



सत्यमेव जयते

भारत सरकार—रेल मंत्रालय
अनुसंधान अभिकल्प और मानक संगठन

Government of India Ministry of Railways
Research Designs & Standards Organisation

कर्षण संस्थापन निदेशालय

Traction Installation Directorate

Tender Notice No.01/2012-13

Name of work: Refurbishment, Rehabilitation, Overhauling &
Up-Gradation of Vibration Shaker Machine Installed at T I Lab
of RDSO, Lucknow.

Price Rs. 3000.00 only

Price Rs. 3500.00 only (By Post)

Issued by: DIRECTOR/TI/OHE

T.I. Directorate, RDSO, Manak Nagar, Lucknow-226011

-: CHECK LIST:-

1. Have you purchased or Down Loaded the Bid Document? :Yes / NO
2. Have you paid the cost of Bid Documents? :Yes / NO
3. Have you enclosed earnest money as mentioned in Bid document? : Yes / NO
4. Have you furnished a letter of authority? :Yes / NO
5. Have you furnished the technical credentials? :Yes / NO
6. Have you furnished the financial credentials? :Yes / NO
7. Have you quoted rate in the prescribed work schedule? :Yes / NO
8. Have you kept your offer valid for 90 days? :Yes / NO

Signature of Contractor
With Seal

ADE / TI

TENDER PAPERS

PART – I

REGARDING WORKS CONTRACT

OPEN TENDER NOTICE NO. 01/2012-2013

NAME OF WORK: Refurbishment, Rehabilitation, Overhauling &
Up-Gradation of Vibration Shaker Machine
Installed at T I Lab of RDSO, Lucknow.

To be received up to 15.00 hrs. on 14.06.2012

Cost of Tender documents:

Price Rs. 3000.00 Only

Price Rs. 3500.00 By Post.

1. Approximate Cost : Rs. 2551350
2. Completion Times : Six Months
3. Earnest Money : Rs. 51027
4. Date of Opening : 15.06.2012 at 15:30 hrs
5. Name & Address of Party with
Date to whom Tender sold.

M/s

6. Tender Form No :

Note: -

1. Tender paper in original duly signed on each page must be returned with your tender offer.
2. Rates must be filled in the Work Schedule.
3. Rates should be quoted inclusive of Sales Tax, Excise Duty, and Levies & Octroi etc.
4. Offer should be kept open for 90 (Ninety) days from the date of Opening of Tender.
5. Tender form must be filled by the tenderer positively.

ANNEXURE

FIRST SHEET – TENDER FORM

From: M/s :

To

The President of India,
Acting through Director Traction Installation,
Research, Designs & Standards Organisation,
Manak Nagar, Lucknow-226 011.

Dear Sir,
Sub:

I/We _____ have read the Instructions and Conditions of tendering and hereby agree to abide by the said conditions. I/We also agree to keep this after open for acceptance for a period of three months from the date fixed for opening the same and in default thereof. I/We _____ Will be liable for forfeiture of my/our "Security Deposit". I/We offer to do the work as per top sheet i.e. relating to the design, manufacture and supply, erection, testing and commissioning for

_____ at the rates quoted in the attached Schedule and hereby bind myself/ourselves to complete the work within _____ months, of the date of issue of Letter of Acceptance of Tender and to supervise operation and maintenance of Plant for a period of _____ at the prices quoted in the attached Schedule of price.

I/We also fully understand and hereby agree to abide by the general and Special Conditions of the Contract and do carry out the work according to the Specification for present Contract as modified by this Tender.

I/We have deposited with the Executive Director/Finance, RDSO, Manak Nagar, Lucknow the required sum of Rs. _____ as Earnest Money, in addition as Security Deposit in respect of above Tender for which Receipt No. _____ dated _____ has been granted.

I/We _____ enclose a _____ Bank Guarantee/from _____ Bank for a sum of Rs. _____

(Rupees _____) as Earnest Money and a sum of Rs. _____ (Rupees _____) as Security Deposit in respect of this Tender.

The full value of the Earnest Money shall stand forfeited without prejudice to any other rights or if :

- (a) I/We do not execute the Agreement within 7 (seven) days after receipt of the notice issued by RDSO so that such Agreement is ready for.
- (b) I/We do not commence the work within a reasonable period after the date stipulated in the approved Schedule of work.
- (c) Until a formal Agreement is prepared and executed acceptance of this Tender shall constitute binding Contract between us subject to modifications as may be mutually agreed to between us and indicated in the Letter of Acceptance of my/our offer for this work.
- (d) I/We enclose the Income Tax Clearance Certificate or a declaration to that effect on required, of the Tender papers pertaining to me/us for the year _____.
- (e) I/WE have no retired Engineer or retired Gazetted Officer of the Electrical Department of any of the Railways owned and administered by the President of India.
The list of the Retired Engineers or Retired Gazetted Officers who are associated with me/us included as an Enclosure to this letter.

Yours faithfully,

Signature of the Tenderer(s)

SEAL OF THE TENDERER

Place _____

Date _____

Witnessed by:

1. Signature _____

2. Signature _____

Name in Block Letters _____

Name in Block Letters _____

Address _____

Address _____

GOVERNMENT OF INDIA: MINISTRY OF RAILWAYS
RESEARCH, DESIGNS & STANDARDS ORGANISATION
MANAK NAGAR, LUCKNOW-226 011.
TRACTION INSTALLATION DIRECTORATE
OPEN TENDER NOTICE

Sealed offers against open tenders are invited by Traction Installation Directorate, RDSO, Manak Nagar, Lucknow, for & on behalf of President of India, to be opened on **15.06.2012 at 15.30 hrs.** in the office of ADE/TI. In case, the date of opening of tender happens to be a holiday, the tenders will be opened on the next working day at specified time and place.

Tender Notice No.	Description of Work	Approx. Cost Of Work	Earnest Money	Cost of Tender Document	Completion Time
01/2012-13	Refurbishment, Rehabilitation, Overhauling & Up-Gradation of Vibration Shaker Machine Installed at T I Lab of RDSO, Lucknow.	2551350.00	51027.00	3000.00 & by post 3500.00	06 months

Tender documents (Non-transferable) can be obtained from the office of the undersigned on any working day between **10.00 hrs to 17.00 hrs.** w.e.f. **14.05.2012 to 14.06.2012.** **The cost of Tender Document as mentioned above is non-refundable for each set, to be deposited with D.C.P.M. Office, Charbagh, Lucknow. For purchasing tender set by post, Demand Draft of State Bank of India or of any of the Nationalized/Scheduled Banks in favour of Exe. Director Finance/RDSO, Lucknow is required to be sent to this office.** Department will not take any responsibility on account of delay/loss or miss-delivery of Tender Sets/Offeres sent by post.

Earnest Money shall be furnished either in cash to be deposited with D.C.P.M. Office, Charbagh, Lucknow. or in any other form mentioned in the Tender documents. Tenders not accompanied with requisite Earnest Money are liable to be summarily rejected.

Tenderer shall submit necessary attested copies of works carried out during previous three years and current financial year, balance sheet/SARAL with the tender documents mentioned in tender paper "**Section - 1 "PREAMBLE AND GENERAL INSTRUCTIONS TO TENDERERS" - S.No.11-Tender's credentials**" without the above documents the tender shall be liable for rejection.

'Certificates from private individuals for whom such works are executed/being executed shallnot be accepted.'

Tender documents are also available at RDSO web-site www.rdsolndianrailways.gov.in and can be downloaded along-with the application form for participation in tender. Cost of tender documents is to be submitted in the form of Demand Draft of **State Bank of India** or of any of the **Nationalized/Scheduled Banks** in favour of **Executive Director Finance, RDSO, Lucknow** at the time of submission of the tender. This shall be submitted separately and in addition to the earnest money, failing which the tender offer will be rejected summarily.

Tender offers shall be submitted up to **15.00 hrs.** in the Tender Box kept for the purpose in the office of the undersigned on or before the specified date of opening.

Asstt. Design Engineer {TI}

Case No. : EL/Lab/ Procur/New-WQT/11

Dated: 11.05.2012

भारत सरकार: रेल मंत्रालय
 अनुसंधान अभिकल्प और मानक संगठन
 मानकनगर , लखनऊ- 226011
 (कर्षण संस्थापन निदेशालय)

खुली निविदा सूचना

भारत के राष्ट्रपति की ओर से, कर्षण संस्थापन निदेशालय, अनुसंधान अभिकल्प और मानक संगठन, मानक नगर, लखनऊ, द्वारा निम्नलिखित कार्य हेतु मुहरबंद खुली निविदा सूचना आमंत्रित की जाती है, जो सहा.अभि.अभि./क0स0 निदे. के कार्यालय में दिनांक 15.06.2012 को 15.30 बजे खोली जायेगी। निविदा खुलने की तिथि का अवकाश हो जाने की परिस्थिति में निविदाये उसके बाद के कार्य दिवस में नियत समय तक प्राप्त एवं खोली जायेगी

थनविदा सूचना	कार्य का नाम	कार्य की अनुमानित लागत	बयाना राशि	निविदा प्रपत्र का मूल्य	समय अवधि
01 / 2012-13	कर्षण संस्थापन लैब अ.अ.मा.सं., मानकनगर , लखनऊ में लगी वाइब्रेशन शेकर मशीन का अपग्रेडेशन, ओवर हालिंग संस्थापन एवं नवीनीकरण का प्रवधान।	2551350.00	51027.00	3000.00 एवं 3500.00 डाक द्वारा	छः माह

थनविदा प्रपत्र 'अहस्तान्तरणीय' अघोहस्ताक्षरी के कार्यालय से दिनांक 14.05.2012 से दिनांक 14.06.2012 तक किसी भी कार्य दिवस में 10.00 बजे से 17.00 बजे तक निविदा प्रपत्र उपरोक्त वर्णित अहस्तांतरित कीमत प्रति सेट के हिसाब से डी.सी.पी.एम.कार्यालय, चारबाग, लखनऊ में जमा करा कर प्राप्त किए जा सकते हैं। डाक द्वारा निविदा प्रपत्र मंगाने के लिये का. निदे. वित्त अ.अ.मा.सं. लखनऊ के पक्ष में उपरोक्त वर्णित कीमतका मांग ड्राफ्ट जो कि भारतीय स्टेट बैंक या कोई भी राष्ट्रीयकृत/शेड्यूल बैंक के रूप में कार्य.निदे.वित्त, अ.अ.मा.सं., लखनऊ के पक्ष में इस कार्यालय को भेजे। डाक द्वारा भेजे गये निविदा प्रपत्र / प्रस्तावों के देर से पहुंचने, खोने, क्षतिग्रस्त होने या गलत बंट जाने पर विभाग की कोई जिम्मेदारी नहीं होगी।

बयाना राशि जैसा निविदा प्रपत्र में वर्णित है या नकद डी.सी.पी.एम.कार्यालय, चारबाग, लखनऊ में जमा की सकती है। बयानाराशि के बिना निविदा सरसरी तौर पर निरस्त कर दी जायेगी।

निविदा कर्ता अपने निविदा प्रपत्र के साथ आवश्यक प्रमाणित प्रतिलिपियाँ पिछले तीन वर्षों में एवं वर्तमान वित्त वर्ष में किये गए कार्य एवं बैलेंस शीट / सरल प्रपत्र जैसा कि निविदा प्रपत्र के "Section - 1 PREAMBLE AND GENERAL INSTRUCTIONS TO TENDERERS" - S.No.11-Tender's credentials", में अंकित है, संलग्न करें। इसके अभाव में 'निविदा' को सरसरी तौर पर निरस्त कर दिया जायेगा।

'निजी व्यक्तियों से प्रमाण पत्र जिनके लिए इस तरह के कार्यों को किया गया/जा रहा है स्वीकार नहीं किया जायगा।

निविदा प्रपत्र अ.अ.मा.सं. की वेबसाइट www.rdsso.indianrailways.gov.in पर आवेदन पत्र के साथ उपलब्ध हैं जिन्हें डाउन लोड करके टेण्डर में भाग लिया जा सकता है। निविदा पत्रों की क्रय राशि डिमांड ड्राफ्ट जो कि भारतीय स्टेट बैंक या कोई भी राष्ट्रीयकृत/शेड्यूल बैंक के रूप में कार्य.निदे.वित्त, अ.अ.मा.सं., लखनऊ के पक्ष में निविदा प्रपत्रों के साथ जमा करनी होगी। यह धनराशि बयाना राशि के अतिरिक्त अलग से जमा की जायेगी, जिसके न होने पर निविदा सरसरी तौर पर निरस्त कर दी जायेगी। निविदा प्रस्ताव निश्चित तिथि को 15.00 बजे तक या उस से पहले अघोहस्ताक्षरी के कार्यालय में इस उद्देश्य के लिए रखे निविदा बक्से में डालने होंगे।

फाइल संख्या :- ईएल/लैब/प्रोक्योर/न्यू-डब्लूक्यू टी/11
 दिनांक:-.....

सहा.अभि.अभि./क0स0 निदे.

SECTION – I

PREAMBLE &
GENERAL
INSTRUCTIONS TO
TENDERERS

SECTION –I

PREAMBLE AND GENERAL INSTRUCTIONS TO TENDERERS

1.0 INSTRUCTIONS TO TENDERERS

- 1.1 On behalf of the President of India, Sr. Exe. Director/ TI here in after referred to as 'Railway' invites tenders from established, experienced and reliable manufacturers, contractors for execution of Vibration machine works as detailed in section V and advertised in notice inviting tender in RDSO/Lucknow.
- 1.2 The contract emerging out of this tender shall be referred to as "Work Contract" and the Contractor who is awarded the work contract shall be referred to "Work Contractor".

