



**Balmer Lawrie & Co Ltd  
(A Government of India Enterprise)  
32, Sattangadu Village, Manali,  
Chennai – 600068.**

**Supply, Installation, Testing & Commissioning of Load Cell  
based Weighing System for Blending Kettles .**

**at**

**32, Sattangadu Village, Manali, Chennai – 600068.**

**Tender No. GLC/TE17/044 DT 25/1/18**

**Due Date of Submission : 6/2/18**

**LIST OF CONTENT:**

**UN-PRICED PART (PART I)**

1. NOTICE INVITING TENDER
2. CONDITION OF CONTRACT
3. TECHNICAL SPECIFICATIONS
4. TECHNICAL DATA SHEETS

**PRICED PART (PART II)**

1. PRICE BID A & PRICE BID B

## **NOTICE INVITING TENDER**

1.0 M/s Balmer Lawrie & Co Ltd. (BL) is modernizing / automating its Grease manufacturing and Lube oil blending plant located at 32, Sattangadu Village, Manali, Chennai – 600068. BL invites online tenders from competent and experienced suppliers with sound technical and financial capabilities for the following work.

2.0 **SCOPE OF WORK**

The scope of work under this tender covers design, engineering, manufacture, procurement, assembly, testing, inspection, calibration, painting, proper packing, transportation, erection, testing & commissioning and performance guarantee of the Load Cell System at Grease manufacturing and Lube Oil blending Plant, Chennai, as stipulated in conditions of contract, technical specifications, technical data sheets / drawing and schedules. The workers of the contractor/vendor must require proper identification with display of ID card; otherwise they will not be allowed to enter the premises. Necessary assistance in this regard may please be obtained from administration department.

3.0 **COMPLETION PERIOD**

Time is the essence of the order. The time schedule for delivery of all items according to the contract/ order shall be Six **(6) weeks** from the date of placement of order / LOI whichever is earlier. Installation & Commissioning of the load cell system shall be completed within **4 (four) weeks** from the date of readiness of the kettles to be installed on load cells. Installation and Commissioning supervisor / engineer shall be posted at site within 7 days from the date of issuance of notice for the same. Erection shall be made in phases to match the mechanical erection contract schedule for ease of erection of load cells during installation /modification of kettle supports by other.

4.0 **TENDER FEE**

Nil

5.0 **EARNEST MONEY DEPOSIT**

Rs.15000/-

6.4 **Tenderers are required to comply HSE standards as mentioned in Appendix-A of this tender document.**

7.0 **TENDER DOCUMENTS**

Tender Documents comprises two parts viz. Part-I (Un-priced) and Part-II (Priced). The Un-priced Part consists of Notice Inviting Tender, General & Special Condition of Contract, Technical Specification . The Priced Part consists of Priced Schedule. Bidders are requested to download the tender document and read all the terms and conditions mentioned in the tender document and seek clarification if any, from Sri Praksh Ahire (Tel. no. 044 25946626).

8.0 **TENDER SUBMISSION**

**The hardcopies of the Bid Documents as explained above and also defined in clause no. 2.0 of Condition of Contract under sealed envelope should reach the office of Chief Manager ( SCM ) at , Balmer Lawrie & Co. Ltd, Grease & Lubricant Division, 32, Sattangadu village,**

**Manali, Chennai - 600068 on or before the due date of submission of tender. Tenderers are required to quote item-wise prices in the given Price Bid**

9.0 **SUPPLY OF MATERIAL**

All materials required for the work shall be supplied by the contractor.

10.0 **TAXES & DUTIES**

Rates shall be inclusive of all taxes & duties e.g. GST.

The Bidder shall ensure dispatches of his own manufactured as well as all brought out plant, equipment and materials directly to work site to Balmer Lawrie & Co. Ltd., Grease & Lubricant Division, 32, Sattangadu Village, Manali, Chennai - 600068 (BL) in such a manner that BL will get GST benefit.

GST invoice of all indigenous plant, equipment & materials shall be made consigned to "Balmer Lawrie & Co. Ltd., Grease & Lubricant Division, 32, Sattangadu Village, Manali, Chennai - 600068 " for availing CENVAT credit under relevant Rules and shall be furnished by the Bidder to the BL for availing CENVAT credit.

Please note that BL shall avail CENVAT benefit against GST payment made by the contractor for the service rendered.

11.0 **PAN, VAT REGISTRATION, ESI & PF REGISTRATION**

Tenderers are requested to submit PAN, GST Registration, and , ESI and Provident Fund registration along with Un-priced part of their offer, failing which their offer may be liable to be rejected.

12.0 **NON-CONFORMANCE**

Tenders not conforming to the above mentioned requirements are liable to be rejected.

13.0 **VALIDITY OF OFFER**

Tendered shall keep their offer valid for a period of 90 days from the date of opening of Priced bid.

14.0 **RATES AND OTHER ENTRIES**

(a) The tenderer should quote for all items in the Schedule of Rates. The rates should be expressed in English both in figures and words. Where discrepancy exists between the two, the rates expressed in words will prevail. Similarly if there is any discrepancy between unit rate and total amount, the unit rate will prevail.

(b) The rates should be quoted in the same units as mentioned in the tender schedule of quantities.

(c) All entries in the tender documents should be in ink / type. Corrections if any should be attested by full signature of the tenderer.

(d) Every page of the tender document including annexure / enclosures shall be stamped and signed by the tenderer or his authorized representative thereby indicating that each and every page has been read and the points noted.

15.0 **RIGHT TO ACCEPT OR REJECT TENDER**

15.1 M/s Balmer Lawrie & Co Ltd reserves the right to accept or reject any or every tender without assigning any reason whatsoever / or to negotiate with the tenderer (s) in the manner it considers suitable. In the event of

receipt of lowest price from more than one (1) bidders, fresh price bids shall be invited from the lowest bidders only to determine final lowest bidder for placement of order.

- 15.2 Bids of any tenderer may be rejected if a conflict of interest between the bidder and Company (Balmer Lawrie) is detected at any stage.
- 15.3 All the bids will be evaluated based on Pre-qualification and other criteria as mentioned in this NIT. Tenders of those bidders who are not meeting the pre-qualification criteria will not be considered for commercial evaluation.
- 15.4 Tender if submitted through e-mail or fax shall be summarily rejected.
- 15.5 Hard copy of Price Bid should not be submitted in the envelope containing Un-priced documents failing which the bid will be summarily rejected.

For any Technical clarifications / queries Tenderers are requested to contact Prakash D. Ahire – Sr. Mgr (Production & HSE) (**e-mail: [ahire.pd@balmerlawrie.com](mailto:ahire.pd@balmerlawrie.com)**) (from 10.00AM to 05.00PM, Monday - Saturday).

for **Balmer Lawrie & Co Ltd**

**( P.C.Srinivas )**  
**Chief Manager (SCM)**

## CONDITIONS OF CONTRACT

### 1.0 DEFINITIONS

The following expressions hereunder and elsewhere in the contract documents used shall have the following meanings respectively assigned to them namely,

- 1.1 The "Owner/Client" shall mean M/s **Balmer Lawrie & Co. Ltd**; a company incorporated in India and having its Registered Office at 21, Netaji Subhas Road, Kolkata - 700 001, and shall include its successors and assigns.
- 1.2 The 'Project' shall mean Modernization of Grease Manufacturing & Lube Oil Blending Plant, Chennai – 600068.
- 1.3 The 'Engineer-In-Charge'/'Engineer' shall mean the Engineer /Officer authorised by the 'Owner' for the purpose of the contract for overall Supervision and Co-ordination of site activity and certification of billing.

### 2.0 DETAILS OF HARD COPIES TO BE SUBMITTED ALONG WITH THE TENDER

The tender, as submitted, shall consist of the following:

- (i) Hard copy of Un-priced Tender Document duly filled in, stamped and signed by the Tenderer as prescribed in different clauses of Tender documents. **No hard copy of priced bid shall be submitted.**
- (ii) Earnest money amounting to and in the manner specified along with the Un-priced bid.
- (iii) The Power of Attorney or authorisation, or any other document consisting of adequate proof of the ability of the signatory to bind the bidder, in original, when the power of attorney is a special "Power of Attorney" relating to the specific tender of Balmer Lawrie & Co Ltd only. A notarized true copy of the "Power of Attorney" shall also be accepted in lieu of the original, if the power of attorney is a general "Power of Attorney". However, photocopy of such notarized true copy shall not be accepted.

