

**TENDER SPECIFICATION FOR FABRICATION AND LAYING OF VARIOUS SIZES OF OVERHEAD OXYGEN PIPE LINES FROM DISTRIBUTION POINT TO NEWLY CONSTRUCTED SHOP FLOOR IN PPPU / THIRUMAYAM, BHEL.**

**PART- I**

**I. Technical cum qualification bid**

**a. Notice inviting Tender**

01	Name of work	Fabrication and laying of various sizes of overhead Oxygen pipe lines from distribution point to newly constructed shop floor in PPPU / Thirumayam, BHEL
02	Location of work	PPPU / THIRUMAYAM, BHEL
03	Estimated Value	Rs.19.80 Lacs
04	Earnest Money Deposit	Rs. 40,000/-
05	Delivery	THREE (3) MONTHS from the date of commencement of the work which will be reckoned from the date handing over the site to the contractor)
06	Last Date for Receipt of Tenders	25-11-2011 / 03:00 PM
07	Date of Technical cum Qualification Bid Opening	25-11-2011 / 03:30 PM
08	Date of RA/Price Bid Opening	Will be intimated separately to those who are qualified.
09	Guarantee Period for workmanship	(Twelve) Months from the date of actual completion of the entire work and handed over to Bharat Heavy Electricals Limited.

The Tender documents can be down loaded from BHEL website / govt. website at free of cost.

- b. The Contractors must submit their Tenders as required in TWO parts in separate sealed covers prominently super scribed as PART-I TECHNICAL CUM QUALIFICATION BID and PART-II PRICE BID and also indicating on each of the covers, The tender reference No. and due date and time as mentioned in the tender notice
- c. A separate EMD cover should also be submitted. PART-I, PART-II and EMD covers shall be placed in a common cover super scribing Name of work, Tender reference No. and due date
- d. Tenders may be finalised through TWO PART System or BY REVERSE AUCTION.

Clarifications on the tender specification if any may be sought by the bidders so as to reach this office at least seven days before the tender due date .

ISSUING OFFICER  
CONTRACTOR'S SIGNATURE

**II. Declaration by the bidders**

**2.1) Declaration by bidder’s authorized signatory**

Ref no: ----- Date: -----

I, hereby certify that all the information and data furnished by me with regard to this tender specification are true and complete to the best of my knowledge. I have gone through the specifications, conditions and stipulations in detail and agree to comply with the requirements and intent of the specification. I further certify that i am duly authorised representative of the under mentioned bidder and a valid power of attorney to this effect is also enclosed.

Date:

Signature of authorized signatory  
with seal

**2.2) Certificate of no-deviation**

Ref no: ----- date-----

We, M/s .....

hereby certify that notwithstanding any contrary indications/ conditions elsewhere in our offer documents, i/we have neither set any terms and conditions nor there is any deviation taken from the conditions of BHEL’s tender specifications, either technical or commercial, and i/we agree to all the terms and conditions mentioned in BHEL’s tender specification with associated amendments and clarifications.

Date:

Signature of the bidder

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**2.3) Format for e – payment**

FORMAT TO RECEIVE E-PAYMENT THROUGH EXISTING ACCOUNT WITH NEFT/SEFT/RTGS ENABLED BANK BRANCH

Sub: E-payments vide NEFT/SEFT/RTGS - Reg.

VENDOR CODE AS PER BHEL	:	
VENDOR NAME AS PER BANK RECORDS	:	
ACCOUNT TYPE	:	
BANK ACCOUNT NUMBER	:	
NAME & ADDRESS OF THE BANK	:	
BRANCH CODE	:	
BRANCH RTGS CODE	:	
BRANCH MICR CODE	:	
NAME OF THE AUTHORISED SIGNAROTY	:	

I/we confirm that I/We will bear the charges, if any levied by my/our bank for the credit of SEFT/RTGS amounts in our account.

For.....

SIGNATURE  
(Authorized signatory)

We confirm that we are enabled for receiving NEFT/SEFT/RTGS credits and we further confirm that the account number, the signature of the authorized signatory, branch code, RTGS code and MICR code of our branch mentioned above are correct.

