

GOVERNMENT OF INDIA**WORKSHOP PROJECTS
INDIAN RAILWAY****TENDER DOCUMENT****(Not Transferable)**

1. TENDER Notice No.	WP/S&T/Tele/RWP/EPABX/2012
2. Name of the work:	Supply, installation, testing & commissioning of Digital / ISDN Telephone Exchange at Rail Wheel Plant, Bela, Dist. Saran (Chhapra), Bihar
3. Approx. cost of the work:	Rs. 39,60,944/-
4. Earnest Money	Rs. 79,220/-
5. Cost of Tender Document:	Rs. 3,000/-
6. Last Date of Receipt of Tender offer	22.11.2012 at 15.00 hrs.
7. Date of Opening of Tender	22.11.2012 at 15.30 hrs.

Issued to:**M/s.**

**Chief Administrative Officer
(Workshop Projects)
Chamber Bhawan, J. C. Road,
Patna - 800001**

Note:

- 1. Special attention is invited to Para-42.4 of Special Condition of Contract for revised payment terms.**
- 2. Rates for all items of Schedule (Annexure – Z) to be quoted on Page No. 98-102.**

Signature of Tenderer(s)


Dy. CSTE/WP, PATNA

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GOVERNMENT OF INDIA



**WORKSHOP PROJECTS
INDIAN RAILWAY**

SECTION - I

Tender Notice

Signature of Tenderer(s)


Dy. CSTE/WP, PATNA

TENDER NOTICE

Chief Administrative Officer (Workshop Projects), Chamber Bhawan, J.C. Road, Patna - 800001, for and on behalf of President of India invites sealed tenders in the prescribed form for the following work:

NAME OF WORK: Supply, installation, testing and commissioning of Digital / ISDN Telephone Exchange at Rail Wheel Plant (RWP), Bela, Dist. Saran (Chhapra), Bihar.

[Approximate cost Rs. 39,60,944/-]

(TENDER No. WP/S&T/Tele/RWP/EPABX/2012)

1.	Earnest Money	:	Rs. 79,220/-
2.	Completion period	:	03 (Three) Calendar Months
3.	Last date & Time of Submission	:	22.11.2012 at 15.00 hrs.
4.	Date & Time of tender-opening	:	22.11.2012 at 15.30 hrs.
5.	Validity of offer	:	6 (Six) Calendar months from date of opening.
6.	Validity of EMD	:	6 (Six) Calendar months from date of opening.
7.	Cost of Tender form	:	Rs. 3,000/- (Rs.3,500/- by Speed Post.)
8.	Sale of Tender form (in person)	:	From 21.10.2012 to 21.11.2012 (up to 16:00 hrs.)

Tender form shall be sent by Speed Post upon receipt of Rs. 3,500/- through Demand draft in favour of FA&CAO/ WP/ Patna, payable at Patna. The tenderer must ensure that, in case he desires to collect the Tender Form by post then, his demand draft reaches this office on or before 14.11.2012. Demand Draft addressed to any other official or those received by post/courier after 14.11.2012 shall not be accepted & in such a case, the Tender Form shall not be dispatched. **The tenderer must clearly specify the Tender No. as well as Name of work for which they have sent money through Demand Draft. Otherwise, Demand Draft shall be returned forthwith. While every effort shall be made for early dispatch of tender form, however, Railways shall not be responsible for delay in transit or on any account.**

Tender forms containing Special Conditions of Contract, Schedule of work, drawings, etc. for the work stated above can be obtained from the office of Chief Administrative Officer (Workshop Projects), Chamber Bhawan, J.C. Road, Patna - 800001 on any working day from 21.10.2012 onwards on payment of Rs. 3,000/- (in person) or Rs. 3,500/- (through Demand Draft only, if required by speed post) for this work. If the date of opening as mentioned above happens to be a BANDH or holiday, then the tender will be opened at the same time and same place on the next working day. Tender Forms not accompanied by requisite Earnest Money (Bank Guarantee is not acceptable) in prescribed form will be summarily rejected.

Signature of Tenderer(s)


 Dy. CSTE/WP, PATNA

Eligibility Criteria (All the conditions mentioned hereunder must be concurrently fulfilled):

- 1- The Tenderer must have completed, in the last three financial year (i.e. current year and three previous financial year) at least one similar single work for a minimum value of 35% of the Advertised Tender Value of the work.

Similar nature of work means –“Supply, Installation, Testing & Commissioning of PRI equipped ISDN EPABX System.”

NOTE: Tenderer must submit requisite certificates in support of his claim along with his tender offer. Certificates from private individual/ firms for whom such works are executed/ being executed will not be accepted.

- 2- The total contract amount received by the tenderer during the last three financial years and in current financial year should be a minimum of 150% of the advertised tender value of this work. The following documents will be relied upon for working out the total contract amount received by the tenderer (a) Attested copy of annual income tax return filed with income tax department. (b) Attested copy of Tax deducted at source certificate. (c) Audited balance sheet duly certified by chartered accountant. (d) Attested certificates from the employers/clients about the contractual payments received for the work done.

Tenderer must submit documentary proof in regard to fulfilling these eligibility criteria along with their offers. **Please note that the offers of tenderer who either fail to submit the documentary proof or do not meet both the sub-clause of the eligibility criteria as mentioned vide 1 to 2 above shall not be considered.** Tenderers may carefully note that their Contract Agreement for this work is liable to be terminated at any time later, in case any of the information furnished by them is found to be untrue or any adverse point comes to light subsequently. The decision of Railway in this regard shall be final and binding.

Railway shall not be responsible for any loss or delay in dispatch of Blank tender booklets or in receipt of completed tender documents during the transit in post/ courier.

The Tender Notice and the Tender Document have been uploaded on website www.ecr.indianrail.gov.in and www.irwp.org.in. The same can be down loaded and used as tender document for submitting the tender. However, the cost of tender form as mentioned above is also to be paid in the form of Demand Draft issued in favour of FA&CAO/WP/ Patna, payable at Patna and to be enclosed with the tender form while submitting the tender. In case the tender is not accompanied with a valid demand draft as the cost of tender document, then the offer of tenderer will be summarily rejected.

Railway reserves the right of discharging any or all the tenders without assigning any reason.

**Chief Administrative Officer (Workshop Projects),
Chamber Bhawan, J.C. Road, Patna - 800001.
For and on behalf of President of India
Telefax No. 0612-2677982.**

Signature of Tenderer(s)


Dy. CSTE/WP, PATNA

GOVERNMENT OF INDIA



**WORKSHOP PROJECTS
INDIAN RAILWAY**

SECTION - II

**CHECK LIST OF ITEMS TO BE COMPLIED BY THE
TENDERERS**

Signature of Tenderer(s)


Dy. CSTE/WP, PATNA

CHECK LIST OF ITEMS TO BE COMPLIED BY THE TENDERERS

1.	Have you submitted an Earnest Money along with the Offer?	Yes / No
2.	Have you submitted offer letter as per <i>Annexure 'A'</i> ?	Yes / No
3.	Have you furnished the credentials to establish your eligibility?	Yes / No
(a)	Experience & expertise in similar type of work as per <i>Annexure 'H'</i> .	Yes / No
(b)	Completion Certificate of similar type of work from the executive.	Yes / No
(c)	Details of Technical Personnel with qualification & experience employed by the Firm.	Yes / No
(d)	Details of Supervisors, Skilled & Unskilled staff with qualifications & experience for Field supervision & execution.	Yes / No
(e)	Details of special equipment, tools & plants, machinery & vehicle etc. available with the Firm for execution of contract.	Yes / No
4.	Have you submitted the Banker's Report regarding financial capability towards the cost of work?	Yes / No
5.	Have you furnished the Works Performance Guarantee (<i>Annexure 'G'</i>) as per Para 10 of Special Condition of Contract?	Yes / No
6.	Have you furnished the Clause-wise deviations, if any, on Technical specification as per proforma given at <i>Annexure 'E'</i> ?	Yes / No
7.	Have you furnished the Statement of Deviation from General Conditions of Contract and Special Conditions of Contract etc. as per proforma in <i>Annexure 'E'</i> ?	Yes / No
8.	Have you quoted in the prescribed proforma at <i>Annexure 'Z'</i> (<i>Schedule/s</i>)?	Yes / No
9.	Have you submitted list of inputs required from Railways as per <i>Para 6.5 of Special Conditions of Contract</i> ?	Yes / No
10.	Have you furnished your Income Tax and Sales Tax Clearance Certificates as per <i>Para- 8 of General Conditions of Tendering</i> ? If no taxable income, affidavit duly countersigned by the Income Tax Officer to be attached.	Yes / No
11.	Have you quoted delivery period correctly and precisely as per <i>Para 6 of Special Conditions of Contract, Para 4 of Instructions to Tenderer and Para 4 of Annexure - R</i>	Yes / No
12.	Have you kept your offer valid for 180 days from the date of opening of tender?	Yes / No
13.	Have you submitted detailed literature of equipment on which your offer is based?	Yes / No
14.	Have you submitted undertaking towards Works Contract Sales Tax as per <i>Para 11.2 of Special Conditions of Contract</i> ?	Yes / No
15.	Partnership Deed if any, Constitution of the Firm & copies of connected legal documents to be attached with the offer.	Yes / No
16.	Have you given the full clear Postal address for communication.	Yes / No
17.	If working through contract labour, the contractor must register with Labour Commissioner – necessary License to be submitted with tender or to be produced before signing of contract agreement.	Yes / No
18.	Have you furnished time schedule for supply of materials and execution of work?	Yes / No

Signature of Tenderer(s)


Dy. CSTE/WP, PATNA

B: CERTIFICATE BY TENDERER:

It is certified that the above checklist of items have been complied.

C: ITEMS TO BE FURTHER NOTED BY TENDERER:

1. Acknowledge Letter of Acceptance within 7 days from the date of issue.
2. Contract Agreement to be executed by the successful tenderer within a period of 7 days after receipt of notice issued by the Railway that such documents are ready.


D: NOTE:

The above check list is not exhaustive. The Tenderer must go through carefully the entire booklet and submit the tender complying with all the conditions / provisions / instructions mentioned therein irrespective of the fact that they have been highlighted in the checklist or not.