### 3.0 RATES AND OTHER ENTRIES

- (a) The tenderer should quote for all items in the Schedule of Rates. The rate should be expressed in English both in figures and words. Where discrepancy exists between the two, the rates expressed in words will prevail. Similarly if there is any discrepancy between unit rate and total amount, the unit rate will prevail.

- (b) The rates should be quoted in the same units as mentioned in the tender schedule of quantities.
- (c) All entries in the tender documents should be in ink / type. Corrections if any should be attested by full signature of the tenderer.
- (d) Every page of the tender document including annexure / enclosures shall be stamped and signed by the tenderer or his authorised representative thereby indicating that each and every page has been read and the points noted.

#### **4.0 RIGHT TO ACCEPT OR REJECT TENDER**

The Owner reserves the right to accept or reject any or every tender without assigning any reason whatsoever / or to negotiate with the tenderer(s) in the manner the Owner considers suitable. The work may be split up if considered expedient.

#### **5.0 SECURITY DEPOSIT**

- (i) On acceptance of the Bid, Contractor shall within fifteen (15) days, deposit with Owner an Initial Security Deposit of 5% of the Contract value and the same shall be in any of the following form:
  - a) Bank draft drawn on a Chennai \_Branch of any Scheduled Bank in favour of Balmer Lawrie & Co Ltd.
  - b) Bank Guarantee executed by any Scheduled Bank as per proforma enclosed and shall be valid at least sixty days after the completion of work.
- (ii) If Contractor fails to provide the Security Deposit within the period specified, such failure will constitute a breach of the Contract and Owner shall be entitled to award the Work elsewhere at Contractor's risk and cost. The EMD of the bidder to whom Contract was awarded, shall be forfeited
- (iii) No interest shall be payable against Security Deposit.
- (iv) As and by way of additional security, from every progress bill of Contractor, Security Deposit in the form of Retention Money (interest free) at the rate of 10% of the Gross value of such bill as determined before payment shall be retained by the Owner. Owner can permit Contractor to replace the Security Deposit / Retention Money so retained by Bank Guarantee at his discretion after successful completion of the work.
- (v) Wherever the Security Deposit / Retention Money is furnished by Contractor in any form other than in cash or Demand Draft, Contractor shall be entirely responsible to keep such form of security deposit enforceable by extending the validity thereof before one month of date of expiry and keep them enforceable, until released by Owner after the Defect Liability Period.

- (vi) The Security Deposit / Retention Money shall remain at the entire disposal of Owner as a security for satisfactory execution and completion of the Work(s). Owner shall be at liberty to deduct and appropriate from the Security Deposit / Retention Money such damages (liquidated or otherwise) and other dues and recoveries from Contractor under this Contract and the amount by which Security Deposit / Retention Money is reduced by such appropriations, will be made by further deductions from Contractor's subsequent bills to that extent as to make up the Security Deposit / Retention Money.
- (vii) Notwithstanding anything to contrary, in as much as the Security Deposit is to be in cash with Owner, Owner shall be entitled to enforce any of the approved forms of Security Deposit furnished by Contractor at any time and realise cash thereof irrespective of whether or not Contractor disputes such right. However, if Contractor obtains the extension of the time limit, if any, for the enforceability of such form of Security Deposit and intimates Owner of such extension within one month before expiry, Owner may not enforce such form of Security Deposit, unless it has otherwise become enforceable.
- (viii) On due and satisfactory performance of all the obligations of Contractor under this Contract including completion of work in all respects, carrying out the obligations of Contractor during Defect Liability Period, Retention Money shall be released by Owner subject to recoveries, deductions and retentions therefrom as provided under the Contract.

## **6.0 CONSTRUCTION POWER**

### **CONSTRUCTION POWER**

Construction power as available at site would be made available from the substation/ distribution boards situated near the work site free of cost for general lighting purpose only. Further arrangement for power distribution will be made by contractor depending upon the construction power requirement at his own cost as per Electricity Act and Rules framed thereunder and approved by Engineer-In-Charge.

All temporary arrangements for distribution of construction power shall be removed forthwith after completion of the work or if there is any hindrance caused to the other works, the contractor will re-route or remove the temporary lines at his own cost in a manner so as to continue his (contractor's) work in an uninterrupted manner.

## **7.0 SITE PARTICULARS**

The intending tenderers shall be deemed to have visited the site and familiarised themselves thoroughly with the site conditions before submitting the tender. Non-familiarity with the site conditions will not be considered reason either for extra claims or for not carrying out the work in strict conformity with the drawings and specifications. Mr P.D.Ahire (phone no. 044-59416626.) may be contacted during office hours to organise site visit.

## **8.0 SUPPLY OF MATERIAL**

8.01 All materials required for the work shall be supplied by the contractor. In addition, all materials required for temporary and enabling work shall be arranged and provided by the Contractor. All incidental expenses, loading, unloading, transportation, handling, storage after delivery etc. shall



be the responsibility of the contractor and cost towards such expenses should be included in the finished item rates.

- 8.02 All materials, as required to complete the work in all respects according to the contract rates shall be inclusive of all freights, duties, royalties, loading, unloading, transporting, handling and storage charges etc.

## **9.0 ON ACCOUNT PAYMENTS**

- 9.01 On Account payments will be made to the Contractor during the progress of the work on the basis of Running Account Bills raised by the Contractor monthly or otherwise as the Engineer-in-Charge may specify in this regard, accompanied with the Measurement Books signed and dated jointly.
- 9.02 No Running Bill(s) shall be made and / or certified for a total value of less than Rs.5,00,000/- (Rupees Five Lac) only.
- 9.03 All on account payments shall be subjected to deduction therefrom of all dues to the Owner, advance, retention money and other money deductible within the provisions of this contract and as per Section 194-C of Income Tax Act, or any other Law, Rule or Regulation for the time being in force along with the recovery towards the adjustment of secured advance if any.
- 9.04 All lawful payments as provided under Workmen's Compensation Act, etc. not made by the Contractor / Sub-contractor, Owner reserves the right to deduct from the Contractor's bills and remitted to the concerned Authority / Department or Body on Contractor's /Sub-contractor's behalf until sufficient proof is furnished by the Contractor / Sub-Contractor to the contrary.

All "On Account" Payments shall be regarded merely as an advance payment against the amounts due to the Contractor in terms of the contract and any such payments shall not be regarded as an acceptance or completion of any works paid for.

## **10.0 TIME FOR COMPLETION OF WORK**

Time is the essence of the contract. The tenderer shall submit their plan to complete the whole work according to the overall time allowed for the execution of work as given in the Tender Documents and NIT. **The allowed time for completion of the work as per the NIT includes contract agreement signing and mobilisation of manpower and equipment at site.**

- 10.0.1 The contractor shall complete in all respects in accordance with the Contract, the entire work at each job site within the time specified in this behalf in the Time Schedule.
- 10.0.2 If the Owner so requires, the Progress Schedule in the form of PERT chart, giving the latest dates of starting and latest dates of finishing of various operations comprising the work as also the activities in the critical path and latest dates for achievement of specific milestones in respect of the work so as to complete in all respects the works (including testing and consequential operations) within the time provided in the Time Schedule. This Progress Schedule should also indicate the interlinking of the various activities and bring to light the specific/ critical items on which the inputs from the owner/ Engineer-in-Charge/ Consultant or other agencies, if any, would be required, to ensure adherence to the schedule.