BANK VERIFICATION  
(Manger's/Officer's signature under bank stamp)

Note: The above format duly filled and signed by the Contractor and the Bank authorities shall be enclosed along with offer so as to return the EMD amount through Electronic media.

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### **III. Tender qualifying criteria:**

Bidder must fulfil the following qualifying criteria concurrently for BHEL to accept the offer on Techno-Commercial ground and if any condition was not met by any vendor the offer may liable for rejection.

- a. Contractor must have minimum TWO Years of Experience in field of fabrication and erection of Over head Pipelines for LPG/Oxygen/Argon/Propane Gas application and should have executed minimum 1000m pipe line erection work.
- b. The proof for the above experience stated in (a) should be provided in the form of Work order copies for the work executed in the past 5 years from the date of tender opening.
- c. Financial Status:
  - i. Audited balance sheet for two years to be provided. (Financial years 2008-09 & 2009-10)
  - ii. Copies of the income tax return for previous two years to be provided. (Financial years 2008-09 & 2009-10)
  - iii. The Vendor should produce solvency certificate from a schedule bank for a value of 8 lacs.
- d. Offer should be submitted along with EMD of Rs. 40,000/-

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#### IV. SCOPE OF WORK

##### 1) OUTLINE

Fabrication and laying of various sizes overhead Oxygen pipe lines from distribution point to newly constructed shop floor generally as per lay-out drawing No. 0M-20B-05-00972 in BHEL-PPPU Plant at Thirumayam.

##### 2) QUANTUM OF WORK

Sl. No.	Work	Quantity	Unit
01	Main Header Pipe of Diameter 2"	2800	Meters
02	Vertical Drop Line of Diameter 1"	800	Meters
03	Installation of Control Valve 2"	30	No
04	Installation of Control Valve 1" and Tapping Point	100	No
05	Installation of Pressure Gauges	10	No

NOTE: The Quantity given is based on the Maximum requirement consideration. Actual will vary within +/- 20% during Erection based on the shop floor requirement at that period.

##### 3) DETAILS OF WORK:

###### 3.1 LAYING OF 2" OVER HEAD OXYGEN PIPE LINE

The 2" Pipe line is to be fabricated (socket welding of available pipes in Arc welding process using E-7018 electrode to make up the required length) and erected from the Oxygen Yard. These pipe lines are to be laid on the trestles existing above ground at approximate height of 8m in the open ground for a distance of approx. 120m and remaining portion of the pipe lines inside the shop on the columns (at interval of 7.4m and height of around 9m). The pipe line fabricated inside the building should be erected on the existing supports. Expansion cum condensation U-loop of around 1m x 1m with 1" drain line to be provided at suitable locations for approx. every 100m.

###### 3.2 LAYING OF 1" OXYGEN DROP LINE

The 1" Pipe line is to be branched vertically from the 2" pipe lines at height of around 8m and erected downwards till 1.0 m above floor level. The required bend profiles for 1" Pipe line should be made to suit the site requirements. The vertical drop line is to be

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properly supported and clamped with minimum two pipe clamping supports in the column. The 1" drop line should be fabricated with required flange connection for fitting of the valves. This 1" drop line will be located at required columns as specified by BHEL supervisor during execution of work. The total no. of drops will be approx. 80 Nos. Proper clamps are to be fixed on the supports. The pipe line and tapping valve / manifold are to be fastened to them. The Contractor shall install the required 1" valve with flanged ends or to be fastened.

### **3.3 INSTALLATION OF 2" VALVES**

The 2" Valves are to be installed at locations specified by BHEL Supervisor. The vendor shall install required end connection flanges, gaskets and fasteners during the installation of the valves. The valves should be supported wherever required.

### **3.4 INSTALLATION OF 1" VALVE, STRAINER AND TAPPING MANIFOLD**

All the drop lines and drain lines are to be installed with 1" 300 Class Flanged Ball Valve with required sealing agents. The 1" valve should further be fastened to 1" 300 Class Y-Type Strainer and Oxygen Tapping Manifold with sealing agents/Gasket.