2.0 TENDER DOCUMENTS:

- 2.1 Tender documents can be had from the office of the ADE/TI/RDSO, Lucknow on any working day from 10.00 hrs. to 17.00 hrs. w.e.f. 14.05.2012 to 14.06.2012, on payment of Rs.3000.00 (Three thousand only) in cash per set. If the same are required by post, an additional sum of Rs.500.00 (Rupees Five Hundred Only) per set should be deposited towards postal charges. If the Tender Form is required by post, the cost of the Tender Form plus postal charges should be sent by Money Order. The cost of the Tender Form is not refundable and the Tender Form is not transferable.
- 2.2 These Tender documents must be submitted duly completed in all respects in Sealed Cover Super scribed as Tender Form for the work Refurbishment, Rehabilitation, Overhauling & Up-Gradation of Vibration Shaker Machine Installed at T I Lab of RDSO, Lucknow. Top sheet and should be deposited in the Tender Box in the office of the ADE/TI/RDSO/Lucknow up to 15.00 hrs. On **14.06.2012** The Tenders will be opened at 15:30 Hrs on Dated **15.06.2012**. and rates read out in the presence of such Tenderers as is/are present. Tenders who are received after the time and date specified above, may not be considered. In case, the intended date for opening of Tenders is declared a holiday then the tenders will be opened on the next working day at the same time.
- 2.3 Tenders Sealed and Super scribed as aforesaid can also be sent by Registered Post addressed to the ADE/TI/RDSO, Lucknow but the Tender which is received after the time and date specified in para 3.1 above may not be considered. However, department will not take any responsibility on account of delay/loss or misplacement of tender offers sent by post.

2.4 The rates should be quoted in figures as well as in words. If there is variation between the rates quoted in figures and in Words, the rates quoted in "Words" shall be taken as correct. If more than one improper rates are tendered for, the same Item. The tender is liable to be rejected.

2.5 Each page of the Tender papers is to be signed and dated by the Tenderers or such person(s) on his/their behalf who is/are legally authorised to sign for him/them.

2.0 **VALIDITY OF TENDER**

Tenderer shall keep his offer open for a minimum period of 90 (ninety) days from the date of opening of the Tender or as mentioned in the Tender Notice

3.0 **EARNEST MONEY**

(A) The tenderer shall be required to deposit earnest money with the tender for the due performance with the stipulation to keep the offer open till such date as specified in tender, under the conditions of tender. The earnest money shall be 2% of the estimated tender value as indicated in the Tender Notice. The earnest money shall be rounded to the nearest Rs. 10.

(B) It shall be understood that the tender documents have been sold/issued to the tenderer and the tenderer is permitted to tender in consideration of stipulation on his part, that after submitting his tender he will not resale from his offer or modify the terms and conditions thereof in manner not acceptable to the Engineer. If the tenderer fail to observe or comply with the said stipulation, the aforesaid amount shall be liable to be forfeited to the RDSO.

(C) If the tender is accepted this earnest money mentioned in sub clause (A) above will be retained as part security for the due and faithful fulfillment of the contract in terms of clause 16 of the General Conditions of Contract. The earnest money of other Tenderers, shall save as herein before provided, be returned to them, but the RDSO shall not be responsible for any loss or depreciation that may happen thereto while in their possession, nor be liable to pay interest thereon.

4.1The Earnest Money shall be in cash to be deposited with D.C.P.M. Office, Charbagh, Lucknow or in any of the following forms in favor of **EXECUTIVE DIRECTOR FINANCE, RDSO, LUCKNOW**, without which the tender is liable to be summarily rejected

(i) Deposit receipts, Pay orders, Demand Drafts. These forms of Earnest Money should be either of the **STATE BANK OF INDIA OR OF ANY OF THE NATIONALIZED BANKS**. No confirmatory advise from the Reserve Bank of India will be necessary.

- (ii) Deposit receipt executed by the scheduled Banks (Other than the State Bank of India and the Nationalized Banks) approved by the Reserve Bank of India for this purpose. The RDSO will not, however, accept deposit receipt without getting in writing the concurrence of the Reserve Bank of India.

4.2The tenderer shall keep the offer open up to 90 days. If the tenderer fail to keep the offer open for entire validity or period or resile from the contract after acceptance of the tender, the aforesaid amount shall be liable to be forfeited to the Railways.

4.3The Tender must be accompanied by a sum of **Rs.51027** (Rs. Fifty one Thousands and Twenty Seven Only)as Earnest Money in the manner prescribed in Para 6.2 above, failing which the tender shall be summarily rejected.

5.0 SECURITY DEPOSIT ON ACCEPTANCE OF TENDER

5.1 The Earnest Money deposited by the contractor with his tender will be retained by the RDSO as part of Security for the due and faithful fulfilment of the contract by the contractor. The balance to make up the security deposit, the rates for which are given below, may be deposited by the contractor in cash or may be recovered by percentage deduction from the contractor's "On account' bills. Provided also that in case of defaulting contractor the RDSO may retain any amount due for payment to the contractor on the pending "Onaccount bills" so that the amounts so retained may not exceed 10% of the total value of the contract.

5.2 Unless otherwise specified in the special conditions, if any, the security deposit/rate of recovery/mode of recovery shall be as under:-

- (a) Security deposit for each work should be 5% of the contract value.
- (b) Security deposits will be recovered only from the running bills of the contract and no other mode of collecting SD such as SD in form of instruments like BG, FD etc. shall be accepted towards security deposits. Security deposit shall be returned to the contractor after the physical completion of the work as certified by the competent authority. The competent authority shall normally be the authority who is competent to sign the contract. If this competent authority is of the rank lower than JA grade, than a JA grade officer (Concerned with the work) should issue the certificate. The certificate, inter-alia, should mention that the work has been completed in all respects and that the contractors have fulfilled all the contractual/obligations and that there is no due from the contractor to RDSO against the contract concerned. Before releasing the SD, an unconditional and unequivocal no claim certificate from the contractor concerned should be obtained.

5.3 No interest will be payable upon the earnest money and security deposit or amounts payable to the contractor under the contract.

6.0 PERFORMANCE GUARANTEE (PG)

The procedure for obtaining Performance Guarantee is outlined below:

- (a) The successful bidder shall have to submit a Performance Guarantee (PG) within 30 (Thirty) days from the date of issue of letter of acceptance (LOA). Extension of time for submission of PG beyond 30 (Thirty) days and up to 60 days from the date of issue of LOA may be given by the authority who is competent to sign the contract agreement. However, a penal interest of 15% per annum shall be charged for the delay beyond 30 (Thirty) days, i.e. from 31st day after the date of issue of LOA. In case the contractor fails to submit the requisite PG even after 60 days from the date of issue of LOA the contract shall be terminated duly forfeiting EMD and other dues, if any payable against that contract. The failed contractor shall be debarred from participating in retender for that work.
- (b) The successful bidder shall submit the performance guarantee (PG) in any of the following forms amounting to 5% of the contract value:
 - (i) A deposit of cash
 - (ii) Irrevocable Bank Guarantee.
 - (iii) Government Securities including State loan Bonds at 5% below the market value.
 - (iv) Deposit receipts, Pay orders, Demand Drafts and Guarantee Bond. These forms of performance guarantee could be either of the State Bank of India or of any of the Nationalized Banks.
 - (v) Guarantee Bonds executed or Deposits receipts tendered by all schedule Banks.
 - (vi) A deposit in the Post Office Saving Bank.
 - (vii) A Deposit in the National Saving Certificates.
 - (viii) 12 Years National Defence Certificates.
 - (ix) 10 Years Defense Deposits.
 - (x) National Defense Bonds and
 - (xi) Unit Trust Certificates at 5% below market value or at the face value whichever is less. Also FDR in favour of Exe. Director Finance, RDSO, Lucknow. (Free from any encumbrance) may be accepted.

Note: The instruments as listed above will also be acceptable for guaranties in case of mobilization advance.

- (c) The performance guarantee shall be submitted by the successful bidder after the letter of acceptance (LOA) has been issued, but before signing of the contract agreement. This PG shall be initially valid up to the stipulated date of completion plus 60 days beyond that. In case the time for completion of work gets extended, the contractor shall get the validity of PG extended to cover such extended time for completion of work plus 60 days.
- (d) The value of PG to be submitted by the contractor will not change for variation up to 25% (Either increase or decrease). In case during the course of execution, value of contract increase by more than 25% of the original contract value, an additional performance guarantee amounting to 5% (Five percent) for the excess value over the original contract value shall be deposited by the contractor.
- (e) Performance Guarantee (PG) shall be released after physical completion of the work based on "Completion certificate" issued by the competent authority stating that the contractor has completed the work in all respect satisfactorily. The security deposit shall, however, be released only after expiry of the maintenance period and after passing the final bill based on "No claim certificate" from the contractor.
- (f) Whenever the contract is rescinded, the security deposit shall be forfeited and the Performance guarantee shall be en-cashed. The balance work shall be got done independently without risk and cost of the failed contractor. The failed contractor shall be debarred from participating in the tender for executing the balance work. If the failed contractor is a JV or a partnership firm, then every member/partner of such a firm shall be debarred from participating in the tender for the balance work in his/her individual capacity or as a partner of any other JV/Partnership firm.
- (g) The engineer shall not make a claim under the performance guarantee except for amounts to which the President of India is entitled under the contract (Notwithstanding and / or without prejudice to any other provisions in the contract agreement) in the event of
 - i) Failure by the contractor to extend the validity of the performance guarantee as described herein above, in which event the engineer may claim the full amount of the performance guarantee.
 - ii) Failure by the contractor to pay President of India any amount due, either as agreed by the contractor or determined under any of the clauses/conditions of the agreement, within 30 days of the service of notice to this effect by engineer.
 - iii) The contract being determined or rescinded under provision of the GCC, the performance guarantee shall be forfeited in full and shall be absolutely at the disposal of the President of India.

7.0 **TENDERER'S ADDRESS**

The Tenderer should state in the Tender his Postal Address legibly and clearly. Any communication sent in time to the Tenderer by post at his said address shall be deemed to have reached the Tenderer duly and in time important documents should be sent by Registered Post.

8.0 **METRIC UNIT**

All the measurements shall be quoted in Metric Units.

9.0 **CREDENTIALS OF TENDERERS**

The tenderer shall provide satisfactory evidence acceptable to RDSO that: -

- a) He should be an experienced and established contractor who regularly undertakes the execution of similar nature of work and has adequate technical knowledge and practical experience in this specific field. The tenderer has to establish to the full satisfaction of the RDSO, his credentials and technical competency for executing works.
- b) He has adequate financial stability and status to meet the obligations under the contract for which he is required to submit and report from a recognized Bank or a Financial institution.
- c) He has established organisation to ensure that there is adequate quality control at all stages of maintenance of assets offered to him.
- d) He has adequate equipment, plant & machinery to undertake the work offered to him.
- e) He would in respect of all materials be falling within the scope of supply as detailed in technical specification and procure only from proven and established manufacturers.
- f) In addition to above, further information regarding his credentials or the credentials of his associates shall, if required by the RDSO, be given by the tendered.

9.1 In order to ascertain the above the following documents should be specified for submission along with tender:-

9.2 List of personnel, organization available on hand & proposed to be engaged for the subject work.

9.3 List of plant & machinery available on hand {own} & proposed to be inducted {own & hired to be given separately} for the subject work.

9.4 List of works completed in the last three financial years giving description of work, organization for whom executed, approximate value of contract at the time of award, date of award and date of scheduled completion of work, date of actual start, actual completion and final value of contract should also be given.

9.5 List of works on hand indicating description of work, contract value, approximate value of balance work yet to be done & date of award.

Note: Certificates from private individuals for whom such works are executed / being executed shall not be accepted.

10.0 PERIOD OF COMPLETION

10.1 The entire work is required to be completed in all respects within **06 MONTHS** from the date of issue of the acceptance letter/telegram. Time is the essence of Contract. The Contractor will be required to maintain steady and regular progress to the satisfaction of the Engineer to ensure that the work will be completed in all respects within the stipulated time failing which action may be taken by the Railway Administration in terms of Clause 17 and Clause 62 of the General Conditions of Contract, 1989.

11.0 PRICES

11.1 All the prices shall be quoted as per details shown in material and work schedule, keeping the technical specifications, drawings and Special Conditions of Contract in view.

11.2 The unit prices and total prices of each item of work shall be furnished both in words and figures.

11.3 All prices shall be firm against all items including all taxes, Excise Duty, Levies, Octroi etc. Any of the forms for exemption of any taxes or duties will not be supplied by RDSO.

12.0 PAYMENTS

12.1 Payments for the work shall be made in accordance with approved designs and drawings and measured in relevant units, except where provided for otherwise. In case the dimensions of the work are more than those shown in approved designs and drawings, the contractor shall not be entitled to any extra payment unless the dimensions are increased on account of physical impossibility of carrying out the work in accordance with approved designs and drawings, subject to approval by the RDSO before execution. In case the dimensions of work are less than those shown in the approved designs and drawing and the work is accepted without being rejected, payment will be made for the quantity of work actually executed and accepted.

12.2 On account payments made to the Contractor shall be without prejudice to the final making up of the accounts and shall in no respect be considered or used as evidence of any facts stated in or to be inferred from such accounts not of any particular quantity of work having been executed.

12.3 Payment to the Contractor shall be made after completion of work and successful commissioning and testing.

12.4 The Security money already deposited by the Contractor (Para 7.0) of this Chapter at the discretion of the Contractor be adjusted towards payment of 10% Contract value for performance guarantee valid for 12 months are as specified in guarantee period clause in the related specification as per requirements

13.0 TAXES

13.1 Income Tax at the prevailing rates will be deducted from all the Bills of the Contractor in accordance with the Section 1940 of the Income Tax Act 1961 as introduced through the Finance Act of 1972 or any amendment or modification thereof.

13.2 Sales Tax on works Contracts: Sales Tax on works contracts as per prevailing rates of 5% or as revised by the Govt. Tax Authorities from time to time will be deducted from the Contractors' payment on the whole or the part thereof.

14.0 CESS CHARGES

14.1 Cess Charges {If Applicable} will be deducted from the final payment for the following rates:

- A. 1 to 5 Labours or workmen - @ 64.00 Per Month.
- B. 6 to 10 Labours or workmen - @ 126.00 Per Month.
- C. 11 to 25 Labours or workmen - @ 317.00 Per Month.