- 10.0.3 If the Contractor shall fail to submit to the Owner/ EIC a Progress Schedule as envisaged above or if the Owner/EIC and Contractor fail to agree upon the Progress Schedule as envisaged above, then the Engineer-in-Charge shall prepare the Progress Schedule (the dates of progress as fixed by the Engineer-in-Charge being final and binding upon the contractor except as herein otherwise expressed provided), and shall issue the Progress Schedule so prepared to the Contractor, which shall then be the Approved Progress Schedule and all the provisions of clauses 10.0.2 shall apply relative thereto.
- 10.0.4 Any reference in the Contract Documents to the "Approved Progress Schedule" or to the "Progress Schedule" shall mean the "Approved Progress Schedule" specified in clause 10.0.2 above or the "Progress Schedule" prepared and issued by the Engineer-in-Charge as specified in clause 10.0.3 above, whichever shall be in existence. In the absence of such approved Progress Schedule or such Progress Schedule prepared by the Engineer-in-Charge, the Progress Schedule first prepared by the Contractor (with incorporation of the Owner's / Engineer-in-Charge's comments thereon if any), shall until such approved Progress Schedule or such Progress Schedule prepared by the Engineer-in-Charge comes into existence, be deemed to be the Progress Schedule for the purpose of the contract.
- 10.0.5 Within 7(seven) days of the occurrence of any act, event or omission which, in the opinion of the Contractor, is likely to lead to delay in the commencement or completion of any particular work(s) or operation(s) or the entire work at any job site(s) and in such as would entitle the Contractor to an extension of the time specified in this behalf in the Progress Schedule(s), the Contractor shall inform the site engineer and the Engineer-in-Charge in writing of the occurrence of the act, event or omission and the date of commencement of such occurrence. Thereafter, if even upon the cessation of such act or event or the fulfilment of the omission, the Contractor in his opinion that an extension of the time specified in the Progress Schedule relative to the particular operation(s) or item(s) or work or the entire work at the job site(s) is necessary, the Contractor shall within 7 (seven) days after the cessation or fulfilment as aforesaid make a written request to the Engineer-in-Charge for extension of the relative time specified in the Progress Schedule and the Engineer-in-Charge may at any time prior to completion of the work extend the relative time of completion in the Progress Schedule for such period(s) as he considers necessary, if he is of opinion that such act, event or omission constitutes a ground for extension of time in terms of the Contract and that such act, event or omission has in fact resulted in insurmountable delay to the Contractor.
- 10.0.5.1 The application for extension of time made by the Contractor to the Engineer-in-Charge should contain full details of-
- a) The notice under clause 10.0.5 with a copy each of the notice sent to the Engineer-in-Charge and Site Engineer.
  - b) The activity for the Progress Schedule affected.
  - c) The bottleneck(s) or obstruction(s) perceived/ experienced, and the reason(s) therefor,
  - d) Extension required/ necessitated on account of c) above
  - e) Extension required/ necessitated on account of reasons attributable to the Owner,
  - f) Extension required/ necessitated on account of force majeure reasons, and

- g) The total extension of time (if any) required/ necessitated for completion, taking the above into account and after eliminating all overlaps.
- 10.0.5.2 The opinion/ decision of the Engineer-in-Charge in this behalf and as to the extension of time necessary shall, subject to the provisions of clause 10.0.6 hereof, be final and binding upon the Contractor.
- 10.0.6 Notwithstanding the provisions of clause 10.0.5 hereof, the Owner may at any time at the request of the Contractor made by way of appeal either against the decision of the Engineer-in-Charge taken under clause 10.0.5 or against the Engineer-in-Charge's refusal to take a decision under the said clause. If satisfied of the work or any item or operation thereof such period(s) as the Owner may consider necessary, and the decision of the Owner as to the existence or otherwise of any grounds justifying the extension and to the period(s) of extension necessary shall be final and binding upon the Contractor.
- 10.0.7 Subject as elsewhere herein or in the contract documents expressly provided, only the existence of force majeure circumstances as defined in 10.0.8 hereof shall afford the Contractor a ground for extension of time for completion of the work or any part of the work or any operation(s) involved therein, and specifically without prejudice to the generality of the foregoing, inclement weather, strike, shutdown, third party breach, delay in supply of material(s) or commercial hardship shall not afford the Contractor a ground for extension of time or relieve the Contractor of his/its full obligations under the Contract, nor will any forced shutdown or idleness or other impediment in progress or completion of the work due to any reason whatsoever afford the Contractor a ground for extension of time or relieve the Contractor of his/its full obligations under the Contract except and to the extent otherwise elsewhere herein specifically provided, nor shall any shut down or idle time charges be payable by the Owner to the Contractor for delay in the commencement, progress or completion of the work due to any reason whatsoever, including due to the existence of force majeure circumstances.
- 10.0.8 The term "Force Majeure" as employed in this contract shall mean wars (declared or undeclared) or revolutions, civil wars, tidal waves, fires, major floods, earthquakes, epidemics, quarantine restrictions and freight embargoes and transporters strikes affecting the country as a whole.
- 10.0.9 Upon an extension of the time for completion of the work or any part of the work or any operation(s) involved therein pursuant to clause 10.0.5 or clause 10.0.6 hereof, the extended date/time of completion shall be deemed to be the relative date of completion in the Progress Schedule, and such extension shall constitute the sole remedy of the Contractor for and/or arising out of such delays, and the Contractor hereby waives any and all contrary rights.
- 10.0.10 The mere fact that the Owner shall not have terminated the contract or that the Owner or Engineer-in-Charge has permitted the Contractor, for the time being to continue with the work for its completion shall not prejudice the full rights and remedies available to the Owner under the contract arising out of the delayed completion, including the right of Liquidated Damages and/or termination. Such permission(s) shall unless specifically stated to be an extension of time under clause 10.0.5 or 10.0.6, as the case may be, not be construed as extension(s) of time extension

under clause 10.0.5 or 10.0.6 hereof, and shall merely constitute an indication or intimation, as the case may be, of the Owner's willingness, for the time being, to accept the delayed completion, subject to its rights under the contract.

10.0.11 No assurance, representation, promise or other statement by any personnel, engineer or representative of the Owner in relation to extension of time for commencement or completion of any work(s) or operation thereof or of the entire works under the contract shall be binding upon the Owner or shall constitute an extension of time for commencement or completion of the entire works or any part or operation thereof within the provisions of clause 10.0.5 or 10.0.6 hereof, unless the same has been communicated to the Contractor in writing by the Engineer-in-Charge under clause 10.0.5 or by the General Manager under clause 10.0.6 and in writing specifically states that it embodies an extension of time within the provisions of clause 10.0.5 or clause 10.0.6 as the case may be, and without prejudice to the foregoing, the mere agreement or prescription or signing of a Progress Schedule by the site engineer or any site representative of the Owner at variance of the progress schedule, as the case may be, referred to in clauses 10.0.2, 10.0.3 and/or 10.0.4 hereof or containing an extended time of commencement or completion in respect of the entire work(s) or any part or operation thereof shall not anyway constitute an extension of time in the terms of the Contract so as to bind the Owner or relieve the Contractor of all or any of his liabilities under the Contract, nor shall constitute a promise on behalf of the owner or a waiver by the Owner of any of its rights in terms of the contract relative to the performance of the contract within the time specified or otherwise, but shall be deemed only (at the most) as a guidance to the Contractor for better organising his work on a recognition that the Contractor has failed to organise his work and/or perform the same within the time specified in the Progress Schedule established within the provisions of clause 10.0.2 or clause 10.0.3 or clause 10.0.4 hereof, as the case may be.

## **11.0 EXTRA ITEMS OF WORK**

During the course of execution of the work, should the contractor come across items of work which are not covered under the Schedule of Rate or not included therein, the Contractor shall draw the attention of the Owner / Engineer-In-Charge to the same and such items of work shall be treated as extra only with the prior approval of Engineer-in-Charge in writing. Contractor shall submit a quotation along with the rate analysis for such accepted extra items before he commences work or purchases the materials in connection with such items.

For extra items, rates shall be derived from similar item rates included in the schedule of work. Where there is no such similar item available in the schedule, rate shall be analysed as follows:

Rate for extra item = Cost of material (a) + cost of labour inclusive of all necessary tools, tackles, equipment, machinery and consumable (b) required to carry out the work + 15% of (a+b) towards profit and overhead + taxes, duties etc.

## **12.0 TAXES & DUTIES**

Rates shall be inclusive of all taxes, as applicable.

## **13.0 LABOUR LAWS**

(i) No Labour below the age of eighteen (18) years shall be employed on Work.

- (ii) Contractor shall not pay less than what is provided under law to labourers engaged by him on Work.
- (iii) Contractor shall at his expense comply with all labour laws and keep Owner indemnified in respect thereof.
- (iv) In addition to above, rules and regulations as contained in Contract Labour (Regulation and Abolition) Act, 1970 will also be applicable for this contract. For the purpose of registration as per the above Act, Contractor may contact Owner for further details.
- (v) Contractor shall secure full safety of the workers / employees engaged by him in the Site premises and shall take at his own cost, insurances and such other safety regulations for the said purpose.