Signature of Tenderer

With Seal

Signature of Tenderer(s)


Dy. CSTE/WP, PATNA

GOVERNMENT OF INDIA




**WORKSHOP PROJECTS
INDIAN RAILWAY**

SECTION – III

**INSTRUCTIONS TO THE TENDERER
AND
GENERAL CONDITIONS OF TENDERING**

Signature of Tenderer(s)


Dy. CSTE/WP, PATNA

INSTRUCTIONS TO TENDERER

1.0 SUBMISSION OF BIDS:

- 1.1 Copies of the offer complete in all respect must be sealed and marked as under:
Name and Address of the Tenderer / Proposal from:
against Tender No. WP/S&T/Tele/RWP/EPABX/2012 opened at 15.30 hrs on
22.11.2012.

2.0 OPENING OF BIDS:

- 2.1 Tender offer of all the tenderer may be opened at 15.30 hrs on 22.11.2012.
Thereafter, technical discussions may be held with the tenderer wherever necessary.
In case the opening date happens to be a holiday or Bandh, the tender can be
dropped and will be opened on the next working day at the same time.
- 2.2 Before submission of tender, tenderer shall satisfy him-self about the local conditions,
topography, the details of existing facilities and the requirement of matching interface
unit, etc. If at any stage subsequent to submission of tender it is found that extra
equipment are required to meet the tender conditions, although same may not be
specially mentioned in the enclosed schedule, these shall have to be supplied by the
tenderer free of cost within the total cost of the tender.
The tenderer shall keep the offer open for a minimum period of 180 days from the
date of opening of the tender. Within that period, the tenderer cannot withdraw his
offer subject to the period being extended further if required by mutual agreement
from time to time. Any contravention of the above condition will make the tenderer
liable for forfeiture of his Earnest Money Deposit.
- 2.3 The tenderer shall bear all costs associated with the preparation and submission of
the tender and the Railway will in no case be responsible or liable for these costs,
regardless of the conduct or outcome of the bidding process.
All queries with regard to this tender shall be submitted to this office minimum seven
days in advance of last date of submission of tender document failing which it will be
presume that there is no query from tenderer's side.
- 2.4 Offer received through POST, FAX, Cable OR Telegram / Telex and incomplete offers
will be summarily rejected.
- 2.5 Tenders received in the office of Chief Administrative Officer (Workshop Projects),
Chamber Bhawan, J. C. Road, Patna - 800001 after the time of scheduled closing of
the tender shall be classified as "Delayed / Late Tender" EVEN if posted by the
Tenderer sufficiently in time. The administration is not responsible for either for the
loss in the transit or "Late/Delayed" receipt of tender. Late/Delayed tender will be
dealt with as per rules in vogue in the Railways.
- 2.6 Offer from tenderer not meeting the eligibility criterion will be out rightly rejected.

3.0 EARNEST MONEY:

- 3.1 Earnest Money against this tender is **Rs. 79,220/-** only.
The Earnest Money is to be submitted as per details given in *Clause 6 of General
Conditions of Tendering*.
Validity of the Earnest Money to be at least up to the validity of the offer.

4.0 PERIOD OF COMPLETION:

- 4.1 The work is to be completed within a period of **03 (Three) Calendar Months** from the
date of issue of Letter of Acceptance. For details refer Annexure-R.

Signature of Tenderer(s)


Dy. CSTE/WP, PATNA

- 5.0 The Tenderers are required to scrutinize carefully all clauses appearing in the Tender documents and to sign in token thereof on every page of the Tender document.
- 6.0 The Tenderers should quote rates in figures and in words. Wherever there is a difference between the rates quoted in figures and in words, the rate quoted in words will be taken as correct.
- 7.0 All details and drawing pertaining to the works as are available can be seen in the office of the CAO (WP), Chamber Bhawan, J. C. Road, Patna during office hours.
- 8.0 The cancellation of any document such as Power of Attorney, Partnership Deed etc. shall forthwith be communicated by the contractor to the Railway in writing, failing which the Railway shall have no responsibility or liability for any action on the strength of said documents.
- 9.0 The contractor will be permitted to make use of the service roads already existing within the Railway possession. If additional service roads are required within Railway premises the contractor may be allowed to make them at his own cost with the prior approval of the Railway's Engineer. All service roads required outside Railway boundary shall be constructed by the contractor at his own risk and cost. These roads shall be maintained by the contractor at his own cost. The Railway reserves the right to make use of these service roads as and when necessary without any payment to the contractor.
- 10.0 If original work order issued to the contractor is lost by him for any reason what-so-ever and contractor demands for supply of a duplicate of the same, penal levy of Rs.100/- (Rupees One hundred only) for each work order will be imposed on him for the issue of duplicate copy of the work order.
- 11.0 The Tenderer / Contractor may be required to engage surplus / retrenched casual labours of the Railway, if found suitable up to the extent as deemed fit by the Railway during the currency of the contract. The terms of employment between such labour and the Tenderer / Contractor may be on mutually agreed terms subject to the statutory provisions contained in the Labour Regulations and enactments. The Contractor shall indemnify the Railway against any claim arising out of employment of such labour and the Railway shall not be party to any disputes etc. arising out of the employment of such labour by the Tenderer / Contractor.
- 12.0 When the tender is received by the Railway Administration, it will be understood that the tenderer(s) has/have gone through carefully in detail all the Instructions, Conditions, General and Special Conditions of the Contract and all other instructions for execution of the work and that the tenderer/s has/have got himself/themselves clarified in all points and doubts and interpretations by the proper authorities of the Railway Administration.
- 13.0 **STORAGE OF PETROLEUM:**
- 13.1 No petroleum sprit within the meaning of the Indian Petroleum Act shall be stored at site or adjacent land until the approval of the Railway and necessary license under the Act has been obtained by the tenderer.
- 14.0 The Contractors who are working in the establishment through contract labour (Regulation and Abolition) Act 1970 and Central Rule 1971 and obtain a license from the Assistant Labour Commissioner concerned and produce the same to the Railway either along with the tender or before signing the agreement failing which the contract awarded will be terminated that they have not complied with the legal provisions of the said act and Earnest Money forfeited.
- 15.0 Railway will not arrange for release of foreign exchange for any contract work.
- 16.0 This tender book is complete with Schedules.

Chief Administrative Officer (Workshop Projects)
Chamber Bhawan, J.C. Road, Patna – 800001
for and on behalf of PRESIDENT OF INDIA

THE ABOVE INSTRUCTIONS TO TENDERER ARE UNDERSTOOD AND
ACCEPTED BY ME/US.

SIGNATURE OF THE TENDERER/S. _____

DATE _____

Signature of Tenderer(s)


Dy. CSTE/WP, PATNA

GENERAL CONDITION OF TENDERING

1.0 TENDER DOCUMENT:

1.1 The intending tenderer should study General Conditions of Contract, Special Conditions of Contract, Instructions to Tenderer, Technical Specification, Drawings, Documents, Schedules etc. enclosed and also the General Conditions of Contract, 1969 followed by GCC 2008 of Eastern Central Railway with up to date modifications and IRS Conditions of Contract for the Stores department with up to date modifications all herein after collectively referred to as Tender Specification.

The execution to works shall be in accordance with the E.C. Rly. general condition of contract and standard specification amendments made thereto and revised amendments up to date to General Condition of contract vide Railway Board, EDCE(G)'s letter No.2007/CE-1/CT/18 dated 28.09.2007 communicated vide CE/Works/ECR/HJP's letter No.W-2/118/09/Contract Policy/Pt.I/571 dt.22.10.2007 and letter No.2007/CE-1/CT/18 Pt.XII dated 31.12.2010.

Any submission of a quotation by the tenderer shall be deemed to have been done after careful study examination of these documents with full understanding of the implications shall be deemed to have been accepted, unless specially commented upon otherwise by the Tenderer in his quotation. Failure to adhere to one or all these instructions may render his offer liable to be rejected without any reference.

1.2 The typical drawings referred to in the tender shall be available in the office of the CAO (WP), Chamber Bhawan, J. C. Road, Patna. These can be seen and clarifications obtained on any working day up to the previous working day before the last day of closing of Tender.

1.3 Provision in the General Condition of Tendering, General Conditions of Contract and Special Conditions of the Contract in the tender documents will override any overlapping provisions of General Conditions of Contract 1969 followed by GCC 2008 of Eastern Central Railway. When there is conflict between General Conditions of Contract 1969 followed by GCC 2008 of Eastern Central Railway with up to date modifications and Special Conditions of the Contract, the Special Conditions of Contract shall prevail.

2.0 OFFICIAL TENDER FORM:

2.1 Chief Administrative Officer (WP), Chamber Bhawan, J. C. Road, Patna on behalf of PRESIDENT OF INDIA, invites quotations from established, experienced and reliable contractors who have adequate experience for this type of work.

2.2 The tenderer must submit his tender in duplicate in time on the date of tender submission of the tender to the office of Chief Administrative Officer (Workshop Projects), Chamber Bhawan, J. C. Road, Patna filling in the Proforma given in form of Schedule/s attached here to duly signed at every page and having filled in the Schedule/s in ink, stating therein all the rates, quantities, prices, taxes & duties of the tender (both in figures and words), giving all information and particulars asked for.

The tenderer shall submit in the same envelope of his tender a short and concise explanatory memorandum pertaining to his tender, if required, but such memorandum or any letter accompanying the tender submitted by him shall form part of tender. He may also enclose a descriptive matter for consideration.

3.0 SCHEDULE / SCHEDULES:

3.1 The bidder should give unit rates for each subassemblies / modules constituting each item of the Schedule/s as also the logic or basis for calculation of the prices of the major items / assemblies in separate sheets so that in the event of changes in the actual requirements, the cost of each item of the Schedule can be worked out.