### **3.5 MOUNTING OF PRESSURE GAUGES**

Each bay distribution line (2" Line) is to be installed with a Pressure Gauge. The pressure gauge should be installed in vertical position and a viewable location as per the instructions of BHEL supervisor. The pressure Gauges should be installed with required ¾" isolation valve. The end connection of the pressure gauge will be M20 X 1.5mm male connection.

## **4 GENERAL PIPE LAYING DETAILS AND INSTRUCTIONS FOR ALL THE ABOVE WORKS**

- 4.1** All pipe lines should be fabricated and erected as per general pipe laying standards ensuring proper levelling, straightness. Pipe lines shall be routed and fabricated to ensure minimum pressure drop/line loss.
- 4.2** The pipeline should be routed such that it doesn't interfere with any Civil or Electrical or Crane or Mechanical Functions in the shop floor. The Pipeline routing will vary to suit the site conditions and production requirement; Hence the contractor should accommodate these changes as informed.
- 4.3** The pipe lines are to be routed as per drawing **0M20B0500972** (Drawing for Tender Purpose Only).
- 4.4** The contractor shall employ skilled & qualified welders (having experience in overhead pipe line welding), fitters, etc. for execution of the contract. All welders should be approved based on qualification and trial welding at site, by BHEL supervisor prior to engagement in fabrication and pipe laying work.

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- 4.5 All pipe line outer surface coatings, dirt are to be thoroughly cleaned and rust to be removed by wire brush. Also cleaning the dirt inside and outside pipes to be done prior to fabrication. The contractor should follow the welding procedure / Instruction for the weld joints given by BHEL during execution.
- 4.6 All the pipe line is to be properly SOCKET WELDED and to withstand the required pressure (8 bar), ensuring zero leaks and proper penetration as per the instruction of BHEL Supervisor. The pipe line is to be fabricated and erected as per the required routing for interconnection with succeeding and preceding pipe lines.
- 4.7 Required isolation valves and flange joints should be installed as per instructions of BHEL Supervisor.
- 4.8 All the pipe lines are to be properly supported and clamped at required locations specified by BHEL Supervisor.
- 4.9 Fabrication of the pipe line includes the installation of required socket weld (SW) unions, SW bend's, SW T's, SW Reducer's, SW Machined Flanges, SW Machined Weld Nipples, etc. required as per site conditions.
- 4.10 Subsequent to the laying of the pipe lines, they are to painted, hydro tested, installed with tapping points and pressure gauges as mentioned.
- 4.11 The contractor shall not use grease/oil in the Oxygen Line.

## 5 ISSUE OF MATERIALS / CONSUMABLES:

It will be in the scope of contractor to move the required materials from BHEL Thirumayam Stores to the erection spot for execution of work. The contractor shall arrange his own Trolleys for material shifting, Crane with Lifting Tackles and required Manpower for the movement of materials from BHEL (Thirumayam) stores to the erection spot within plant.

### 5.1 SCOPE OF BHEL:

BHEL will supply the following materials **free of cost** at PPPU, Thirumayam plant stores.

- a) All the Pipe Material required for the Pipe Laying.
- b) All the structural materials required for fabrication of pipe supports.
- c) All Straight sockets, Socket Weld Tees, SW Elbows and SW Flanges for the fabrication and laying of Pipe Line
- d) All the Control Valves, Pressure Gauges, Y-Type Strainer and Tapping Manifolds for installation in the Pipe Line System.
- e) Consumables like Electric Power and Water at a Single Location in the Site free of cost. (Electrical Point will be provided at a location within 200m in circumference from work site, it will be in the contractor's scope to make arrangements for necessary cabling)
- f) Welding electrodes and paint for the entire work.