{Manoj Kumar}
A.D.E. / (T.I)

SECTION – II

GENERAL
INSTRUCTIONS
TO
THE TENDERERS

SECTION – II

1.0 DEFINITIONS AND INTERPRETATIONS

- 1.1 In these General Conditions of the Contract, the following terms shall have the meanings hereby assigned to them except where the context otherwise required.
- 1.2 **“RDSO”** means any administrative authority as may be empowered by the Ministry of Railways to deal with any matter pertaining to contract.
- 1.3 **“Director General”** shall mean the officer in Administrative charge of the whole of RDSO.
- 1.4 **“Engineer”** shall mean Sr. Executive Director(TI) in the Executive charge of the work and shall include the superior officers of Traction Installation Directorate of the RDSO i.e. Director (T.I)and shall mean and include the Engineer of RDSO.
- 1.5 **“Engineer’s Representative”** shall mean the Asstt. Design Engineer/T.I. in direct charge of the works and shall include any Resident Engineer or any Inspector of the Traction Installation Directorate appointment by the RDSO and shall mean and include the Engineer’s Representative of the RDSO.
- 1.6 **“Contractor”** shall mean the person, firm or company whether incorporated or not who enters into contract with the RDSO and shall include their executor’s administrators, successors and permitted agent.
- 1.7 **“Contract”** shall mean and include the agreement between RDSO and the Contractor for the execution of the work either in whole or in part including therein all documents such for the invitation of Tender, instructions to Tenderers, General and Special Conditions of Contract. Specifications, drawings, time schedule, prices and the tender proposal.
- 1.8 **“Work”** shall mean the works to be executed in accordance with the Contract and shall include all works to be executed, with all items.
- 1.9 All things to be provided/done and services and activities to be performed by the Contractor in accordance with the Contract.
- 1.10 **“Specifications”** shall mean the Technical Specification outlined in this Tender document may be amplified, added to or superseded by Special Specification, if any.

- 1.11 **"Drawings"** shall mean the maps, drawings, plans and tracings or prints thereof annexed to the Contract and shall include any modification of such drawings and further drawings as may be issued by RDSO from time to time.
- 1.12 **"Constructional Plant"** shall mean all appliances or things of whatsoever nature required for the execution, completion or maintenance of the works or temporary works (as hereinafter defined) but does not include materials or otherwise things intended to form or forming part of the permanent work.
- 1.13 **"Temporary Work"** shall mean all temporary work every kind required for the execution, completion or maintenance of the work.
- 1.14 **"Site"** shall mean the lands and other places, on or under in or through which the works are to be carried out and any other land or place provided by the RDSO for the purposes of the Contract.
- 1.15 **"Period of Maintenance"** shall mean the specified period of maintenance from the date of completion of the works as certified by the Engineer.
- 1.16 The term **"Test"** shall mean such test or tests as are prescribed by the Specifications to be made by the Administration or his nominee during the manufacture, installation and commissioning at site before the plant is taken over by the RDSO.
- 1.17 **Singular and Plural**
Words importing the singular number shall also include the plural and vice versa where the context requires.
- 1.18 **Headings and Marginal Headings**

The headings and marginal headings in these General Conditions are solely for the purpose of facilitating reference and shall not be deemed to be part thereof or be taken into consideration in the interpretation or construction thereof or of the Contract.

2.0 EXECUTION, CORRELATION AND INTENT OF CONTRACT DOCUMENTS

- 2.1 The Contract documents shall be signed in duplicate by the RDSO and the Contractor. The Contractor documents are complementary and what is called for by any one shall be as binding as if called for by all. The intention of the documents is to include all labour and materials, equipment and transportation, necessary for the proper execution of the works. Materials or work not covered by or properly inferable from any heading or class of the Specifications shall not be supplied by the

RDSO in the Contract unless distinctly specified in the Contract documents. Materials or works described in words which so applied have a well known technical or trade meaning shall be held to refer to such recognised standards.

- 2.2 If a work is transferred from the jurisdiction of one work to another work or to a project authority or vice versa while the Contract is in subsistence, the Contract shall be binding on the Contractor and the project in the same manner and take effect in all respects as if the Contractor and the Projects were parties thereto from the inspection and the corresponding officer or the competent authority in the Project will exercise the same powers and enjoy the same authority as conferred to the Project under the original contract agreement entered into.
- 2.3 If for administrative or other reasons the Contract is transferred to the successor Railway, the Contract shall notwithstanding anything contained herein contrary thereto, be binding on the Contract and the success Railway in the same manner and take effect in all respects as if the Contractor and the successor Railway had been parties thereto from the date of this Contract.

3.0 LAW GOVERNING THE CONTRACT

The Contract shall be governed by the law for the time being in force in the Republic of India.

3.1 Compliant to Regulations and Bye-laws

The Contractor shall conform to the provision of any statute relating to the works and regulations and bye-laws of any local authority and of any water and lighting companies or undertaking with whose system the work is proposed to be connected and shall before making any variation from the drawings or the Specifications that may be necessitated by so conforming, give to the Engineer, notice specifying the variation proposed to be made and the reason for making the variation and shall not carry out such variation until he has received instructions from the Engineer in respect thereof. The Contractor shall be bound to give all notices required by statute regulation or bye-laws as aforesaid and to pay all fees and taxes payable to any authority in respect thereof.

4.0 COMMUNICATIONS TO BE IN WRITING

All notices, communications, reference and complaints made by the RDSO of the Engineer or the Engineers representative or the Contractor inter so concerning the works shall be in writing and no notice, communication, reference or complaint not in writing shall be recognised.

5.0 SERVICE OF THE NOTICES ON CONTRACTORS

The Contractor shall furnish to the Engineer the name, designation and address of his authorised Agent and all complaints, notices, communications and references shall be deemed to have been duly given to the Contractor if delivered to the Contractor or his authorised agent or left at or posted to the address so given and shall be deemed to have been so given in the case of posting in the ordinary course of post or on the day on which they were so delivered or left. In the case of Contract by partners, any change in the Constitution of the firm shall be forthwith notified by the Contractor to the Engineer.

6.0 OCCUPATION AND USE OF LAND

No land belonging to or in the possession or the RDSO shall be occupied by the Contractor without the permission of the RDSO. The Contractor shall not use, or allow to be used, the site for any purpose other than that of executing the works.

7.0 ASSIGNMENT OR SUB-LETTING OF CONTRACT

The Contractor shall not assign or sublet the Contract or any part thereof or allow any person to become interested therein in any manner whatsoever without the special permission of RDSO. Any breach of this condition shall entitle the RDSO to rescind the Contract under Clause 62 of these conditions and also render the Contractor liable for payment to the Railway in respect of any loss or damage arising or ensuing from such cancellation, provided always that execution of the details of the works by petty Contract under the direct and personal supervision of the Contractor or his agent shall not be deemed to be sub-letting under this Clause. The permitted sub-letting of work by the Contractor shall not establish any contractual relationship between the sub-contractor and the RDSO and shall not relieve the Contractor of responsibility under the Contract.

8.0 STORES ARRANGED BY RDSO

Owing to difficulty in obtaining certain materials (including tool and plant) in the open market, RDSO may have agreed without any liability, therefore, to endeavor to obtain or assist the Contractor in obtaining the required quantities of such materials as may be specified in the tender. In the event of delay or failure in obtaining the required quantities of the aforesaid materials, the Contractor shall not be deemed absolved of his own responsibility and shall keep in touch with the day to day position regarding their availability and accordingly adjust the progress of the work including the employment of labour and RDSO shall not in any way be liable for the supply materials or for the non-supply thereof for any reason whatsoever nor for any loss or damage rising in consequence of such delay or non-supply.

9.0 RAILWAY PASSES

No Railway pass for the conveyance of contractor's labour by train or for the use of the Contractor or his agents will be granted unless

otherwise specified but passes will be given to the Contractor or his agents when specially called to the office of the Engineer or the Engineer's Representative.

10.0 CARRIAGE OR MATERIALS

No forwarding orders shall be issued by RDSO for the conveyance of Contractor's material, tools and plants by Rail which may be required for use in the works and the Contractor which may be required for use in the works and the Contractor shall pay full freight charges at public tariff rates thereof.

11.0 REPRESENTATION OF WORKS

The Contractor shall, when he is not personally present on the site of the works, place and keep a responsible agent at the works during working hours who shall on receiving reasonable notice present himself to the Engineer and orders given by the Engineer or the Engineer's representative to the agent shall be deemed to have the same force as if they had been given to the Contractor. Before absenting himself, the Contractor shall furnish the name and address of his agent for the purpose of the Clause 62 of these conditions.

12.0 EXCAVATED MATERIALS

The Contractor shall not sell or otherwise dispose of or remove except for the purpose of this Contract, the sand, stone, clay ballast earth rock or other substances or materials which may be obtained from any excavation made for the purpose of the works or any building or produce upon the site at the time of delivery of the possession thereof but all such substances materials, buildings and produce shall be the property of the RDSO provided that the Contractor may with the permission of the Engineer use the same for the purpose of the works either free or cost or pay the cost of the same at such rates as may be determined by the Engineer.

13.0 INDEMNITY

The Contract shall indemnify and safeguard RDSO from and against all actions, suits, proceedings, losses, costs, damages, charges, claims and demands of every nature and description brought or recovered against RDSO by reasons of any act or omission of the Contractor, his agents or employees, in the execution of the works or in the guarding of the same. All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to applied to the use of the Railway without reference to the actual loss or damage sustained and whether or not any damage shall have been sustained.

14.0 EARNEST MONEY AND SECURITY DEPOSIT

14.1 The tenderer shall be required to deposit earnest money with the tender for the due performance with the stipulation to keep the offer open till such date as specified in tender, under the conditions of

tender. The earnest money shall be 2% of the estimated tender value as indicated in the Tender Notice. The earnest money shall be rounded to the nearest Rs. 10.

- 14.2 It shall be understood that the tender documents have been sold/issued to the tenderer and the tenderer is permitted to tender in consideration of stipulation on his part, that after submitting his tender he will not resile from his offer or modify the terms and conditions thereof in manner not acceptable to the Engineer. If the tenderer fail to observe or comply with the said stipulation, the aforesaid amount shall be liable to be forfeited to the RDSO.
- 14.3 If the tender is accepted this earnest money mentioned in sub clause (A) above will be retained as part security for the due and faithful fulfillment of the contract in terms of clause 16 of the General Conditions of Contract. The earnest money of other tenderers, shall save as herein before provided, be returned to them, but the RDSO shall not be responsible for any loss or depreciation that may happen thereto while in their possession, nor be liable to pay interest thereon.
- (i) The Earnest Money shall be in cash to be deposited with D.C.P.M. Office, Charbagh, Lucknow or in any of the following forms in favour of Executive Director Finance, RDSO, without which the tender is liable to be summarily rejected
 - (ii) Deposit receipts, Pay orders, Demand Drafts. These forms of Earnest Money should be either of the State Bank of India or of any of the Nationalized Banks. No confirmatory advise from the Reserve Bank of India will be necessary.
 - (iii) Deposit receipt executed by the scheduled Banks (Other than the State Bank of India and the Nationalized Banks) approved by the Reserve Bank of India for this purpose. The RDSO will not, however, accept deposit receipt with out getting in writing the concurrence of the Reserve Bank of India.
- 14.4 The tenderer shall keep the offer open up to 90 days. If the tenderer fails to keep the offer open for entire validity or period or resile from the contract after acceptance of the tender, the aforesaid amount shall be liable to be forfeited to the Railways.
- 14.5 The Earnest Money deposited by the contractor with his tender will be retained by the RDSO as part of Security for the due and faithful fulfillment of the contract by the contractor. The balance to make up the security deposit, the rates for which are given below, may be deposited by the contractor in cash or may be recovered by percentage deduction from the contractor's "On account" bills. Provided also that in case of defaulting contractor the RDSO may retain any amount due for payment to the contractor on the pending

"On account bills" so that the amounts so retained may not exceed 10% of the total value of the contract.

14.8 INTEREST ON AMOUNTS

No interest will be payable upon the Earnest Money or performance guarantee or the security deposit or amounts payable to the Contractor under the Contract.

15.0 ILLEGAL GRATIFICATION

Any bribe, commission, gift or advantage given, promised or offered by or on behalf of the contractor or his partner, agent or servant or any one on his or on their behalf to any officer or employee of the Railway or to any person on his or their behalf in relation to the obtaining or the execution of this or any other contract with the RDSO in addition to any criminal liability which he may incur subject the contractor to the payment of any loss or damage resulting from such rescission and the RDSO shall be entitled to deduct the amounts so payable from any money due to the contractor under the contract or any other contract with the RDSO. The contractor shall not lend or borrow from or have or enter into any monetary dealings or transactions either directly or indirectly with any employee of the RDSO and if he shall do so the RDSO shall be entitled forthwith to rescind the contract and all other contracts with the RDSO. Any question or dispute as to the commission of any offence or compensation payable to the RDSO under this clause shall be settled by the Director General of the RDSO in such a manner as he shall consider fit and sufficient and his decision shall be final and conclusive.

16.0 EXECUTION OF WORK

16.1 Contractor's understands

It is understood and agreed that the contractor has by the careful examination, satisfied himself as to the nature and location of the work. The confirmation of the ground, the character, and quality of the materials to be encountered the character of equipment and facilities needed preliminary to and during the execution of the works, the general and local conditions, the labour conditions prevailing therein and all other matters which can in any way affect the works under the contract.

16.2 Commencement of works

The contractor shall commence the works within 7 (seven) days after the receipt by him of an order in writing to this effect from the Engineer and shall proceed with the same with due expedition and without delay.

17.0 Compliance to engineer's instructions

17.1 The Engineer shall direct the order in which the several parts or the works shall be executed. The contractor shall execute without delay all orders given by the Engineer from time to time but the contractor

shall not be relieved thereby from responsibility for the due performance or the works in all respects.

17.2 Alterations to be authorised

No alterations in or additions to or commission or abandonment or any part of the works shall be deemed authorised, except under instructions from the Engineer and the contractor shall be responsible to obtain such instructions in each and every case.

17.3 Extra works

Should work over and above those included in the contract require to be executed at the site, the contractor shall have no right to be entrusted with the execution of such works which may be carried out by another contractor or contractors or by other means at the option of the RDSO.

17.4 Separate contract in connection with work

RDSO shall have the right to let other contracts in connection with the works. The contractor shall afford other contractors reasonable opportunity for the storage of their materials and the execution of their work and shall properly connect and coordinate his work with theirs, if any part of the contractor's work depends for the proper execution or results. The contractor's failure to inspect and report shall constitute an acceptance of the other contractor's work as fit and proper for the recreation of his work, except as to defects which may develop in the other contractor's work after the execution of his work.

18.0 INSTRUCTIONS OF ENGINEERS REPRESENTATIVES

Any instructions or approval given by the Engineer's representative to the Contractor in connection with the works shall bind the contractors as though it had been given by the Engineer provided always as follows.