#### **14.0 IMPLEMENTATION OF APPRENTICES ACT 1964**

Implementation of apprentices Act 1964 shall be strictly adhered to.

#### **15.0 INSURANCE & INDEMNITY**

Contractor shall at his own expense carry out and maintain insurance with reputable companies to the satisfaction of the Owner as follows:

##### **(i) Employee's Compensation and Liability Insurance:**

Contractor shall obtain Workmen Compensation policy in his name in respect of contractor's employees to be engaged for the work towards compensations as admissible under the Employee's Compensation Act, 1923 and Rules framed thereunder upon death/ disablement and also medical treatment of a worker and the same has to be produced to the Engineer-in-Charge before start of the work. Owner should be mentioned as the Beneficiary.

If any of the work is sublet, after necessary approval by the Owner, the contractor shall require the Sub-contractor to provide Employee's Compensation and Liability Insurance for the Sub-contractor's employees, if such employees are not covered under the Contractor's Insurance.

##### **(ii) Contractors All Risk Insurance:**

Contractor shall take out an All Risk Insurance policy in the Joint names of the Owner and the Contractor (owner as the first beneficiary) including third party liability, against loss or damage from any cause covering the work executed to the estimated current contract value together with the material for incorporation in the work. Such insurance shall be in such a manner that Owner and the Contractor are covered from the date of commencement of work.

The contractor shall indemnify the Owner against all losses and claims in respect of injuries or damage to any person, including any employee of the Owner, material or

physical damage to any property whatsoever including that of the owner arising out of the execution of the works or in the carrying out of the contract, and shall insure against his liability with an insurer until the completion of this contract in terms approved by the owner. Whenever required, the contractor shall produce the insurance policy and the current premium receipts to the Owner.

In addition to what it is stipulated above the successful contractor shall execute Indemnity Bond to indemnify and hold harmless the Owner for complying with the provision of the following:

- i) Provident Fund Act for P.F. Scheme for labourers engaged by the Contractor / Subcontractors.
- ii) Interstate Migrant Workmen ("Regulation of Employment and Conditions of Services) Act - 1979.
- iii) Minimum Wages Act - 1948.
- iv) Equal Remuneration Act - 1976.
- v) Employee's Compensation Act - 1923.
- vi) Contract Labour (Regulation & Abolition) Act - 1970.

#### **16.0 LIQUIDATED DAMAGE**

- (a) If the contractor is unable to complete the jobs specified in the scope of work within the period specified in NIT, it may request owner for extension of the time with unconditionally agreeing for payment of LD. Upon receipt of such a request, owner may at its discretion extend the period of completion and shall recover from the contractor's running account bill, as an ascertained and agreed Liquidated Damages, a sum equivalent to **1%** of contract value for each week of delay or part thereof. The LD shall be limited to **5%** of the total contract value.

The parties agree that the sum specified above is not a penalty but a genuine pre-estimate of the loss/ damage which will be suffered by the owner on account of delay/ breach on the part of the CONTRACTOR and the said amount will be payable without proof of actual loss or damage caused by such delay/breach.

- (ii) Notwithstanding what is stated in Clause above, the Owner shall have the right to employ any other agency to complete the remaining work at the risk and cost of the Contractor, in the event of his failing to complete the work within the stipulated time or in the even progress of Contractor's work is behind schedule, as judged by the engineer-in-charge.
- (ii) Then the Engineer-in-Charge upon receiving necessary approval from competent Authority may in writing make a fair and reasonable extension of time for completion of the works as per provision of clause no. 10, provided further that the Contractor shall constantly use his best endeavour to the satisfaction of the Engineer-In-Charge to proceed with the works. Nothing herein shall prejudice the rights of the Contractor under clause herein above.

## **17.0 TERMS OF PAYMENT**

### **17.01 For Supply:**

80% payment shall be made after receipt of material at site in good condition, duly certified by the Engineer-in-Charge & submission of Invoices / Bills accompanied by the relevant documents.

20% payment shall be made after successful installation, testing and commissioning of load cells.

### **17.02 For Calibration, Installation & Commissioning:**

80% after installation & Commissioning

20% after calibration and testing at site.

*17.03 10% retention money shall be deducted from the above stage payments under clause nos 17.01 & 17.02. During payment of running account bills, the initial security deposit will be adjusted first against 'Retention Money', but in no case total retention including initial security deposit shall exceed 10% of the executed value of work at any stage. The retention money will be released after completion and acceptance of work against issue of Bank Guarantee of the equal amount for defect liability and performance maintenance period, which shall be twelve (12) months from the date of issue of completion certificate by the Engineer-in-Charge.*

### **17.04 For W & M Stamping**

100% after successful completion of stamping by W & M and submission stamping certificates.

## **18.0 ARBITRATION**

Any dispute or difference arising under this Contract shall be referred for adjudication at Kolkata to a sole arbitrator to be appointed by the Chairman & Managing Director, Balmer Lawrie & Co.Ltd. and the provisions of Arbitration Act, 1996 including any statutory modifications or enactment thereof shall apply to the Arbitration proceedings. The fees of the arbitrator, if any, shall be paid equally by both the parties.

### **18.1 Dispute between Public Sector Organisation:**

Any dispute or difference between the parties hereto arising out of any notified claim of the Contractor in terms of hereof and/or arising out of any amount claimed by the Owner (whether or not the amount claimed by the Owner or any part thereof shall have been deducted from the Final Bill of the Contractor or any amount paid by the Owner to the Contractor in respect of the work) which cannot be resolved amicably by mutual consultation or through the good offices of empowered agencies of the Government, shall be referred to arbitration of one of the arbitrators to be nominated by Secretary to the Government of India in charge of the Bureau of Public Enterprises. The Arbitration Act, 1996 (26 of 1996) shall not be applicable to the arbitration under this clause. The award of the Arbitrator shall be binding upon parties to the dispute, provided,

however, that any party aggrieved by such award may make a further reference for setting aside or revision of the award to the Law Secretary, Department of Legal Affairs, Ministry of Law and Justice, Government of India. Upon such reference the dispute shall be decided by the Law Secretary or the Special Secretary or Additional Secretary, as the case may be, whose decision on the appeal shall bind the parties finally and conclusively. The parties to the dispute will share equally the cost of arbitration as intimated by the Arbitrator.

**18.2 Dispute with foreign parties:**

- 18.2.1 Any dispute, controversy or claim arising out of or relating to this Agreement or the breach thereof, either directly or indirectly, which cannot be settled by the Parties hereto, shall be finally decided by arbitration in accordance with the UNCITRAL rules of arbitration existing at the date thereof, except that in case of any conflict between the provisions of such rules and the provisions of this Agreement, the latter shall govern.
- 18.2.2 There shall be three arbitrators; one of the arbitrators will be nominated by each of the Parties and the third (who shall act as Chairman) shall be appointed by agreement between the Parties and failing such agreement shall be appointed by agreement between the nominated arbitrators and failing such agreement shall be appointed in accordance with the UNCITRAL rules or if rules do not provide for an appointing authority, then the appointing authority shall be as provided in accordance with the appointing procedures of the International Chamber of Commerce, Paris, France; otherwise, the arbitration shall be instituted in accordance with the UNCITRAL rules.
- 18.2.3 The arbitration, including the rendering of the award, shall take place in New Delhi. The language to be used in the arbitration shall be English.
- 18.2.4 Any decision or award of the arbitrators shall be based solely on the provisions of this Agreement, provided, however, that to the extent that the subject matter for the decision or award is not provided for in such provisions, it shall be based on the substantive and procedural law of India, excluding its conflicts of law provisions. The arbitrators shall not be requested nor shall they have the power to render any decision or award except as provided in the preceding sentence. Cost of arbitration shall be shared equally by the Parties.
- 18.2.5 Judgement upon the award rendered shall be enforceable in any court having competent jurisdiction thereof, or application may be made to such court for a judicial acceptance of the award and an order of enforcement, as the case may be.
- 18.2.6 This agreement shall be governed by the laws of India.
- 18.3 Notwithstanding the existence of any dispute or arbitration in terms hereof or otherwise, the Contractor shall continue and to be bound to continue and perform the works to completion in all respects according to the Contract (unless the Contract or works be determined by the Owner) and the Contractor shall remain liable and bound in all respects under the Contract.