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## 5.2 SCOPE OF CONTRACTOR:

- a. The contractor should bring in their own tools and lifting tackles including three phase welding machine with electrode holder, cutting torch, Welding cable, oxy-acetylene regulators with rubber hoses, wire brushes, paint brushes, ladders and hydro test machine for the execution of the work.
- b. The contractor should bring their own Gases for welding and cutting, gasket material (CAF), thread seal, PTFE tape, all type of fasteners (Metric Thread Nickel Coated; Make: TVS / Unbrako / Unifrax) for Flanges-clamps-supports-etc, U-clamps and threaded weld nipples (for installation of 1" Valve and Pressure Gauges) required for the execution of above works.
- c. Portable Compressor for air requirement if any should be brought by the contractor.
- d. The Contractor should make their own arrangements for the requirement of mobile crane facility and vehicle required for the movement of material and the execution of the work within the plant.
- e. The Contractor should bring all the necessary personal protective equipments like safety shoes, hand gloves, goggles, welding shield, mask, safety belts, etc and it is the responsibility of the contractor to ensure the usage of all the PPEs by their work force.

## 6 HYDRO-TEST DETAILS

All pipe lines after being laid should be hydro tested at 12 bar for a holding time of 10 min and should be checked for leaks. All pipe lines should be installed with required vents and drains in the pipe lines for the hydro-test. Any leaks noticed should be corrected and the pipelines retested for any leakage. Subsequent to the completion of hydro-testing, the pipe lines should be completely vented, cleaned and dried before handing over for service.

## 7 PAINTING DETAILS

All pipe line are to be painted with one coat of red oxide primer and two coats of epoxy paint - one coat before erection and one coat after erection, as per standard IS:2379 - 1990 (Colour Code for Identification of Pipe Lines). The pipe line should be marked with flow directions, medium being carried and colour band at necessary locations as per the instructions of BHEL Supervisor.

## 8 GENERAL NOTE:

- 8.1 Attendance register should be maintained.
- 8.2 The contractor shall maintain proper house-keeping during execution and dispose off the waste and scrap materials generated immediately at the identified places as per the instruction of area supervisor.

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- 8.3** The contractor should engage a qualified supervisor to plan and co-ordinate the entire activities.
- 8.4** The contractor should engage sufficient skilled man power so as to complete the work in scheduled time without delay. An activity PERT chart to be submitted before starting the work and the same to be followed and reviewed.
- 8.5** The contractor shall provide one year warranty for workmanship.
- 8.6** Contractor should meet PF and ESI as statutory requirements for their employees. Copies of PF and ESI codes certificate should be submitted along with offer.
- 8.7** The contractor may visit the site, check details of work and sketches before quoting the rate.

## **9 DELIVERY**

The contractor has to complete the entire work within 90 days from the date of commencement of work.

## **10 PAYMENT**

100% payment will be made on pro-rata basis for the actual completion of work. Bill may be claimed for pipe lines that have been installed, hydro-tested, cleaned, vented, leak checked, clamped, painted and handed over for service only.

Qty indicated in the Tender is tentative and the payment shall be made only for the actual work completed.

## **11 SECURITY DEPOSIT**

SD should be remitted by the successful tendered as below before starting the work.,  
Above 10 Lakhs and up to 50 Lakhs = 1 Lakh + 7.5% of Order value of exceeding 10 Lakhs .

- a . The security Deposit should be remitted before start of the work by the contractor either as Pay Order or Demand Draft in favour of BHEL.
- b . Local cheques of scheduled banks, subject to realization. Securities available from Post Offices such as National Savings Certificates, Kisan Vikas Patras etc.  
(Certificates should be held in the name of Contractor furnishing the security and duly pledged in favour of BHEL and discharged on the back).
- c . Fixed Deposit Receipt issued by Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The FDR should be in the name of the contractor, A/C BHEL, duly discharged on the back.
- d . Security deposit can also be recovered at the rate of 10% from the running bills.  
However in such cases at least 50% of the Security Deposit should be remitted (either

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- by cash/DD or Security deposit for maximum 50% of total SD) before start of the work and the balance 50% may be recovered from the running bills.
- e . EMD of the successful bidder shall be converted and adjusted against the Security Deposit excepting for such bidder who has remitted One Time EMD.
  - f . The Security Deposit shall not carry any interest.

