

**PLASTIC POLYMER & ALLIED CLUSTER, BALASORE
(PROJECT UNDER Industrial Infrastructure Up gradation Scheme.)**

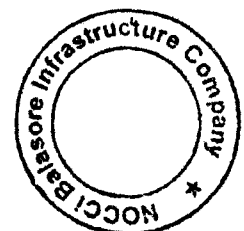
Quotation Call Notice

FOR

**10 TON Capacity Single Girder
EOT Crane**

Tender No: NOCCinfra/PUR/EOT-Crane/43/2012-13
Tender Date: 28th February, 2013

Tender Opening Date – 20th March, 2013



INVITATION FOR BIDS (IFB)
LOCAL COMPETITIVE BIDDING (LCB)

IFB Reference no: NOCCinfra/PUR/EOT-Crane/43/2012-13

Date: 28.02.2013

Sealed Quotations are invited from Manufacturers / Vendors / Suppliers / Dealers for supply, installation, testing and certification. Installation for Common Facility, workshop at somnathpur. As per the specification given in the quotation paper.

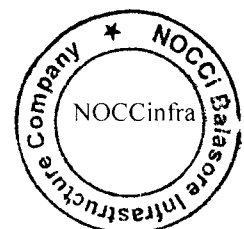
| | |
|----------------------------------|---|
| Estimated Cost | As quoted by the party |
| Warranty Period | 12 (Twelve) Months from the Date of Commissioning |
| Bid security (Mandatory) | Rs. 25,000.00 by DD in favour of NOCCI Balasore Infrastructure Company payable at Balasore |

For further details regarding the bid please visit NOCCinfra' s web site www.nocci.in or contact Executive (Purchase) at the office of NOCCI Balasore Infrastructure Company at C-12, Industries Facilitation Centre, Ganeshwarpur Industrial Estate Balasore (Orissa) 756019, between November 9th, 2012 to December 10th, 2012 on any working day.

Issued by

HEAD - HR 28/2/2013

NOCCI Balasore Infrastructure Company



INVITATION FOR BID

IFB REFERENCE: NOCCinfra/PUR/EOT-Crane/43/2012-13 **DATE:** 28.02.2012

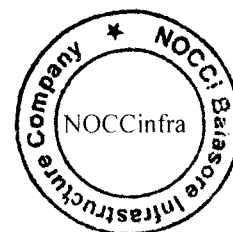
- 1.0 DESCRIPTION OF WORKS:** The NOCCI Balasore Infrastructure Company, having its Head Office at Balasore invites sealed bids from eligible bidders for the following works:

Supply, Fabrication, Installation, testing & commissioning of EOT Crane at Common Facility, workshop at Somnathpur

- 2.0 ADDITIONAL INFORMATION:** Interested eligible bidders may obtain further information from Shri Hemanta Kumar Sarangi, Executive (Purchase) at NOCCinfra office.

- 3.0 REQUEST FOR BIDDING DOCUMENT:** A complete set of bidding documents may be purchased by any interested eligible bidder on the submission of a written application in duplicate, to the NOCCInfra and upon the payment of a non-refundable bidding document cost as detailed below. Bidders who wish to download the complete bidding document, can do so it from NOCCinfra website (www.nocci.in), free of charge & submit the same (without any alternation /modifications) along with their bid and a demand draft in favour of NOCCI Balasore Infrastructure Company for value equal to price of bidding document as specified in clause 4 (b) below.

- 4.0 BID DETAILS:** Detailed terms and conditions as well as the technical specifications for all the items of works as indicated in the invitation for bid are contained in bidding document. Only one set of bidding document shall be issued to one bidder.



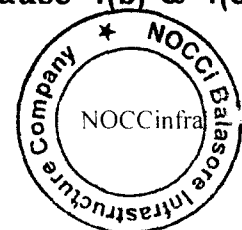
NOCCI BALASORE INFRASTRUCTURE COMPANY
INDUSTRY FACILITATION CENTRE
GANESWARPUR INDUSTRIAL ESTATE, BALASORE-756019. ORISSA. INDIA.
TELE-FAX: 06782-267273 / 9777580211, E-MAIL: hemant@nocci.in

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- (a) Bid reference : NOCCinfra/PUR/EOT-Crane/43/2012-13
- (b) Price of bidding document : Rs. 525/- (Inclusive of Vat @ 5%)
(Rupees Five Hundred twenty five only)
- (c) Incidental charges (in land) in case documents are to be sent by courier /post : Rs. 200/-
(Rupees Two Hundred Only)
- (d) Date of commencement of sale of bidding document : 28th, February, 2013
- (e) Last date for the sale of bidding document : 18th March, 2013
- (f) Last Date and time for receipt of bids : 20th March, 2013
(Up to 15:00 hrs)
- (g) Time and date of opening of bids : 20th March, 2013
(At 15: 30 hrs)
- (h) Place of opening of bids : NOCCinfra, Balasore
- (i) Address for communication : NOCCI Balasore Infrastructure
Company, C-12, Industries
Facilitation Centre, Ganeshwarpur,
Industrial Estate, Balasore 756019
Tel. No. 06782-244273
- (j) Estimated Cost of works : Nil
- (k) Time for completion : 04 Months
- (L) Amount of Bid Security : Rs. 25,000.00

5.0 PURCHASE OF BIDDING DOCUMENT IN PERSON: Bidders who desire to obtain bidding document in person by submitting written request and paying through demand draft may do so on any

Working day from 11.00 hrs. to 16.00 hrs. only during the period of sale of bid documents as specified in clause 4 hereof. Demand draft shall be prepared in favour of NOCCI Balsore Infrastructure Company payable at Balasore (Orissa).

6.0 PURCHASE OF BIDDINGDOCUMENT BY COURIER/POST: Bidders may send request along with demand draft in favour of NOCCinfra of value equal to price of bidding document plus incidental charges, as specified in **clause 4(b) & 4(c)** hereof



to the address of communication during the period of sale of bid document. NOCCI Balasore Infrastructure Company shall not take the responsibility for any delay in receipt of the bidding document if it is sent by courier /post.

- 7.0 BID SECURITY:** All bids must be accompanied by a bid security in the acceptable form as specified in the bidding document and must be delivered to the address of communication as stated above in **clause 4(i)** on or before the last date and time of receipt of bids as given in **clause 4.0 (f)** above.
- 8.0 OPENING OF BIDS:** Bids will be opened by NOCCinfra at the office of the NOCCinfra.
- 9.0 BID VALIDITY:** The Bid shall remain valid for a period of **90 (Ninety) days** from the date of bid opening as mentioned above.
- 10.0 BID SECURITY VALIDITY:** The bid security accompanying the bid shall be valid for **30 days** beyond the bid validity period.
- 11.0 RIGHTS RESERVED BY NOCCinfra:** The NOCCI Balasore Infrastructure Company at its sole discretion & without assigning any reason thereof reserves the right to accept and / or reject any or all the bids.

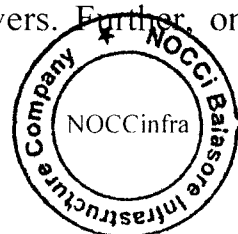
INSTRUCTIONS TO BIDDERS

- 1.0** Quotations will have to be submitted in a **TWO PARTS i.e.**

(a) Technical Bid with Drawings of crane, in properly sealed cover and clearly written over it **TECHNICAL BID, Name of the BIDDER.** The envelope must contain Cost of the Bid document in shape of DD (in case the bid is downloaded from website), Earnest Money Deposit (BID SECURITY), Printed and signed Technical Literature for **quoted items**, Qualifying / eligibility documents and the signed bid of **NOCCinfra.**

(b) Price Bids, in separate sealed covers for quoted item as per the supplied price bid format .The item quoted for and all kept inside a big sealed envelope clearly written over it **PRICE BID, Name of the BIDDER.**

- 2.0** The address of the firm submitting the quotation and the Officer to whom the quotation is addressed must appear distinctly on sealed covers. Further, on sealed



cover. The sealed cover should contain the technical bid and all the price bids inside it.

- 3.0** The bid documents are not transferable and the seal and signature of the authorized official of the firm's must appear on all the papers and envelopes submitted.
- 4.0** The following eligibility criteria shall be complied to fulfill the Qualification Bid
- a) The Bidder should have, PAN, Service Tax Registration No, proof of having submitted IT return for the last three years, Profit & Loss account and balance sheet certified by the auditor.
 - b) Average annual turnover in machine supply in the last three years should be minimum Rs1, 00, 00,000/- (One Crore) or 2 times the total value of machines quoted for, whichever is higher.
 - c) Should have up to date VAT/ Sales tax clearance certificate.
 - d) Certificates showing supply and successful commissioning of similar type of machine obtained from the parties they have supplied machines.
- 5.0** Documentary evidences (Xerox copies - attested) for turnover, Balance Sheet, IT Return of last 3 years, VAT/ Sales tax clearance certificate and Commissioning Certificates. All papers submitted by the bidder except the quotation papers of NOCCInfra, will have to be numbered. All as indicated above should be furnished without which the bid will not be taken into account.
- 6.0** Bidders shall indicate their rates in clear/visible figures as well as in words and shall not alter/overwrite/make cutting in the quotation. In case of a mismatch, the rates written in words will prevail.
- 7.0** Quoted rates must be valid for 90 days from the date of quotation
- 8.0** The quoted Machines and equipments must be warranted for a minimum of one year or as per the company policy, whichever is more.
- 9.0** In case of imported items, vendors should clearly state the available nearest after sales service centre and detail address in India, without which their offers will be rejected.



- 10.0** Valid certificate to prove that the products are genuine and of national or International standard, as mentioned below, must be enclosed (a) Manufacturer's certificate. (b) ISO/ISI certificate.
- 11.0** A refundable earnest money deposit, as indicated below, through demand draft drawn in favour of the NOCCinfra, payable at Balasore, Odisha will have to accompany the Bid. The EMD of unsuccessful bidders shall be returned after award of contract. EMD of the successful bidder will be released on submission of the PBG.
- 12.0** The successful bidder shall furnish an unconditional Performance Bank Guarantee (as per format to be given with purchase order) valid till 60 days after the warranty period from a scheduled Bank of India for 5% of the purchase Order value within 21 days of placement of order failing which the contract shall be deemed as terminated. Where the performance bank guarantee is obtained by a foreign bank, it shall be got confirmed by Schedule Indian bank and shall be governed by Indian Laws and be subject to the jurisdiction of courts at Balasore, Odisha. The Performance Bank Guarantee (PBG) guarantees that,
- (a) The Vendor guaranteed satisfactory operation of the Equipment & components against poor workmanship, bad quality of materials used, faulty designs and performance.
 - (b) The Vendor shall at his own cost rectify the defects/replace the items supplied, for defects identified during the period of guarantee.
 - (c) This guarantee shall be operative from the date of installation till 60 days after the warranty period.