18.1 Failure of the Engineer's Representative to disapprove any work or materials shall not prejudice the power of the Engineer thereafter to disapprove such work or materials and to order the removal or breaking up thereof.

18.2 If the Contractor is dissatisfied by reason of any decision of the Engineer's Representative he shall be entitled to refer the matter to the Engineer who shall thereupon confirm or vary such decision.

19.0 REFERENCE TO SPECIFICATION AND DRAWINGS

19.1 The whole of the works shall be executed in perfect conformity with the specifications and drawings of the contract. If the contractor performs any work in a manner contrary to the specifications or drawings or any of them and without such reference to the Engineer

he shall bear all the costs arising or ensuing there from and shall be responsible for all loss to the RDSO.

19.2 Drawings and specifications on the works

The contractor shall keep one copy of drawings and specifications at the site, in good order, and such other contract documents as may be necessary, available to the Engineer and the Engineer's Representative.

19.3 Ownership or drawings and specifications

All drawings and specifications and copies thereof furnished by the RDSO to the contractor are deemed to be the property of the RDSO. They shall not be used on other works and with the execution of the signed contract set shall be returned by the contractor to RDSO on completion of work or on termination of the contract.

The Engineer shall furnish with reasonable promptness after receipt by him of the contractor's request for the same, additional instructions by means of drawings or otherwise, necessary for the proper execution of the works or any part thereof. All such drawings and instructions shall be consistent with the contract documents and reasonably inferable there from.

19.4 Meaning and intent of specifications and drawings

If any ambiguity arises as to the meaning and intent of any portion of the specifications and drawings or as to execution or quality of any work or material or as to the measurements of the works, the decision of the Engineer thereon of the works the decision of the Engineer thereon shall be final subject to appeal within seven days of such decision being intimated to the contractor to the Director/TI who shall have the power to correct any errors, omissions or discrepancies in the specifications, drawings, classification or work of materials, and whose decision in the matter in dispute or doubt shall be final and conclusive.

20.0 WORK DURING NIGHT

The contractor shall not carry out any work between sunset sunrises without the previous permission of the Engineer.

21.0 DAMAGE TO RDSO PROPERTY OR PRIVATE LIFE AND PROPERTY

The contractor shall be responsible for all risks to the works and for trespass and shall make good at his own expense all loss or damage whether to the works themselves or to any other property of the RDSO or the lives persons or party of other from whatsoever cause in connection with the works until they are taken over by the RDSO and this although all reasonable and proper precautions may have been taken by the contractor and in case the RDSO shall be called upon to make compensation (including that payable under the provisions of the workman's Compensation Act of any statutory amendment thereof) to any person or persons sustaining damage as aforesaid by reason or

any Act, or any negligence or omission on the part of the contractor, the amount of any costs or charges (including costs and charges in connection with legal proceedings), which the Railway may incur in reference thereto, shall be charged to the contractor. The RDSO shall have the power and right to pay or to defend or compromise any claims of threatened legal proceedings or in anticipation of legal proceedings being instituted consequent on the action or default of the contractor, to take such steps as may be considered necessary or desirable to ward off or mitigate the effect of such proceedings charging to the contractor, as aforesaid, any sum or sums of money which may be incurred and the property of any such payment, defense or compromise, the incurring of any such expenses shall not be called, in question, by the Contractor.

22.0 SHEDS, STORE-HOUSES AND YARDS

The contractor shall at his own expenses provide himself with sheds stores-houses and yards in such situations and in such numbers as in the opinion of the Engineer is requisite for carrying on the works and the contractor shall keep at each of such sheds, store houses and yards a sufficient quantity of materials and plant in stock as not to delay the carrying out of the works with due expedition and the Engineer and the Engineer's representative shall have free access to the said sheds, stores houses and yards at any time for the purpose of inspecting the stock of materials and plant so kept in hand and any materials or plant which the Engineer may object to shall not be brought upon or used in the works but shall be forthwith removed from the sheds stores houses or yards by the Contractor. The contractor shall at his own expense provide and maintain any other machinery, equipment, tools and plant necessary for the execution of the works.

23.0 PROVISION OF EFFICIENT AND COMPLEMENT STAFF

The contractor shall place and keep on the works at all time efficient and competent staff to give the necessary directions to his workmen and to see that they execute their work in sound and proper manner and shall employ only such supervisors, workmen and labourers in or about the execution of any of the works as are careful and skilled in their various trades and calling the contractor shall at once remove from the works any stage permitted sub-contractor, supervisor, workmen or labour who shall be objected to by the Engineer, he shall submit a correct return showing the names of all staff and workmen, employed by him. In the event of the Engineer being of the opinion that the contractor is not employing on the works sufficient number of staff and workmen as is necessary for the proper completion of the works within the time prescribed, the contractor shall forthwith on receiving intimation to this effect take on the additional number of staff and labour specified by the Engineer within seven days of being so required and failure on the part of the contractor to comply with

such instructions will entitle the Railway to rescind the contract under clause 62 of these conditions.

24.0 WORKMANSHIP AND TESTING

The whole of the works and or supply of materials specified and provided in the contract or that may be necessary to be done in order to form and complete any part thereof shall be executed in the best and most approved quality of their respective kinds, agreeably to the particulars contained in or implied by the Specifications and as referred to in and represented by the drawings or in such other additional particulars, instructions and drawings as may be found requisite to be given during the carrying on of the works and to the entire satisfaction of the Engineer according to the instructions and directions which the contractor may from time to time receive from the Engineer. The materials may be subjected to tests by means of such machines, instruments and appliances as the Engineer may direct and wholly at the expenses of the contractor.

- 24.1 Removal of improper work and materials
- 24.2 The Engineer or the Engineer's representative shall be entitled to order from time to time.
- 24.3 The removal from the site within the time specified in the order of any materials which in his opinion are not in accordance with the specifications or drawings.
- 24.4 The substitution of proper and suitable materials.
- 24.5 The removal and proper re-execution notwithstanding any previous tests thereof or "on account" payments, therefore, of any work which in respect of materials or workmanship is not in his opinion in accordance with the specifications, and in case of default on the part of the Contractor in carrying out such order, the RDSO shall be entitled to rescind the contract under clause 62 of these conditions.

25.0 FACILITIES FOR INSPECTION

The contractor shall afford the Engineer and the Engineer's representative every facility for entering in and upon every portion of the work at all hours for the purpose of inspections or otherwise and shall provide all labour, materials, plants, ladder, appliances and other things of every kind required for the purpose and the Engineer and the Engineer's representative shall at all times have free access to every part of the works and stores or being prepared.

26.0 EXAMINATION OF WORK BEFORE COVERING UP

The contractor shall give seven days notice to the Engineer or the Engineer's representative whenever any work or materials are intended to be covered up in the earth, in bodies or walls or otherwise

to be placed beyond the reach of measurement in order that the work may be inspected or that correct dimensions may be taken before being so covered placed beyond the reach of measurement in default whereof the same shall at the option of the Engineer or the Engineer's representative be uncovered and measured at the contractor's expenses or no allowance shall be made for such work or materials.

27.0 TEMPORARY WORKS

All temporary works necessary for the proper execution of the works shall be provided and maintained by the contractor and subject to the consent of the Engineer shall be removed by him at his expense when they are no longer required and in such a manner as the Engineer shall direct. In the event of failure on the part of the contractor to remove the temporary works, the Engineer will cause to be removed and the cost as increased by supervision and other incidental charges shall be recovered from the contractor. If temporary huts are provided by the Contractor on the RDSO land for labour engaged by him for the execution of the work, the contractor shall arrange for handing over vacant possession of the said land after the work is completed and if the contractor's labour refuse to vacate and have to be ejected by the RDSO necessary expenses incurred by the RDSO in connection therewith shall be borne by the contractor.

28.0 CONTRACTOR TO SUPPLY WATER FOR WORKS

Unless otherwise provided in the contract, the contractor shall be responsible for the arrangements to obtain supply of water necessary for the works.

29.0 Water supply from RDSO system

The RDSO may supply to the contractor part or whole of the quantity of water required for the execution of works from the RDSO's existing water supply system at or near the site of works on specified terms and conditions and at such charges as shall be determined by the RDSO and payable by the contractor provided that the contractor shall arrange, at his own expense, to effect the connections and lay additional pipelines and accessories on the site and that the contractor shall not be entitled to any compensation for interruption or failure of the water supply.

30.0 Water supply by RDSO transport

In the event of the RDSO arranging supply of water to the contractor at or near the site of works by travelling water tanks or other means, the freight and other charges incurred thereby including demurrage charges that may be levied, shall be paid by the contractor in addition to the charges referred to in sub clause 31.2 of the clause provided that contractor shall not be entitled to any compensation for interruption or failure of the water supply.

31.0 Property in materials and plants

The materials and plant brought by the contractor upon the site or on the land occupied by the contractor in connection with the works and intended to be used for the execution thereof shall immediately be deemed to be the property of the RDSO. Such of them as during the progress of the works are rejected by the Engineer under clause 25 of these conditions or are declared by him not to be needed for the execution of the work or such as on the grant of the certificates of completion remain unused shall immediately on such rejection, declaration or grant cease to be deemed the property of the RDSO and the contractor may then (but not before) remove them from the site or the said land. This clause shall not in any way diminish the liability of the contractor nor shall the RDSO be in any way answerable for any loss or damage which may happen to or in respect of any such materials or plant either by the same being lost, stolen, injured or destroyed by the firm, tempered and otherwise.

32.0 TOOLS. PLANT AND MATERIALS SUPPLIED BY RAILWAY

The contractor shall take all reasonable care of all tools, plant and materials or other property whether of a like description or not belonging to the RDSO and committed to his charge for the purpose of the works and shall be responsible for all damage or loss caused by him, his agents permitted sub-contractors or his workmen or others while they are in his charge. The contractor shall sign accountable receipts for tools, plant and materials made over to him by the Engineer and on completion of the works shall hand over, the unused balance of the same to the Engineer in good order and repair, fair wear and tear expected and shall be responsible for any failure to account for the same or any damage done thereto.

33.0 Hire of RDSO plant/testing equipment

The RDSO may hire to the contractor such plant as Earth/Insulation Testers and portable engines for use during execution of the works on such terms as may be specified in the special conditions or in a separate Annexure.

34.0 PRECAUTIONS DURING PROGRESS OF WORKS

During the execution of works, unless otherwise specified the contractor shall at his own cost provide materials for and execute all shorting, timbering and structuring work as is necessary for the stability and safety of all structures, excavations and works and shall ensure that no damage, injury or loss is caused or likely to be caused to any person or property.

34.1 Roads and water courses

Existing roads or water courses shall not be blocked, cut through, altered, diverted or obstructed in any way by the contractor, except with the permission of the Engineer. All compensation claimed for any unauthorized closure, cutting through alteration, diversion or obstruction to such roads or water courses by the contractor or his

agent or his staff shall be recoverable from the contractor or by deduction from any sums which may become due to him in terms of the contract or otherwise according to law.

34.2 Provision of access to premises

During progress of work in any street or thoroughfare, the contractor shall make adequate provision for the passage of traffic for securing safe access to all premises approached from such street or thoroughfare and for any drainage, water supply or means of lighting which may be interrupted by reason of the execution of the works and shall erects are maintained at his own cost barriers lights and other safeguards as prescribed by the Engineer for the regulation of the traffic and provide watchmen necessary to prevent accidents. The work shall in such cases be prosecuted night and do if so ordered by the Engineer and with such sigour so that the traffic way be impeded for as short a time as possible.

34.3 Safety of public

The contractor shall be responsible to take all precautions to ensure the safety of the public whether on paths or RDSO purpose & shall post such look out men as may in the opinion of the Engineer be required to comply with the regulations pertaining to the work.

35.0 SUSPENSION OF WORK

The Contractor shall on the order of the Engineer suspend the progress of the works or any part thereof for such time or times or any part thereof for such time or times and shall during such suspension property protect and secure the work so far as is necessary in the opinion of the Engineer. If such suspension is -----

35.1 Provided for in the contract.Or

35.2 Necessary for the proper execution of the works by reason of necessary weather conditions or by some default on the part of the contractor.

35.3 Necessary for the safety of the works or any part thereof/the contractor shall not be entitled to the extra costs (if any) incurred by him during the period of suspension of the works but on the extent of any suspension ordered by the Engineer for reasons other than aforementioned and when each such period of suspension excess 14 days the Contractor shall be entitled to such extension of time for completion of the works as the Engineer may consider proper having regard to the period or periods of such suspensions and to such compensation as the Engineer may consider reasonable in respect of salaries or wages paid by the contractor to his employees during the period of each suspensions.

36.0 Suspension lasting more than three months

If the progress of the works or any part thereof is suspended on the order of the Engineer for more than three months at a time the contractor may serve a written notice on the Engineer requiring permission within 15 days from the receipt thereof to proceed with the works or the part thereof in regard to which progress is suspended and if such permission is not granted within that time the Contractor by a further written notice so served may but is not bound to collect to treat the suspension where it affects part only of the works as an omission of such part or where it affects the whole of the works as an abandonment of the contract by the RDSO.

37.0 DEMURRAGE AND WHEREABOUTS WAGES DUES

Demurrage charges calculated in accordance with the scales in force for the time being on the RDSO and incurred by the Contractor failing to load or unload and goods or materials within the time allowed by the RDSO for loading or unloading as also warehousing charges on materials not removed in time as also charges due on consignments booked by or to him shall be paid by the contractor, failing which such charges shall be debited to the contractor's account in the hands of the RDSO and shall be deducted from any such bill may become due to him in terms of the contract.

38.0 RATES FOR EXTRA ITEMS OF WORKS

Any item of work carried out by the Contractor on the instructions of the Engineer which is not included in the accepted schedule of rates shall be executed at the rates set forth in the schedule of rates of RDSO modified by the tender percentage and where such items are not contained in the latter at the rates agreed upon between the Engineer and the Contractor before the execution of such items of work and the contractor shall be bound to notify the Engineer at least seven days before the necessity arises for the execution of such items of work that the accepted schedule of rates does not include a rate or rates for the extra work involved. The rates payable for such items shall be decided at the meeting to be held between the Engineer and the Contractor, in as short a period as possible after the need for the special item has come to the notice. In case the contractor fails to attend the meeting after being notified to do so or in the event of no settlement being arrived at the RDSO shall be entitled to execute the extra works by other means and the contractor shall have no claim for loss or damage that may result from such procedure.