## **12 RETURN OF SECURITY DEPOSIT**

If the contractor fully performs and completes the works in all respect to the entire satisfaction of BHEL, Security Deposit will be released to the contractor after deducting all costs of expenses of other amounts that are to be paid to BHEL

## **13 REGULAR WORKING HOURS**

Contract work should be carried out from 8AM to 6PM every day including Sundays and holidays. Work should be carried out in night shift in case of emergency to expedite the work.

## **14 INSURANCE COVER FOR MEN & MATERIALS**

The Contractor shall arrange necessary Insurance cover with appropriate Third Party Liability cover Personal Accident Policy as applicable for the workmen crew. If any accident/injury/loss occurs while erection of the crane, to any other persons/ public and the properties of BHEL/client/other agencies/third party, the contractor shall have to pay necessary compensation and other expense, so decided by the appropriate authorities.

## **15 VALIDITY OF THE OFFER**

Validity of the offer shall be for a minimum period of THREE MONTHS from the date of opening of tenders.

## **16 EARNEST MONEY DEPOSIT**

- 16.1 EMD: Rs 40,000/- (Forty Thousand Rupees Only) should be submitted along with the offer.**
- 16.2** Bidders who have already deposited One Time EMD of Rs. 2.00 lacs with BHEL are exempted from submission of EMD for this tender. However a copy of 'One Time EMD' at BHEL Trichy submitted shall be enclosed along with the Offer.
- 16.3** EMD is to be paid in the form of Pay order or Demand Draft in favour of Bharat Heavy Electricals Limited, Tiruchirapalli and payable at Tiruchirapalli. No. other form of EMD remittance shall be acceptable to BHEL.
- 16.4** In the case of unsuccessful bidders, the Earnest Money will be refunded to them after acceptance of tender by successful bidder. EMD shall not carry any Interest.

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## **17 ACCOMMODATION & LOCAL CONVEYANCE**

Contractor has to make their own arrangement for accommodation, local transport and other amenities for their workmen.

## **18 SAFETY OF MEN, EQUIPMENT, MATERIAL AND ENVIRONMENT**

**18.1** PPEs shall be provided by the contractor as per attachment with appropriate trade job has to be ensured by the contractor at the job site at all times as per BHEL procedure. List of PPE is enclosed in ANNEXURE-A

**18.2** Safe work permits should be obtained by the contractor for Work at height before starting the work. The Format is enclosed herewith .ANNEXURE-B

**18.3** The Contractor shall abide by the Safety Regulations applicable for the Site/Project. Contractors are also to ensure that their employees and workmen use safety equipments as stipulated in the Factories Act (Latest Revision) during the execution of the work. Failure to use safety equipment as required by BHEL Engineer will be a sufficient reason for issuance of memo, which shall become part of Safety evaluation of the contractor at the end of the Project. Also all site work may be suspended if it is found that the workmen are employing unsafe working practice and all the costs/losses incurred due to suspension of work shall be borne by contractor.

**18.4** The contractor shall submit report of all accidents, fires and property damage, dangerous occurrences to the authorized BHEL official immediately after such occurrence but in any case not later than twelve hours of the occurrence. Such report shall be furnished in the manner prescribed by BHEL and also to meet statutory requirement. Any injury sustained by any of the contractor's employees within the Project premises must be reported to BHEL supervisor and FIRST AID should be immediately administered. The Contractor shall be responsible for keeping and maintaining proper records of Accidents to his personnel. According to the Factory Act and the Employees state Insurance Act & regulation, any person sustaining any injury within the project premises and absenting himself from work for more than 46 hours, his accident report has to be sent to the respective Government Authorities. Therefore contractor shall inform the owner's representative such matter immediately for their needful action.

## **19 REVERSE AUCTION**

BHEL reserves the right to go for a Reverse Auction (RA) or Opening the submitted Part-I Qualification cum Technical bid, which will be decided after technical evaluation.