**19.0 RIGHT OF OWNER TO TERMINATE THE CONTRACT**

- (i) If the Contractor being an individual or a firm commits any 'Act of Insolvency' or shall be adjudged as insolvent or being an Incorporated Company shall have an order for compulsory winding up made against it, or pass an effective resolution for winding up voluntarily or subject to the supervision of the Court or shall be unable to carry out and fulfil the contract and to give security therefore, is so required by the Engineer-In-Charge.



Or if the Contractor (whether an individual, firm or incorporated company) shall suffer execution to be issued.

Or shall suffer any payment under this Contract to be attached by or on behalf of any of the creditors of the contractor.

Or shall assign or charge, encumber or sublet this contract without the consent in writing of the Engineer-In-Charge first obtained.

Or shall charge or encumber this contract or any payments due or which may become due to the Contractor thereunder.

Or if the Engineer-In-Charge shall certify in writing to the Owner that the Contractor -

- a) has abandoned the Contract or
- b) has failed to commence the works, or has without any lawful excuse under these conditions, suspended the progress of the works for 14 days after receiving from the Engineer-In-Charge written notice to proceed or
- c) has failed to proceed with the works with such due diligence and failed to make such due progress as would enable the works to be completed within the time agreed upon or
- d) has failed to remove materials from the site or to pull down and replace work for seven days after receiving materials or work were condemned and rejected by the Engineer-In-Charge under these conditions or
- e) has used sub-standard or inferior material or materials not conforming to the specifications or has employed inferior workmanship in carrying out the works or part thereof or has not exercised due diligence in execution of the said work, or  
has neglected or failed persistently to observe and perform all or any of the acts, deeds, matters or things by this Contract to be observed and performed by the Contractor requiring the Contractor to observe or perform the same, or
- f) has to the detriment of good workmanship or in defiance of the Engineer-In-Charge's instructions to the contrary, sub-let or sub-contracted any part of the contract, or
- g) has failed to comply with the Engineer-In-Charge's instructions, or
- h) has in the opinion of the Engineer-In-Charge committed any breach of this Contract, then and in any of the said cases the Owner with the written consent of the Engineer-In-Charge may notwithstanding any previous waiver, after giving seven days' notice in writing to the Contractor terminate the Contract, but without hereby affecting the right of the Owner of the powers of the Engineer-In-Charge or

the obligations and liabilities of the Contractor in respect of work, the contract shall continue enforce as fully as if the contract has not been so determined and the obligations of the contractor in respect of work subsequently executed shall continue as if the works subsequently executed has been executed by or on behalf of the Contractor. And further, the Owner by its agents or servants shall been titled forthwith to enter upon and take possession of the works and all plants, tools, scaffoldings, sheds, machinery, steam and other power implements, machinery equipment and materials lying upon the site or the adjoining lands or roads and use the same as its own property and to employ the same by means of its own servants and workmen in carrying on and completing the work or by employing any other contractor and the Contractor shall not in any way interrupt or do any act, matter or things to prevent, intimidate or hinder such other contractor or other person or persons employed for completing and finishing or using the materials and plant for the work. When the works shall be completed or as soon thereafter as convenient, the Engineer-In-Charge shall give a notice in writing to the Contractor to remove his surplus materials and plant and should the Contractor fail to do so within the period of 14 days after receipt thereof by him, the Owner shall sell the same either by public auction or a private sale and shall be given credit to the contractor for the amount realised. The Engineer-In-Charge shall thereafter ascertain and certify in writing under this hand what (if anything) shall be due or payable to or by the owner, the expense or loss which the owner shall have been put to in procuring the works to be completed and the amount, if any, owing to the contractor and the amount which shall be so certified, shall thereupon be paid by the owner to the Contractor or by the Contractor to the Owner, as the case may be and the Certificate of the Engineer-In-Charge shall be final and conclusive and binding on the parties hereto. In the event of termination under this Clause, the Owner shall not be bound by any provision of this Contract to make any further payment to the Contractor until the said works are completed.

- (ii) Owner shall, at any time, be entitled to determine and terminate the Contract, if in the opinion of the Owner the cessation of the Work becomes necessary owing to paucity of funds or for any other cause whatsoever, in which case the cost of approved materials at the Site at current market rates as verified and approved by Engineer-In-Charge and of the value of the Work done to date by the Contractor shall be paid for in full at the specified in the Contract. A notice in writing from the Owner to the Contractor of such determination and termination and the reason therefore shall be the conclusive proof of the fact that the Contract has been so determined and terminated by the Owner.
- (iii) Should the Contract be determined under sub-clause of this clause and the Contractor claims payment to compensate expenditure incurred by him in the expectation of completing the Work, the Owner shall consider and admit such claim as are deemed fair and reasonable and are supported by the vouchers to the satisfaction of the Engineer-In-charge. The Owner's decision on the necessity and propriety of such expenditure shall be final and conclusive and binding on the Contractor.

## **20.0 HSE REQUIREMENTS BY CONTRACTORS**

### **Housekeeping**

Contractors shall ensure that their work area is kept clean tidy and free from debris. The work areas must be cleaned on a daily basis. Any disposal of waste shall be done by the Contractor.

All equipment, materials and vehicles shall be stored in an orderly manner. Access to emergency equipment, exits, telephones, safety showers, eye washes, fire extinguishers, pull boxes, fire hoses, etc. shall not be blocked or disturbed.

### **Confined Space**

Before commencing Work in a confined space the Contractor must obtain from Owner a Permit to Work, the Permit to Work will define the requirements to be followed.

As minimum Contractors must ensure the following:

- a) Confined spaces are kept identified and marked by a sign near the entrance(s).
- b) Adequate ventilation is provided
- c) Adequate emergency provisions are in place
- d) Appropriate air monitoring is performed to ensure oxygen is above 20%.
- e) Persons are provided with Confined Space training.
- f) All necessary equipment and support personnel required to enter a Confined Space is provided.

### **Tools, Equipment and Machinery**

The Contractor must ensure that all tools & equipment provided for use during the Work is:

- a) suitable for its intended use;
- b) safe for use, maintained in a safe condition and where necessary inspected to ensure this remains the case (any inspection must be carried out by a competent person and records shall be available);
- c) Used only by people who have received adequate information, instruction and training to use the tool or equipment.
- d) Provided with Earth leakage circuit breaker (ELCBs) at all times when using electric power cords. Use of electrical tape for temporary repairs is prohibited.

### **Working at Height**

Any Work undertaken where there is a risk of fall and injury is considered to be working at height. For any Contractor Personnel working at height, Contractors shall provide fall prevention whenever possible and fall protection only when fall prevention is not practicable. Before commencing Work in a height the Contractor must obtain from Owner a Permit to Work, the Permit to Work will define the requirements to be followed. Supervisor must be present at all point of time, to ensure no deviation occur during the course of work.

### Fall Prevention System

Fall prevention systems (e.g. fixed guardrails, scaffolds, elevated work platforms) must provide protection for areas with open sides, including exposed floor openings.

### Fall Protection Systems

Where fall protection systems are used then the Contractor must ensure the following is applied:

- (ii) Only approved full body harness and two shock-absorbing lanyards are used,
- (iii) Prior establishment of a rescue plan for the immediate rescue of an employee in the event they experience a fall while using the system,
- (iv) Anchorage points must be at waist level or higher; and capable of supporting at least the attached weight,
- (v) Lifeline systems must be approved by Owner before use.
- (vi) Use of ISI marked industrial helmet at all point of time.

### **Scaffolding**

All scaffolds shall subject to a documented inspection by a competent person and clearly marked prior to use. The footings or anchorage for scaffolds shall be sound, rigid and capable of carrying the maximum intended load without settling or displacement. All scaffolding materials should be of MS tubular type.

Guardrails and toe-boards shall be installed on all open sides and ends of scaffold platforms. Scaffolds shall be provided with an access ladder or equivalent safe access. Contractor Personnel shall not climb or work from scaffold handrails, mid-rails or brace members.

### **Stairways and Ladders**

Ladders should only be used for light duty, short-term work or access in line with the below and the Site Requirements.

- i) Fabricated ladders are prohibited.
- ii) Ladders will be secured to keep them from shifting, slipping, being knocked or blown over.
- iii) Ladders will never be tied to facility services piping, conduits, or ventilation ducting.
- iv) Ladders will be lowered and securely stored at the end of each workday.
- (ii) Ladders shall be maintained free of oil, grease and other slipping hazards
- (iii) Ladders will be visually inspected by a competent person and approved for use before being put into service. Each user shall inspect ladders visually before using.
- (iv) Ladders with structural defects shall be tagged "Do Not Use," immediately taken out of service, and removed from the Site by the end of the day.