Signature of Tenderer(s)


Dy. CSTE/WP, PATNA

- 3.2 The tenderer must quote for the various items of work as indicated in the Schedule of Annexure 'Z' (Schedule/s) only, complete and as per remarks given in the Annexure 'Z' (Schedule/s), and any incompleteness in the offer will disqualify the bidder from consideration.
- 3.3 The prices, requirements from Railway's side or any other discount etc. shall be quoted only in the Commercial Offer and not in any of the documents accompanying the Technical Offer.
- 3.4 The tenderer should submit separately a summary of his quotation giving the following details:
- i) Total Marine Insurance Charges for imported items and Local Insurance Charges, if any,
 - ii) Total Inland Charges for Rail and Road Transport,
 - iii) Total Sales Taxes and other Local Taxes, if any,
- 3.5 Tenderer may please note that the rate/ amount for Schedule items at Annexure 'Z' shall be written both in figures and words.
If more than one or improper rate is tendered, the tender is liable to be rejected.
- 3.6 The rates offered against the various items in Annexure 'Z' Schedule/s shall include the following elements of Cost without fail.
- i) Cost carriage, Loading and Unloading at Inspector's store and transportation of all materials required to the actual site of the work i.e., place of installation and all other incidentals connected there-with excluding the materials supplied by the Railway. For materials supplied by the Railway the execution rate should include transportation charges from the Railway Stores to the site and collection of balance materials left over after the work, if any, and handing over to Railway Store.
 - ii) All other miscellaneous expenses necessary for the execution of the work and fulfillment of the contractual obligation as per Schedule/s.
- 3.7
- i) The rate tendered for in the Schedule/s attached to the tender document and accepted by the Railway shall form the basis for payment for works done/ materials supplied by the contractor.
 - ii) The rates quoted by the contractor shall take into account the difficulties and delays encountered in course of work and nothing extra on these account shall be paid for.
- 3.8 If any departure or substitution from the particular specification is involved, this should be clearly indicated in the offer giving full details of deviations. If the offer is in accordance with the stipulated specification, "NO DEVIATION" should be clearly stated. Quotations not complete in this respect are likely to be summarily rejected. If a particular point in the specification is not clear, the same should be got clarified before submitting the quotations. No price alteration will be permitted after opening of the tender on grounds of the Technical requirement not having been properly understood in the first instance by the suppliers.
- 3.9 Each page of the offer must be numbered consecutively, bear the tender number and should be signed by the Tenderer in Ink. Reference to total number of pages comprising the offer for each item must be made at the top of the right hand corner.
- 3.10 Tenderer must ensure that the conditions laid down for submissions of offer are completely and correctly fulfilled.
- 3.11 Rates of items involving supply and installation/ supply and supervision of installation shall be invariably quoted separately for the supply portion and

separately for the execution/ supervision portions as during the execution of the contracts, the need for de-linking of supply and execution / supervision portions may arise.

- 3.12 All rates quoted in the tender shall be deemed to be inclusive of all Taxes, Inspections Charges, Royalty etc. payable by the Contractor to the Government or any public body and normally no additional rate will be paid or claims entertained on this account by the Railway.
- 3.13 Other Local Taxes levied either by Governmental agency or by Municipal agency shall not be paid by the Railway. These are deemed to be included in the F.O.R. price, unless specifically brought out in the offer.
- 3.14 Tender forms containing over writings, erased rates not shown in words are liable to be rejected.
- 3.15 **SCHEDULE COVERING DELIVERY OF MATERIALS AND THE EXECUTION OF THE WORK AT SITE:**
- i) The tenderer shall attach to his offer a time schedule showing the guaranteed time schedule for the supply of materials, the progress and completion of the works at site.
 - ii) The time Schedule shall be as referred to in *Para – 4* of Instruction to tenderer.
 - iii) The tenderer should offer the time schedule for supply of materials, the duration of erection and completion period for the work and it should be kept the barest minimum. This aspect will be particularly taken into account while examining the offer. In any case this period shall not be more than the time specified in the tender documents, reckoning from the date of issue of Letter of Acceptance.

4.0 ERASURE OR ALTERATION:

- 4.1 No erasure or alteration in the text of the tender papers to be submitted by the tenderer is permitted and any such erasure and/ or alteration will either be disregarded or render the whole Tender void at the option of the Railway. Any correction by the tenderer in his entries must be attested by him.

5.0 GENERAL REQUIREMENT:

- a) All documents to be submitted in connection with this tender will be written in English.
- b) Dimensions, weights etc. shall be in Metric System / British Standard Equivalents.
- c) The technical terms and symbols to be used will be as per General and Subsidiary Rules/ Signal Engineering Manual/ Extant Practice of East Central Railway.

6.0 EARNEST MONEY:

- 6.1
- 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 the tender, under the conditions of tender. The earnest money shall be 2% of the estimated tender as indicated in the tender notice. The earnest money shall be rounded to the nearest Rs.10/-. This earnest money shall be applicable for all modes of tendering.
 - b) It shall be understood that the tender document 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 realize from his offer or modify the terms and conditions thereof in a manner not acceptable to the engineer. Should the tenderer fail to observe or comply with the said stipulation, the aforesaid amount shall be liable to be forfeited to the Railway.

- c) If his tender is accepted this earnest money mentioned in *Sub Clause 6.1(a)* above will be retained as part security for the due and faithful fulfillment of the contract in terms of *Clause 16 of the GCC*. The earnest money of other tenderers, shall save as herein before provided, be returned to them, but the Railway shall not be responsible for any loss or depreciation that may happen thereto while in their possession, nor be liable to pay interest thereon.
- d) The practice of allowing standing EMD is dispensed forthwith for all tenders.

6.2 The earnest money should be in any of the following forms:

- i) Deposit receipts, Pay orders, Demand Drafts. These forms of earnest money could be either of the State Bank of India or of any of the Nationalized Bank. No confirmatory advice from the Reserve Bank of India will be necessary.
- ii) Deposit receipts executed by the schedule bank (other than the State Bank of India and the Nationalized Bank) approved by the Reserve Bank of India for this purpose. The Railways will not, however, accept deposit receipt without getting in writing the concurrence of the Reserve Bank of India.

6.3 The Tenderer should furnish along with the offer, an Earnest Money as specified either in cash to the Divisional Cashier of Danapur or Sonpur Division of E.C. Rly. or in the form of Deposit receipts, pay orders, demand drafts as specified above in favour of FA&CAO /WP/ Patna, Payable at Patna.

No Cheque / Money Order is acceptable as Earnest Money. Tender not accompanied by Original Receipt of Earnest Money Deposit along with the Offer shall be summarily rejected.

6.4 The Earnest Money furnished in accordance with *Para 6.1* above shall be forfeited by the Railway if the tenderer unilaterally withdraws or amends to or impairs/derogates from the tender in any respect within the period of validity of his offer to be counted from the time of opening of the tender.

6.5 The Earnest Money will be refunded to the unsuccessful Tenderer after finalization / cancellation or expiry of offer validity. No interest will be paid on the Earnest Money.

6.6 If the successful tenderer fails to furnish a Security Deposit as specified in Clause-13 of the General Conditions of Tendering and fails to return the formal contract duly signed within fifteen days of the receipt of the formal contract, then the Earnest Money shall be liable to be forfeited by the Railways.

7.0 COMMENCEMENT & COMPLETION DATES:

7.1 The Contract covered by this Tender shall be deemed to commence from the Date of Issue of Letter of Acceptance.

7.2 The work should be completed within **3 (Three) Calendar months** from the date of issue of letter of acceptance. For details refer Annexure-R.

7.3 The Tenderer must submit a BAR CHART in their tender offer indicating the time period by which the inspection and supply of materials will be completed. The Tenderer must also indicate in their BAR CHART, the completion period of various activities involved in this work.

7.4 After Contract Agreement is signed the Contractor shall furnish during the first week of every month a progress report showing the materials and the equipments received at site and the progress of work carried out at site during the preceding month to the executive officer and to CAO /WP, Chamber Bhawan, J.C.Road, Patna

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for reviewing the work, failing which action will be taken as per General Condition of Contract 1969 for the Engineering department with up to date modifications.

8.0 INCOME TAX CLEARANCE CERTIFICATE:

8.1 Unless otherwise exempted, the tenderer shall enclose with his tender, a valid Indian Income Tax Clearance Certificate in prescribed form issued by the appropriate Income Tax Officer under the seal, which will be returned when done with, without which the Tender is liable to be rejected. In Case of a New Firm or Firms, which have a taxable income, sworn affidavit to that effect, duly Countersigned by the Income Tax Officer shall be furnished.

9.0 CONSTITUTION OF FIRM, SIGNING OF TENDER AND ADDRESS:

9.1 The Tenderer shall clearly specify whether the Tender is submitted on his own behalf or on behalf of a consortium/partnership firm. If the Tender is Submitted on behalf of a consortium/partnership concern, he should submit a certified copy of the consortium / partnership agreement with the Tender as well as an authorization to sign the Tender documents on behalf of the consortium/partnership concern. If these documents are not enclosed along with the tender document, the tender will be treated as having been submitted by an individual signing the Tender documents and the Railway will not be bound by any power of attorney granted by the Tenderer by changes in the composition of the consortium / partnership firm made subsequent to submission of the Tender. It may however recognize such a power of attorney and changes after obtaining appropriate legal advice, the cost of which will be chargeable to the Tenderer.

9.2 JOINT VENTURE (JV) / ASSOCIATION OF PERSONS (AOP).

9.2.1 Participation by JV/AOP firm is permitted.

9.2.2 JV/AOP partners would be limited to two (including the lead Partner). The lead partner should satisfy the eligibility criteria as mentioned in Para III, 2 of NIT.

9.2.3 In case of JV/AOP of firms/individuals:

- a) The partner who meets the technical eligibility requirements of experience representing the JV/AOP will act as lead partner.
- b) The duties, responsibilities and power of such lead partner shall be specifically included in the MOU/agreement.
- c) The lead partner would be authorised to incur liabilities and to receive instructions and payments for and on behalf of the JV/AOP.
- d) The lead partner shall be nominated as being in charge during prequalification / bidding process and during execution in the event of the work being awarded to the JV. Submitting a power of attorney signed by the legally authorised signatories of both the partners shall evidence this authorization.
- e) The lead partner should have more than 50% stake in the JV/AOP.
- f) The lead partner should wholly satisfy the technical criteria while all other criteria may be jointly met by the partners or the JV/AOP.

9.2.3.1 In case of AOP of individuals, credentials will be considered in proportion of their percentage participation in earlier firms.

9.2.4 In case of JV/AOP, the proposal shall be accompanied by a certified copy of legally binding memorandum of understanding (MOU), signed by all partners to the JV/AOP and confirming the following therein.

- i) Date and place of Signing.
- ii) Purpose of JV/AOP (must include the details of contract works for which the

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JV/AOP is binding).