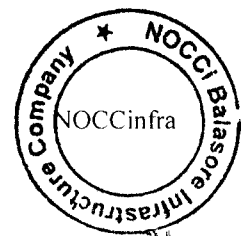
General Terms & Conditions

i. Price Basis:

The price shall be inclusive of all taxes / duties, freight & Packing charges delivery material and unloading FOR site at Balasore. Way bill on demand shall be provided by NOCCinfra.

ii. Delivery:

a. Time Limit: Maximum time of supply and installation will be as per the quotation paper.



- b. Safe Delivery:** All aspects of safe delivery shall be the exclusive responsibility of the vendor. At the destination site, the package will be opened only in the presence of Representative of NOCCinfra and vendor's representative. The intact condition of the package and the seal/indicators for not being tempered with shall form the basis for certifying the receipt in good condition.
- c. Penalty for delay in delivery:** The date of delivery should be strictly adhered to otherwise NOCCinfra reserves the right not to accept delivery in part or full.
- iii.** Vendor is to ensure that quoted price is not more than the price offered to any other customer in India to whom this particular item has been sold. Copy of the latest price list for the quoted item, applicable in India, should be enclosed with the offer.
- iv.** All the terms and conditions mentioned herein must be strictly adhered to by all the vendors. Conditional tenders shall not be accepted on any ground and shall be rejected straightway. Printed conditions mentioned in the tender bids submitted by vendors will not be binding on NOCCinfra.
- v.** Usually, working hours are limited to day time only. In emergency cases to carryout works during nights, it may be done so with the specific prior permission from NOCCinfra.
- vi.** The installation work shall be carried out as per the Safety procedure / BIS specifications, standard code of practice.
- vii.** The responsibility for the quality, workmanship and accuracy of any work being carried out under this contract lies with the Bidder.
- viii.** The Successful Bidder shall strictly adhere to various labour laws in force. Bidder has to ensure that his workers are covered with Workmen compensation policy and a copy shall be submitted with NOCCinfra before start of work. Compensation and medical expenditure in case of injury or causality of deployed persons of the bidder at site, is the responsibility of the bidder.
- ix.** To safeguard the persons working at height in roof, wall etc., sufficient number of Industrial Safety nets shall be provided at Bidder's cost in appropriate level and locations. The working hand including Supervisors, Engineers should wear the personal protective items and safety measures such as helmets, safety belts, shoes, etc., before entering into working place.
- x.** All the works shall be executed as per the standard specifications as provided in BIS.



2. Liquidated damages for delay in supplies/ Execution

The liquidated damage clause should be enforced wherever the supplies are delayed. However, when the delay is due to force majeure conditions or due to any genuine reasons beyond the control of the supplier/ contractor, waiver of penalty can be considered. No waiver should be granted without justification.

- a. The request for waiver of LD should be made by the supplier, in writing with reasons/ justifications, within 3 months from the date of completion of delivery/ erection job. Waiving of liquidated damages should be approved by the competent authority as per the delegation of powers and circulars issued by the Head office from time to time, after the indenter justifying the reasons for waiver convincingly to the competent authority.
- b. Whenever proposals for approval for refund of liquidated damages already deducted are put up, the amount that will be actually refunded should be brought out specifically with detailed justification.
- c. To arrive at the LD charges, to be deducted for late delivery, the date of receipt at site/ destination may be considered in case of order/ contracts placed on FOR Site/ Destination basis, whereas for the orders placed on Ex-Works basis; date of dispatch may be considered instead of date of receipt. The LD charges should be calculated on the ex-supplier's works value of the item, whenever break up cost is given in the order. If no break up cost is given, LD will be on the total price as per order.
- d. Waiver of the liquidated damages should not be agreed, unless the delay is proved to be beyond the control of the contractor. The case may be put up with backup evidences in support of the delay, justifying the reasons beyond any one's doubt. Amendment should be issued after taking necessary approval.
- e. Normally, the liquidated damages @ 0.5% of the order/ contract value will be deducted for each completed week of delay. No deduction for LD is to be made for delays less than a week. While calculating the period of delay only completed weeks shall be taken in to account and incomplete week, if any shall be ignored. The week shall comprise of 7 days including Sundays and holidays, if any. The total amount so deducted shall not exceed 10% of the order / contract value.

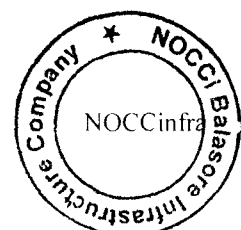


3. Liquidated Damages and Recovery of Advance:

The accepted delivery schedule of supply and/or installation shall be governed by the Liquidated Damages and Recovery of Advance clause. Each unit of an item shall be delivered to destination and ready for operation not later than the delivery date specified in the purchase order. If you fail to deliver any or all of the goods or perform the services within the time period (s) specified in the Purchase order, the NOCCinfra shall, without prejudice to its other remedies under. This purchase order, deduct from the ordered price, as liquidated damages, a sum equivalent to (0.5% of the full purchase order value for each completed week of delay ~~OR 0.5% of the value of the delayed items only for each completed week of delay~~) **. The total amount so deducted shall not exceed 10% of the purchase order value. Once the maximum is reached, the NOCCinfra may consider cancellation/termination of purchase order and forfeiture of the deposit/performance guarantee. In case you fail to supply the equipment within the stipulated delivery period plus 20% of the same as grace period, subject to a minimum of 15 days, the purchase order shall stand cancelled and the supplier shall refund the advance, if paid, along with interest at the rate of 18% per annum compounded quarterly on the last day of March, June, September and December, on the advance paid, for the entire period for which the advance was retained by the supplier. This will be without prejudice to other remedies like risk purchase etc. Any incremental taxes, duties and levies on account of the delay in the execution of the purchase order by you will be to your account.

4. Inspection:

The equipment under the purview of your supply should be inspected by your own technical experts at your works and such inspection report should be forwarded to us in triplicate. However, NOCCinfra reserves its right to inspect at any stage of fabrication/manufacture of the equipment/material. You should intimate the NOCCinfra without fail, when the equipment is ready for inspection including the stage wise inspection. You should not proceed with further manufacture and/or dispatch of equipment, without obtaining a clearance certificate from NOCCinfra after inspection of NOCCinfra's written permission. You should forward to us the Test Certificates, wherever applicable, obtained from concerned authorities/principal manufacturers either regarding quality or any other details of the items utilized in the process of manufacture/fabrication.



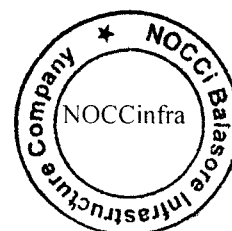
5. Dispatch Instructions:

The materials are to be dispatched to the project site by the mode of transport specified in our order under intimation to us. Depending on the type of material, you shall have to carry out proper packing/crating to avoid breakages in transit. Other details of dispatch such as marking, consignee's particulars etc. For using any mode of transport other than the specified one, prior concurrence from us in writing should be obtained. All consignments should be dispatched on freight paid basis irrespective of price basis. In the event of freight payable extra by us, you shall have to obtain our prior approval and produce necessary documentary evidence in support of your claims. Unless otherwise stated, the original RR/LR should be sent by Registered Post/Courier directly to the consignee along with a copy of invoice and 2 copies of Delivery Challan/ Packing List.

6. Insurance:

You shall have to arrange all transit risk insurance, warehouse basis including, wherever applicable, storage risk coverage for a period of 3 months from the date of arrival of goods at the destination for the items to be supplied by you. In cases where orders are placed on ex-works basis, the premium shall be paid by us at actual to you against production of documentary evidence. In the event of any damages to/loss of consignment in transit, it will be your responsibility to lodge necessary claims with the carriers/underwriters and pursue them till settlement. Since the insurance policy will be obtained in our name, we shall, if required, give you necessary authorization letter authorizing you to lodge and pursue the claims on our behalf with the carriers/underwriters. You shall also have to make good the losses/damages occurring in transit by making replacement/payment to us in the first instance. If claims are settled by the underwriters and any amounts are realised by us, the amounts thus realised in settlement of claims shall be reimbursed to you. In other words, the prima facie responsibility for getting compensation for the damages/losses incurred, due to all transit hazards, if any, rests with you.

In cases where the purchase order is placed on "free delivery at site" basis no insurance premium will be paid by us. However, in such cases also, all transit risk insurance policy must be obtained to safeguard your own interests and to protect the material against transit hazards.



7. Demurrage:

You shall bear and reimburse to us full demurrage, if any, paid by reason of delay on your part in forwarding the original dispatch documents to the destination mentioned in the purchase order.

8. Rejection:

We reserve the right to reject the goods either in part or full if at the time of delivery, it is noticed that the goods supplied do not conform to the specifications/description given in the purchase order. The rejections, if any, will be intimated to you in writing within a reasonable time. You will be liable and responsible to repair/replace the rejected goods within the stipulated time. Till the repair/replacement is made, the rejected goods shall be lying at your risk, cost and responsibility. If you do not arrange to repair/replace the rejected goods within the period stipulated by us, we may dispose off such goods at your risk and in the manner we think fit. NOCCinfra shall be at liberty to purchase the quantity of items rejected from other parties without giving any notice and at your risk. We shall be entitled to recover the expenses made by us on storage and handling of such rejected goods till the goods are removed from our premises/stores.

9. Guarantee:

The supply of equipment as well as installation, if entrusted, shall have to be carried out by you to the entire satisfaction of NOCCinfra and their clients on behalf of whom this purchase order is placed. You shall also guarantee to repair/replace without any extra cost, the items or parts thereof, if found defective due to bad designing, workmanship or substandard material brought to your attention within 12 months from the date of putting on use/commissioning or 24 months from the date of receipt of material at destination whichever is earlier. If it is necessary to send the defective equipment or parts thereof to your works for repair/replacement, without forming any precedence, the cost of repacking, loading, unloading, transportation from the site to your works and back to site shall have to be borne by you. The guarantee however, does not cover any damage resulting from normal wear and tear or improper attendance or mishandling of the equipment during repairs by personnel other than the supplier or his authorized agents. In case of installation jobs, you shall have to guarantee the complete installation for satisfactory performance for a minimum period of 12 months from the date of commissioning of the plant. Any defect arising out of faulty erection/installation or use of substandard material or workmanship shall have to be rectified by you at your cost.



10. Warranty:

You must provide a warranty for a minimum period of 12 months from the date of commissioning of the equipment for satisfactory performance of the supplied equipment according to the designed/rated/installed capacity or any other norms fixed by NOCCinfra.