### **Lifting Operations**

#### **Cranes and Hoisting Equipment**

Contractors shall operate and maintain cranes and hoisting equipment in accordance with manufacturer's specifications and legal requirements.

Only Contractor Personnel trained in the use of cranes and hoists are permitted to use them.

### **Lifting Equipment and Accessories**

All lifting equipment / accessories e.g., slings, chains, webbing, chain blocks, winches, jacks etc shall be indicated with their safe working load have an identification number visible on the unit and be inspected and tested in accordance with legal requirements.

Damaged equipment / accessories and equipment shall be tagged "out of use" and immediately removed from Site.

### **Lockout Tag out ("LOTO")**

Prior to performing work on machines or equipment, the Contractor shall ensure that it is familiar with LOTO and Permit to Work procedures and that all of its affected Contractor Personnel receive the necessary training.

### **Barricades**

Floor openings, stairwells, platforms and walkways, and trenching where a person can fall any distance shall be adequately barricaded and where necessary, well lit. Where there is a risk of injury from a fall then rigid barriers must be used.

Barricades must also be used to prevent personnel entering an area where risk of injury is high e.g., during overhead work activity or electrical testing etc. Such barricading must provide clear visual warning..

### **Compressed Gas Cylinders**

Gas cylinder shall be securely stored and transported, and identified and used in line with the local requirements. Hose lines shall be inspected and tested for leaks in line with local requirements. Flash Back arrestor to be used to prevent any explosion due to back fire.

### **Electrical Safety**

Prior to undertaking any work on live electrical equipment the Contractor must obtain a Permit to Work from Owner. Where ever possible live work should be avoided. Any control measures highlighted shall be implemented prior to work commencing.

The below measures will be taken:

- a) Work practices must protect against direct or indirect body contact by means of tools or materials and be suitable for work conditions and the exposed voltage level.
- b) Energized panels will be closed after normal working hours and whenever they are unattended. Temporary wiring will be de-energized when not in use.
- c) Only qualified electrical Contractor Personnel may enter substations and/or transformer and only after being specifically authorized by Owner.

## **Hot Works**

A Permit to Work must be obtained from Owner prior to any hot works (welding, grinding, open flame work). Suitable fire extinguishing equipment shall be immediately available. Objects to be welded, cut or heated shall be moved to a designated safe location, or, if they cannot be readily moved, all movable fire hazards in the vicinity shall be taken to a safe place. Personnel working around or below the hot works shall be protected from falling or flying objects.

Prior to the use of temporary propane or resistance heating devices approval must be obtained from Owner.

## **Trenching, Excavating, Drilling and Concreting**

A Permit to Work must be obtained from Owner and all underground lines, equipment and electrical cables shall be identified and located prior to beginning the work. The Contractor shall assign a competent Contractor Personnel to all trenching and excavation work.

Safe means of access and egress shall be located in trench excavations. Daily inspections shall be conducted by a competent Contractor Personnel for evidence of a situation that could result in possible cave-ins, indications of failure of protective systems or other hazardous conditions.

Physical barriers shall be placed around or over trenches and excavations. Flashing light barriers shall be provided at night.

## **Environmental Requirements**

### **Waste Management**

The Contractor is responsible to remove any waste generated by the work being done on the Site. The Contractor must dispose of the waste in line with the relevant local legislative requirements. The waste disposal route shall be documented and made available for Owner to review at any time and may be subject to Owner's prior approval.

Wastes (includes rinse from washing of equipment, PPE, tools, etc) are not to be poured into sinks, drains, toilets, or storm sewers, or onto the ground. Solid or liquid wastes that are hazardous or regulated in any way are not to be disposed of in general site waste receptacles.

### **Spills**

The Contractor is responsible for the provision of adequate spill kits/protection and the clean up and disposal costs arising from such spills.

### **Emissions**

The Contractor shall identify and quantify any emission sources associated with the Works. The control measures associated with these emission shall be subject to the approval of Owner's Emissions include but are not limited to noise, dust, fumes, vapours.

## **21.0 PENALTIES IN CASE OF NON-COMPLIANCE OF SAFETY/HEALTH/ENVIRONMENT NORMS, RULES & REGULATIONS**

The contractor has to follow all norms, rules and regulations related to safety, health and environment, In case of non-compliance of any one of these norms, rules and regulations by contractor's employee, the contractor shall be held responsible. If any violation or non-fulfilment of these norms, rules and regulation is observed by the Company's authority during checking at any time, a penalty of Rs 5000/- shall be imposed on the contractor for each occasion of non-compliance to these rules and regulations by him of his employees. The decision of the Company's authority shall be final and binding on to the contractor in this regard. The amount of penalties so imposed shall be recovered from the next RA Bill of the work or any other dues payable to the contractor by the authority.

# **TECHNICAL SPECIFICATIONS**



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## **TECHNICAL SPECIFICATION**

### **Supply, Installation, Testing & Commissioning of Load Cell based Weighing System**

#### **SCOPE OF WORK**

It is proposed to install Load Cell based system for weighing of Base Oil / Additives for the purpose of batch blending plant at Chennai.

Vendor shall be responsible for the design, manufacture, supply, and installation & commissioning as per this specification and attached documents for the Chennai batch blending.

The purpose of installation of these Load cells is to monitor totalised mass of each component accurately at each of the kettle locations.

#### **SYSTEM DESCRIPTION**

The Load cell based weighing system shall consist of, but not be limited to the following components:-

##### **Load Cell based weighing system**

- 1.0 Load cell based system should comprise of the compression type load cell sensor, Weight indicating transmitter ( WIT ), Top and bottom fixing plate, Heat insulation pad, mounting kit, Horizontal constraine, Weather proof junction box and cables etc.
- 2.0 Weight indicator transmitter ( WIT ) should be weather proof type housing
- 3.0 WIT shall be field mounted with suitable housing and stand near to the kettle.

#### **SYSTEM REQUIREMENTS**

##### **General**

1. All instrument and controls in the package shall be designed, fabricated or selected in accordance with the requirements of this specification, codes & standards.
2. Each instrument and control device shall be attached permanently with its 316 SS tag plate showing the instrument tag number, manufacturer, model & serial numbers, calibration range engraved on it.

## **LOAD CELLS**

The Load cells shall be capable of directly measuring the weight of base oils / additives coming from the tanks into the kettles. The device shall be capable of measuring both solids and liquids. The accuracy and reliability of the device will not be affected by changes in viscosity, density, temperature, kettles / tanks vibration or flow profile etc. Environmental effects of temperature or pressure shall be fully characterized by the manufacturer.. Diagnostic features available in the system to be mentioned in the offer.

This specification together with the attached data sheets covers the mandatory minimum requirements for Load Cells based weighing to be furnished.

The Vendor shall take full responsibility for the technical integrity and proper operation of the instrument under the specified operating conditions. Since all the kettles / Tanks are fitted with agitator either at top or bottom.

### **1.1 ENVIRONMENTAL CONDITIONS**

The Load cells shall be suitable for use in an industrial, humid atmosphere with an ambient temperature limit of 10<sup>0</sup>C to 55<sup>0</sup>C and relative humidity limits of 90% to 100%.

### **1.2 ELECTRICAL SAFETY**

Load cells will be installed in Lube Blending Plant..

### **1.3 ENCLOSURE**

The WIT enclosure shall have protection code IP-55 or better (preferable IP-69)

### **1.4 ELECTRICAL CONNECTIONS**

Cable entries: 3/4" NPT  
Unused cable entries shall be plugged off with metal plugs of suitable material composition.

Termination:

The Vendor's signal cable termination points shall be of the screwed type, suitable for a cable with a wire size of 1.5mm<sup>2</sup> minimum.

### **1.5 WEIGHT INDICATING TRANSMITTER (WIT)**

The WIT electronics shall be of microprocessor based. The transmitter has to be remote mounting type. The entire transmitter in the plant will be mounted in a panel/wall. The transmitter would have 7 segment fluorescent LED digital display / organic LED display for gross / net weight etc.

Vibration / stability filtering.