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**20 GENERAL TERMS AND CONDITIONS OF RA. I.E. ON LINE BIDDING THROUGH THE INTERNET FOR THE PROPOSED REVERSE AUCTION,**

- 20.1** BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on internet.
- 20.2** BHEL will inform the vendor in writing in case of reverse auction, the details of Service Provider to enable them to contact & get trained.
- 20.3** Business rules like event date, time, and Start price, bid decrement, extensions etc. also will be communicated through service provider for compliance.
- 20.4** Vendors have to fax the Compliance form in the prescribed format (provided by Service provider) before start of Reverse auction. Without this, the vendor will not be eligible to participate in the event.
- 20.5** BHEL will provide the calculation sheet (e.g., EXCEL sheet) which will help to arrive at “Total Cost to BHEL” like Mobilisation Charge, Demobilisation charge, Hiring Charges, Service Tax for Services and loading factors (for non-compliance to BHEL standard Commercial terms & conditions) for each of the vendor to enable them to fill-in the price and keep it ready for keying in during the Auction.
- 20.6** Reverse auction will be conducted on scheduled date & time.
- 20.7** At the end of Reverse Auction event, the lowest bidder value will be known on the network.
- 20.8** The lowest bidder has to Fax the duly signed Filled-in prescribed format as provided on case-to-case basis to BHEL through Service provider within 24 hours of Auction without fail.
- 20.9** Any variation between the on-line bid value and the signed document will be considered as sabotaging the tender process and will invite disqualification of vendor to conduct business with BHEL as per prevailing procedure.
- 20.10** In case BHEL decides not to go for Reverse Auction procedure for this tender enquiry, the Price bids and price impacts, if any, already submitted and available with BHEL shall be opened as per BHEL’s standard practice.

For any queries / clarifications the bidders may contact us through FAX NO. +91 431 2521416 or through e-mail: esalai@bheltry.co.in

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**ANNEXURE “A”****I. Personal Protective Equipment Recommended for Pipe Line Fabrication and Erection Work**

Sl. No.	Job/Trade	PPE Recommended
1.	Arc welder	Leather gloves Leather apron Spectacle goggles Hand shield Filter lens 11-14 Leather leg guard Safety boots slip in type
2.	Gas welder Gas	welding goggles Leather gloves Safety shoes
3.	Painter	PVC gloves Light fume respirator Safety shoes Barrier cream Spectacle goggles
4.	Fitter / General	Leather gloves Safety shoes Spectacle goggles
5.	Crane operator	Safety shoes Canvas gloves Spectacle goggles
6.	Rigger	Leather gloves Safety helmet Safety shoes Spectacle goggles
7.	Unskilled / semi skilled	Leather gloves Worker Safety shoes Spectacle goggles Plastic face shield
8.	Other Employees	Safety shoes Spectacle goggles

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**II. Personal Protective Equipment Recommended for Hazardous Operations**

Sl. No.	Job/Trade	PPE Recommended
1.	High Noise Area	Ear Plug / Ear Muff
2.	Work at height	Gloves Safety Belt Helmet Safety Shoes

Note: Contract Workers, Engineers, Supervisors and proprietors should wear Pant & Shoes while entering the factory premises.

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**ANNEXURE-B – SAFE WORK PERMIT**

 310-015/A	<h2 style="margin: 0;">SAFE WORK PERMIT</h2> <p style="margin: 0;">( WORK AT HEIGHT INCLUDING ROOF LIGHT MAINTENANCE &amp; FURNACE WORK )</p>		
<b>PERMIT INITIATION</b>			
M & S Control No.		Date	
Description of Work			
Area of Work			
Period of Work	From	To	
Time	From	To	
	AM/PM	AM/PM	
Name of Executing Agency / Contractor Reference			
Name of the persons engaged :			
<b>Date:</b>	<b>Signature of Initiating area's Executive</b>	<b>Name Seal</b>	
<b>PERMIT CLEARANCE</b>			
<b>PRODUCTION DEPARTMENT SHUT DOWN / INTIMATION</b>			
<b>Date:</b>	<b>Signature</b>	<b>Name Seal</b>	
<b>CRANES / M&amp; S DEPARTMENT</b>			
<b>Date:</b>	<b>Signature</b>	<b>Name Seal</b>	
<b>SAFETY MANAGEMENT</b>			
<b>Date:</b>	<b>Signature</b>	<b>Name Seal</b>	