11. Drawings, Specifications & Manuals:

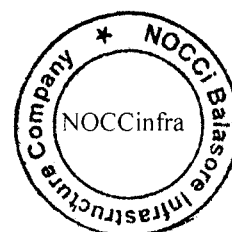
Prior to commencement of fabrication, you shall have to submit for our approval three sets of drawings of all the items ordered for supply, showing overall dimensions with typical sections, details of service connections and their equipment, details of drive units etc. for each equipment wherever applicable. Soft copy of final (As built) drawings shall be provided on CD. In case of items for which drawing are provided by NOCCinfra, you shall fabricate/manufacture the items strictly in accordance with these drawings and any other instruction given by the NOCCinfra. For such items, there is no need for you to submit the drawings to the NOCCinfra for approval prior to commencement of fabrication/manufacture. Where documents and drawings are supplied to you by NOCCinfra, the same must be treated as confidential, must not be copied, reproduced, transmitted or disclosed otherwise in whole or part, nor duplicated, modified, divulged or discussed with any third party nor used in any other way without the consent of the NOCCinfra in writing. All such documents and drawings shall be the property of NOCCinfra and they must be returned to NOCCinfra after execution of the order.

12. Installation & Commissioning:

The suppliers should quote in their offer, separately for Installation & Commissioning charges and clearly specify, whether the installation and commissioning is being done on free of charge basis or at an extra cost. Income tax as per applicable governmental norms will be deducted at Source by NOCCinfra and necessary certificates to this effect will be issued to supplier.

13. Spares:

You shall provide a list of spare parts, which will be required for the plants and equipments supplied by you for at least two years of normal operation with the names and the addresses of the manufacturers from whom these can be procured. The list should contain the code numbers of the parts, which are required to be procured, in addition to the machine number, models etc.



14. Cancellation of Contract:

We shall be free to cancel our purchase order either in part or full, in the case of non-delivery of material/non-completion of installation within the stipulated delivery period or breach of any of the clauses mentioned herein. Consequential losses, if any, on account of our getting installation done or obtaining supplies from alternative sources besides payment of higher price shall be recovered from you.

15. Sub-contract:

In the event of awarding sub-contract to any party/parties by you for the manufacture/supply/erection of any parts/spares/components that will be used in ordered equipment, you must furnish us details about your sub-contract also prima facie responsibility rests on you regarding quality, quantity, guarantee/warranty of the materials supplied by the subcontractors.

16. Force Majeure:

The terms and conditions mutually agreed upon shall be subject to Force Majeure Clause. Neither the supplier nor the purchaser shall be considered in default in performance of his/their obligations hereunder if such performance is prevented or delayed because of war, hostilities, revolution, civil commotion, strike, epidemic, accident, fire, wind, flood, earthquake or because of any law, order, proclamation, regulation or ordinance of any Government or of any act of God or any other cause whether of similar or dissimilar nature, beyond the reasonable control of the party affected. Should one or both the parties be prevented from fulfilling his/their contractual obligations by a state at Force Majeure lasting continuously for a period of six months, the two parties should consult each other regarding the future implementation of the contract/purchase order.

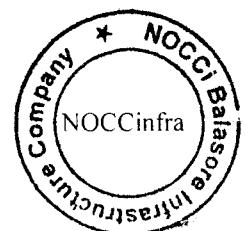
17. Arbitration:

In the event of any dispute in the interpretation of the terms of this agreement/purchase order or difference of opinion between the parties on any point in the purchase order arising out of or in connection with the agreement/accepted purchase order or with regard to performance of any obligation hereunder by either party, the parties hereto shall use their best efforts to settle such disputes or difference of opinion amicably by mutual negotiations. In case no agreement is reached, either party may forthwith give to the other, a notice in writing of the existence of such question, dispute or difference of opinion and the same shall be referred to the adjudication of sole



Arbitrator to the appointed by “NOCCInfra” whose decision in the matter shall be final and binding on the parties. The arbitration proceedings shall be governed under the provisions of the Indian Arbitration & Conciliation Act, 1996 and the rules there under or any statutory modification thereof for the time being in force. In this agreement/purchase order, venue of such arbitration shall be Balasore (Odisha) and courts at Balasore alone shall have jurisdiction regarding any matter arising out of this agreement.

18. Jurisdiction: (Balasore Odisha) India Only.



**SPECIFICATION FOR SINGLE GIRDER 10 TON ELECTRIC OVERHEAD
TRAVELLING EOT CRANES FOR WORKSHOP BUILDING**

| DATA SHEET FOR 10 TON SINGLE GIRDER EOT CRANE | | |
|--|---|---|
| 01) | Location | Work Shop (PEB Structure) |
| 02) | Designation | EOT Crane |
| 03) | Duty Class of Crane (As per IS:807-2006) | M5 |
| 04) | Quantity | 01 No |
| Crane Classification as per IS 13834 | | |
| 05) | Mechanical | M5 |
| 06) | Electrical | M5 |
| 07) | Type | Overhead |
| 08) | Type of Girder | Single |
| Capacity | | |
| 09) | Main Hoist | 10 Ton |
| 10) | Span | 18 Mtr |
| 11) | Longitudinal Travel | 72 Mtr |
| Lifting Range | | |
| 12) | Main Hoist | 5 Mtr (Hook Height) |
| Type of Hook | | |
| 13) | Main Hook | Plain Shank with Swiveling |
| Speeds in | | |
| 14) | Main Hoist | 3.0 Meter / min by pendant control |
| 15) | Long Travel | 20.0 Meter/min also speed control thro |
| 16) | Cross Travel | 16.0 Meter/ min wireless remote control |
| Operating Mode | | |
| 17) | Pendant | DSL System with Angel iron bush bar type fitted with bracket & Insulator. |



1. INTRODUCTION

This crane will be installed in the newly constructed Work Shop building at ILH, Somnathpur. The facility is situated at a distance of 14 km. from Balasore Railway Station. The specifications of electric overhead traveling crane are as given in Annexure I. The P.E.B building has been designed considering the load of the crane and the load being carried by it.

2. SCOPE OF SUPPLY

The Scope of supply shall include but not be limited to the following along with necessary fittings, fixtures and ancillaries.

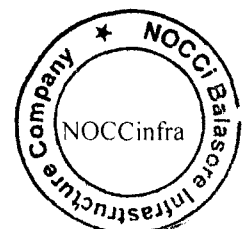
- a. Bridge structure with platform and hand railing
- b. Track wheels for longitudinal and cross travel
- c. Traveling mechanism for longitudinal and cross travel
- d. Hoisting mechanism.
- e. Brake Mechanism separately for long travel, cross traverse and hoisting.
- f. Trolley
- g. Service Platform
- h. **Pendant Control DSL system with Angel iron bush bar type fitted with bracket & Insulator.**
- i. Electrical motors, control gear and equipment.
- j. **AC variable frequency controls for all motions of the crane.**
- K. Supporting gantry structure for the crane. In this building only columns are erected. Supplier is supposed to design, supply, fabricate and also erected the supporting gantry.

3. DESIGN

The cranes shall be designed, manufactured, erected and tested in accordance with the following specifications:

- a. IS: 3177-1999 (latest) - Indian Standard Code of Practice for electric overhead traveling cranes.
- b. IS: 807- 2006 - Indian Standard Code of Practice for design, manufacture, erection and testing (structural portion) of cranes and hoists.

The crane should be designed for a minimum life of 30 years.



4. CAPABILITY

The crane should be capable of:

- a. Hoisting, i.e. lifting and lowering of all loads up to the maximum specified working and load at different specified speeds
- b. Traveling and traversing at specified speeds in both loaded and unloaded conditions.
- c. Working in the air conditioned clean building. The structure should not shed particles/ dust during operation.

5. RIGIDITY, CONTROL & SAFETY

- a. The crane should be rigid, robust and of sturdy construction
- b. Crane controls should be conveniently located. The various controls should be suitably interlocked to prevent accidental movement of the crane.
- c. Suitable limit switches, one each for long and cross travel and two for main hoists, should be provided to stop the crane and prevent over-travel of various moving parts of the crane.
- d. Suitable buffers should be provided to prevent over travel of the crane mechanism in both longitudinal and cross traverse directions.
- e. Suitable guards or enclosures should be provided on the crane to prevent inadvertent contact with down shop leads or any other exposed electrical conductors and cables.
- f. Suitable isolation switches and stop buttons should be provided to isolate the electric supply for maintenance or in the event of an emergency.
- g. A safety hand railing of tubular construction should be provided on bridge footwalls, end carriages, trolley and any other places where access has been provided. Railings should not be less than 1000 mm high with an intermediate member at a height of around 500mm.
- h. All sheaves should be provided with rigid guards to retain the ropes in the grooves. Guard should fit close to the flange and should have a clearance between the sheaves and inside the guard of not more than 3 mm or 1/4th the diameter of rope, whichever is less.
- i. The crane should comply with the relevant safety regulations under the Factories Act, Indian Electricity Rules and other statutory regulations as applicable.



6. MAINTAINABILITY

- a. Safe accesses of maintenance and removal of all mechanical, electrical and structural components must be ensured. All parts requiring replacement, inspection and lubrication should be easily accessible without the need of dismantling other equipment or structures. Arrangements for access to important components must **include a cradle for inspection and maintenance of DSL**, such cradle being conveniently accessible.
- b. All electrical cables should be so laid that they are not liable to damage and can be easily inspected and maintained.
- c. **Access walkways** (wherever required) of minimum 500mm clear inside width with hand railings **on both sides of girders for the full span length** for inspection and maintenance of the crane shall be provided. Walkways shall be of chequered plate or non-slip steel surface of minimum 6mm thick. Walkways shall be of rigid construction and designed to sustain a distributed live load of not less than 3 kN/m².
- d. Materials used for equipment and structural should be free from cracks, blow holes, laminations, pitting etc. Except for areas where a superior grade of materials is required, steel class should be as per IS: 2062 (latest).
- e. A **tool box** containing all tools required for the **maintenance** of the crane should be supplied with the crane.
- f. Fasteners for pedestal blocks, gear boxes, etc., should be easily removable from the top of the platform.

7. STRUCTURAL DETAILS

- a. The crane bridge should comprise of **single girders of plate box type**.
- b. In the main bridge girders, in addition to the required full length diaphragms, short diaphragms should be inserted wherever required to transmit the trolley wheel load to the web plates and to limit the maximum stress in the trolley rail to safe permissible limits. All diaphragms must bear against the top flange. Steel plates used for bridge girders and diaphragms should be as per IS: 2062 (latest).
- c. **All fasteners should be hot dip galvanized.**
- d. The bridge girders should be connected to the end carriages by large gusset plates. **Ground tight fit bolts in reamed holes** should be used for bolted connections.
- e. The calculated strength of joints made by High Strength Friction Grip (HSFG) bolts should not be less than calculated net strength of the member. The calculated strength of other bolted joints in structural members should not be less than the net strength of the member plus 25%.



- f. **All butt welds** on structural members of bridge girders subject to **tension** should be **radio graphically tested**. All other welds should be subjected to Magna flux or Dye Penetration Test. All reports to be submitted.
- g. The box girders should be so constructed as to eliminate any possibility of accumulation of water or oil inside them.