SD Memory card (for storing of calibration & configuration setting data)

## 1.6 RFT OUTPUT SIGNAL AND POWER SUPPLY

### Output Signals

The WIT output signals shall be galvanically isolated from input, power supply and each other.

One active 4-20 mA analog output corresponding to mass.

Preferable communication to third part device like PLC / DCS through Profibus/Modbus/Ethernet / Devicenet/TCP/IP etc.

### Power Supply

The WIT system should be suitable for a power supply of 230 VAC  $\pm 10\%$ , 50 Hz  $\pm 5\%$ .

## 1.7 PERFORMANCE OF THE

### LOAD CELLS

#### 1.0 Weight Measurement

- a) Accuracy :  $\pm 0.05\%$
- b) Repeatability : Included under accuracy

2.0 The Accuracy statement should be per ISO standard. It should be a composite accuracy statement for the Load cells and must be a measure of the combined effect of repeatability, linearity, hysteresis and accuracy per ISO standards.

3.0 The over range limits shall be 22 mA output in the WIT.

4.0 Zero Stability should be as low as possible(Bidder to mention)

### Radio Frequency Interference (RFI) on Sensor and Transmitter

The RFI effect on sensor and transmitter shall not be greater than  $\pm 1\%$  of span at 3V/m per IEC 801.3 – 1984 over a 20 MHz to 1000 MHz range.

## **1.8 MINIMUM REQUIREMENTS FOR THE LOAD CELL**

The Load Cells would be used for critical batching application for a specialized lube blending recipe, hence the following is required as a minimum:

Vendor's experience / reference list in supplying exactly similar quoted model for 2 years of operation in the Ester / Chemical batch blending / Grease Processing / Lube Oil blending application. The proven track record in full fledge blending application is mandatory. Without proper and complete information, vendor is liable to be rejected without further notice.

## **1.9 MATERIAL AND CONSTRUCTION REQUIREMENTS**

The Load shall consist of Sensors, WIT and JB .Should be welded stainless steel construction. It should be hermetically sealed.

### Remote Weight Indicating Transmitter

WIT should be weather proof IP-55 or better (preferable IP-69) enclosure and should be wall / stand mounted near the kettles / tanks.

## **1.10 MARKING AND IDENTIFICATION**

### Identification

Each WIT shall be provided with corrosion resistant plate fixed, showing the following information:

- a) Manufacturer's trade mark or name
- b) Model no. / serial no. including applicable option codes
- c) Weight range
- d) Output signal range

## **1.11 CALIBRATION, INSPECTION AND TESTING**

### Calibration

Load cells shall be calibrated to manufacturer's standard procedure. Vendor should arrange test weights for the load cells calibration on their own at site and quote accordingly.

### Inspection and Testing

### General

The inspection and testing requirements are in addition to manufacturing and fabrication standards of the vendor. Before the flow meters will be released for shipment to the site, a "release for shipment" note has to be signed by an appointed inspector.

Inspection and testing will involve one or more of the following:

- a) Visual examination of the Load Cells.
- b) Calibration certificate review for all Load Cells.

### Packing and Shipping

The Load Cells shall be prepared for shipment and the ends shall be protected. Packing shall be separate for each component of the Load Cells system. Appropriate precaution should be taken during packing and transport to avoid any kind of damage that will affect the satisfactory operation of the Load cells.

### Calibration

Load Cells shall be calibrated to manufacturer's standard procedure in accordance to ISO 9000.

- a) SITE TEST

Once the installation is completed, the Vendor shall perform site calibration & local operation test to ensure that all equipment are operating properly. A full operational test shall be carried out. Vendor shall be responsible to exhibit the performance specification under normal plant operation for acceptance of the Load Cells system by engineer in charge.

**Vendor shall provide the following necessary information in his quotation:**

- (a) Power consumption for the system
- (b) Weight of equipment
- (c) Dimensions of equipment

## **2.8 VENDOR SERVICES / TECHNICAL SUPPORT**

The Vendor shall offer services of a hands-on experienced engineer who must be fully conversant with the equipment offered. Vendor shall maintain adequate and competent technical support staff for any future maintenance and modifications to the system.

# **TECHNICAL DATA SHEETS**

<b>JOB NO :</b> _____		<b>CLIENT :</b> SBU – G&L
<b>ITEM</b>	<b>:LOAD CELL</b>	
1.0	TYPE	: Compression type ( Low profile / height )
2.0	QUANTITY	: 4 nos. as per kettle / tank support configuration
3.0	MODEL NO.	: Vendor to specify
4.0	CAPACITY	: Vendor to select based on tank / kettle data
5.0	SAFE OVERLOAD	: 150%
6.0	ULTIMATE OVERLOAD	: 300%
7.0	RATED OUTPUT	: 2 or 3 mV / V
8.0	ACCURACY	: $\pm 0.05 \%$
9.0	CREEP	: $\pm 0.05 \%$ after 4 hours.
10.0	TEMPERATURE EFFECT	
	ON ZERO	: $\pm 0.05 \%$ / 10 K
	ON SPAN	: $\pm 0.03 \%$ / 10 K
11.0	VIBRATION EFFECT	: 20 G
12.0	INSULATION	: > 1000 M Ohm.
13.0	POWER SUPPLY	: As suitable from the Weighing Indicator
14.0	HOUSING	: Welded stainless steel construction( Hermetically sealed )
15.0	PROTECTION CLASS	: IP – 68



16.0	AMBIENT TEMP. RANGE	:	0 - 55 <sup>o</sup> C
17.0	VESSEL SUPPORTING LUGS TEMP.	:	150 <sup>o</sup> C
18.0	ACCESSORIES	:	<p>Top and bottom fixing plate  Heat insulation pad  / mounting kit/  Horizontal constraine /Load cell mounting kit  All Junction box should be Anti-surge,  Weather proof &amp; Flame-proof, Ex-d IIC  Cable between Load Cells and JB to suit the vessel dimension  Any other accessories required to complete the system.</p>
	NOTE	:	<p>1 ) Vessel is having Motorized Agitator on top  2 ) Process fluid temperature inside the vessel is up to 120<sup>o</sup> C</p>

<b>JOB NO.</b> :		<b>CLIENT</b> : : SBU – G & L
<b>ITEM</b> : <i>WT. INDICATING TRANSMITTER</i>		
1.0	FUNCTION	: Local Weight Indication and Signal Transmission to PLC/DCS
2.0	QUANTITY	: 1 no per Tank or Kettle
3.0	MODEL NO.	: Vendor specify
4.0	TYPE	: Microprocessor based
5.0	INPUT SIGNAL	: From 4 Nos. Load Cells
6.0	MEASURING RANGE	: As per Load Cell capacity
7.0	OUTPUT	: i) 4 - 20 mA DC( Isolated ) corresponding to NET WEIGHT of Material ii) Hart / Foundation Field Bus/Profibus/Modbus/Ethernet/device net/TCP/IP
8.0	MEASURING TIME	: < 1 Sec
9.0	LOCAL DISPLAY	
	MODE	: GROSS / NET by selection
	TYPE	: Fluorescent / 7 segment LED
	NO. OF DIGIT/HT	: 7 / 12.5 mm
10.0	POWER SUPPLY	: 230 V AC , 50 Hz
11.0	LOAD CELL SUPPLY	: From the Weight Indicator
12.0	SYSTEM ACCURACY	: $\pm 0.05\%$ ( Overall measurement accuracy under Agitator running condition )
13.0	OP. TEMP RANGE	: 0 - 55 ° C
14.0	MOUNTING	: In the field near the Kettle, Stand /

Wall mounted

15.0	HOUSING	:	Sturdy metal cabinet weatherproof to IP – 55 or better ( preferable IP-69 )
16.0	CALIBRATION FACILITY	:	Software programmable / From front panel keys/ through PLC interface
17.0	DIMENSION	:	Vender to specify
18.0	WEIGHT	:	Vender to specify
19.0	OTHER FEATURE	:	Tare adjustment  1-High alarm output, adjustable from KB
20.0	ACCESSORIES	:	Mounting Kit as required  Cable between Load Cell JB and the Weight Indicator ( 10 m )  Connector for Remote Signal / Power supply, Cable gland etc.  Vibration / stability filltering device  SD memory card ( to store calibration & configuration setting data )
21.0	POWER CONSUMPTION	:	Vendor to specify
22.0	APPROVAL	:	Model should be approved by Directorate of Legal Metrology