- iii) A clear and definite description of the proposed administrative arrangements for the management and execution of the assignment.
- iv) Responsibilities and scope of the work to be undertaken by each partner along with resources committed by each partner of the JV/AOP for the proposed services.
- v) Recourse/ Sanction within joint venture in the event of default/withdrawal of any partner and arrangement for providing the required indemnities shall be spelt out and shall be binding on each partner of the joint venture/AOP.
- vi) An undertaking that the partners are jointly and severally liable to the Employer for the performance of the services and the successful completion of contract as per terms and condition of contract agreement irrespective of their share and role specified in JV/AOP agreement.
- vii) Details regarding the authorized representative of the JV/AOP.
- viii) The name of the JV/AOP should not be synonymous with the name of any one of its constituents.

9.2.5 Tender papers should be collected and submitted only in the name of JV/AOP.

9.2.6 A firm/individual can bid for a tender either as a sole tenderer or in the name of JV/AOP with another firm. All tender violating this will be summarily rejected.

9.2.7 The earnest money should be submitted in the name of the JV/AOP only.

9.2.8 A copy of joint venture/AOP agreement on non-judicial stamp paper duly attested by Notary public with seal and revenue stamp affixed thereon shall be submitted along with the tender. No JV/AOP will be accepted after submission of the tender bid. However, the joint venture/AOP agreement will be got duly registered before the registrar of firm or any nominated authority under the law of land before the execution of agreement.

10.0 **ADVICE OF CANCELLATION OF DOCUMENTS BY TENDERER:**

10.1 The Cancellation of any document such as Power of Attorney / Partnership deed etc. should be forthwith communicated by the contractor to the Rly. Administration in writing failing which the Rly. Administration shall have no responsibility or liability for an action taken on the strength of the said document.

10.2 Any individual/s signing the tender or other documents connected therewith should specify whether he is signing:

- a) As sole proprietor of the concern or his attorney;
- b) As a partner or partners of the firm;
- c) For the firm per procure, or
- d) As a Director, Manager or Secretary in the case of a Limited Company.

10.3 In the case of a firm not registered under the Indian Partnership Act, all the partners, or the attorney duly authorized by all of them should sign the tender and all other connected documents.

10.4 The Original Documents empowering the individual or individuals to sign should be furnished to the Purchaser for Verification if required.

10.5 The Tenderer whose tender is accepted shall be required to appear in the office of the CAO/WP, Chamber Bhawan, J. C. Road, Patna to execute the Contract Agreement as stipulated in the Special Conditions of the Contract. In case of a Firm or Corporation or Consortium, authorized representative along with power of attorney, can appear for this purpose.

10.6 In the event of any Tenderer whose Tender either in part or in full is accepted refuses to execute the contract documents, the Railway may determine that such Tenderer has abandoned the contract and thereupon his Tender and the

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acceptance thereof shall be null and void and the Railway shall be entitled to forfeit the Earnest Money as liquidated damages for such default without prejudice to any other right or remedies open to the Railway.

- 10.7 The Tenderer shall state in the Tender, his Postal Address fully and clearly. Any Communication sent to the Tenderer by post (Regd. AD) at his said address, shall be deemed to have reached him timely, notwithstanding the fact that the communication could not reach the tenderer at all or in time because of any inaccuracy or defect in the said address.

11.0 **PREVIOUS EXPERIENCE & DECLARATION OF CREDENTIALS:**

- 11.1 The Tenderer MUST submit the following along with his bid:

- i) Details of similar jobs completed during the last three years (current financial year and three previous financial years) along with brief description of work, organization for whom executed, approximate value of the contract at the time of award, date of award and date of schedule completion of work, date of actual start, actual completion, reason for delay, if any, and final value of contract, as per proforma given in *Annexure 'H'*.

List of Personnel, Organization available on hand and proposed to be engaged for the subject work.

Qualification criterion as specified in tender notice in respect of the work with values required to be completed will be applicable.

- ii) List of works on hand indicating description of work, contract value, and approximate value of balance work yet to be done and date of award.
- iii) Performance certificate from the clients for similar works.
- iv) Particulars of consultants to assist the company in the work, if any, and list of Plant and Machinery available on hand (Own) and proposed to inducted (Own and hired to be given separately) for the subject work
- v) Banker's certificate to the effect that adequate finance shall be available for undertaking a job of this size to be completed progressively in the months/ days specified in the time schedule.
- vi) List of Plant and Machinery available on hand (Own) and proposed to inducted (Own and hired to be given separately) for the subject work.
- vii) Document giving details of total contract amount received during the last three years (current financial year and three previous financial years).

NOTE:

- a) In case of item (i) and (ii) above, supportive documents / certificates from the organizations with whom they worked/ are working should be enclosed.
- b) Certificates from private individuals for whom such works are executed/ being executed should not be accepted.

- 11.2 Have minimum construction machinery, tools & plants and vehicles etc. required for satisfactory execution of works. Details to be submitted along with bid.

- 11.3 The Tenderer shall not scribble or stipulate any special condition in the Tender documents. **Special condition, if any, may be indicated in a separate covering letter.**

12.0 **THE RAILWAY NOT BOUND TO ACCEPT ANY TENDER:**

- 12.1 The Railway shall not be bound to accept the Lowest or any Tender or to assign any reason for non-acceptance or rejection of a Tender. No Tender shall be deemed to have been accepted unless such acceptance shall have been notified in writing to

the successful tenderer by the Railway. The Railway reserves the right to accept any tender in respect of the whole or any portion of the work specified in the tender or to divide or reduce the work or to accept any tender for less than the tendered quantity without assigning any reason whatsoever.

13.0 SECURITY DEPOSIT:

13.1 The Earnest Money deposited by the contractor with his tender will be retained by the Railways 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 Railway 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.

13.2 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) The rate of recovery should be at the rate of 10% of the bill amount till the full security deposit is recovered.
- c) Security Deposit will be recovered only from the running bills of the contract and No other mode of collecting SD such as SD in the form of instruments like BG, FD etc. shall be accepted towards security deposit.

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, then 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 all the contractual obligations have been fulfilled by the contractors and that there is no due from the contractor to Railways against the contract concerned. Before releasing the SD, an unconditional and unequivocal no claim certificate from the contractor concerned should be obtained.

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

14.0 TENDER AND AGREEMENT:

14.1 The Tender shall remain open of acceptance by the Railway for the period specified in the tenders from the date on which tenders are opened and during which period the tenderer shall not withdraw offer, nor amend, impair or derogate there from. Every tenderer shall be deemed to have agreed as aforesaid in consideration of his tender being considered by the Railway. If the Tenderer is notified in writing at his address given in tender, within the said period that his tender whether in whole or in part has been accepted by the Railway, he shall be bound by the terms of agreement constituted by his tender in respect of any part of the work specified in the tender document.

15.0 DETAILS CONFIDENTIAL:

15.1 The Tenderer (whether his tender be accepted or not) shall treat the contents of the tender paper as private and confidential.

16.0 CANVASSING AND BRIBERY:

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16.1 No Tenderer shall canvass any Government Official or Railway's Engineer with respect to his or any other tender. Contravention of this condition will involve rejection of the tender. This clause shall not be deemed to prevent the Tenderer from supplying the Railway any information asked for from him.

16.2 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 their behalf, to any officer, servant, representative or agent or the Railway of any person on his or their behalf, in relation to obtaining or to execution of this or any other contract with the Railway shall in addition to the Criminal Liability he/they may incur under the prevention of corruption act, 1908, subject the contractor to cancellation of this and other contracts, and also to payment of any loss resulting from any such cancellation, and the Railway shall be entitled to deduct the amount so payable, from any money and Railway's decision shall be final and conclusive in the matter.

17.0 **EXECUTION OF CONTRACT AGREEMENT:**

17.1 Any tenderer whose tender the Railway elects to accept, shall after having been advised by the Railway through Letter of Acceptance, be bound to execute an agreement based on accepted rates and conditions in such form as the Railway may prescribe and lodge the same with the Railway together with the conditions of contract, specification and schedules referred to herein duly completed within the period as specified in the Letter of Acceptance.

17.2 Failure on the part of the tenderer to execute the agreement within the time as stated herein before will constitute breach of contract and the contractor's earnest money / security deposit shall be liable to forfeiture.

18.0 **PERFORMANCE GUARANTEE:**

18.1 (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 delayed beyond 30 (thirty) days, i.e. from 31st day after date of issue of LOA. In case the contractor fails to submit 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 fail contractor shall be debarred from participating in re-tender 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 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 bonds. These forms of performance guarantee could be either of the state bank of India or of the Nationalized Bank. (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) Twelve Years National Defense Certificates. (ix) Ten 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 favor of FA&CAO/WP/Patna, Payable at Patna may be accepted.

NOTE: The instruments as listed above will also be acceptable for Guarantees 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

- stipulated date of completion plus 60 days beyond that. In case, the times for completion of work get 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 be 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.
- 18.2 The 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 respects satisfactorily. The security deposit shall, however, be released only after expiry of the maintenance period after passing the final bill based on "No claim certificate" from the contractor.
- 18.3 Whenever the contract is rescind, the security deposit shall be forfeited and the Performance guarantee shall be enchased. 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 on his/ her individual capacity or as a partner of any other JV/ Partnership firm.
- 18.4 The balance work shall be got done independently without risk and cost of the original contractor.
- 18.5 The original 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 would be debarred from participating in the tender for the balance work either in his/her individual capacity or as a partner of any other JV/partnership firm.
- 18.6 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 (not with standing and/ or 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 Clause/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.

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GOVERNMENT OF INDIA



**WORKSHOP PROJECTS
INDIAN RAILWAY**

SECTION - IV

GENERAL CONDITIONS OF CONTRACT

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GENERAL CONDITIONS OF CONTRACT

The General Condition of the Contract (GCC) shall be as per General Condition of Contract, 1969 followed by the Work Hand book Part-I and Part-II of GCC, August, 2008 edition of Engineering Department of Eastern Central Railway, Hajipur with latest amendment.