38.1 Provided that if the contractor commences work or incurs any expenditure in regard thereto before the rates are determined and agreed upon as lastly thereon to fore mentioned then and in such a case the contractor shall only be entitled to be paid in respect of the work carried out or expenditure incurred by him prior to the date of determination of the rates as aforesaid according to the rates as shall be fixed by the Engineer. However, if the contractor is not satisfied with the decision of the Engineer in this respect he may appeal to the Director/TI within 30 days of getting the decision of the Engineer,

supported by analysis of the rates claimed. DA-II's decision after bearing both the parties in the matter would be final and binding on the contractor and the RDSO.

39.0 HANDING OVER OF WORKS:-

The Contractor shall be bound to hand over the works executed under the contract to the RDSO complete in all respects to the satisfaction of the Engineer. The Engineer shall determine the date on which work is considered to have been completed in support of which his certificate shall be regarded as sufficient evidence for all purposes. The Engineer shall determine, from work shall have been completed in support of which his certificate shall be regarded as sufficient evidence for all purposes. The Engineer shall determine, from time to time the date on which any particular section of the work shall have been completed and the contractor shall be bound to observe any such determination of the Engineer.

40.0 Clearance of site on completion:

On the completion of the works the contractor shall clear away and remove from site all constructional plant, surplus materials rubbish and temporary works of every kind and leave the whole of the site and works clean and in a workman like condition to the satisfaction of the Engineer. No final payment in settlement of accounts for the work shall be paid, held to be due or shall be made to the contractor will in addition to any other condition necessary for such final payment, site clearance shall have been affected by him and such clearance may be made by the Engineer at the expense of the Contractor in the event of his failure to comply with this provision, within seven days after receiving notice to that effect. Should it become necessary for the Engineer to have the site cleared at the expense of the Contractor, the RDSO shall not be held liable for any loss or damage to such of the Contractor's property as may be on the site and due to such removal there from, which removal may be affected by means of public sales of such material and property or in such a way as deemed fit and convenient to the Engineer.

41.0 MODIFICATION TO CONTRACT TO BE IN WRITING

In the event of any of the provision of the contract requiring to be modified after the contract documents have been signed the modifications shall be made in writing and signed by the RDSO and the Contractor and no work shall proceed under such modifications until this has been done. Any verbal or written arrangement abandoning modification reducing or supplementing the contract or any of the terms thereof shall be deemed conditional and shall not be binding on the RDSO unless and until the same is incorporated in a formal instrument and signed by the RDSO and the Contractor and till then the RDSO shall have the right to repudiate such arrangements.

42.0 POWER OF MODIFICATION TO CONTRACT

The Engineer on behalf of the RDSO shall be entitled by order in writing to enlarge to extend, diminish or reduce the works or make

any alterations in their design, character, position site quantities, dimensions or in the method of their execution or in the combination and use of materials for the execution thereof and to order any additional works to be done or any work not to be done and the contractor will not be entitled to any compensation for any increase reduction in the quantities of work but will be paid only for the actual amount of work done and for approved materials supplied against a specific order.

43.0 Variation in quantity

The procedure detailed below shall be adopted for dealing with variations in quantities during execution of works contracts:

1. Individual NS items in contracts shall be operated with variation of + or – 25% and payment would be made as per the agreement date. For this, no finance concurrence would be required.
2. In case an increase in quantity of an individual item by more than 25% of the agreement quantity is considered unavoidable, the same shall be got executed by floating a fresh tender. If floating a fresh tender for operating that item is considered not practicable, quantity of that item may be operated in excess of 125% of the agreement quantity subject to the following conditions:
 - a) Operation of an item by more than 125% of the agreement quantity needs the approval of an officer of the rank not less than SA grade.
 - i) Quantities operated in excess of 125% but up to 140% of the agreement quantity of the concerned item, shall be paid at 98% of the rate awarded for that item in that particular tender.
 - ii) Quantities operated in excess of 140% but up to 150% of the agreement quantity of the concerned item, shall be paid at 96% of the rate awarded for that item in that particular tender.
 - iii) Variation in quantities of individual items beyond 150% will be prohibited and would be permitted only in exceptional unavoidable circumstances with the concurrence of associate finance and shall be paid at 96% of the rate awarded for that item in that particular tender.
 - b) The variation in quantities as per the above formula will apply only to the individual items of the contract and not on the overall contract value.
 - c) Execution of quantities beyond 150% of the overall agree mental value should not be permitted and, if found necessary, should be only through fresh tenders or by negotiating with existing contractor, with prior personnel concurrence of ED/Finance and approval of Director General.
3. In cases where decrease is involved during execution of contract

- a) The contract signing authority can decrease the items up to 25% of individual item without finance concurrence.
 - b) For decrease beyond 25% for individual items or 25% of contract value, the approval of an officer not less than rank of SA grade may be taken after obtaining "No claim certificate" from the contractor and with finance concurrence, giving detailed reasons for each such decrease in the quantities.
 - c) It should be certified that the work proposed to be reduced will not be required in the same work.
4. The limit for varying quantities for minor value items shall be 100% (As against 25% prescribed for other items). A minor value item for this purpose is defined as an item whose original agreement value is less than 1% of the total original agreement value.
 5. No such quantity variation limit shall apply for foundation items.
 6. As far as SOR items are concerned, the limit of 25% would apply to the value of SOR schedule as a whole and not on individual SOR items. However, in case of NS items, the limit of 25% would apply on the individual items irrespective of the manner of quoting the rate (Single percentage rate or individual item rate).
 7. For the tenderers accepted at RDSO level, variations in the quantities will be approved by the authority in whose powers revised value of the agreement lies.
 8. For tenderers accepted by Director General, variations up to 125% of the original agreement value may be accepted by Director General.
 9. For tenderers accepted by Board members and Railway Minister, variations up to 110% of the original agreement value may be accepted by Director General.
 10. The aspect of vitiation of tender with respect to variation in quantities should be checked and avoided. In case of vitiation of the tender (Both for increase as well as decrease of value of contract agreement), sanction of the competent authority as per single tender should be obtained.

44.0 "ON ACCOUNT" PAYMENTS

- 44.1 The Contractor shall be entitled to be paid from time to time by way of "On Account" payments only for such works as in the opinion of the Engineer he has executed in terms of representative certificates of measurements shall be subject to any deductions which may be made under these presents and shall further be subject to unless otherwise required by Clause 16 of these conditions retention of ten percent by way of retained Earnest Money and such retention shall amount to 10% of the total value of the contract provided always that the

Engineer may by any certificate make any correction or modification in any previous certificate which shall have been issued by him and that the Engineer may withhold any certificate if the works or any part thereof are not being carried out to his satisfaction.

44.2 Rounding off amounts

In calculating the amount of each item due to the contractor in every certificate prepared for payments, sums of less than three paise shall be omitted and sums of three paise and more up to five paise shall be reckoned as five paise and the total amount on each certificate shall be rounded off to the nearest rupee i.e. sums of less than fifty paise shall be omitted and sums of fifty paise and more up to one rupee shall be reckoned as one rupee.

44.3 "On Account" : Payments not prejudicial to final settlement : On account payments made to the Contractor shall be without prejudice to the final making up of the accounts (except where measurements are specifically noted in the Measurement Book as "Final Measurements" and ,as such, have been signed by the contractor) and shall in no respect be considered or used as evidence of any facts stated in or to be entered from such accounts not of any particulars quantity of work having been executed nor of the manner of its execution being satisfactory.

45.0 CERTIFICATE OF COMPLETION OF WORKS

45.1 As soon as in the opinion of the Engineer the works shall have been substantially completed and shall have satisfactorily passed any final test or tests that may be prescribed the Engineer shall issue a certificate of completion in respect of the works and the period of maintenance of the rocks shall commence from the date of such certificate, provided that the Engineer may issue such a certificate with respect to any part of the works before the completion of the whole of the works or with respect to any substantial part of the works which has been got completed to the satisfaction of the Engineer and occupied or used by the RDSO and when any such certificate is given in respect of a part of the works such part shall be considered as completed and the period of maintenance of such part shall commence from the date of such certificate.

45.2 Contractor not absolved by completion certificate:

The certificate of completion in respect of the works referred to in sub-clause of this clause shall not absolve the contractor from his liability to make good any defects imperfection shrinkage of faults which may appear during the period of maintenance specified in the tender arising in the opinion of the Engineer from material or workmanship not in accordance with the drawings or specifications or instruments of the Engineer which defects imperfections shrinkage or faults shall upon the direction in writing of the Engineer be amended and made good by the Contractor at his own cost and in case of default on the material or

appoint another Contractor to amend and make good such defects imperfections, shrinkage and faults and all expenses consequent the Rheon and incidental thereto shall be borne by the Contractor and shall be recoverable from any money due to him under the Contract.

46.0 FINAL PAYMENT

46.1 On the Engineer's certificate of completion in respect of the works, an adjustment shall be made and the balance of account based on the Engineer's Representatives certified measurement of the total quantity of the work executed by the Contractor up to the date of completion and on the accepted schedule of rates and for extra works on rates determined under Clause 39 of these conditions shall be paid to the Contractor subject always to any deductions which may be made under these circumstances and further subject to the Contractor having delivered to the Engineer either a full account in details of all claims, he may have on RDSO in respect of the works or having delivered a "No Claim" certificate and to the Engineer having after the receipt of such account given a certificate in writing that such claims are correct that the whole of the works to be done under the provision of the contract have been completed, that they have been inspected by him since their completion and found to be in good and substantial order, that all properties, works and things removed, disturbed or injured in consequence of the works have been properly replaced and made good and all expenses and demands incurred by or made upon the RDSO for or in the respect of damage or loss by, from or in consequence of the works have been satisfied agreeably and in conformity with the Contract.

46.2 Post Payment Audit

It is an agreed term of the Contract that RDSO reserves to itself the right to carry out a post payment audit and or technical examination of the works and the final bill including all supporting vouchers abstracts etc. and to make a claim on the Contractor for the refund of any excess on the contractor for the refund of any excess amount paid to him if as a result of such examination any over payment to him is discovered to have been made in respect of any work done or alleged to have been done by him under the Contract.

46.3 Repayment of Security Deposit

The total Security Deposit shall become due and shall be paid to the Contractor after the expiration of the period of maintenance specified in the tender reckoned from the date of which the Engineer shall have passed the certificate of completion comprising the works to be under the provision of the Contract or any other earlier date subsequent to the completion of the whole of such works that may be fixed by RDSO in this behalf provided that all the stipulations of this Clause have been fulfilled by the Contractor and all claims and demands made against RDSO for and in respect of damage or loss by, from or in consequence of the works have been finally satisfied, provided further that in the

event of different maintenance periods having become applicable to different parts of the works pursuant to Sub-clause 48.1 of Clause 48 of these conditions the expression "of the period of maintenance" shall for the purpose of this Clause be deemed to mean the expiry of the latest of such periods.

46.4 Records to be produced by the Contractor for the inspection of Engineer

For the Contract of value more than one crore of rupees, the Contractor shall, whenever required, produce or cause to be produced for examination by the Engineer any quotation, invoice, cost or other account, book of account, voucher, receipt letter memorandum, paper or writing or any copy or extract from any such document and also furnish information and returns verified in such manner as may be required in any wise relating to the execution of the Contract or relevant for verifying or ascertaining the cost of execution of this Contract (the decision of the Engineer on the question of relevancy of any document information or return being final and binding on the parties). The Contractor shall similarly produce vouchers etc. if required to prove to the Engineer, that materials supplied by him are in accordance with the Specifications laid down in the Contract.

46.5 If any portion of the work in Contract of value more than one crore of rupees he carried out by a Sub-Contractor or any subsidiary or allied firm or company (as per Clause 7 of the General Conditions of Contract), the Engineer shall have power to secure the books of such Sub-Contractor or any subsidiary or allied firm or company, through the Contractor and such books shall be open to his inspection.

46.6 The obligations imposed by such Clause 51.4.1 and 51.4.2 above is without prejudice to the obligations of the contractor under any state, rules or orders binding on the Contractor.

47.0 WITH-HOLDING AND LIEN IN RESPECT OF SUMS CLAIMED

47.1 Whenever any claim or claims for payment of a sum of money arises out of or under the Contract against the Contractor RDSO shall be entitled to withhold and also have a lien to retain such sum or sums in whole or in part from the security if any deposited by RDSO shall be entitled to withhold the said cash security deposit or the security, if any, furnished as the case may be and also have a lien over the same pending finalization or adjudication of any such claim. In the event of the security being insufficient to cover the claimed amount or amounts if no security has been taken from the Contractor RDSO shall be entitled to withhold and above lien to retain to the extent of such claimed amount or amounts referred to supra from any sum or sums found payable or which at any time thereafter may become payable or which at any time thereafter may become payable to the Contractor under the same Contract or any other Contract with this or any other

Railway or any other department of the Central Government pending finalization or adjudication of any such claim.

It is an agreed term of the Contract that the sums of money or moneys so withheld or retained under the lien referred to above by RDSO will be kept withheld or retained as such, by RDSO till the claim arising out of or under the Contract is determined by the Arbitration clause) or by the competent court as the case may be and that the Contractor (if the Contractor will have no claim for interest or damages whatsoever on any account in respect of such withholding or retention under the lien referred to supra and duly notified as such to the Contractor) For the purpose of this clause where the Contractor is a partnership firm or a limited Company RDSO shall be entitled to withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum found payable to any partner limited Company, as the case whether in his individual capacity or otherwise.

47.2 Lien in respect of claims in other contracts

Any sum of money due and payable to the Contractor (including the Security Deposit returnable to him) under the Contract may be withheld or retained by way of lien by RDSO against any claim of this or any other Railway or any other Department of the Central Government in respect of payment of a sum of money arising out of or under any other Contract made by the Contractor with this or any other Railway or any other Department of the Central Government.

- 47.3 It is an agreed term of the Contract that the sum of money so withheld or retained under this Clause by the Railway will be kept withheld or retained as such by RDSO till the claim arising out of or under any other Contract is governed by Arbitration clause or by the competent court as the case may be and that the Contractor shall have no claim for interest or damages whatsoever on this account or on any other ground in respect of any sum of money withheld or retained under this clause and duly notified as to the Contractor.