8. END CARRIAGES

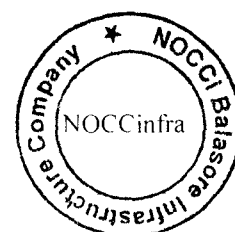
- a. The crane bridge should be carried on end trolleys with **single flanged solid forged wheels**. The minimum end clearance on each side of the long travel wheels should be 10mm. The wheels should be mounted on fixed axle or suitable anti-friction spherical roller bearings which can be conveniently removed for maintenance.
- b. End carriages should be designed to be strong enough to resist all stresses likely to be imposed upon them under varied service conditions, including collision with stops. The length of the end carriages should be such that no other part of the crane is damaged in the event of a collision.
- c. End carriages should be fabricated from rolled steel sections or plates, welded together to form a box. Suitable stiffening diaphragms should be provided wherever required. The material used should be steel as per IS: 2062(latest).
- d. Suitable **jacking pads** should be provided on each end carriage for jacking up the crane while changing track wheels. These jacking pads should not interfere with replacement of track wheels.
- e. The end carriages should be fitted with suitable **safety stops** to prevent the crane from **falling more than 25mm** in the event of breakage of track wheel, bogie or axle. These safety stops should not interfere with the removal of track wheels.

9. BRIDGE RAILS

Bridge rails will be square bars of suitable size (to be supplied & installed by supplier)

10. TROLLEY FRAME

- a. The trolley frame should be welded rolled steel box section, designed to transmit the load to the bridge rails without undue deflection. It should be made rigid by providing suitable diaphragms. The material used should be steel as per IS: 2062 (latest)



- b. The drum bearings and supports for upper sheaves should be located so as to equalize the load on the trolley wheels as nearly as possible.
- c. The trolley wheels should be single flanged. The **axle bearings** should be of **spherical roller type**. The bearing housing should be designed for easy removal of wheels and bearings for maintenance. The wheel assembly should be fitted in **L-type housing**, for easy removal of wheel assembly.
- d. All the mechanical and electrical equipment should be placed above the trolley top plate as far as practicable. For any parts placed below the trolley top plate, access for maintenance, repairs and replacement should be provided. Where the clearance between bottom member of trolley frame and the CT rail is over 25mm, the **trolley should be fitted with substantial safety stops to prevent the trolley from falling more than 25mm** in the event of breakage of track wheel, bogie or axle. These safety stops should not interfere with the removal of wheel. Details of the arrangement should be explained in the offer.

11. RAIL WHEELS

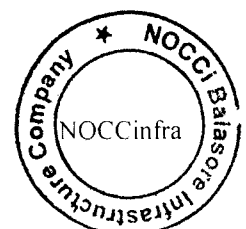
- a. The rail wheels shall be single-flanged with straight tread.
- b. These wheels shall be manufactured from medium carbon alloy steels, and shall be solid forged and heat treated to have minimum hardness of 36HRC (341 BHN) on the tread and flanges to a depth of not less than 8mm.
- c. The wheels should be shrink-fit on the axles.

12. ROPE DRUMS

- a. The rope drum shall be designed to withstand the compressive stresses caused by the wound on rope and the bending stress due to beam action of the drum.
- b. Pipes will be an acceptable alternative. The steel used shall be to IS: 2062 - 1984(or latest) quality. The rope drum shall be stress relieved after fabrication. T-joints shall be radio graphically checked and report submitted.
- c. The drum shall be designed to take the entire length of the rope in a single layer. Free extra turns as specified in IS: 3177 shall also be provided. The drum shall be flanged at both ends.
- d. Cranes shall be designed with number of rope having 4 falls.

13. WIRE ROPES

Wire rope in the crane should be galvanized and of reputed make. Preferably “Hyflex” type wire ropes should be used. If it is conventional type then it will be **6 x 36 construction** made from best plough steel of tensile strength 180kg/mm².



14. GEARING

Only **helical gears** should be used. The gearing in all motions should be of suitable case carburizing low carbon alloy steels and should conform to relevant Indian/International standards. They shall generally be in accordance with IS: 4460-1967(or latest). **All gears should be hardened and profile ground for longer life and silent operation.** The minimum surface hardness of pinions and gears should be in the range of 55-60 HRC. The hardness of gears should be at least 2 - 3 HRC less than that of pinions.

15. GEAR BOXES

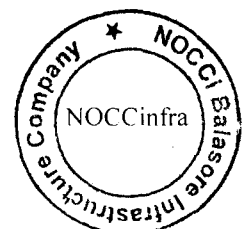
- a. All gear boxes shall be of completely enclosed splash lubricated type. **All gear boxes shall be oil tight and sealed with neoprene 'O' rings of suitable section.** All gear shafts shall be supported in bearings mounted in the gear boxes. Gear boxes shall be made of graded C.I/M.S fabricated. All gear boxes shall be stress relieved and the method of doing so shall be explained in detail in the offer. Gear boxes shall be provided with breather vents, easily accessible drain plugs, and a suitable oil level indicator such as a dip stick. Adequate radial clearances between the gear box inner surface and outside diameter of the gears shall be ensured and clearance proposed to be provided shall be indicated in the offer. The facial clearance between the inner surface of the gear box and the face of the nearest gear/pinions shall be at least 10mm.
- b. **All gear boxes should have drip pans to avoid oil falling on shop floor.**
- c. LT/CT gear boxes-- These should be of a modular, integral design. Motors may be either flange-mounted or foot mounted, or a combination of the two.

16. DRIVES

- a. The wheels of each end carriage should be driven by independent synchronized drive motors mounted near each end carriage.
- b. A separate cross traverse motor should be used for cross traverse drive through a suitable gear box.

17. BRAKES

- a. The hoisting motion shall be provided with **fail-safe D.C. Disc brakes** of reputed make.
- b. The maximum braking torque to arrest long travel and cross traverse motions should not less than 100% of full load torque for each brake. **For hoist motion, two brakes should be used** and the braking torque for each brake should not be less than 125% of full load torque. One of the two hoist brakes shall be applied with a time lag of 3 seconds in relation to the first.
- c. **For L T & C T motions brake should be DC disc brakes.**



18. ROPE SHEAVES

All sheaves should be of cast/forged steel. They should be identical, with the exception of the equalizer sheave. The equalizer sheave should be mounted above the trolley floor and should be easily accessible and removable from the trolley floor level. Sheave grooves should be smooth finished for getting increased rope life. The supplier should further ensure that wire ropes are parallel with each other.

19. BEARINGS

- a. Ball and roller anti-friction bearings shall be of reputed make. The acceptable makes will be NBC, SKF, FAG, NORMA, NRB, NTN and KOYO.
- b. For long and cross traverse wheels, spherical roller bearings shall be used.
Bush bearings should not be used at any location.

20. LIFTING HOOK

Standard plain shank type trapezoidal section hooks should be used. These hooks should conform to the relevant Indian Standard Specifications IS: 3815(latest) and IS: 8610 (latest)

21. BUFFERS

Spring loaded or other suitable buffers should be fitted on the four corners of the crane also at the four ends of the bridge girders. Buffers should be rigidly bolted in place, preferably along the centre line of the crane rail or trolley rail as the case may be. All buffers should have sufficient energy absorbing capacity to stop the bridge or trolley in either direction when traveling at a speed of least 40% full load rated speed. Bridge buffers should have a contact surface of not less than 125mm diameter.

22. LUBRICATION

- a. All gears and bearings enclosed inside gear boxes should be splash lubricated. Bottom blocks and pedestal bearings should have independent greasing points.
- b. A lubricating chart should be provided in the manual, indicating all lubrication points, the type of lubricants required and the recommended frequency of lubrication. These details should be repeated, and amplified if necessary, in the **Maintenance Manual** to be supplied along with **the crane minimum two nos. of hard copies.**

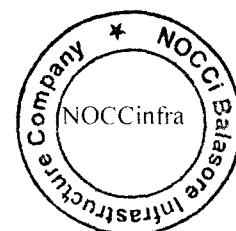


23. SCOPE OF SUPPLY FOR ELECTRICAL COMPONENTS

All accessories and auxiliary electrical equipment including drive motors, electrically operated brakes, controllers, AC variable frequency controls, conductors, protective devices, operating devices, cables, conduits etc. necessary for the safe and satisfactory operation and maintenance of the crane shall be included in the Vendor's scope of supply. **Electrical equipment shall be adequately rated to permit simultaneous operation of any combination of motions of the crane for its duty service.**

The scope of supply relating to electrical portion shall cover :-

- a. Shrouded down shop leads.
- b. **Main current Collectors (one in forward and another in rear)**
- c. Power disconnecting switch on the crane bridge walk way, to be provided, immediately after the main current collection gears.
- d. Motors (ABB/Siemens/Crompton Greeves/BBL/Kirloskar/LHP make with IP 55 protections).
- e. Protective Switch gears
- f. Motor control panels.
- g. **Squirrel cage motors with variable frequency drive for all LT, CT & hoist motion.**
- h. DC disc brakes for all motions
- i. Limit Switches
- j. Socket outlets
- k. **Power and control cables CT motion cables should run in cable drag chain.**
- l. Drag link cable system of reputed make like IGUS.
- m. Indicating lamps
- n. **Double step push buttons on Telemecanique make pendent and wireless remote control.**
- o. **Only MCBs should be used in the crane in lieu of HRC fuses.**
- p. Earth wire on crane portion.
- q. The control pendent should have separate movement in CT direction independently from trolley.
- r. Shrouded bus bar GI conductor along with Isolator switch at the ground level. Cabling from the Isolator to the shrouded bus bar should be in vendor's scope.
- s. **Lighting fixtures with HPMV lamps 250W x 4 nos. under arm type operable from pendant as well as from the wireless remote control.**



All sundry erection material required for installation and connecting up of electrical equipment with cable laying and fixing accessories shall be included in the price of the crane.

24. POWER SUPPLY CONDITIONS

Power shall be available at $415 \pm 10\%$ volts, 3 phase, $50 \pm 3\%$ Hz

25. SPECIFICATION FOR SHROUDED BUS BAR CONDUCTOR

Shrouded Bus Bar Conductor shall be of M/s. STROMAG make or safe track brand of M/s. Sushil Engg. Corporation Mumbai or equivalent shall conform to the following:

- a. The conductor system shall be finger safe to IP-21 with necessary supporting technical evidence of same and the conductor and material shall be of suitable metal (**Galvanized Iron**) insulated by a high impact gloss finish VR 935/2 PVC compound which shall have a step/groove shrouded all along its length for effective molding of the conductor system.
- b. The conductor shall be in minimum 4 mtrs. Length to be jointed with molded joint of the same material as the conductor.
- c. conductors shall be supported by way of a single piece molding, four pole hangers with single bolt fixing.
- d. The current collector arm should be aluminum die cast totally insulated and the connection cable shall be fully enclosed and double insulated within the collector arm with a proven performance. **Two sets of current collectors should be used, one in forward and another on rear, on DSL.**

26. MOTORS

All crane motors shall be totally enclosed fan cooled squirrel cage type.