Signature of Tenderer(s)


Dy. CSTE/WP, PATNA

GOVERNMENT OF INDIA



**WORKSHOP PROJECTS
INDIAN RAILWAY**

SECTION - V

SPECIAL CONDITIONS OF CONTRACT

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SPECIAL CONDITIONS OF CONTRACT

1.0	GENERAL:
1.1	The following Special Condition shall apply to contractor for supply of plant and machinery and manufactured equipment and for services in connection with Transportation, Installation, commissioning. But where they differ from the General Conditions of Contract the Special conditions shall over-ride the General Conditions of Contract.
1.2	The tenderer's attention is drawn to the fact that major deviations to any Clause shall not be permissible.
2.0	SCOPE OF THE WORK:
	As given in <i>Annexure 'Z'</i> .
3.0	SPECIFICATIONS AND DRAWINGS:
3.1	Specifications, drawings, requisites and requirements referred to in the body of this specification form an essential part thereof. The drawings and specifications referred to in this tender where not included can be obtained, from the sources as indicated in <i>Annexure 'O'</i> .
3.2	After the contract is awarded, the Railway shall furnish to the contractor free of charge, a reasonable number of prints of Railway's approved Drawings that from an essential part of this specification.
4.0	CONTRACTOR'S DRAWINGS:
4.1	The tenderer shall furnish with his proposal:
	i) Drawings as well as full details for the apparatus he proposes to supply which are not covered by the Railway.
	ii) Two Copies of typical circuits diagrams with a write up that the tenderer proposes to adopt, in English or as per practice already accepted on E.C. Railway in similar contracts.
	iii) Two Copies of each of the drawings showing construction particulars, power connections and an outline of the power supply requirements with the distribution scheme together with explanatory notes, in English.
	iv) Two Copies of cable requirement chart / figure along with its basis. Cable shall be calculated with additional length required to be provided at joints, crossing etc. as per technical specification.
4.2	Contractor shall be solely responsible for ensuring that the end requirements are incorporated in all designs and drawings furnished by him. Although the drawing, designs may have been approved by the Railway, it shall be the responsibility of the contractor to ensure the end requirement of the system.
4.3	Any work done by the contractor prior to the approval of the contractor's drawing will be at the Contractor's risk, unless previously authorised specifically in writing in each individual case by an authorised representative of the Railway.
4.4	No Change shall be made in any approved drawing without written consent of the Railway.
4.5	For the approval of the Railway the contractor shall furnish to the Railway corrected tracing of the drawings furnished by him along with five copies of such corrected drawings.

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4.6	After the completion of the work the following drawings, in addition to the other drawing mentioned elsewhere, should be supplied to the Railways in six copies.
	i) System design, which will include detailed Technical Literature of Equipments, Components & Parts thereof.
	ii) Cable Route Diagram with position of Joints, Location Huts and Cabins etc. indicated. Users and maintenance Guide/Manual.
	iii) Wiring Diagram of Equipment/ Components/ Modules/ Parts.
4.7	Wiring Diagrams and other Plans shall be uniform in size and the size shall be preferably to an overall Dimension of A3 size.
4.8	If the contractor shall have any doubt as to the meaning of any portion of the conditions of the specifications, drawings, or plans, he shall (before submitting the tender) set forth the particulars thereof and submit them to the Purchaser in writing, in order that any such doubt may be removed.
4.9	The contractor shall be responsible for and shall pay for any alterations of the works due to any discrepancies, errors or omissions in the drawings or other particulars, whether they have been approved by the Purchaser or not, provided that such discrepancies, errors or omissions are not due to inaccurate information or particulars furnished to the contractor on behalf of the Purchaser. If any, dimensions figured upon a drawing or plan differ from those obtained by scaling the drawing or plan, the dimensions as figured upon the drawing or plan shall be taken as correct.
4.10	After completion of the work the contractor should arrange and submit detailed completion drawings specified in Para above as approved by Railways in 1+6 copies including polyester sheet as original.
5.0	EQUIPMENT AND SERVICES TO BE OFFERED
5.1	<p>In order to enable the Signalling & Telecommunication system to be brought into position the equipment for the entire system as in this tender are required to be provided by the TENDERER as per the Rate Schedule at <i>Annexure 'Z'</i>. The detailed scope of the work is as per the schedule at <i>Annexure-'Z'</i> (<i>Schedule/s</i>) read in conjunction with the Technical Specification and drawing.</p> <p>In case in the Specifications, Brand Names/Model Number of a single manufacturer have been given, equivalent models from other reputed and standard sources are also acceptable if already in use in the S&T department of Indian Railways for similar purposes except where specifically a particular uniform make / brand has been given for convenience of maintenance. Full technical details and pamphlets are required to be furnished along with the comparative technical features in juxtapositions to prove the technical equivalence. This shall be submitted without fail along with the offer, as also documentary proof that the equivalent item being quoted is satisfactorily in use. Where the brand names of 2 or 3 manufacturers have been given, the offer shall be from amongst one of those given in the specifications. Where Batteries, Battery Chargers, Voltage Stabilizers, Wiring Materials, Cables etc. have been included in the tender of various capacities such items of different capacities shall be from only one source / manufacturer unless specifically permitted in the tender otherwise. This is to ensure uniformity in maintenance, to facilitate procurement of spares and for training of technicians, and for keeping record of failure of equipment of each manufacturer during the life of the assets.</p> <p>This clause is mandatory.</p>
5.2	The complete Circuit Diagram, Instruction Manual, Maintenance Manual of all the Electrical Equipment and accessories such as Power Supply Panel, Battery

	Chargers, UPS, D.G. set, Voltage Stabilizers etc. as applicable for execution of the project shall accompany the offer.
5.3	The TENDERER are required to quote for all the items in <i>Annexure-‘Z’ (Schedule/s)</i> . It must however be understood that the items in any package within the scope of work will not be split except at the convenience of the Railway and TENDERER will have to quote for all the items and for a definite delivery period for supply, wiring execution etc. for all the items as applicable. This is an essential condition and there shall be no deviation in this regard.
6.0	TIME SCHEDULE
6.1	The time for completion of the entire work is of utmost importance. The complete system at all stations is required to be fully operational within specified months from the date of issue of Letter of Acceptance. Tenderer is required to provide adequate detail of the activities involved, to substantiate their claim of being able to meet the above dead line for handing over the system to the Railways for regular operational use.
6.2	Time is essence of the contract and the time schedule given in annexure-‘R’ shall be the basis for contract administration except due to force major clause.
6.3	The Contract covered by this Tender shall be deemed to commence from the date of issue of Letter of Acceptance.
6.4	The tenderer must submit a BAR CHART in their tender offer including the time period by which the supply of materials will be completed. The tenderer also shall indicate in their BAR CHART, the completion period of various activities.
6.5	The tenderer should indicate clearly the inputs required to be made from Railways side to satisfy the completion schedule.
6.6	To execute a large project of this nature within the specified time schedule, it will be necessary to prepare a comprehensive implementation plan to describe the construction programme sub-divided into logical work packages. Based on the important milestones indicated in para-6.4 the contractor shall prepare a project planning and control network on the basis of detailed task analysis and critical review of all activities, inter-dependencies, time duration, significant interfaces and restraints on human and financial resources.
6.7	The tenderer should indicate the details of total technical staff under their employment (Category wise) and also the details of technical staff proposed to be deployed by them for the subject work.
6.8	The delivery of stores required for the project may be regulated at the discretion of Railway in accordance with the requirements and Targets of Railways.
6.9	The tenderer shall indicate the period in months within which he would complete the work in the offer of tender assuming that the letter of acceptance of the tender is issued to him in month of zero.
6.10	The Existing clause 17(B) of GCC provides for recovery of liquidated damages from the contractor for delay in completion of work. However, the competent authority while granting extension to the currency of contract under clause 17(B) of GCC may also consider levy of token penalty as deemed fit based on the merit of the case.
7.0	VARIATION:
7.1	No alterations, amendments, omissions, additions, suspensions or variations of the work (hereinafter referred to as “Variations”) under the contract as shown by the drawings of the specifications shall be made by the contractor except as directed in

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	<p>writing by the Engineer, but the Engineer shall have full power, subject to the proviso hereinafter contained, from time to time, during the execution of the contract, by notice in writing to instruct the contractor to make such variations without prejudice to the contract, and the contractor shall carry out such variations and be bound by the same conditions, so far as applicable, as though the said variations occurred in the specifications. If any suggested variation would, in the opinion of the contractor, if carried out, prevent him from fulfilling any of his obligations, or guarantees under the contract, he shall notify the Engineer thereof in writing and the Inspector shall decide forthwith, whether or not they shall be carried out. If the Engineer confirms his instructions, the contractor's obligations and guarantees shall be modified to such an extent as may, in the opinion of the Engineer, be justified. The difference of cost, if any, occasioned by any such variations shall be added to or deducted from the contract price as the case may require. The amount of such difference, if any, shall be ascertained as determined in accordance with the rates specified in the schedules of prices, so far as the same may be applicable, and where the rates are not contained in the said schedules or not applicable they shall be settled by the PURCHASER and Contractor jointly. But the PURCHASER shall not become liable for the payment of any such variations unless the instructions for the performance of the same have been given in writing by the Engineer.</p>
7.2	<p>The modification to the terminology used in General Condition of Contract 1969 for the Eastern Railway Engineering Department with up to date modifications applicable in S&T contract is at Annexure-'M'. In the event of the Engineer requiring any variations, such reasonable and proper notice shall be given to the contractor, as will enable him to make his arrangements accordingly, and in case where goods or materials are already prepared, or any designs, drawings, or patterns made or work done is required to be altered, a reasonable sum in respect thereof shall be allowed by the PURCHASER, provided that no such variations shall, except with the consent in writing of the contractor, be such as will involve an increase or decrease in the total price payable under the contract by more than 10% thereof.</p>
7.3	<p>In any case, in which the contractor has received instructions from the Engineer for carrying out the work either then or later, will in the opinion of contractor, involve a claim for additional payment, the contractor shall, as soon as reasonably possible, after receipt on the instructions aforesaid, advise the Engineer to that effect.</p>
8.0	<p>INSPECTION OF INSTALLATION:</p>
8.1	<p>The Engineer or his representative may inspect and test the various portions of the work at all stages and shall have full power to reject all or any portion of the work that he may consider to be defective or inferior in that he may consider to be defective or inferior in quality or material, workmanship, or design in comparison to what is called for in the specification. In the event of rejection of any work already executed which is not in accordance with specifications as in this Tender Papers and/or as determined by the Engineer of which the contractor has been apprised, the contractor shall carry out alterations/replacements to such works to the satisfaction of the Engineer for which no additional expenses will be borne by the Railway.</p>
8.2	<p>The contractor shall carry out such tests at his own expenses as are necessary in the opinion of the Engineer to determine that the contract is being complied with and that the contractor is entitled to payment in respect thereof. Any tools / any other Materials / Plants / Manpower required for such tests shall be arranged by the contractor.</p>
8.3	<p>Even if the Engineer's Representative remained associated or supervised the</p>