48.0 SIGNATURE ON RECEIPTS FOR AMOUNTS

Every receipt for moneys which may become payable or for any security which may become transferable to the Contractor under these presents shall be signed in the partnership name by any one of the partners of a Contractor firm be a good and sufficient discharge to RDSO in respect of the moneys or security purported to be acknowledged thereby and in the event of death of any of the Contractor partners during the pendency of the Contract it is hereby expressly agreed that every receipt by any one of the serving Contractor partners shall if so signed as aforesaid, be a good and sufficient discharge as aforesaid, provided that nothing in this clause contained shall be deemed to prejudice or effect any claim which RDSO may hereafter have against the legal representatives of any Contractor partner so

dying for or in respect of any breach of any of the conditions of the Contract provided also that nothing in this clause contained shall be deemed to prejudice or effect the respective rights or obligations of the Contractor partners and of the legal representatives of any ceased Contractor partners interest.

LABOUR

49.0 WAGES TO LABOUR

- 49.1 The Contractor shall be responsible to ensure compliance with the provisions of the Minimum Wages Act 1948 (hereinafter referred to as the "said act") and the rules made there under in respect of any employees directly or through petty contractors of sub-contractors employees by him or road construction in building operations or in stone crushing for the purpose of carrying out this Contract.
- 49.2 If in compliance with the terms of the Contract, the Contractor directly or through petty Contractors or Sub-Contractors supplies any labour to be used wholly or partly under the direct orders and control or RDSO whether in connection with any work being executed by the Contractor or otherwise for the purpose of RDSO such labour shall for the purpose of this Clause still be deemed to be persons employed by the Contractor. If any money shall, as a result of any claim or application made under the said Act be directed to be paid by RDSO, such moneys shall be deemed to be moneys payable to RDSO by the Contractor and on failure by the Contractor to repay RDSO any moneys paid by it as aforesaid within seven days after the same shall have been demanded, RDSO shall be entitled to recover the same from any money due to accruing to the Contractor under this or any other Contract with RDSO.

50.0 PROVISIONS OF PAYMENTS OF WAGES ACT

The Contractor shall comply with the provisions of the payment of Wages Act, 1936 and the rules made there under in respect of all employees directly or through petty Contractors or through petty Contractors or Sub-contractors employed by him in the works. If in compliance with the terms of the contract the Contractor directly or through petty Contractors of Sub-contractors shall supply any labour to be used wholly or partly under direct order and control of the Engineer whether in connection with the works to be executed hereunder or otherwise for the purpose of the Engineer such labour shall nevertheless, be deemed to compromise persons employed by the Contractor and any moneys which may be ordered to be paid by the Engineer shall be deemed to be moneys payable by the Engineer on behalf of the Contractor and the Engineer may on failure of the Contractor to repay such moneys to RDSO to deduct the same from any moneys due to the Contractor in terms of the Contract. RDSO shall be entitled to deduct from any moneys due to the Contractor

(whether under this Contract or any other Contract) all moneys paid or payable by RDSO by way of compensation of aforesaid or for costs of expenses in connection with any claim thereto and the decision of the Engineer upon any question arising out of the effect or force on this clause shall be final and binding upon the Contractor

50.0 (a) PROVISIONS OF CONTRACT LABOUR REGULATION AND ABOLITION ACT 1970.

- (i) The Contractor shall comply with the provisions of the Contract Labour (Regulation and Abolition) Act 1970 and the Contract Labour (Regulation and Abolition) Central Rules 1971 as modified from time to time, whenever apply cable and shall also indemnify the Railways from and against any claim under the aforesaid Act and the Rules.
- (ii) The Contractor shall obtain a valid license under the aforesaid Act modified from time to time before the commencement of the work and continue to have a valid license until the completion of the work. Any failure to fulfill this requirement shall attract the penal provisions of the Contract arising out of the resultant non-execution of the work.
- (iii) The Contractor shall pay to labour employed by him directly or through Sub-contractors the wages as per provisions of the aforesaid Act and the Rule wherever applicable. The Contractor shall notwithstanding the provisions of the Contract to the contrary, cause to be paid the wages to labour indirectly engaged on the work including any engaged by Sub-contractors in connection with the said work as if the labour had been immediately employed by him.
- (iv) In every case in which, virtue to the provisions of the aforesaid Act or the Rules, RDSO is obliged to pay any amount of wages to a workman employed by the Contractor or Sub-contractor in execution of the work or to incur any expenditure in providing welfare and health amenities required to be provided under the aforesaid Act and the Rules or to incur any expenditure on account of the contingent liability of RDSO due to the Contractor failure to fulfill his statutory obligations under the aforesaid Act or the Rules RDSO will recover from the Contractor the amount of wages so paid or the amount of expenditure so incurred and without prejudice to the rights of RDSO under Section 20 Sub-section (2) and Section 21 Sub-section (4) of the aforesaid Act RDSO shall be at liberty to recover such amount or part thereof by deducting from the security deposit and or from any sum due by RDSO to the Contractor whether under the Contract or otherwise. RDSO shall not be bound to contest any claim made against it under Sub-section (1) of Section 20 and Sub-section request of the Contractor and upon his giving to RDSO full security for all costs for which RDSO might become liable in contesting such claim. The decision of the Railway regarding the amount actually recoverable from the Contractor as stated above shall be final and binding on the Contractor.

- (v) In respect of all labour directly or indirectly employed in the work for performance of the Contractor's part of the Contract the Contractor shall comply with or caused to be complied with the provision of the aforesaid Act and the Rules wherever applicable.

51.0 REPORTING OF ACCIDENTS TO LABOUR

- 51.1 The Contractor shall be responsible for the safety of all employees directly or through partly Contractors or Sub-contractors employed by him on the works to the Engineer or the Engineer's Representative and shall make every arrangement to render all possible assistance.

52.0 PROVISIONS OF WORKMEN'S COMPENSATION ACT

In every case in which by virtue of the provisions of Section 12 Sub-section (1) of the Workmen Compensation Act, 1923, RDSO is obliged to pay compensation to a workman directly or through petty Contractors or Sub-Contractors employed by the Contractor in executing the work. RDSO will recover from the Contractor the amount of the compensation so paid, and without prejudice to the right of RDSO under Section 12, Sub-section (2) of the said Act RDSO shall be at liberty to recover such amount or any part thereof by deducting from the Security Deposit or from any sum due by RDSO to the Contractor whether under these conditions or otherwise RDSO shall not be bound to contest any claim made against under Section 12 Sub-section (1) of the said Act except on the written request of the Contractor and upon his giving to RDSO full security for all costs for which RDSO might become liable in consequence of connecting such claim.

52.0 (a) Provision of Mines Act

The Contractor shall observe and perform all the provisions of the Mines Act 1952 or any statutory modifications of re-enactment thereof for the time being in force and any rules and regulation made there under in respect of all the persons directly or through petty Contractor or Sub-contractor employed by him under his Contract and shall indemnify RDSO from and against any claim under the Mines Act or the Rules and Regulation framed there under by or on behalf of any persons employed by him or otherwise.

53.0 RDSO DO NOT PROVIDE QUARTER FOR CONTRACTOR

- 53.1 No quarter shall normally be provided by RDSO for the accommodation of the Contractor or any of his staff employed on the work. In exceptional cases where accommodation is provided to the Contractor at RDSO discretion recoveries shall be made at such rates as may be fixed by RDSO for the full rent of the building, equipment therein as well as charges for electronic rent, water supply and conservancy.

54.0 **LABOUR CAMPS**

The Contractor at his own expense make adequate arrangement for the housing, supply of drinking water and provision of latrines, and urinals for his staff and workmen directly or through petty contractor or sub-contractors employed on the works and for temporary crèche (Bal Mandir) where 50 or more women are employed at a time. Suitable sites on Railway land if available may be allotted to the contractor for the erection of labour camps, either free of charge or on such terms and conditions that may prescribed by RDSO. All camp sites shall be maintained in clean and sanitary condition by the Contractor at his own cost.

54.1 **Compliance to Rules for employment**

The Contractor shall conform to all laws, by laws, rules and regulations for the time being in force pertaining to the employment of local or in parted labour and shall take all necessary precautions to ensure and preserve the health and safety of all staff employed directly or through petty contractor or through sub-contractor on the work.

54.2 **Preservation of peace**

The Contractor shall take requisite precautions and use his best endeavours to prevent any riots or unlawful behaviour by or amongst his workmen and others employed directly or through petty contractors or sub-contractors on the works and for the preservation of peace and protection of the inhabitants and security of property in the neighbourhood of the works. In the event of RDSO requiring the maintenance of the special police force at or in the vicinity of the site during the tenure of work, the expenses thereof shall be borne by the Contractor and if paid by RDSO shall be recoverable from the Contractor.

54.3 **Sanitary Arrangements**

The Contractor shall obey all sanitary rules and carry out all sanitary measure that may from time to time be prescribed by RDSO Medical Authority and permit inspection of all sanitary arrangements at all times by the Engineer, the Engineer's Representative or Medical staff of RDSO, should the Contractor make the adequate sanitary arrangements these will be provided by RDSO and the cost thereof recovered from Contractor.

54.4 **Outbreak of Infections Disease**

The Contractor shall remove from his camp such labour and their families as refuse protective inoculation and vaccination when called upon to do so by the Engineer the Engineer's Representative on the advice of RDSO Medical authority. If Cholera, Plague or other infection disease break out, the Contractor shall promptly erect new huts on healthy sites as required by the Engineer, failing which within the time specified in the Engineer's requisition, the work may be done by RDSO and cost therefore, recovered from the Contractor.

54.5 Treatment of Contractor's staff in Railway Hospital

The Contractor and his staff, other than laborers and their families requiring medical and from RDSO Hospitals and dispensaries will be treated as private patients had charged accordingly the Contractor's laborers directly or through petty contractors or sub-contractor employed on the work and their families will be granted free treatment in RDSO Hospitals and dispensaries where no other hospitals or dispensaries are available provided the Contractor pays the cost of medicines, dressings and diet money according to the normal scale and additional charges for special examinations such as, pathological and bacteriological examinations, x-rays etc. and for operations.

54.6 Medical facilities at site

The Contractor shall provide Medical facilities at the site as may be prescribed by the Engineer on the advice of RDSO Medical Authority in relation to the strength of the Contractor's resident stall and workmen directly or through petty contractor or sub-contractors employed on the work.

54.7 Use of intoxicants

The sale of ardent spirits of other intoxicating beverages upon the work or in any of the buildings encampments or treatments owned, occupied by or within the control of the Contractor or any other employees directly or through petty Contractors or sub-contractors employed on work shall be forbidden and the Contractor shall exercise his influence and authority to the almost extent to secure strict compliance with this condition.

54.8 Non-employment of female labour

The Contractor shall see that the employment of female labour directly or through petty Contractors or sub-contractors employed on the work in Cantonment areas particularly in the neighbourhood of soldiers barracks should be avoided as far as possible.

55.0 NON-EMPLOYMENT OF LABOURER BELOW THE AGE OF 15 :

The Contractor shall not employ children below the age of 15 years as labourers directly or through petty Contractors or sub- contractors for the execution of the work.

55.1 Medical Certificate of fitness for labour :

The Contractor shall not employ a person above 15 years and below 19 years of age for the purpose of executive work under this Contract unless a Medical Certificate of fitness in the prescribed form granted to him by a certifying surgeon certifying that he is fit to work as an adult is obtained and kept in the custody of the Contractor or person nominated by him in this behalf and the person carrying with him, while at work, a token giving a reference to such certificate. It is further agreed that the responsibility for having the adolescent examined medically at the time of appointment or periodically till he attains the age of 19 years shall devolve entirely on the Contractor and all the expenses to be incurred on this account shall be borne by

him and no fee shall be charged from the adolescent or his parent for such medical examination.

55.2 Period of validity of Medical fitness certificate :

A Certificate of fitness granted or renewed for the above said purposes shall be valid only for a period of one year at a time the certifying surgeon shall revoke a certificate granted or renewed if in his opinion the holder of it is no longer fit for work in the capacity stated therein. Where a certifying Surgeon refuses to grant or renew a certificate or revoke a certificate, he shall, if so required by the person concerned state his reasons in writing for doing so.

55.3 Medical Re-examination of labour :

Where any official appointed in this behalf by the Ministry of Labour is of the opinion that any person employed in connection with the execution of any work under this contract in the age group of 15-19 years is without a certificate of fitness or is having a certificate, he may serve on the Contractor, or on the person nominated by him in this regard, a notice requiring that such person shall be examined by a certifying surgeon and such person shall not if the concerned officer so directs be employed or permitted to do any work under this Contract unless he has been medically examined and certified that he has been granted a certificate of fitness or a fresh certificate of fitness as the case may be.