<b>JOB NO.</b>			<b>CLIENT :: SBU – G &amp; L</b>			
<b>ITEM : KETTLES DATA</b>						
SI No	TAG NO	Vessel No	No. Of supports	Dead Weight( T )	Capacity( T )	Total Weight ( T )
1.0	10 WE SOK01	SOK-01	4	5 Ton	13 Ton	18 Ton
2.0	10 WE SOK02	SOK-02	4	5 Ton	13 Ton	18Ton
3.0	10 WE SOK03	SOK-03	4	5 Ton	13 Ton	18 Ton

**Supply, Installation, Testing & Commissioning of Load Cell based Weighing System for Modernisation / Automation of Grease & Lube Oil Plant, Chennai.**

**At**

**Grease & Lubricant Division,  
32, Sattangadu Village, Manali,  
Chennai – 600 068.**

**Tender No.**

**PART II (PRICE PART)**

**Price schedule is provided for reference of the Tenderers only.**  
**Prices to be quoted online only.**

NOTES:

- 1.0 Details of the items under this Schedule shall be read in conjunction with the corresponding Specifications, Drawings and other Tender Documents.
- 2.0 The work shall be carried out as per approved drawings, Specifications and the description of the items in this Schedule and/or Engineer's instructions. Drawings enclosed with these documents are only for providing some preliminary of the work involved.
- 3.0 Items of work provided in this Schedule but not covered in the Specifications shall be executed strictly as per instructions of the Engineer-In-Charge.
- 4.0 Unless specifically mentioned otherwise in the Contract, the Tenderer shall quote for the finished items and shall provide for the complete cost towards power, fuel, tools, tackles, equipment, Constructional Plant, Temporary Work, labour, materials, levies, taxes, transport, layout, re-pairs, rectification, maintenance till handing over, supervisions, colonies, shops, establishments, services, temporary roads, revenue expenses, contingencies, overheads, profits and all incidental items not specifically mentioned but reasonably implied and necessary to complete the work according to the contract.  
ED, CST, VAT, Service Tax etc. shall be paid at actuals against submission of documentary evidences.
- 5.0 The Quantities of the various items mentioned in the Schedule of Items are approximate and may vary or may be deleted altogether. The Contractor, in his own interest, should get an indication of the probable extent of the work to be executed under any particular item in this Schedule before undertaking any preliminary and enabling work or purchasing bought out components related to the work.  
In case of quantity variation; payment against transportation, transit insurance, unloading charges etc. shall be made on pro-rata basis.
- 6.0 Rates shall be quoted both in figures and in words in clear legible writing. No over writing is allowed. All scoring and cancellations should be countersigned by the Tenderer. In case of illegibility, the rates written in word will be considered final. All entries shall be in English language.
- 7.0 Engineer's decision shall be final and binding on the Contractor regarding clarification of items in this Schedule with respect to the other sections of the Contract.
- 8.0 For extra items, rates shall be derived from similar item rates included in the schedule of work. Where there is no such similar item available in the schedule, rate shall be analysed as follows:  
  
Rate for extra item = Cost of material (a) + cost of labour inclusive of all necessary tools, tackles, equipment, machinery and consumable (b) required to carry out the work + 15% of (a+b) towards profit and overhead + taxes, duties etc. as applicable.

Supply of Material- PRICE BID-A					
Sr. No.	Particulars	Qty.	Units	Unit Rate(inclusive of GST)	Amount
1	Supply of Load Cells as per specification	3	No.		
2	Supply of Junction Box made of Aluminium enclosure consisting of 4 Nos Contactor of Coil 230 V, AC and Contact Rating of 6 Amps with 2 NO + 2 NC contact for the Interlock arrangement for High Level Tripping	1	No.		
3	Power Distribution box with enclosure 4 nos 2A MCB	1	No.		
4	Supply of Perforated type GI Cable trays along with necessary Fabrication of Bends Tees, with fixing of coupler plates etc., 50mm (W) X 25mm (H) X 2mm (T)	80	Mtr		
	Supply of LT PVC insulated multistrand copper conductor,armoured cable as per IS:1554 Part-I. 3C X 1.5 SqmmCable .	80	Mtr		
5	2C X 1.5 Sqmm Cable	80	Mtr		
6	Supply of PVC insulated single core stranded earthing wire 1C x 16 Sq mm (Al. Conductor)	200	Mtr		
	Supply of Nickel chromium coated double compressioncable glands suitable for the following cable size as per standard specification- 3/4" Size. 3C X 1.5 SqmmCable .	7	No.		
7	2C X 1.5 Sqmm Cable	6	No.		
	Supply of MS pipes along with Pipe fittings like bend, flange, Metallic Gasket etc as per IS 1239 of latest version along with necessary fabrication as per IS 1239 of latest version with pipe fittings as per standard.				
	80 NB	6	Mtr		
8	50 NB	6	Mtr		
	Supply of IBR Pipes along with Fittings like Bend, Flange,Metallic Gaskets etc of Following sizes of latest version with pipe fittings as per standard for thermic fluid line.				
9	50NB	12	Mtr		
10	Supply of Bellow 3" -SS Braided Bellows with Flange ANSI150# Rating 300mm Long	12	No.		
11	Supply of Bellow 2" -SS Braided Bellows with Flange ANSI150# Rating 300mm Long	16	No.		
12	Supply of Structural Steel for supports with Bolts, Nuts, Anchor Fasteners, etc	300	Kg		
				GRAND TOTAL	

PRICE BID-B					
Modification & fabrication of existing Oil Blending Kettle setup in order to facilitate the installation & commissioning of load cells.					
Sr. No.	Particulars	Qty	Units	Unit Rate(inclusive of GST)	Amount
1	Installation, Unloading of load cells from truck to stores, Shipping of Load Cells and its adapter plates to the place of Installation from stores, Installation of Load cells system including proper positioning of Load cells along with laying of shielded cable from load cells to Summing JB and to Load cell indicator .Cables shall be laid for load cell in Cable Trays/Conduits up to Summing JB. Also Installation of Summing JB & Load cell Indicator shall be included. 5MT X 4 Lugs	3	No.		
2	Junction Box made of Aluminium enclosure consisting of 4No's Contactor of Coil 230 V, AC and Contact Rating of 6Amps with 2 NO + 2 NC contact for the Interlock arrangement for High Level Tripping	1	No.		
3	Power Distribution box with enclosure 4 no's 2A MCB	1	No.		
4	Installation of Perforated type GI Cable trays along with necessary Fabrication of Bends Tees, with fixing of coupler plates etc., 50mm (W) X 25mm (H) X 2mm (T)	80	Mtr		
5	Receiving From stores, Transportation to site, Laying inTrays Conduits, Dressing & Clamping of LT PVC insulated multistrand copper conductor, armoured cable as perIS:1554 Part-I.				
	3C X 1.5 SqmmCable .	80	Mtr		
	2C X 1.5 Sqmm Cable	80	Mtr		
6	Installation of PVC insulated single core stranded earthingwire 1C x 16 Sq mm (Al. Conductor)	200	Mtr		
7	Glanding and Termination of cables with Nickel chromium coated double compression cable glands suitable for thefollowing cable size as per standard specification-3/4"Size.				
	3C X 1.5 SqmmCable .	7	No.		
	2C X 1.5 Sqmm Cable	6	No.		
8	Dismantling & Lifting of Reactors with necessary re-engineering along with modification on existing inlet andout let piping of the reactors to accommodate the loadcells	3	No.		
9	Installation of MS pipes along with Pipe fittings like bend, flange, Metallic Gasketetc as per IS 1239 of latest versionalong with necessary fabrication as per IS 1239 of latest version with pipe fittings as per standard.				
	80 NB	6	Mtr		
	50 NB	6	Mtr		
10	Fabrication and Installation of IBR Pipes along with Fittingslike Bend,Flange.Metallic Gasket etc of Following sizes oflatest version with pipe fittings as per standard. (Exceptbend) for thermic fluid line.				
	50 NB	12	Mtr		
11	Bellow 3" -SS Braided Bellows with Flange ANSI 150# Rating 300mm Long	12	No.		
12	Bellow 2" -SS Braided Bellows with Flange ANSI 150# Rating 300mm Long	16	No.		
13	Fabrication & Erection of Structural Steel for supports withBolts, Nuts, Anchor Fasteners, etc	300	Kg		
				GRAND TOTAL	