27. CRANE CONTROL

- a. **Pendant push button control and wireless remote control for long travel, cross travel and hoist motions.** For switching ON and OFF the motor of a particular motion, the supply voltage to the pendant control shall be 24V AC/DC which shall be obtained through a suitable transformer. Necessary flexible multi core cable with sufficient length shall be supplied to enable the crane to be operated from floor level. Pendant shall be moving type and the **movement of pendant will be independent of trolley via a separate track along girder length.** On all the motions the circuit shall be so designed that brakes come into operation immediately in the event of tripping of motor main circuit breaker.



- b. The pendant control shall be capable of withstanding rough handling without being damaged. The cover shall be firmly secured.
- c. The mass of the pendant shall be supported independently of the electric cable by means of wire rope/chain. The pendant should be Telemecanique make and the push buttons should be double step type.
- d. On all pendant cranes safety means shall be provided to prevent inadvertent operation from floor while maintenance work is being carried out on the crane.
- e. Adequate guards shall be provided to prevent accidental contact of pendant ropes or holding wire rope/chain with cross traverse.
- f. Wireless remote control should also be offered for LT, CT and hoist motion of a reputed make, along with the push button pendant.
- g. **Wireless remote control should have two transmitters and one receiver. The wireless remote control transmitter should be impact resistant.**
- i. **Selector switches on pendant for pendant operation or remote control operation.**

AC variable frequency controls

AC variable frequency control of adequate capacity for all the motions of L&T make shall be used. Independent AC variable frequency control for main hoist, CT & LT shall be used by using independent variable voltage variable frequency drives. However common controller for both the motors of LT may be used. **Tenderer shall submit necessary technical details of the offered model.**

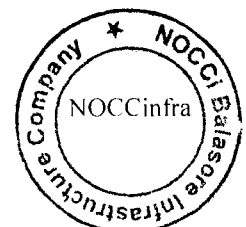
Brake release should be dependent on motor torque. The brake should be released only if 100% torque is developed in the motor.

28. CONTACTORS

- a. All contactors shall be of AC 4 Class of duty with rating sufficiently higher than the full load current of the respective motors at the specified duty cycle. The directional contactors of all motions shall be suitably interlocked for correct sequence of operation.
- b. The contactors shall have high contact reliability.
- c. All contactors shall be of ABB, Siemens, L&T and Cutler Hammer make.

29. CIRCUIT PROTECTIVE SWITCH GEAR

- a. In the crane push button operated contactor shall be provided for circuit protection.
- b. Each control circuit branch to every contactor panel shall be provided with facility for isolation and protection against short circuits and sustained high overloads by means of appropriately rated miniature circuit breaker.



30. LIMIT SWITCHES & LOCKS

- a. All hoist motions shall be provided with limit switches to prevent crane from over hoisting and over lowering. Two limit switches shall be provided for proper back up protection. The first limit switch shall act in the event of over hoisting and over lowering shall be of snap action/pin type self resetting feature and incorporated in the control circuit of respective drive motor.
- b. Any other limit switch viz. for slewing, skewing of crane etc. shall be provided if required.
- c. Limit switch for hoist cross and long travel motion shall be supplied installed and wired by the manufacturer.
- d. **Audio & Visual Alarm for all the limit switches should be provided.**
- e. Safety latch and swiveling lock should be provided for hook.

31. EMERGENCY STOP PUSH BUTTONS

Safety switches of sustained contact type shall be provided at each end of Crane Bridge so that under any emergency conditions, by operating anyone of the switches, the incoming circuit breaker is tripped thus cutting power to all motions. One no. of emergency stop push button should also be provided on pendant.

32. CONTROL PANEL (IP 55 class protection)

- a. All power and aux. contactors shall be mounted in sheet steel cubical with lockable hinged doors. The door hinges shall be of such type that during the repair works inside the panel the entire door can be lifted out and placed away enabling better access inside the panel. Each motion shall have its individual Panel. However, common panel with separate compartment for each motion shall be acceptable. **Interiors of panel shall be dust and vermin proof.**
- b. Panels shall be front wired with readily accessible terminal blocks for making connections in the external equipment. Panels shall be pre wired into terminal strip. **Single core, copper conductor shall be used for control circuit wiring in the panel.**
- c. All contactors etc. shall be mounted securely in a vertical arrangement with the consideration of the vibrations encountered in the operation of cranes. The bottom most row of the equipment mounted inside the panel except terminals strips shall be at least 150 mm above the panel bottom cover to facilitate inspection and repairs.



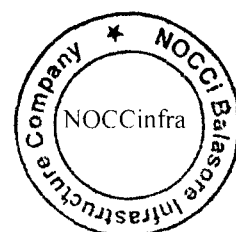
- d. All the equipments shall be so mounted in panel as to enable its easy removal/replacement from the front.
- e. The terminal strips shall be fixed inside the panel preferably in a horizontal manner leaving enough space underneath the strip for termination of cables in a convenient manner. Power and control terminals shall be segregated. Power terminals blocks shall be separated from each other by means of replaceable insulated spacers. Terminal block shall have adequate clearance to avoid tracking. A minimum of 20% spare terminals block shall be provided in terminals strips.
- f. All equipments inside the panel shall have permanent identification labels in accordance with circuit diagram as also the power and control terminals. Terminal blocks shall be of robust and of such construction as to preclude possibility of cable connections getting loose during vibration on crane.
- g. Sheet steel used for fabrication of panels shall have a minimum thickness of 2.0 mm. Panels shall be mounted such that bottom of panel is at least 150mm above the floor.
- h. Contactor panels shall be well braced to the crane structure and each panel shall be provided with adequate number of lifting lugs.

33. CABLING

- a. All wiring for power control circuit shall be carried out with **1.1 KV grade Flame Retardant Low Smoke (FRLS) PVC insulated copper cables** as per IS 694 and IS 1554 Pt. I with smoke index and typical index corresponding to ASTM-2843 & IEC332-I.
- b. Minimum size of power & control cables shall be 4 mm², 2 & 2.5 mm² respectively.
- c. **All cables shall be systematically laid on G.I. trays or in cable drags of suitable type.**
- d. All cables shall be of reputed make and approved ISI brands.
- e. **CT cables of the crane shall run on cable drag chain.**

34. IDENTIFICATION OF CIRCUIT CABLES ETC.

Labels of permanent nature shall be provided on supports of all switches, fuses, contactors, relays etc, to facilitate identification of circuits and replacement. All panels, controllers etc. shall be properly marked for each motion. All power control cable and other cables shall be ferruled at both end as per cables numbers indicated in the supplier's drawing. All equipment terminals shall also to be marked likewise.



35. EARTHING

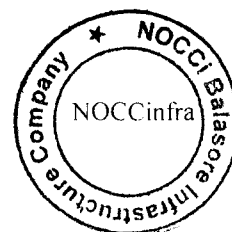
Earthing to the crane shall be effected through track rails crane structure. As such, all the electrical equipments mounted on crane shall be connected to the crane structure by means of earthing links. Equipments fed by flexible cables shall be earthed by means of spare core provided in the flexible cable.

36. SPARES

To be quoted separately for two years of maintenance

37. ERECTION, COMMISSIONING AND PROVING TESTS

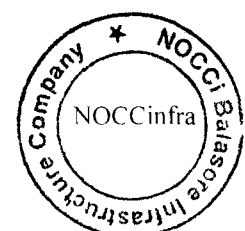
- a. The contractor shall arrange erection and commissioning of the cranes. Adequate number of teams of technical experts will be made available so that erection and commissioning delays are eliminated. Such personnel will be required to be present immediately as soon as we call upon for erection after receipt of crane at our site and site preparedness.
- b. The contractor or his agent shall commission the crane within 60 days from the date of intimation by the consignee in respect of readiness of site/gantry etc.
- c. Following items of work shall be performed by the Contractor
 - i. Installation of supplying gantry structure of the crane including welding finishing etc. Checking of alignment of gantry rail at site after installation
 - ii. Installing of the crane structure and associated machinery in position.
 - iii. Complete fitting and wiring of all electrical items
 - iv. Fixing of down shop leads.
 - v. Commissioning of the equipment. The crane performance shall be demonstrated after successful commissioning.
- d. Consignee's obligation with regard to erection & commissioning will be limited to the following:
 - i. Supplier shall be provided a lockable space with 100-150 mtr lead for storage of his material, tools & plant.
 - ii. Supplying following free of cost at the site of work.
 - a. Electricity required for the purpose of erection/ lighting. In case the electricity could not be arranged due to any reason whatsoever, bidder has to make his own alternative arrangement and see that work is not hampered. Nothing extra shall be paid on this account.
 - b. Test loads with slings and tackles for performing the load tests.
 - c. Earthing shall be provided as needed.



- e. In the interest of early commissioning, the supplier shall ensure minimum amount of assembly is necessary at site. **The supplier, before proceeding with design details, shall check the span of building physically at site.**
- f. The crane shall be inspected and tested during different stages of its manufacture, starting from raw-materials till the completion of the crane, by the Purchaser or his authorized representative at the supplier's or his sub-supplier's works. However, the purchaser or his authorized representative is free to institute any further checks also, if he so desires.
- g. All electrical and mechanical equipment shall be tested in accordance with the appropriate Indian Standard at either the crane maker's or equipment manufacturer's works and test certificates provided if required by the Purchaser or his representative.
- h. Test on Purchaser's Premises.
- i. Start up and trial Operations Test (Commissioning Test)
- j. The contractor shall carry out the start up and trial operation tests (commissioning test) on receipt of authorization from the Purchaser. In addition to tests indicated in IS: 3177(latest), the following shall also be shown
 - i. The earthing of the crane and control equipment, to be tested as per Indian Electricity Rules.
 - ii. The operation of brakes on long travel, cross traverse and hoisting motions.
 - iii. Inching control and speed as specified in annexure-I.
 - iv. There is no skewness in crane during long travel and cross travel motions, presence of vibrations and unusual noise in operation.
- k. The trials shall be carried out initially under no load conditions and on satisfactory completion of these, trials shall be repeated for various loads until the full rated load and operating range are covered.
- l. During the trial operation, all necessary adjustments shall be made so as to ensure compliance with the operating characteristics for the complete equipment as stipulated in the technical specifications.

38. TRAINING

Technical experts of the manufacturer during erection & commissioning of cranes will fully and adequately train operators / maintenance staff nominated by the consignees.