Explanations:

- (1) Only qualified Medical Practitioners can be appointed as "Certifying Surgeon" and the term "Qualified Medical Practitioners" means a person holding a qualification granted by the Authority specified in the Schedule to the Indian Medical Degrees Act 1916 (VII of 1916) or in the Schedules to the Indian Medical Council Act 1933 (XXVII of 1933).
- (2) The certifying Surgeon may be a Medical Officer in the service of state or Municipal Corporation. **(Board's letter No.79 W/CT 21 dated 2-5-1980.)**

56.0 (a) RESCINDING OF CONTRACT-RISK AND COST:

Determination of contract owing to default of contractor:

- 56.1.1 If the Contractor should.....
- 56.1.2 Become bankrupt or insolvent or
- 56.1.3 Make an arrangement with or assignment on favour of his creditors, or agree to carry out the contract under a Committee of inspection of his creditors or ;
- 56.1.4 Being a Company or Corporation, go into liquidation (other than a voluntary liquidation for the purpose of amalgamation or reconstruction) or
- 56.1.5 Have an execution levied on his goods or property on the work or

- 56.1.6 Assign the Contract or any part thereof otherwise than as provided in Clause 7 of these conditions or
- 56.1.7 Abandon that contract or
- 56.1.8 Persistently disregard the instructions of the Engineer or contractor any provision of the Contract or
- 56.1.9 Fail to adhere to the agreed program of work by a margin of 10% or the stipulated period or
- 56.1.10 Fail to remove materials from the site or to pull down and replace work after receiving from the Engineer notice to the effect that the said materials or works have been condemned or rejected under Clause 25 & 27 of these conditions or
- 56.1.11 Fail to take steps to employ competent or additional staff and labour as required under Clause 26 of these conditions or
- 56.1.12 Fail to afford the Engineer or Engineer's representative proper facilities for inspecting the works or any part thereof as required under Clause 28 of these conditions or
- 56.1.13 Promise, offer of give any bribe, commission, gift or advantage either himself or through his partner, agent or servant or any officer or employee of the RDSO or to any person on his or on their behalf in relation to the execution of this or any other contract with the RDSO.
- 56.1.14 **(A)** At any time after the tender relating to the contract has been signed and submitted by the Contractor, being a partnership firm it or being an incorporated company elect or nominate or allow to act as one of its directors or employee under it in any capacity whatsoever any retired engineer of the Gazetted rank of his retirement, whether in executive or administrative capacity or whether holding any pension-able post or not, in the Engineering Department of any of the RDSO for the time being owned and administered by the President from the said service of such Engineer or Officer has obtained permission from the President of India or any Officer duly authorised by him in this behalf to become a partner or a Director or to take employment under the Contractor, as the case may be or
 - (B) Fail to give at the time of submitting the said Tender
 - (a) The correct information to the date of retirement of such retired Engineer or retired Officer from the said service, or as to whether any such retired Engineer or retired Officer was under the employment of the Contractor at the time of submitting the said tender, or

- (b) The correct information as to such officers or officers obtaining permission to take employment under the contractor or
- (c) Being a partnership firm, correct information as to whether any of its partners was such a retired Engineer or a retired Officer or
- (d) Being an incorporated company, correct information as to whether any of its Directors was such a retired Engineer or a retired Officer, or
- (e) Being such a retired Engineer or retired Officer suppress and not disclosed at the time of submitting the said tender the fact of his being such a retired Engineer or a retired Officer or make at the time of submitting the said tender a wrong statement in relation to his obtaining permission to take the Contract or if the Contractor be a partnership firm or as incorporated company to be a partner of Director or such firm or company as the case may be or to seek employment under the Contractor and after expiry of 48 hours notice, a final termination notice should be issued.

56.2 Then and in any of the said clause, the Engineer on behalf of RDSO may serve the Contractor with a notice in writing to that effect and if the Contractor does not within seven days after the delivery to him of such notice proceed to make good his defaults in so far as the same is capable of being made good and carry on the work or comply with such directions as aforesaid to the entire satisfaction of the Engineer, RDSO shall be entitled after giving 48 hours notice in writing under the hand of the Engineer to rescind the Contract as a whole or in part or parts (as may be specified in such notice)

56.2.1 Right of RDSO after rescission of Contract owing to default of Contractor- in the event of any or several of the courses, referred to in Sub-clause (1) of this Clause being adopted.

- (a) The Contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any commitment or made any advance on account of or with a view to the execution of the works or the performance of the Contract and Contractor shall not be entitled to recover or be paid any sum for any work thereto for actually performed under the Contract, unless and until the Engineer shall have certified the performance of such work and the value payable in respect thereof and the Contractor shall only be entitled to be paid the value so certified.
- (b) The Engineer or the Engineer's representative shall be entitled to take possession of any materials, tools, implements, machinery and buildings on the works or on the property on which these are being brought to have been executed and to retain and employ the same in

the further execution of works or any part thereof until the completion of the works without the contractor being entitled to any compensation for the use of employment thereof or for wear and tear or destruction thereof.

- (c) The Engineer shall as soon as may be practicable after removal of the Contractor fix and determine ex-parte or by or after reference to the parties or after such investigation or enquiries as he may consider fit to make or institute and shall certify what amount (if any) had at the time of rescission of the contract been reasonably earned by or would be reasonably accrue to the contractor in respect of the work than actually done by him under the contract and what was the value of any a temporary works upon the site. The legitimate amount due to the contractor after making necessary deductions and certified by the Engineer should be released expeditiously.

57.0 MATTERS FINALLY DETERMINED BY RDSO

All disputes and differences of any kind whatsoever arising out of or in connection with the Contract, whether during progress of the work or after its completion and whether before or after the determination of the Contract shall be referred by the Contractor to the RDSO and RDSO shall within a reasonable time after receipt of the contractor's representation make and notify decision on all matters referred to by the Contractor in writing provided the matters for which provision has been made in Clauses 18.0, 22.5, 39.0, 45.1, 55.0, 55A. (5), 61.2, 8.1.12, and 62.1.12(B)(e)(b) of the General Conditions of the Contract or in any clause of the Special Conditions of the Contract shall be deemed as extended matters and decisions thereon shall be final and binding on the Contractors provided further that excepted matters shall stand specifically excluded from the purview of the arbitration clause and not be referred to Arbitration.

58.0 DEMAND FOR ARBITRATION

58.1 Scope of Arbitration

- 58.1.1 In the event of any dispute or differences between the parties hereto as to the construction or operation of this Contract or the respective rights and liabilities of the Parties on any matter, in question, dispute or difference on any account, or as to the withholding by RDSO of any certificate to which the Contractor may claim to be entitled to, or if RDSO files to make a decision within a reasonable time, then and in any such case, save the "excepted matters" referred to in Clause 64 of these conditions, the Contractor after 90days but within180 days of his presenting his final claim on disputed matters shall demand in writing that the dispute or difference be referred to Arbitration.
- 58.1.2 The demand for Arbitration shall specify the matter which are, in question, dispute or difference, only such dispute(s) or difference(s)

in respect of which the demand has been made shall be referred to Arbitration and other matters shall not be included in the reference.

- 58.1.3 If the Contractor(s) do/does not prefer his/their specified and final claims in writing within a period of 90 days of receiving the intimation from the Government that the final bill is ready for payment, he/they will be deemed to have waived his/their claim(s) and RDSO shall be discharged and released of off liabilities under the Contract in respect of these claims.

58.2 Obligation during pendency of Arbitration

- 58.2.1 Work under the Contract shall, unless otherwise directed by the Engineer, continue during the Arbitration proceedings, and no payment due or payable by RDSO shall be withheld on account of such proceedings, provided however, it shall be open for Arbitration to consider and decided whether or not such work shall continue during arbitration proceedings.

58.3 Arbitration

- 58.3.1 A sole Arbitrator who shall be the Director or a RDSO Gazetted Officer nominated by him in that behalf in cases where the claim, in question, is below Rs.5,00,000 (Rupees five Lac only) and where in cases the issues involved are not of a complicated nature. The General Manager shall be the sole Judge of decision whether or not the issues involved are of a complicated nature.
- 58.3.2 Two Arbitrators who shall be Gazetted Railway Officers of equal status to be appointed in the manner laid in Clause 65(3) (b) for all claims of Rs.5,00,000/- (Rupees five Lac) and above and for all claims irrespective of the amount or value of such claims if the issues involved are of complicated nature. The General Manager shall be the sole Judge to decide whether the issues involved are of a complicated nature or not. In the event of the two Arbitrators being divided in their opinions the matter under disputes will be referred to an Umpire to be appointed in the manner laid down in Clause 3(b) for his decision.
- 58.3.2.1 It is a term of this Contract that no person other than RDSO Gazetted Officer should act as an Arbitrator, Umpire and if for any reason that is not possible, the matter is not to be referred to arbitration at all.
- 58.3.2.2 In case, where the claim is up to Rs.3, 00,000/- (Rupees three lakhs only) the Arbitrator(s)/Umpire so appointed, as the case may be, shall give the award on all matters referred to arbitration indicating therein breakup of the sums awarded separately on each individual item of dispute. In case, where the claim is more than Rs.3, 00,000/- (Rupees three lac only) the Arbitrator(s)/Umpire so appointed, as the case may be, shall give intelligible award (i.e. the reasoning leading to

the award should be stated) with the sums awarded separately on each individual item of dispute referred to Arbitration.

- 58.3.2.3 For the purpose of appointing "two arbitrators" as referred to in sub-clause (a) (ii) above the Railway will send a panel of more than three names of Gazetted Railway Officers of one or more departments of the Railway to the Contractor who will be asked to suggest to the General Manager one name out of list for appointment as the Contractor's nominee will also appoint a second arbitrator as RDSO's nominee either from the panel or from outside the panel, ensuring that one of the two Arbitrators so nominated is invariably from the Accounts Department. Before entering upon the reference the two Arbitrators shall nominate an umpire who shall be a Gazetted Railway Officer to whom the case will be referred to in the event of any difference between the two Arbitrators. Officers of Junior Administrative grade of the Accounts Department of the Railways shall be considered as of equal status to the officers in the intermediate administrative grade of other departments of the Railways for the purpose of appointment as Arbitrator.
- 58.3.3 If the sole arbitrator appointed under Sub-Clause (65.3.1.1 or one or both the arbitrators appointed under Sub-Clause 65.3.2 above regions his appointment/region their appointments or vacate his office/vacate their offices or is/are unable or unwilling to act in his/their place in accordance with the provision of Sub-Clause 65.3.1.1 or Sub-clause 65.3.2 above as the case may be. For any reason whatsoever a new arbitrator/arbitrators to act. Such Arbitrator/Arbitrators, as the case may be, shall be entitled to proceed with the reference from the stage at which the previous Arbitrator/Arbitrators left it.
- 58.3.4 The Arbitrator or Arbitrators or the Umpire shall have power to call for such evidence by way of affidavits or otherwise as the Arbitrator or Arbitrators or umpire shall think proper and it shall be the duty of the parties hereto do or cause to be done all such things as may be necessary to enable the Arbitrator or Arbitrators or Umpire to make the award without any delay.
- 58.3.5 It will be no objection that the person/persons appointed as Arbitrator/Arbitrators or Umpire is/are Railway Servant(s) he/they shall not be one those who had an opportunity to deal with the matters to which the Contract related or who in the course of his/their duties as Railway Servant(s) has/have expressed views on all or any of the matters under dispute or difference. The award of the Arbitrator or Arbitrators or Umpire as the case may be shall be final and binding on the parties to the Contract.
- 58.3.6 Subject as aforesaid, Arbitration Act 1996 and the Rules there under and any statutory modification thereof shall apply to the Arbitration proceedings under this Clause.

SECTION – III

PRICES

AND

PAYMENTS

SECTION –III
PRICES AND PAYMENTS

1.0 PAYMENTS:

Payments shall be arranged to contractor after completion of satisfactory and in time work and certification from the nominated RDSO Engineer or his authorised representative.

The terms and conditions of payment for the various items of work to be executed under this contract shall be as follows:-

2.0 SALES TAX:

2.1 No sales tax will be paid separately by the RDSO on raw/finished materials, components, etc to be used by the contractor for execution of this contract. Being a comprehensive annual maintenance service contract, this work shall not attract sales tax under extent law. RDSO will not also be responsible for any payment of sales tax paid by the contractor under misapprehension of law. The prices shall be inclusive of the sales tax for signing of the contract extending sales tax liability even to works contract.

2.2 The rates given in the schedule of rates shall include all taxes, cost of all labour, materials including tools and plants required for proper execution of the work by the contractor. Rates quoted by the contractor shall not be paid extra on account of damage to the works caused by rains or other natural phenomenon during the execution of the works.

3.0 EXCISE DUTY:

3.1 No payment shall be made by RDSO to the contractor separately as reimbursement of Excise Duty, if any, on components and raw materials used in the execution of the work forming parts of this contract. Should any Excise Duty be liveable on the finished product(s) supplied, the same shall be borne by the contractor.

4.0 CUSTOM DUTY:

4.1 If the contractor requires to import some parts required for the comprehensive maintenance payments towards custom duty, wharf age, demurrage etc. and the botheration of getting the item released from the Airport shall lie with the sole responsibility of contractor. Release of foreign exchange if any will also have to be managed by the contractor and RDSO will not be involved in these activities at all.

5.0 SERVICE TAX

5.1 Service Tax shall be indicated by tenderer in the work schedule clearly.

6.0 FIRM PRICES:

6.1 Tenderer shall quote rates for the total bill of quantity both in figures and words and not for one item. No. extra claim shall be claimed due to fluctuation of market rates for completion of the work.

6.2 The rate quoted in the attached schedule of rates and quantities are for complete and finished works and will include all works necessary and incidental thereof.

7.0 PAYMENTS:

7.1 Payments for comprehensive works shall be arranged after completion and certification from the nominated RDSO engineer or his authorised representative for attending of works by the contractor's engineer in time and satisfactory functioning of the equipment.

7.2 Unless otherwise specified, payment to the contractor will be made by cheque/ECS only.

8.0 OVER PAYMENT TO CONTRACTOR:

8.1 No "On Account" payment by the Railway shall protect the contractor against or prevent Railway from recovering from the contractor any over payment made to him.

Contractor's Signature (Seal)

SECTION-IV

TECHNICAL
CONDITIONS
OF THE
CONTRACT

SECTION -IV
TECHNICAL CONDITIONS OF THE CONTRACT

1.0 SCOPE OF WORK:

**REFURBISHMENT, REHABILITATION, OVERHAULING &
UPGRADATION OF VIBRATION SHAKER MACHINE INSTALLED
AT ELECTRICAL DEV. LAB.AS PER RDSO SPECIFICATION
CAPACITY: 1400KGF**

The details of the work to be carried out are as under:-

01. Replacement of Digital Vibration Controller with latest USB version technology and compatible software for Sine, Random, Resonance Search & Dwell operations as per enclosed specifications.
02. Replacement of Power Amplifier with new Class 'D' switch mode Amplifier of 20 KVA(Min.)capacity or above and Microprocessor Based Control Unit as per enclosed specifications.
03. Overhauling and Refurbishment/Up-gradation of Vibration Shaker to restore its capacity to original value of 1400Kgf.
04. Up-gradation of Slip Table with new and latest type of oil circulation system.
05. Overhauling and Refurbishment of all other parts of system.
06. Installation, Re-commissioning and proving the capacity of the up-graded system at TI Lab., RDSO, Lucknow.
07. Replacement of existing Vertical Load support with new VLS as per specification.
Size-700x700 mm
Material- Mg Alloy
08. Replacement of existing table Top of Slip Table with new table Top as per Specification.
Size_999x999 mm
Material- Mg Alloy

TECHNICAL DETAILS

1. POWER AMPLIFIER:-

The function of power amplifier is to amplify the output signal of vibration controller/generator, sufficiently to drive the exciter to the desired vibration level. D.C. supply to energize magnetic field of electro-dynamics vibrator is built in the power amplifier. Power amplifier is having direct-coupled circuit design for D.C. centering of moving platform to use full stroke length of exciter at low frequency for heavy pay loads.