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<b>PERMIT WITHDRAWAL</b>		
<b>EXECUTING DEPARTMENT</b>		
The work has been completed. Men and materials withdrawn. Intimation given to production.		
Date:	Signature of Executive	Name Seal
<b>CRANES / M &amp; S DEPARTMENT</b>		
Withdrawal of permit is acceptable.		
Date:	Signature	Name Seal
<b>SAFETY MANAGEMENT</b>		
Withdrawal of permit is acceptable		
Date:	Signature	Name Seal
<p><b>SAFETY INSTRUCTIONS:</b></p> <ul style="list-style-type: none"> <li>❖ Use appropriate PPE (Safety belts, Helmets, Goggles etc.)</li> <li>❖ Post a 'Look-out man' with red flag and whistle.</li> <li>❖ Provide safe access</li> <li>❖ Provide warning</li> <li>❖ All loose materials / tools to be taken out.</li> <li>❖ Permit will be valid for only one week ( Monday to Saturday ; Separate Permit to be obtained for Sunday).</li> </ul>		
<b><u>TO BE ENSURED BY THE INITIATING DEPARTMENT (Put tick mark in the relevant box)</u></b>		
	<b>ENSURED</b>	<b>NOT REQD</b>
1. Necessary FIRE PREVENTION measures taken	<input type="checkbox"/>	<input type="checkbox"/>
2. Informed FIRE SERVICE	<input type="checkbox"/>	<input type="checkbox"/>
3. Alert other employees in the nearby area	<input type="checkbox"/>	<input type="checkbox"/>
4. Safe Access available / Provided	<input type="checkbox"/>	<input type="checkbox"/>
5. Use of SAFETY BELT	<input type="checkbox"/>	<input type="checkbox"/>
6. Wearing of HELMET	<input type="checkbox"/>	<input type="checkbox"/>
7. Use of SAFETY GOGGLES	<input type="checkbox"/>	<input type="checkbox"/>
8. Use of RESPIRATOR	<input type="checkbox"/>	<input type="checkbox"/>
9. 'LOOK-OUT' man	<input type="checkbox"/>	<input type="checkbox"/>

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**PART- II****PRICE BID**

**Name of work:** Fabrication and laying of various sizes of overhead Oxygen pipe lines from distribution point to newly constructed shop floor.

**Schedule of Rate**

Sl. No.	Work	Quantity	Unit	Rate Per Unit	Total Value
01	Main Header Pipe of Diameter 2"	2800	Meters		
02	Vertical Drop Line of Diameter 1"	800	Meters		
03	Installation of Control Valve 2"	30	No		
04	Installation of Control Valve 1" and Tapping Point	100	No		
05	Installation of Pressure Gauges	10	No		

Contractors should fill the rate in the above format only, sign & seal and place in a Sealed Cover separately by super scribing as PART-II/PRICE BID with Name of work, Tender ref no., due date on the Cover