	progress of works at various stage, a joint inspection, for each item of works, by Engineer's Representative and Contractor's Representative will be carried out to check that the work has been done as per specification and measurement taken accordingly.
8.4	Before casting of foundation, if any, the Contractor's Representative and the Engineer's Representative shall jointly inspect the quality and depth of pits, quality of bricks, concrete mix etc. and ensure compliance with the Drawings and specification.
8.5	The contractor shall advise the Railway Ten (10) days in advance of the time when his portion of the work will be completed by him in a progressive manner on the section and be ready for inspection. The Railway will make the test soon after the advice is received from the contractor.
9.0	MEASUREMENT:
9.1	The measurement of quantities for the purpose of payment to the contractor shall be undertaken jointly by the representative of the Engineer and the Contractor in the course of and / or on completion of all works included in <i>Annexure-Z (Schedule/s)</i> item wise to the satisfaction of Railway Engineer.
9.2	The measurement of quantities shall be made only after ensuring conformity with specifications and various clause of the contract.
10.0	WORK PERFORMANCE GUARANTEE:
10.1	Since the Supply and Execution of the work by the contractor is to achieve the end objective of providing suitable equipment and facilities to the specifications given in the tender for the ultimate objective as detailed in the tender, the tenderer shall give unqualified and unconditional guarantee that the supply of materials and work as designed and / or executed by him will achieve the desired objective and that in the event of the performance of the system not complying with the end objective or with the specifications, he shall provide further inputs to enable the Railways to realize the end objective with full compliance of the specifications contained in these documents and no additional payment will be made to the contractor for the supply of any additional inputs required in this regard.
10.2	The certificate as per the format in <i>Annexure-'G'</i> shall accompany the quotations. Quotations, which do not contain this guarantee in the format, are liable for rejection.
11.0	RATES TO INCLUDE ALL TAXES:
11.1	The work being nearly on a turnkey basis, evaluation shall be done on the basis of the supply and execution portions taken together even though the Railway reserves the option to supply some of the items. Accordingly, the contractor shall not be entitled normally to get any works contract Sale Tax from the Railway Administration for the supply of materials. However in case any taxes/duties are extra, the exact rate and firm applicability and any certificates/forms if any to be given by the Railway will have to be specified in respect of the various items as per <i>Annexure-'Z' (Schedule/s)</i> .
11.2	Sales Tax on Works – The tenderer should be well conversant with the Sales Tax Regulations enacted by the concerned State Govt. where the works are located. In case Sales Tax is payable to works contract also, the tenderer should take into account the same at the time of quoting the tender and shall specify the rate at which it is included in his offer without fail. The tenderer is liable for the default of such payments and hold the Railway Administration free from all responsibility in

	these from such obligations and pay the Sales Tax amount directly to the concerned States Govt. commercial officer. In case if any notice is received from the concerned State Govt. for non payment of Sales Tax against the tenderer during the currency of the contract the same will be deducted from their 'On Account Bills/Final Bill' without any intimation unless the tenderer submits clearance certificate from the concerned Commercial Tax Officers of State concerned for non deduction of the same for the payments due from Railways. An undertaking to the effect that, in case works contract Sales Tax is applicable the same shall be paid by the tenderer and no claim shall be made on the purchaser, shall be submitted without fail.
12.0	EXECUTION AT SITE:
12.1	The contractor shall abide by all the Railway rules relating to safety of personnel and Railway Operation.
12.2	The contractor shall not do any work that may interfere with traffic until protection has been provided by the Railway.
12.3	The Railway will promptly arrange to protect traffic upon request of the contractor, when required.
12.4	The contractor shall ensure that his Technical Engineer/ Supervisor is always available at the site of work during the execution period till commissioning and during the period of the maintenance supervision to ensure that no time is lost in correspondence. Any written orders or instructions which the Railway Engineers may give to such representative of the contractor shall be deemed to have been duly given or communicated to the contractor.
12.5	In respect of important items of work the contractor's representative should be present at site at least for the execution and supervision of maintenance period (if applicable) and under his supervision the installation of the work and tests should be completed in all respect to the satisfaction of Railway Officials concerned.
12.6	Before proceeding to execute any work, the contractor shall obtain from the Railway's Engineer or his authorized representative, approval in writing in the manner in which the contractor proposes to execute each portion of the work.
13.0	COMPLIANCE TO PROVISION OF APPRENTICES ACT, 1961
13.1	The contractor shall be responsible to ensure compliance with the provisions of Apprentices Act, 1961 as modified up to date and the Rules & Orders issued there under from time to time in respect of Apprentices directly or through petty contractors or sub-contractors employed by him for the purpose of carrying out the contract.
13.2	If the contractor directly or through petty contractor or sub-contractors fail to do so, his failure will be a breach of contract and the Railway may in its discretion rescind the contract. The contractor shall also be liable for any liability arising on account of any violation of the provisions of the Act.
14.0	OMISSIONS AND DISCREPANCIES & CLARIFICATION:
14.1	Should a tenderer find discrepancies in, or omission from the drawings or any of tender papers/ specifications/ or he has any doubt to their meanings, he should at once notify the CAO (WP), Chamber Bhawan, Patna who may send a written instruction to all tenderer. It shall be understood that every endeavor has been made to avoid any error which can materially affect the basis of the tender and the successful tenderer shall take upon himself and provide for the risk of any error which may subsequently be discovered and shall make no subsequently be discovered and shall make no subsequent claim on account thereof.

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14.2	Any clarifications required may be obtained from the Chief Administration Officer (WP), Chamber Bhawan, J. C. Road, Patna, until one working day before the last day of closing of tender.
15.0	PROCUREMENT OF SUPPLY ITEMS:
15.1	All items supplied to Railway should be procured from the list of firms approved by RDSO wherever such a list exists. Inspection Certificates of RDSO wherever applicable must accompany along with these items. All such items should be procured by the tenderer from the list of RDSO approved manufacturers of their distributors with inspections to be done at the premises of the original manufacturer.
15.2	In case if any supply item is not in the list of RDSO approved firms, prior approval of Chief Administrative Officer (Workshop Projects), Chamber Bhawan, Patna for such items from other sources are necessary. In case I.R.S. specifications are not available for items, the material should conform to Bureau of Standard Institution (Latest) (i.e. I.S.I.) wherever the specifications are available, other wise the prior approval of these items specifications by Chief Administrative Officer (Workshop Projects), Chamber Bhawan, Patna is necessary.
15.3	The contractor shall be held responsible for the execution of the works according to the time schedule given above in full compliance of the specifications and the various clauses of Technical Specifications, Instructions and drawings. Failure to comply with any of these will be dealt with as per provision laid down in the General Condition of Contract and instructions for Tenderer of the Engineering Department of East Central Railway.
15.4	It should be clearly understood that it is entirely contractor's responsibility and liability to find, procure and use of machineries, tools, plants and their spare parts that are required for efficient and methodical execution of work. Delay in procurement of such items due to non-availability or import difficulties or any other causes what so ever will not be taken as an excuse for slow and non-performance of work.
15.5	All materials in the tender documents shall be supplied by the contractor at site. These shall include the materials in additions to any other minor items such as bolts, nuts, brackets, support materials, which may be considered necessary for execution of the work according to the specifications.
15.6	All instruments required, for testing shall be arranged by the contractor and shall remain his property.
16.0	EMPLOYMENT IN GOVT. SERVICE:
16.1	Should the tenderer have a relative or relatives in the name of a firm or company or contractor, one or more of the shareholders or relative of the shareholders are employed in gazetted capacity in the Signal & Telecommunication Department of any of the Railways the authority inviting the tender shall be advised to this effect at the time of submission of the tender failing which the tender is liable to be disqualified. If such a fact subsequently comes to light, the contractor will be rescinded in accordance with the provisions in the General Conditions of Contract.
16.2	Should a tenderer be a retired Engineer of the Gazetted rank or any other Gazetted officer working before his retirement, whether in the executive or administrative capacity of whether holding a pension-able post or not, in any of the Engineering Departments of any of the Railways owned and administrated by the President of India for the time being, or should a tenderer being partnership firm have one of the partner a retired Engineer or a retired Gazetted officer as aforesaid, or should a tenderer being an incorporated company has any such retired Engineer or retired

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	<p>officer as one of its Directors, or should a tenderer have in his employment any retired Engineer or retired Gazetted officer as aforesaid, the full information as the date of retirement of such Engineer or Gazetted officer from the said service and in cases where such Engineer or officer had not retired from Government service at least two years prior to the date of submission of the tender as to whether permission for undertaking such contracts, join his contractor in a partnership firm or any incorporated company, to become a Partner or Director as the case may be, or to take employment under the contractor has been obtained by the tenderer of the Engineer or the Officer as the case may be, from the President of India or any officer duly authorized by him on his behalf shall be clearly stated in writing at the time of submitting the tender. Tenders without the information referred to above or a statement to the effect that no such retired Engineer/or retired Gazetted Officer is so associated with the tender, as the case may be, is liable to be rejected.</p>
17.0	RESPONSIBILITY FOR CONTRACTOR'S MATERIAL:
17.1	The Railway Administration will not be responsible for loss or damage to the contractor's materials, equipment, tools & plants due to floods, theft or any other cause or causes whatsoever.
17.2	The contractor shall be held responsible for any damage to Railway property like telephone lines, cables which may be caused by any of his action in connection with or in the execution of the work.
17.3	RISK IN THE STORES:
17.3.1	<p>The contractor shall perform the contract in all respect in accordance with the terms and conditions thereof. The materials and every constituent part thereof, whether in the possession or control of the Contractor, his agents or servants or a carrier or in the joint possession of the contractor, his agents or servants and the Purchaser, shall remain in every respect at the risk of the contractor, until their actual delivery to the consignee at the stipulated place or destination or location as provided in the Contract Agreement until their delivery to a person specified in the contract as interim consignee for the purpose of dispatch to the consignee.</p> <p>The contractor shall be responsible for all losses destruction, damage or deterioration of the stores/ materials from any cause whatsoever while the materials after approval by the inspecting officer are awaiting Dispatch or delivery or are in the course of transit from the Contractor to the consignee or, as the case may be, interim consignee. The contractor shall alone be entitled and responsible to make claims against transporting carrier in respect of non-delivery, short delivery misdelivery, loss, destruction, damage or deterioration of the goods entrusted to such carrier by the contractor for transmission to the consignee or the interim consignee as the case may be.</p>
17.4	CLAIMS:
17.4.1	The contractor will indemnify the Railways from all claims made in respect of loss or injury suffered by the contractor's representative at site.
18.0	SITE CLEARANCE:
18.1	At the end of the work at each location the contractor shall as a part of his contractual obligation, leave the area completely cleared of rubbish and obstructions of all kinds according to the instructions of the Railway's representative. Besides, he shall take all necessary steps in the course of the execution of work to avoid the presence of loose earth and ballast on platforms, in drains, on the track formation and pathways in the vicinity. If within a fortnight of completion of the particular item

