notice of a claim may instruct the Contractor to provide any records, as

SIGNATURE OF TENDERER

SEAL



may be material to the claim. The Contractor shall permit the Engineer to inspect all records the Engineer considers relevant and supply copies of same when called for.

52(8) A Sub-Clause 52(8) is added as follows: -

“Within Twenty Eight (28) days giving notice under clause 52(6), the Contractor shall send to the Engineer an account giving detailed particulars of the amount claimed and the grounds upon which it is based (together with the available documentary proof).

CLAUSE 53 Sub Clauses 53(5), 53(6), 53(6(a)) & 53(7) are deleted.

CLAUSE 60 Sub Clause 60(1) is deleted and mobilization advance shall not be paid: -

60(1) - Deleted-

60(2)(c) The materials referred to in this Clause (for payment of materials at site) shall be limited to: -

- i. Steel
- ii. Aluminium components

Monthly statements required in this Clause shall be submitted on or before the 10th day of the succeeding month.

60(7) Sub Clause 60(7) is amended as follows: -

In each of lines 5 and 14 the words and figures “ten (10)” be deleted and the following be substituted therefore: -

“Fourteen (14)”

CLAUSE 65

65(1) Last paragraph of this Clause “The Employee shall indemnify.connection therewith” is deleted.

65(5) This sub-clause be deleted and the following new sub-clause 65(5) be substituted therefore: -

65(5) The special risks are “ the excepted risks” within the meaning of the amended clause 20(2)”.

65(8) Items (d), (e) and (f) are deleted.

CLAUSE 66

66(1) The words “ The same as that.....hereof” in lines 8 to 11 be deleted and the word “payable” shall be substituted therefore.

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
63 of 65

CLAUSE 67 Clause 67 be deleted and the following new clause 67 be substituted therefore: -

67. - Deleted-

CLAUSE 68 The words “registered express” be inserted between the words “by” and “post” in the third line.

CLAUSE 70 Original Clause 70 is deleted and the following is substituted therefore: -

“The accepted tender will be treated as firm and inclusive of all expenses and taxes payable by contractor and applicable during the entire period of construction”.

70(2) Notwithstanding any other provisions of this Contract, no variation howsoever in prices will be paid to or deducted from the contractor for fluctuation in prices of materials, components, skilled and unskilled labour and the Contractor will not be entitled to any variation in prices on account of changes in taxes, etc., for imported items/components.

The Employer will deduct from the monies due to the Contractor all statutory deductions if any deductible on account of the Contractor and remit to the relevant authorities. A certificate will be issued by the Employer stating the amount deducted and to whom such amounts have been paid. The Contractor shall furnish relevant Tax file numbers to the Employer.

CLAUSE 71 Clause 71 is deleted.

CLAUSE 72 Clause 72 is deleted.

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
64 of 65

PROFORMA OF PERFORMANCE GUARANTEE (SECURITY DEPOSIT)/ BID BOND

To:

M/s Lanka IOC PLC
Level-20, West Tower,
World Trade Centre,
Colombo-01.

1. In consideration of the Lanka IOC PLC, having its Registered Office at _____ (hereinafter called "the Company") having agreed to exempt _____ (hereinafter called "The said Contractor(s)/ Supplier(s)/ Seller(s)") from the demand under the terms and conditions of an Agreement dated _____ made between _____ and _____ for _____ (hereinafter called "the said Agreement"), of Security Deposit for the due fulfilment by the said Contractor(s)/ Supplier(s)/ Seller(s) of the terms and conditions contained in the said Agreement, on production of a bank Guarantee of Rs. _____ (Rupees _____ only.

We, _____ hereinafter referred to as "the Bank" (at the request of _____ Contractor(s)/ Supplier(s)/ Seller(s) do hereby undertake to pay to the Company an amount not exceeding Rs. _____ against any loss or damage caused to or suffered or would be caused to or suffered by the Company by Reason of any breach by the said Contractor(s)/ Supplier(s)/ Seller(s) of any of the terms of conditions contained in the said Purchase Contract Agreement.

2. We _____ (indicate name of the Bank) do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the Company stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the Company by reason of breach by the said Contractor(s)/ Supplier(s)/ Seller(s) of any of the terms or conditions contained in the said Agreement or by reason of Contractor(s)/ Supplier(s)/ Seller(s) failure to perform the said Agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and this guarantee shall be restricted to an amount not exceeding Rs. _____

3. We undertake to pay to the Company any money so demanded notwithstanding any dispute of disputes raised by the Contractor(s)/ Supplier(s)/ Seller(s) in any suit or proceeding pending before any court of Tribunal or Arbitrator relating thereto our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be valid discharge of our liability for payment there under and the Contractor(s)/ Supplier(s)/ Seller(s) shall have no claim against us for making such payment.

4. We, _____ further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of the Company under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till _____ office/ department at _____ certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said Contractor(s)/ Supplier(s)/ Seller(s) and accordingly discharge this guarantee. Unless a demand or claim under this guarantee is made on us in writing on or before _____ we shall be discharged from all liability under this guarantee thereafter.

SIGNATURE OF TENDERER

SEAL



TENDER NO: LIOC/ ENG/ LT/ 02/ 2020-21

TITLE: PROVISION OF 110 SQM MEZZANINE FLOOR FOR RM STORAGE
AT LIOC TERMINAL, TRINCOMALEE.

Page
65 of 65

5. We, _____ (indicate name of the Bank) further agree with the Company that the Company shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to extend time of performance by the said Contractor(s)/ Supplier(s)/ Seller(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Company against the said Contractor(s)/ Supplier(s)/ Seller(s) and to forebear or enforce any of the terms and conditions relating to the said Agreement and shall not be relieved from our liability by reasons of any such variation, or extension being granted to the said Contractor(s)/ Supplier(s)/ Seller(s) or forbearance act or omission on the part of the Company or any indulgence by the Company to the said Contractor(s)/ Supplier(s)/ Seller(s) or by any such matter or thing whatsoever which under the law relating to sureties would but for this provisions have effect of so relieving us.

6. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s)/ Supplier(s)/ Seller(s).

7. The Bank Guarantee is operable/ payable at Colombo branch.

8. We, _____ (indicate name of the Bank) lastly undertake not to revoke this guarantee its currency except with previous consent of the Company in writing.

Dated the _____ day of _____ 20__

FOR _____
(Indicate the name and address of the Bank)

PLACE:

DATE:

SIGNATURE OF TENDERER

SEAL