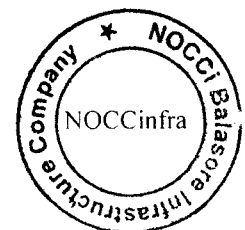
39. REFERENCES

The tenderer should provide satisfactory evidence, acceptable to the Purchaser, to show that he is licensed manufacturer and has adequate plant and manufacturing capacity and has a quality assurance programme. He should furnish a statement giving a list of items as per his offer and/or similar, supplied by him during the last 3 years, along with the Purchaser's name and address, order number, date and quantity supplied, comments on their performance, and whether the supplies were made within the delivery period. In the absence of the above Information, the tender is liable to be rejected.

40. PAINTING & COLOUR

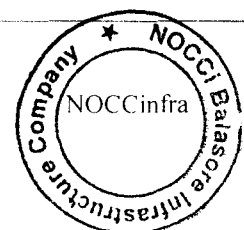
The crane should be epoxy painted (golden yellow colour) after obtaining surface finish better than or equal to SA 2½. All motors, brakes and panels should also be epoxy painted.

- a. All parts of the crane shall be thoroughly cleaned of all loose mill scales, rust or foreign matter.
- b. All parts inaccessible after assembly shall be painted before assembly.
- c. The interior of all gear box housing shall be painted with two coats of oil resistant enamel paint.
- d. All support structure shall be epoxy painted.



A.

| PRICE BID FORMAT (SUPPLY) | | |
|---|---|-------------|
| NAME OF THE ITEM | 10 TON CAPACITY SINGLE GIRDER EOT CRANE with RUNWAY GIRDER WITH RAIL & RAIL FIXING SPARE FOR BAY LENGTH OF 70 MTR. | |
| SL NO | PARTICULARS | RATE |
| 1 | Basic Cost | |
| 2 | Excise duty | |
| 3 | Sales Tax / VAT (NOCCinfra will not provide 'C' Form) | |
| 4 | Transportation including packing | |
| 5 | Transit Insurance | |
| Grand Total | | |
| In words | | |
| Note: | | |
| 1. NOCCinfra will not issue any 'C' form. Way bill may be issued with adequate notice period and submission of all relevant documents & bill details. | | |
| 2. Entry tax payable if any by NOCCinfra will be deducted from your bill Payment. | | |
| 6 | Annual Maintenance Contract rate (after expiry of warranty period) | |
| In words | | |
| List of Major Parts for Two Year Maintenance | | |
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
| In words | | |

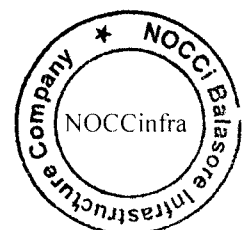


B.

| PRICE BID FORMAT (ERECTION & INSTALLATION) | | |
|---|---|-------------|
| NAME OF THE ITEM | 10 TON CAPACITY EOT CRANE with RUNWAY GIRDER WITH RAIL & RAIL FIXING SPARE FOR BAY LENGTH OF 70 MTR. | |
| SL NO | PARTICULARS | RATE |
| 1 | Total Cost of erection & Commissioning (inclusive of all taxes & duties etc.) | |
| | Grand Total | |
| In words | | |

| SL No | Description | Amount (Rs.) |
|---------------------|-------------------------|--------------|
| A. | Supply | |
| B. | Erection & Installation | |
| Total Amount | | |

In Words



Payment Terms & Condition

Price Basis:

The price shall be inclusive of all taxes / duties, freight & Packing charges delivery material and unloading FOR site at Balasore. Way bill shall be provided by NOCCinfra on demand by bidder.

i. **Supply Value**

- a. 10 % advance of supply value against a bank guarantee for equivalent amount valid till final delivery of material.
- b. 80 % of the supply value as progressive payment on receipt of material on safe at destination/ site billing at this stage should be 90% of the value supplied, advance of 10% if availed, will be adjusted. Within 07 working days.
- c. 10% of the supply value on successful erection & commissioning and handing over of the Crane.

ii. **Erection Value**

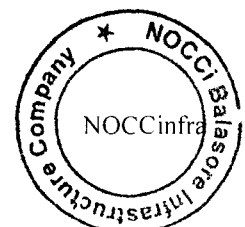
- a. 10 % advance of supply value against a bank guarantee for equivalent amount valid till final delivery of material.
- b. 80% on completion of erection/ installation.
- c. 10% within 10 Days after successful commissioning.

iii. **Acceptability of Bank Guarantee**

- a. The Bank guarantee provided by the bidder should not be defective/conditional which does not safeguard the interest of NOCCinfra.
- b. Normally Bank Guarantees permitting encashment without any demur merely on demand from NOCCinfra should be accepted.
- c. Bank Guarantee issued only by Nationalized / Foreign Banks having branches in India should be accepted.

iv. **Performance Bank Guarantee (PBG)**

The performance guarantee may be considered as a security towards the “performance of the contract as a whole” by the supplier and not only for the product/ equipment/ service offered by them. Accordingly the PBG, where ever felt necessary, may be asked either in the beginning of contract i.e. along with acceptance of order/ contract to cover performance of entire contract till



completion of all contractual obligations by the supplier or at the time of completion of execution/ delivery of material to cover the performance of the equipment/ works during the guarantee/ defect liability period. The essentiality of having a performance guarantee should be decided, depending on the situation and on merits of the case, in consultation with the indenting group and when required suitable provisions shall be included in the enquiry/ tender.

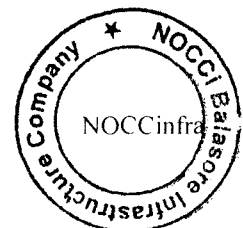
The BG should be accepted with validity period as per Banking norms and should be got extended before its expiry, if required, till contractual obligations are over. The performance B.G should be 5% of contract value to be deposited along with acceptance copy of the order. The P.B.G should be valid for a period of 1 year after commissioning.

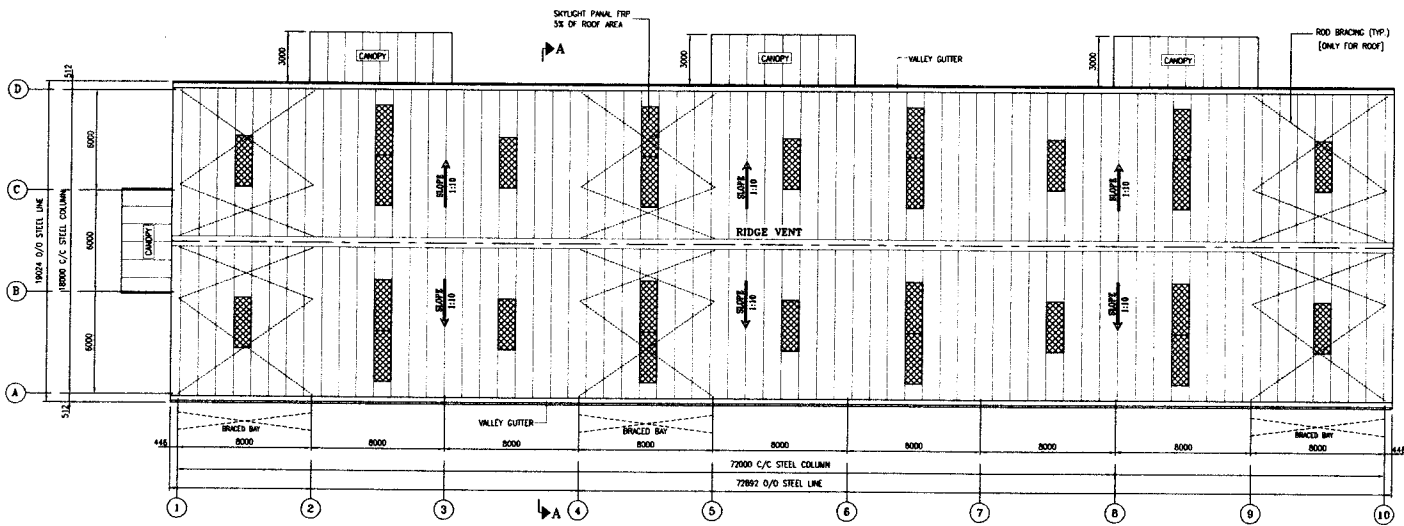
v. **Submission of Bills:**

Bills in triplicate under Registered Post, stating therein our purchase order reference along with necessary copies of dispatch documents are to be sent to our Head Office at **NOCCI BALASORE INFRASTRUCTURE COMPANY, C-12, Ganeswarpur Industrial Estate, Balasore, Odisha, India/** Other Offices as per instructions given in the purchase order. Unless otherwise stated, the payment shall be made to you by Crossed Account Payee cheque by post according to the terms of payment mentioned in the purchase order.

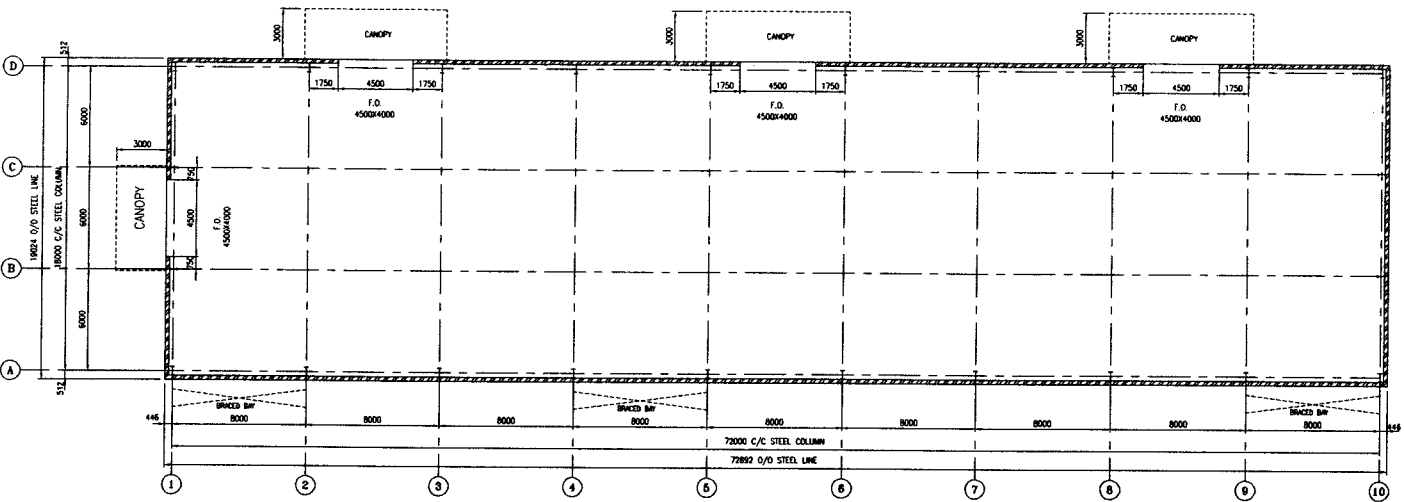
NOTE TO THE CRANE MANUFACTURERS / SUPPLIERS –

- 1) Crane manufacturers/suppliers in their quotation should include a comparative statement of the technical specifications of the crane indented versus the crane being offered by them, without this comparative statement the offer is liable to be rejected.
- 2) Suppliers/manufacturers should also enclose detailed technical catalogue of the crane being offered along with the quotation. Offer with a general catalogue is liable to be rejected.
- 3) The crane manufacturer must submit a detailed **quality assurance programme indicating QAP applicable at various stages of crane fabrication starting from raw material to final crane testing.**
A detailed QAP with necessary drawings documentation and calculation for obtaining necessary approval should be submitted to us before taking up crane fabrication.