	of site work, the refuge is not cleared, the Railway will arrange to get them removed at the cost of the contractor. However, before the Railway actually gets the site cleared, intimation in writing shall be sent to the contractor.
19.0	CONSIGNEE:
19.1	Normally, the contractor should consign, if need be, all the materials to 'Self' to the nearest stations where materials can be booked for stacking before erection. For such items, as admit part payment on receipt by the Railway, the materials can be booked to SSE(Tele)/WP/Bela at Patna where from the materials shall be handed over to the contractor for installation. However all handling charges for each such items shall be borne by the contractor.
19.2	The responsibility for damage to any equipment during transportation and till it is taken over by Railways shall be that of the contractor.
20.0	PATENTS:
20.1	The tenderer is prevented from using any patented detailed drawings, process or patents without the previous consent of the owner of such patent etc. The tenderer for the use of such patented drawings; process should bear the royalties payable to the patents.
20.1	The tenderer is also required to indemnify the Railway against all costs and expenses arising from any claim or action being brought against the Railway for infringement of letters of patents.
21.0	FOREIGN EXCHANGE AND IMPORT LICENCE:
21.1	Any foreign exchange if required for the supply of goods and services under the contract will have to be arranged by the tenderer. Railway shall make all payments under this contract only in Indian Rupees.
21.2	The successful tenderer will have to apply to the proper Government Authority for grant of requisite import license/foreign exchange for such items as required import and coordinate with all Government, agencies in these matters directly.
21.3	RECOVERY OF INCOME TAX:
21.3.1	Income tax as applicable on date or levied subsequently by the Government during the currency of the contract on the gross amount payable to the contractor will be recovered from all bills in terms of section 194 (C) of the Income Tax Act, 1961 as introduced with Finance Act, 1972 unless the exemption certificate issued by the Income Tax Department is produced during the currency of the contract.
22.0	INDEMNITY:
22.1	The contractor shall indemnify and save harmless the Railway from and against all actions suits, proceedings, losses, costs, damages, charges, claims and demands of every nature and description brought or recovered against the Railway by reason of and act of omission of the contractor, his agent or employees, in execution of the works 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 be 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.
23.0	REPORTING OF ACCIDENTS TO LABOUR:
23.1	The contractor shall be responsible for the safety of all employees employed by him directly or indirectly on the works and shall report serious accidents to any of them

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	however and wherever occurring on the works to the Engineer's representative and shall make every arrangement to render all possible assistance.
24.0	CONTRACTOR TO MAKE GOOD THE DEFECTIVE EQUIPMENT:
24.1	If the completed equipment or any portion thereof, before it is taken over, be found to be defective or the contractor otherwise fails to fulfill the requirements of the contract and/or its purpose, the Railway shall give the contractor notice, setting for the particulars of such defects or failure and the contractor shall forthwith make the defects good or alter the same to make it comply satisfactorily with the said requirements. Should the contractor fail to do so within a reasonable time after the service of the said notice upon him, the Railway may reject and replace the whole or part of such defective equipments as the case may be at the cost of the contractor, such replacements shall be carried out by or at the instance of Railway within a reasonable time and as far as reasonably practicable, the same specification and under competitive conditions. The Contractor's full liability under this clause shall be satisfied by the payment to the Railway of the total cost, if any, such replacement delivered and erected as provided for in the original contract, such extra cost being the ascertained difference between the cost of equipment purchased and replaced by the Railway under the provision mentioned above for such replacement and contract price for the plant so replaced, plus sum, if any paid by the Railway to the contractor in respect of such defective equipment. Should the Railway not so replace the rejected equipment within a reasonable time, the contractor's liability under this clause shall be satisfied by the repayment by the contractor of all money paid by the Railway to him in respect of such rejected equipment.
25.0	SUPERVISION OF ERECTION / MAINTENANCE & CHARGE THERE OF:
25.1	Where supervision of Erection/Testing/Commissioning is a scheduled item of the contract the contractor shall depute his competent erection Engineer to supervise all works of the installation and who shall be responsible for testing and final commissioning of the installation to the entire satisfaction of the Railway.
25.2	Where supervision of maintenance after commissioning of the installation (for a specific period solely at the discretion of the Railway) is a schedule item of the contract, the contractor shall depute his competent Engineer who shall supervise the entire installation for the specific period, solely at the discretion of the Railway from the date of commissioning of the installation. During this period, he shall rectify any defect that may arise in the work executed due to bad workmanship on the part of the contractor or otherwise, defect in the equipments or due to any other reason and shall repair the defect or replace the defective equipment at the cost of contractor. The Railway Engineer's decision in this regard is final and binding on the contractor.
25.3	Charges quoted in the schedule/s and accepted on account of supervision of erection/maintenance done during the month or part thereof shall be claimed after expiry of the concerned calendar month on production of a certificate from the Railway.
26.0	SUPPLY OF RAILWAY MATERIALS FROM RAILWAY GODOWNS:
	No material will be supplied by Railway. Contractor himself shall supply all materials, machineries, tools and plants.
27.0	RESPONSIBILITY FOR COMMISSIONING:
	Until the contract works have been provisionally accepted by the Railway, the contractor shall be entirely responsible for the works, whether under construction, during the tests or in use of the Railway's service in respect of preservation,

	guarding, safe running of trains and maintenance. The Contractor shall keep attendants constantly on the sites during the period until Railway's provisional acceptance.
28.0	NIGHT WORK:
28.1	If the Railway is however, satisfied that the work is not likely to be completed in time except by resorting to night work by special order, the contractor would be required to carry out the work even at night, without conferring any right on the contractor for claiming compensation.
29.0	EXECUTION OF NEW ITEM:
29.1	Where items not covered by the schedules are to be executed due to addition/alteration/modification deemed essential by the Railway, the rates for such non-itemised work will be negotiated and accepted by the Railway before commencement of such works or get executed through any other agency solely at discretion of the Railway administration.
30.0	VARIATION IN QUANTITIES: Railway Board's Letter No. 2007/CE-1/CT/18 Pt XII dt. 31-12-2010 the procedure detailed below shall be adopted for dealing with variation in quantities during execution of works contracts:
30.1	Individual NS items in contracts shall be operated with variation of plus or minus 25% and payment would be made as per the agreement rate. For this, no finance concurrence would be required.
30.2	In case of 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 is considered not practicable, Quantity of that item may be operated in excess of 125% of agreement quantity subject to 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 S.A 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 personal concurrence of FA & CAO and approval of General Manager.
30.3	In Case 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 agreement value, the approval of an officer not less than S.A grade may be taken, after

	obtaining 'NO Claim Certificate' from the contractor and with finance concurrence, giving detail 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.
30.4	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 agree mental value.
30.5	No such quantity variation limit shall apply for foundation items.
30.6	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).
30.7	For the tenders accepted at Zonal Railway, variation in the quantities will be approved by the authority in whose powers revised value of the agreemental lies.
30.8	For tender accepted by General Manager, variation up to 125% of the original agreement value may be accepted by General Manager.
30.9	For tender accepted by Board Members and Railway Ministers, variation up to 110% of the agreemental value may be accepted by General Manager.
30.10	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 the increase as well as decreased of value of contract agreement), sanction of the competent authority as per single tender should be obtained.
31.0	INSPECTION:
31.1	The contractor should bear the cost of inspection of all materials both unfinished and finished products at his or at the manufacturer's premises by the Railway's representative. The correctness and quality of the various items shall be checked by the Railway's representative before installation is commenced. If required, they should take necessary measures to ensure that the work at various stages is in order and to the specification prescribed by Railway.
31.2	Railway's Engineer appointed for this purpose will inspect and test the various portions of the equipment as per relevant specifications given in the tender and the Railway's Engineer may inspect the work at all stages and shall have full powers to reject all or any that he may consider to be defective or inferior in quality or material or workmanship or design to what is called for in the specification. The contractor shall carry such tests at his works as are necessary in the opinion of the Railway to ensure that specifications in the correct are being complied with.
31.3	The contractor shall provide at the point of production, apparatus and labour for making the required tests under the supervision of the Railway or its representatives.
31.4	Tests may be made at the point of production or on samples submitted and may also be made at the destination.
31.5	All the inspections will be carried out by the inspecting Authority at the original manufacturer's premises only who are supplying these items, but not any other places in case of important and large value items. The cost of stay of the Railway inspecting official shall be borne by the Railway.
31.6	CONSIGNEE'S RIGHT OF REJECTION:
31.6.1	If the product which arrives at the destination does not meet the requirements of the