2. DIGITAL CONTROL UNIT :-

(Microprocessor Based)

This is a microprocessor Based Control Unit. It generates control signal, which is to be fed to the power amplifier for further amplification. It has a built in sinusoidal waveform generator. It is a programmable unit for seven overlapping frequency ranges and has provision for manual mode or auto mode control through external Digital Vibration Controller.

It has various protection facilities with the use of advanced microprocessor based techniques. It has features for fine frequency control through potentiometer knob, set current limit of output current of power amplifier.

3. DIGITAL VIBRATION CONTROLLER WITH PROGRAMMABLE 4-CHANNELS SIGNALS CONDITIONING UNIT:-

The digital vibration controller offers sinusoidal sweep test, shock test and random vibration test stipulated by MIL, JS5555 and other test standards with four channel input.

The vibration controller unit is advanced DSP processor controlled through USB port and can be operated with any standard PC core-2 duo with Windows XP operating system/ compatible to the processor.

It is operated through the host PC with Vibration Control software's installed in the host PC.

For the fast response to compute control signals and to have a perfect dynamic control, the controller uses a dedicated Digital Signal Processor.

HARDWARE:-

Hardware	:	USB 2.0 Version
Input/Output	:	4 inputs and Single output
Input Voltage	:	+ 10V (Peak to Peak)
Resolution	:	16/24 bit ADC
Input Sensitivity	:	Programmable for 1 mV/g To 100 mV/g
Sampling Rate	:	96 ks/s
S/N/ratio	:	100 dB
Channel Cross Talk	:	Less than 90 dB

Signal Conditioner specification

Type	:	Programmable
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No. of input channels	:	Two
Type of inputs	:	pC/g,mV/g, ICP, and Normalized
Input	:	From Accelerometer
Output	:	Digital Vibration Controller
Input range	:	a) 1-100pC/g programmable b) 1-100mV/g programmable c) 10 mV/g normalized
acceleration		
Frequency Response to acceleration.	:	AC signal output corresponding
Servo output	:	a) 12V P-P in Sine control b) 20V P-P output in random control
Frequency Response	:	5 Hz to 10 Khz (3db)
Filters	:	Built-in tracking filters

PERSONAL COMPUTER PC (COMPATIBLE WITH DIGITAL VIBRATION CONTROLLER)

Processor	:	Intel Core 2 Duo with standard Ports for USB serial and Ethernet Communication.
Make	:	Compaq/HCL/Dell/Lenovo/HP/ Other Equivalent
RAM	:	2 GB
Hard Disk	:	250 GB
ROM Drive	:	DVD Writer
Monitor	:	17" TFT
Keyboard	:	Multimedia
Mouse	:	Optical mouse
Operating System	:	Windows XP/any other Compitable

Printer	:	HP/Samsung or any other, colour Laser Printer
UPS	:	1 kVA
Power source	:	230 V \pm 10%, 50 Hz AC

4. SOFTWARE SUPPORTS

Advance adoptive control algorithm is being used in the software for fast optimizing of drive signal to the shaker system. Test parameters and the desired test profile can be programmed through this software package as per our requirement. Continuous open loop checking will be there during the test to guard against control loop failure, aborting the system.

Operating System	:	WINDOWS XP/any other compitable
Software Modules	:	SINE VIBRATION CONTROL SOFTWARE RANDOM VIBRATION CONTROL SOFTWARE

RESONANCESEARCH/DWELL CONTROL SOFTWARE

Data Presentation	:	Tabular displays Graphical Displays Trends curve
Data Dumping	:	Provided, at any instant of time
Report Generation	:	Text report generation Graphical report generation
Test Data Format	:	ASCII format

4.1 SINE VIBRATION CONTROL SOFTWARE SPECIFICATIONS:-

FrequencyRange	:	5 Hz to 5000 Hz with anti alising Filters on all four channels.
Frequency Accuracy	:	Within 1%
Sweep Mode	:	Logarithmic or linear with start, Stop & reverse at any Frequency

Sweep Waveform	:	Triangular, Saw tooth forward and backward
Sweep Rate	:	Linear- 1 to 10000 Hz/min Log- 01 to 25.00 oct/min
No. of Sweeps	:	1 to 9999 or continuous
Compression	:	0 to 96 dB
Compressor Rate	:	1 to 3 dB/sec/Hz
Compressor Limit	:	2 to 200 db/sec
Control Function	:	Acceleration, Velocity or Amplitude (Displacement)
Control Channel Setting	:	1 channel out of 4 channels or Average/maximum of selected Channels.
Overall Control Accuracy	:	within 5%
Safety Features	:	a) Facility is provided to abort The System when the Compressor limit reaches zero b) Facility is provided to abort the system if control signal deviates beyond or below define abort limits.
Alarm Level	:	$\pm 5\%$ to $\pm 50\%$
Abort Level	:	Alarm Limit to $\pm 50\%$
DVA Meter Mode	:	To monitor acceleration, Velocity & displacement parameters of all four Channels with frequency data.
Discrete Step Control Mode	:	To test the object at fixed frequency and fixed vibration level.
Display	:	Graphic display of Acceleration, Velocity, Displacement Curves With respect to frequency for all the four channels, Drive Spectrum, Control Spectrum Programmed Profiles,

Alarm/Abort lines display with colour option.

Print out facility : Provided to get hard copy of test results.

Storing facility : Provided for user parameter which can be saved & loaded from pen Drive or from hard disk.

Measuring Range & Resolution:

PARAMETERS	RANGE	RESOLUTION
Frequency	1-5000 Hz	0.01 Hz
Acceleration	0.1-200 `g`	0.01 `g`
Amplitude	0.1-40 mm	0.001 mm
Velocity	0-300 mm/sec	0.1mm/sec

Vibration levels : Multiple

4.2 RANDOM VIBRATION CONTROL SOFTWARE:-

In Random Vibration Control mode, the slave processor ADSP2105 generates broad band pseudo random or true random signal with flat acceleration power spectral density over a programmed frequency band having random sequence period greater than 20 years. The software converts PSD as per required program, calculated PSD of received signal from accelerometer and then generates ultimate random signal as servo output to drive the vibrator at desired vibration level. Control signal is thus random signal complying with the Gaussian Probability distribution function.

The test profile can be programmed either by data entry through key board for calling loaded files from floppy/hard disk. A maximum of 100 break-points can be programmed in one test profile either in terms of acceleration level or slopped acceleration. Test levels are also programmable in terms of percentage of maximum test level for specified time. Up to 8 different time schedule within (Time Model Programming) are provided. Smooth changeover from one level to another is built-in feature of the system in its random control mode. It also provides soft start and shut down in a programmable time period.

SOFTWARE SPECIFICATIONS:-

Frequency Range : 500, 1000, 2000, 3000 & 4000Hz.

Frequency Resolution : 100, 200, 300, 400 & 500 lines.

Crest Feature Control	:	1.8 to 8 in step of 0.1
No. of Control Channels	:	Four
Control Mode	:	Any one out of four channels or Average/max of all Independent Abort Limit for individual channel.
Overall Control Accuracy	:	Within ± 1 dB
Output Level	:	± 3 V
Output Signal	:	True random with gaussian Probability distribution with 90% confidence level.
Germs Alarm & Abort Limit	:	Provided in term of dB
PSDRange Programmable	:	0.000001 to 10g/HFrom
PSD Averaging (real time)	:	Linear, exponential, no average
No. of Break Points	:	32 (L upto 100)
Alarm Level (For every Frequency Segment)	:	0.5 to 6 dB ($\pm 5\%$ to $\pm 50\%$)
Time Scheduling	:	Provided for 8 test duration (Level Scheduling)
Test Duration	:	1 to 86,400 second
Loop Time	:	< 2 sec.(2000 Hz, 200 lines single channel mode)
Printout Facility	:	Provided to get hard copy of test results.
Graphic Display	:	Single PSD function, Alarm and /or abort level overlay second PSD function overlay with facility of drive spectrum and error spectrum etc.
Storing Facility	:	Provided for user parameter and test results which can be saved and loaded from Pen drive or hard disk.

4.3 **RESONANCE SEARCH/DWELL SOFTWARE :-**

The Resonance search/dwell software forms a vital part of vibration test system which facilitate vibration testing of an item under test around and at its resonance frequency.

The software scans the defined frequency band and searches frequency of the item under test in first phase or resonance search operation. In such phase, it scans a fixed frequency region and locates the actual resonance frequency of the item under test. Thus the software detects holds and conducts fatigue test at the resonant frequency in sinusoidal vibration test.

SOFTWARE SPECIFICATIONS:-

FrequencyRange	:	1 Hz to 5000 Hz with initializing filters on all four channels.
Frequency Accuracy	:	Within 1%
Sweep Mode	:	Logarithmic or linear with start, stop & reverse at any Frequency
Sweep Waveform	:	Triangular, Saw tooth forward And Backward
Sweep Rate	:	Linear- 1 to 10000 Hz/min Log- 01 to 25.00 oct/min
No. of Sweeps	:	1 to 9999 or continuous
Compression	:	0 to 96 dB
Compressor Rate	:	1 to 3 dB/sec/Hz
Compressor Limit	:	2 to 200 db/sec
Control Function	:	Acceleration, Velocity or Amplitude (Displacement)
Control Channel Setting	:	1 channel out of 4 channels or average/maximum of selected channels
Overall Control Accuracy	:	within 5%
Safety Features	:	a) Facility is provided to abort The system when the Compressor limit reaches Zero. b) Facility is provided to abort the system if control signal

deviates beyond or below defined abortlimits

- Alarm Level : $\pm 5\%$ to $\pm 50\%$
Abort Level : Alarm Limit to $\pm 50\%$
- DVA Meter Mode : To monitor acceleration, Velocity & displacement parameters of all four channels with frequency data.
- Discrete Step Control Mode : To test the object at fixed frequency and fixedvibration level.
- Display : Graphic display of Acceleration, Velocity, Displacement Curves With respect t frequency for all the fourchannels, Drive Spectrum, ControlSpectrum, Programmed Profiles,Alarm/ Abort lines, display with colour option.
- Print out facility : Provided to get hard copy of test results.
- Storing facility : Provided for user parameter which can be saved & loaded from Pen drive or from hard disk.

Measuring Range & Resolution :

PARAMETERS	RANGE	RESOLUTION
Frequency	1-5000 Hz	0.01 Hz
Acceleration	0.01-200 `g`	0.01 `g`
Amplitude	0.001-40 mm	0.001 mm
Velocity	0.1-300 mm/sec	0.1mm/sec

Vibration levels : Multiple

SECTION-V

SPECIAL
CONDITIONS

SECTION-V
SPECIAL CONDITIONS

1.0 SPECIAL CONDITIONS:

- 1.1 During warranty period apart from break down visitas and when required basis, minimum 04 visits for preventive maintenance on quarterly basis in a year must be provided.
- 1.2 Tenderer must have a proven track record of maintenance of such system (1400 kgf or above capacity) for a minimum period of 3 years. Documentary evidence to be submitted.
- 1.3 Tenderer should have supplied such system (1400 kgf or above capacity) to Central Govt./PSU/State Govt. with successful working of 5 years. Documentary evidence to be submitted.
- 1.4 The Warranty period shall start from the certified date of installation commissioning & certification and shall be valid for 24 calendar months.
- 1.5 Apart from the work mentioned above any part or equipment is required to be replaced then the same has to be carried out also under the scope of the work .Lay out of the cabling should be carried out by contractor. He will also provide any type of cable required for that purpose. Any civil work if required for installation of the system, then same has to be carried out by the contractor including the material.
- 1.6 Released material will be handed over to the contractor only after Completion of work.
- 1.7 The contractor shall arrange his own tools, spares, material, and testing Equipments and man power etc. during the course of execution of the work.
- 1.8 As the installation will be under warranty, RDSO is not supposed to touch the equipment even in case of break down except reporting the status of the equipment in brief. However, the contractor shall indicate the sequence of checks expected from the RDSO's officials required in case of break down status of the equipment in their offer.
- 1.9 The tenderer should supply two Nos. of Accelerometer of PCB USA make or its equivalent.
- 1.10 The Tendered should supply o4 Nos. of Accelerometer connector having five meter wire length each.
- 2.0 No Released part or equipment and part of it, should be re-used.

- 3.0 Released material will be handed over to the contractor only after completion of work.
- 4.0 Pump and Compressor should be replaced and overhauled.
- 5.0 Apart from the work mentioned above any part or equipment is required to be replaced then the same has to be carried out also under the scope of the work.
- 6.0 Lay out of the cabling should be carried out by contractor. He will also provide any type of cable required for that purpose.
- 7.0 Any civil work if required for installation of the system, then same has to be carried out by the contractor including the material.
- 2.0 Warranty** -24 months for the installation, commissioning and testing of equipment.
- Comprehensive warranty** During warranty all the components and machine etc. are to be provided by the contractor for maintenance of the equipment

Contractor's Signature (Seal)

SECTION – VI

SCHEDULE

OF

WORK

SECTION -VI
Research Designs & Standards Organisation
(Traction Installation Directorate)
Work Schedule

Name of work: - REFURBISHMENT, REHABILITATION, OVERHAULING & UPGRADATION OF VIBRATION SHAKERMACHINE INSTALLED AT ELECTRICAL DEV. LAB.AS PER RDSO SPECIFICATION CAPACITY: 1400 KGF

Estimated Cost of Work:-Rs. 2551350.00 Earnest Money: Rs. 51027.00

SN	Description of work	Quantity	Rates in Rs	Period	Cost in Rs.
1	REFURBISHMENT, REHABILITATION, OVERHAULING & UPGRADATION OF VIBRATION SHAKER MACHINE INSTALLED AT ELECTRICAL DEV. LAB.AS PER RDSO SPECIFICATION CAPACITY:1400 KGF	One job			

Total cost of the work including taxes (in figures)-----
(in words)-----

- Note: 1. Rates offered shall also be written in words
2. Rates offered shall also be including of all taxes, duties etc.

Signatures of tenderer with Stamp and date