ROOF PLAN



COLUMN LAYOUT PLAN

MATERIAL SPECIFICATIONS

| | | |
|----|--|--|
| 1 | ROOFING SHEET | 830mm X710mm GIBBON - 80 COATED GALVANEUM 300 gms. S252 |
| 2 | WALL CLADDING | 830mm X710mm GIBBON COATED GALVANEUM 300 gms. S252 |
| 3 | WALL LIGHT PANEL | ROOF - 3mm FRP SHEET OR AS PER ARCH/COMMER |
| 4 | VALLEY GUTTER | 830mm X710mm GIBBON GALVANEUM 300 gms. S252 |
| 5 | FLOORINGS | 830mm X710mm GIBBON GALVANEUM 300 gms. S252 |
| 6 | DOOR FRAME PFK | 18 mm IS PFK OR 18 mm GIBBON COATED GALVANEUM 300 gms. S252 |
| 7 | F.O. | (4500x4000) slab |
| 8 | WELDED IRL | MS |
| 9 | INSULATION | MS |
| 10 | ROOF JOINT | MS WITH 300 mm TORQUE (FULL LENGTH) |
| 11 | CAGE LADDER | MS |
| 12 | WALL-UP MEMBERS | 150x75x6mm C.S. 1.15mm/1.75mm/2.0mm |
| 13 | WALL RIGID SECONDARY MEMBERS | 150x75x6mm C.S. 1.15mm/1.75mm/2.0mm |
| 14 | CEILING RIGID SECONDARY MEMBERS | 150x75x6mm C.S. 1.15mm/1.75mm/2.0mm |
| 15 | ROOFING | 830mm X710mm GIBBON GALVANEUM 300 gms. S252 |
| 16 | WALL STRENGTH BOLTS FOR PRIMARY CONNECTION | MS 12.9mm DIA. 16.3mm DIA. 19mm DIA. 22mm DIA. 27mm DIA. 33mm DIA. 42mm DIA. 52mm DIA. 65mm DIA. 80mm DIA. 100mm DIA. 125mm DIA. 150mm DIA. 175mm DIA. 200mm DIA. 225mm DIA. 250mm DIA. 275mm DIA. 300mm DIA. 325mm DIA. 350mm DIA. 375mm DIA. 400mm DIA. 425mm DIA. 450mm DIA. 475mm DIA. 500mm DIA. 525mm DIA. 550mm DIA. 575mm DIA. 600mm DIA. 625mm DIA. 650mm DIA. 675mm DIA. 700mm DIA. 725mm DIA. 750mm DIA. 775mm DIA. 800mm DIA. 825mm DIA. 850mm DIA. 875mm DIA. 900mm DIA. 925mm DIA. 950mm DIA. 975mm DIA. 1000mm DIA. |
| 17 | WALLING BOLTS FOR SECONDARY CONNECTION | MS 12.9mm DIA. 16.3mm DIA. 19mm DIA. 22mm DIA. 27mm DIA. 33mm DIA. 42mm DIA. 52mm DIA. 65mm DIA. 80mm DIA. 100mm DIA. 125mm DIA. 150mm DIA. 175mm DIA. 200mm DIA. 225mm DIA. 250mm DIA. 275mm DIA. 300mm DIA. 325mm DIA. 350mm DIA. 375mm DIA. 400mm DIA. 425mm DIA. 450mm DIA. 475mm DIA. 500mm DIA. 525mm DIA. 550mm DIA. 575mm DIA. 600mm DIA. 625mm DIA. 650mm DIA. 675mm DIA. 700mm DIA. 725mm DIA. 750mm DIA. 775mm DIA. 800mm DIA. 825mm DIA. 850mm DIA. 875mm DIA. 900mm DIA. 925mm DIA. 950mm DIA. 975mm DIA. 1000mm DIA. |
| 18 | SELF DRILLING SELF TAPPING SCREWS | MS 4.8mm X 25mm COMPOUND HEAD/TYPE CLASS 3 |

APPLICABLE DESIGN CODES:- (IS)
 Loads are applied in accordance with:
 The 2002 Edition of Indian Building System Manual of Steel Building Manufacturers Association (ISBMA)
 Wind Speed in accordance with:-
 IS-875 (Part II)-1987: code of practice for design load, for building and structures.
 Earthquake load in accordance with:-
 IS-1893 (Part I)-2001: criteria for Earthquake resistant design of structures.
 The rolled and built up sections are designed in accordance with:
 Manual of Steel Construction, 8th Edition of American Institute of Steel Construction (AISC).
 Cold-Formed members are designed in accordance with:
 1998 Edition of Cold-Formed Steel Design Manual of American Iron and Steel Institute (AISI).
 Welding is applied in accordance with:
 Structural Steel Building code of American Welding Society (AWS D1.1:08)

NOTES:-

- ALL DIMENSIONS ARE IN MM.
- THE APPROVAL SHALL BE ACCEPTED ON HARD COPY OF DRAWING OR IN A SEPARATE MAIL.
- DO NOT EDIT THIS DRAWING FOR CORRECTIONS/COMMENTS.
- AFTER APPROVAL OF G.A./A.R. DRAWING ANY CHANGE SHALL HAVE PHYSICAL IMPROVEMENTS AND DELAY THE DRAWING DELIVER SCHEDULE.
- STRUCTURAL SECTION SIZES SHOWN HERE ARE TENTATIVE AND MAY VARY AFTER FINAL DESIGN APPROVAL.

FOR CLIENT USE

- APPROVED; FABRICATION WORK MAY BE TAKEN UP.
- APPROVED WITH COMMENTS; FABRICATION MAY BE TAKEN UP INCORPORATING COMMENTS.
- TO BE RESUBMITTED AFTER INCORPORATING COMMENTS FOR APPROVAL.

(PLEASE TICK ✓ THE APPROPRIATE ONE)

SEAL & SIGNATURE

Project: **FEB FOR M/S NOCCI BALASORE INFRASTRUCTURE COMPANY AT-ORISSA.**

Building: **FACTORY SHED**

Drawing Title: **GENERAL ARRANGEMENT DRAWING**

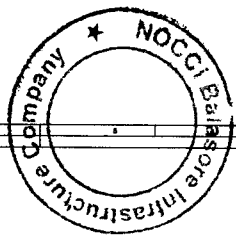
Client: **M/S NOCCI. BALASORE INFRASTRUCTURE COMPANY**

DESIGN & ENGINEERING SERVICES
 M/S NOCCI BALASORE INFRASTRUCTURE COMPANY
 100/1, BALASORE, INDIA

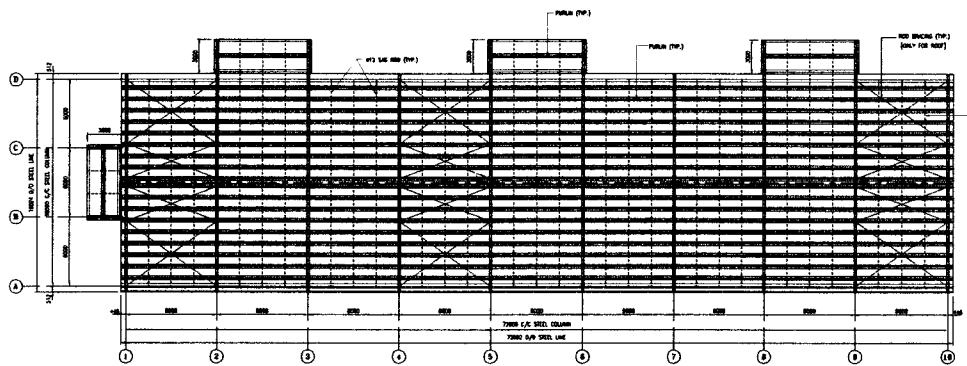
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Sheet: 01 OF 03

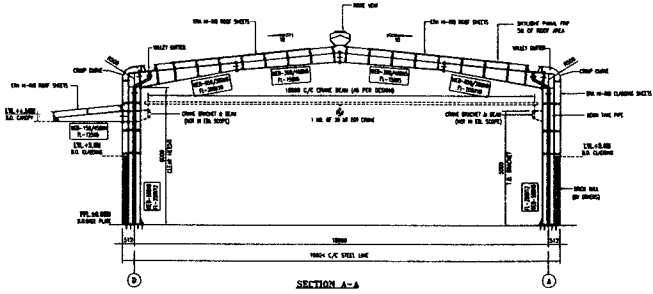
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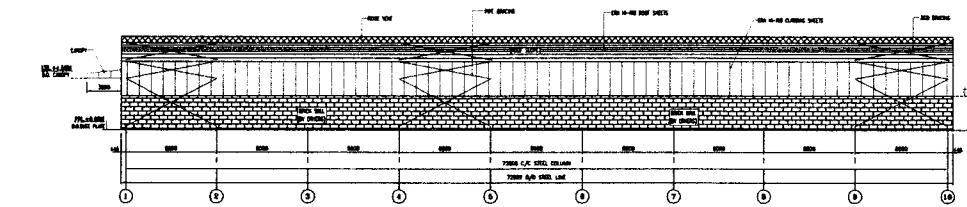
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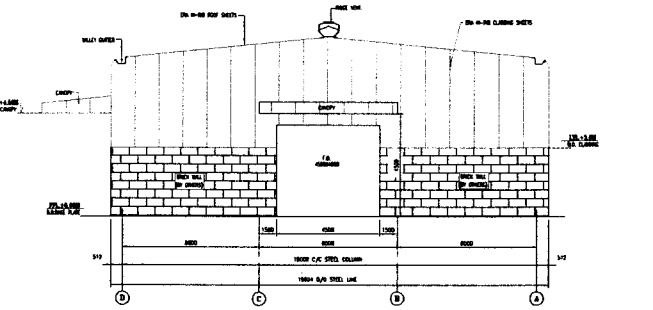
STRUCTURAL ROOF PLAN