**Note:**

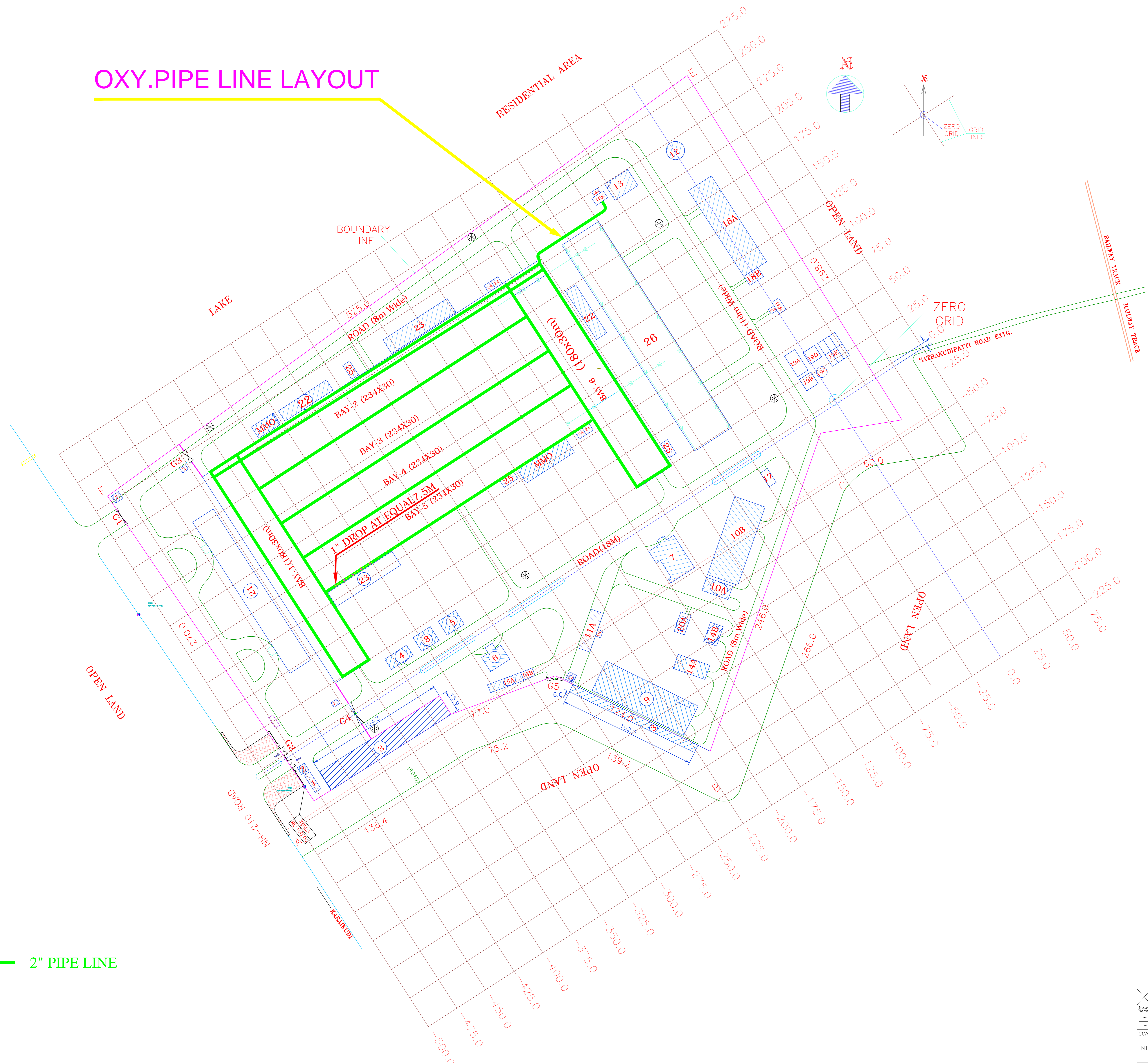
- 1. Rates shall be quoted without any Tax.**
- 2. Applicable Service Tax, if any shall be separately mentioned in the offer.**

**Contract will be given to a technically qualified Single contractor for all the above OXYGEN Pipe-line works mentioned in this enquiry on cumulative L1 basis.**

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# OXY.PIPE LINE LAYOUT



— 2" PIPE LINE

PROPOSED LAYOUT OF  
THIRUMAYAM PLANT

MS:TRM:30:225:107/3

ITEM No.	DESCRIPTION	MATERIAL	STANDARD	NET.WT.IN KGS.	DRAWING No.
1	REFERENCE				
2	ALTERNATIONS				
3	DCN REF				
4	DATE				
5	SIGN				
6	INDEX				
SCALE		DRAWN/TCO S.Selvamianickam			
CHECKED					
APPROVED					
DATE		16.09.11'			
MACHINE		OXY. PIPE LINE		TYPE: 4511:05	
TITLE		OXYGEN PIPE LINE LAY OUT		DRAWING No.	
		(THIRUMAYAM)		OM20B0500972	
Sheet No.				No of Sheets	

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