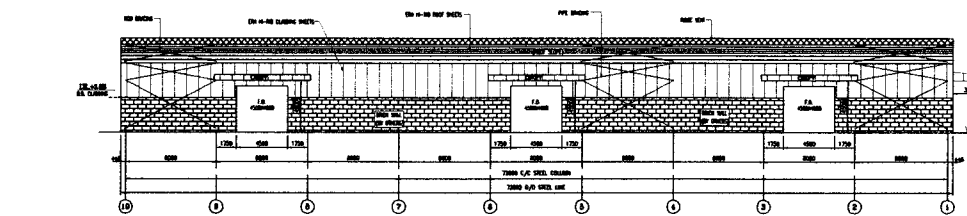
SECTION A-A



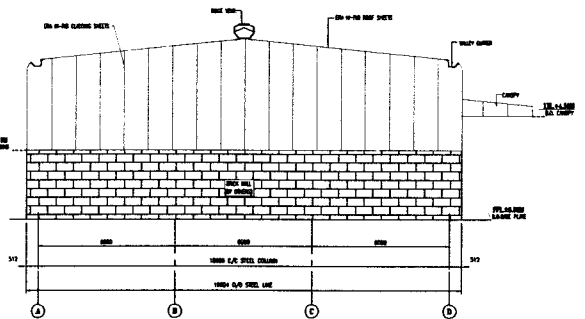
SIDE WALL ELEVATION ALONG GRID A



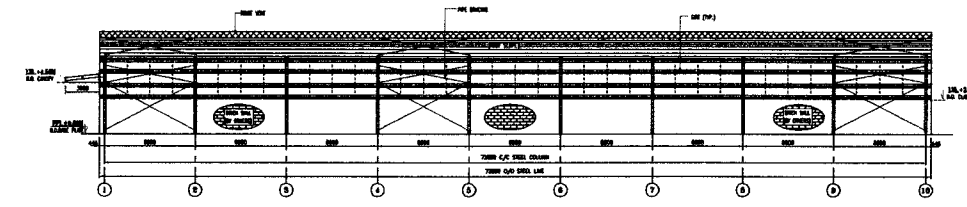
END WALL ELEVATION ALONG GRID 1



SIDE WALL ELEVATION ALONG GRID B



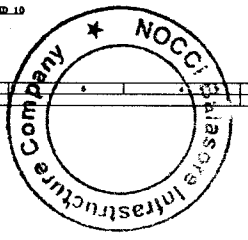
END WALL ELEVATION ALONG GRID 10



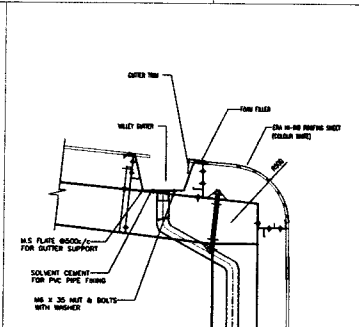
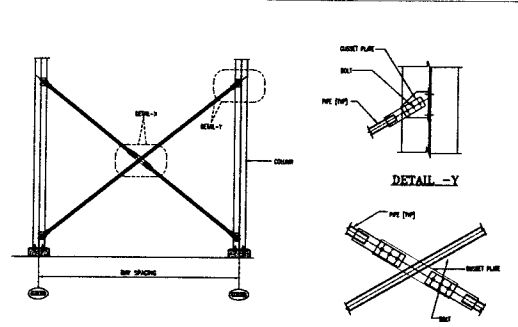
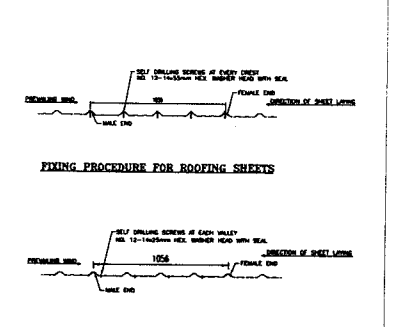
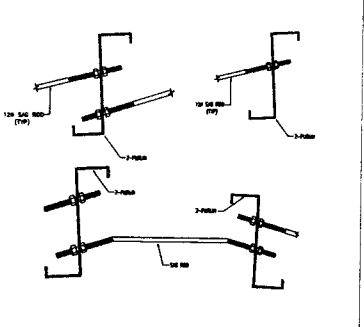
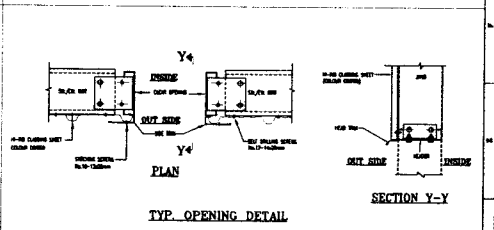
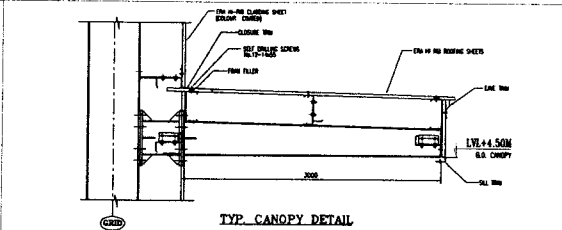
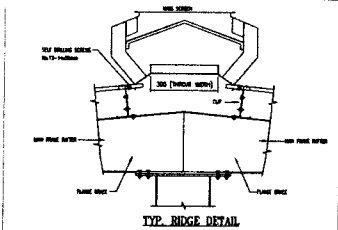
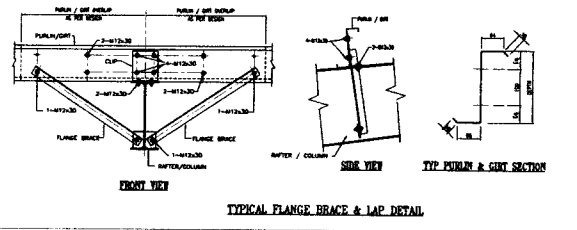
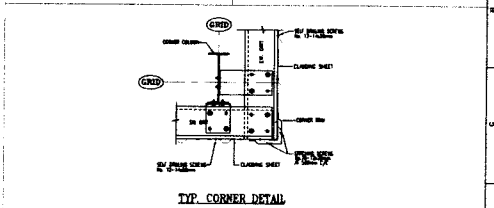
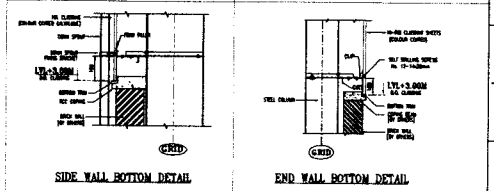
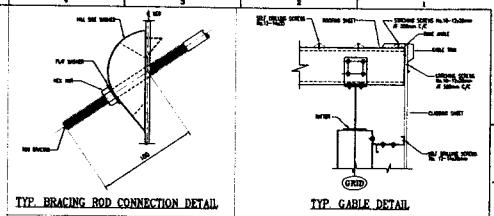
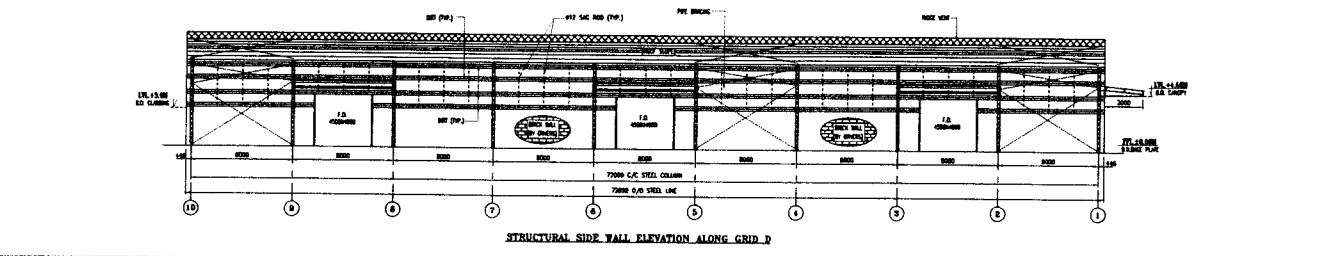
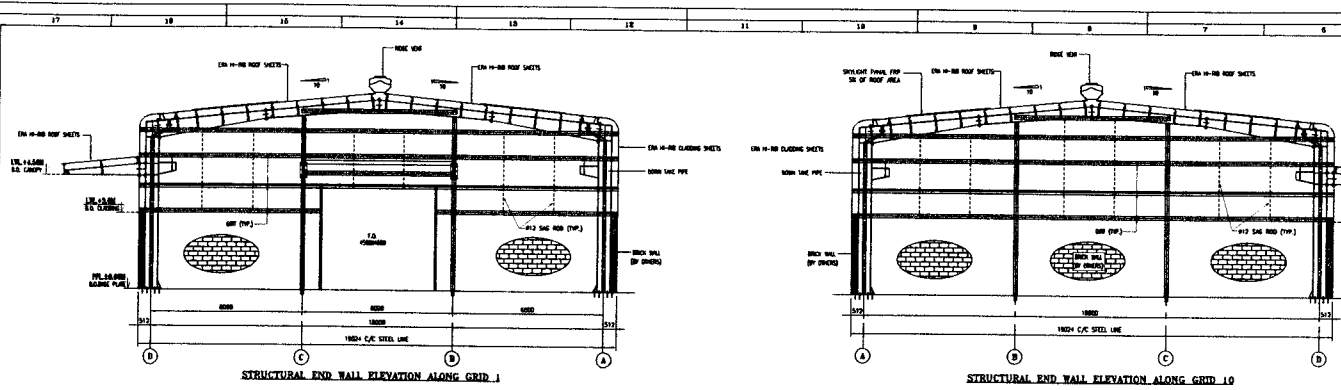
STRUCTURAL SIDE WALL ELEVATION ALONG GRID A

| | |
|---------------|---|
| Project | FOR M/S NOCCI, BALASORE INFRASTRUCTURE COMPANY AT - DRUSSA. |
| Building | FACTORY SHED |
| Drawing Title | GENERAL ARRANGEMENT DRAWING |
| Client | M/S NOCCI, BALASORE INFRASTRUCTURE COMPANY |
| Scale | 1:200 |
| Date | 21-11-2013 |
| Sheet No. | 30 |
| Sheet of | 40 |

NOTE: The drawing is prepared by computer using AutoCAD software. It is not a physical drawing and is not to be used for construction purposes. It is intended to be used for reference only. The user should verify the accuracy of the drawing before using it for any purpose.



27 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1



| | |
|---------------|---|
| Project | FEED FOR M/S NOCCI, BALASORE INFRASTRUCTURE COMPANY AT -ORISSA. |
| Building | FACTORY SHED |
| Drawing Title | GENERAL ARRANGEMENT DRAWING |
| Client | M/S NOCCI, BALASORE INFRASTRUCTURE COMPANY |
| Scale | AS SHOWN |
| Sheet No. | SD 03 OF 03 |
| Revision | |
| DATE | 21-11-2013 |
| BY | |
| CHECKED BY | |
| APPROVED BY | |

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