	specifications it may be rejected.
31.6.2	<p>Notwithstanding any approval which the Inspecting officer may have given in respect of any materials or other particulars or the work or workmanship involved in the performance of the contract (whether with or without any test carried out by the Contractor or the inspecting officer or under the direction of the Inspecting officer) and notwithstanding delivery of the materials where so provided to the interim consignee, it shall be lawful for the consignee, on behalf of the Railway, to reject the materials or any part, portion or consignment thereof within a reasonable time after actual delivery thereof to him at the place or destination specified in the contract if such materials or part, portion or consignment thereof is not in all respects in conformity with the terms and conditions of the contract whether on account of any loss, deterioration or damage before dispatch or delivery or during transit or otherwise howsoever.</p> <p>Note: In respect of material pre-inspected at the firm's premises the consignee will issue rejection advice within 90 days from the date of receipt.</p>
31.7	During the execution of the contract, samples may be taken from all the materials employed for the purpose of test and / or analysis under the conditions laid in specification, such samples to be prepared for testing and forwarded to the works laboratory selected by the Railway free of cost to the Railway.
31.8	The cost of all tests and / or analysis effected at the manufacturer or contractor's work shall be borne by the contractor for all the test required as per tender specification.
31.9	The contractor will be called upon to pay all the expenses incurred by the Railway in respect of any work or materials found to be defective or of inferior quality, adulterated or otherwise unacceptable.
31.10	Inspecting authority shall be the <u>Railway's own Engineer</u> or any other authority such as <u>RDSO</u> , as shall be nominated by the Railway. In case inspection is waived, the waiver certificate shall be issued within 10 days of receipt of call notice.
31.11	No inspection charges are to be paid by the contractor.
31.12.1	Inspection and test shall be carried out at the place of production, destination and at site of installation by the Railways authorised representative (Inspecting officer) to ensure that all the requirement of tender specifications are complied during manufacture, supplying, installation and commissioning in accordance with Technical Specifications, Special Condition of Contract and General Condition of Contract. The Inspecting Officer shall be nominated by the Chief Administrative Officer (Workshop Projects), Chamber Bhawan, J.C. Road, Patna – 800 001.
31.12.2	Notice/ Intimation shall be sent in writing at least 30 days in advance by the Contractor to the Inspecting officer when the stores or material to be supplied are ready for inspection and test and no materials shall be delivered or dispatched until the Inspecting Officer has certified in writing that such stores have been inspected and approved for dispatch.
31.12.3	<p>Facilities for Test and Examination:</p> <p>The contractor shall, at his own cost make available to the inspecting officer all reasonable facilities and such accommodation as may be necessary for satisfying himself, that the materials are being and /or have been manufactured in accordance with the Specification and conditions laid down. The Inspecting officer shall have full and free access at any time during the execution of the contract to the Contractor's workshop for the purchase aforesaid, and he may require the Contractor to make</p>

	arrangements for inspection of the materials or any part thereof or any material at their premises or at any other place specified by the inspecting officer and if the Contractor has been permitted to employ the services of a sub-contractor, he shall in his contract with the sub-contractor, reserve to the Inspecting officer a similar right.
31.12.4	<p>Cost of Test:</p> <p>The Contractor shall provide, at his cost, all materials, tools, labour and assistance of every kind, which the Inspecting officer may demand of him for any test and examination, which he shall require to be made on the Contractor's premises. If the Contractor fails to meet with the conditions aforesaid, the inspecting officer shall, in his sole judgment, be entitled to remove for test and examination all or any of the stores manufactured by the Contractor to any premises other than his (Contractor's) and in all such cases the Contractor shall bear the cost of transport and /or carrying out such test elsewhere. A certificate in writing of the Inspecting officer, that the Contractor has failed to provide the facilities and the means for test examination shall be final.</p>
31.12.5	<p>Inspection Charges:</p> <p>The inspection charges of the inspecting official nominated by the Chief Administrative Officer (Workshop Projects), Chamber Bhawan, Patna, if any shall be borne by the Railways, in case, if the system offered is manufactured or supplied through authorized distributor/ reseller in India, otherwise all charges shall be borne by the contractor.</p>
31.12.6	<p>Delivery of Materials for Test:</p> <p>The Contractor shall also provide and deliver for test, at his cost, at such place other than his premises as the Inspecting officer may specify such material or stores, he may require. The premises for testing other than manufacturer's premises shall be mutually decided by Railway and the Contractor.</p>
31.12.7	<p>Acceptance Test Procedure:</p> <p>The contractor shall submit detailed Test Procedure for each equipment, sub-system and system as a whole to the Railway. The Railway shall discuss with the contractor and modify the same as may be required to ensure that the requirement of Tender Specifications are complied. The finalized Acceptance Test Procedure / Schedule shall, only, act as broad guideline and Railway shall be free to carry out any other test that may be considered essential. The Test Procedure shall give details of all equipment, test and measuring instruments required to perform the test.</p>
31.12.8	The Inspecting officer shall have the right to put all the stores of materials forming part of the same or any part there to such tests as he may think fit and proper. The contractor shall not be entitled to object on any ground whatsoever to the method of testing adopted by the Inspecting officer.
31.12.9	The contractor shall provide the facilities of inspection and testing at the final stage of production, assembly and testing in the manufacturer's premises in India/abroad.
32.0	WARRANTY:
32.1	The work done and executed by the contractor shall be guaranteed against defects and to conform to parameters in the technical specifications for a period of 12 months from the date of issue of completion certificate as stated in <i>clause 48 of standard General Conditions of Contract</i> or 18 months from the date of supply of the last vital / main equipment in the contract, whichever is later. However for the

	items involving only supply the warranty shall be for 18 months from date of supply even if the order is split separately into supply and execution portions for benefit of the Railway.
32.2	During the period of warranty the contractor shall remain responsible to arrange replacement and for setting at his own cost any equipment installed by him which is of a defective manufacture or design or workmanship or becomes unworkable due to any cause whatsoever. The defective equipment shall be made available at the Inspector's store at RWP/Bela. The decision of the Railway in this regard to direct the Contractor to attend to any damage or defect or in work or arrange replacement of any part thereof shall be final and binding on the Contractor.
32.3	WARRANTY AGAINST DEFECTS:
32.3.1	(a) After the equipment/system has been taken over during the period of warranty, the contractor shall be responsible to the extent expressed in this clause for any defects that may develop under the conditions provided for by the contract and under proper use, arising from faulty materials, design or workmanship of the plant, or from faulty erection of the plant by the contractor, but not otherwise and shall rectify such defects at his own cost when called upon to do so by the purchaser who shall state in writing in what respect the portion is faulty. (b) During the warranty, concerned Railway Engineer or his representative will report any defects in system. Contractor is bound to attend the system within 24 hour of complain.
32.3.2	If it becomes necessary for the contractor to replace or renew any defective portions of the Equipment/System under this clause the provisions of this clause shall apply to the portions of the plant so replaced or renewed until the expiry of 12 months from the date of such replacement or renewals or until the end of the warranty period whichever may be later. If any defect is not remedied within a reasonable time the Railway may proceed to do the work at Contractor's risk and expense, but without prejudice to any other rights, which the Railway may have against the Contractor in respect of such defects.
32.3.3	If the replacement, or renewals are of such a character as may effect the efficiency of the Equipment /System the Railway shall have right to give notice to the contractor, within one month from such replacement or renewal, in writing, to conduct tests as done at the time of acceptance, should such tests show that Equipment / System sustains the guarantees given in the contract, the cost of the tests shall be borne by the Railway. Should the guarantees not be sustained, the cost of test shall be borne by the Contractor.
32.4	All inspections, adjustments, replacements or renewals carried out by the Contractor during the warranty period shall be subject to the same conditions of the contract.
32.5	Until the issue of the final certificate the contractor shall have the right of entry, at his own risk and expense, himself or his duly authorised representative, whose name shall have previously been communicated in writing to the purchaser at all reasonable working hours upon all necessary parts of the works for purpose of inspecting the working and the records of the plant and taking notes there from and, if he desires at his own risk and expenses, making any tests subject to the approval of the Purchaser which shall not be unreasonably withheld.
33.0	PRICE VARIATION:
	A - GENERAL:

	i) The rates for each item quoted by the Contractor in his tender and accepted by the Railway shall hold good till the completion of the work. Fluctuations in the market rates/conditions, taxes, additional levies, tools or any other charges in the cost of an item as whole or in the cost of a component of expenditure constituting that item, shall be taken into account and payments to contractor shall be adjusted i.e. increased / decreased, in accordance with the provisions of this Clause. No other Claim on account of these inputs shall be admissible.
	ii) The total amount payable to the contractor for the payments made through On Account / Final Bills for the work done in a particular quarter shall be adjusted i.e. increased / decreased, based on the overall market situation as reflected by increase / decrease in various price indices published by the Reserve Bank of India from time to time.
	iii) The amount of adjustment i.e. increase / decrease in the payments to the contractor shall be calculated in accordance with the mentioned detailed in this clause.
B - APPLICABILITY OF PRICE VARIATION CLAUSE:	
	i) (a) This Price variation clause shall be applicable for tenders of value more than Rs.1.0 crore irrespective of contract completion period and PVC shall not be applicable to tenders of value less than Rs.1.0 crore. (b) This Price Variation Clause shall be applicable only to contractors where the original period of completion as per tender documents is more than one year and shall not be applicable where the period of completion is less than or equal to one year, even though this clause may be printed in the tender documents. Extension of time of completion resulting in total time of completion of more than one year, where the original time of completion was less than a year, will not make this Price Variation Clause applicable to the contract.
	ii) The Price Variation Clause will be applicable to all extension of time granted to the date of completion in cases where the Original time of completion was more than a year except extension granted under <i>clause 17(4) of GCC 1969 or 17(B) of GCC 2000.</i>
	iii) This Price Variation Clause shall be applicable only to contracts more than Rs. 10 Lakhs on value; the value being the value of actual work to be executed by the contractor, i.e. excluding the cost of materials supplied Free of Cost by the Railway, on the basis of tendered quantities. If this Value is less than Rs.10 Lakhs the Price Variation Clause shall not be applicable, even though this Clause may be printed in the tender documents where the value of work executed by contractor becomes more than 10 Lakhs (as a result of subsequent variation, N.S. item etc.), the original value having been less than Rs. 10 Lakhs, this clause will not be applicable.
	iv) Further this P.V. Clause shall be applicable only on such items of Schedule of items, the execution of which is delayed / affected for reasons covered in grounds for extension as per G.C.C. of payment under this clause, even though the whole contract gets extended under provisions of G.C.C.
	v) The price variation clause will, also not apply to Zonal Contracts.
C - CEILING OF PRICE VARIATION:	
	i) The adjustment i.e. reimbursement / recovery based on Price Indices shall be made only if, to the extent, the amount to be adjusted is in excess of 5% of the

	amount payable to the contractor as per accepted rates.
	ii) The total amount of adjustment i.e. increase / decrease in the payment to the contractor shall be limited to 10% i.e. (15% - 5% floor price) of the amount finally payable to the contractor as per accepted rates for the contracts where the period of completion is between 1 to 2 years (See note below (iii) have under).
	iii) The total amount of adjustment i.e. increase/decrease in the payment to the contractor shall be limited to 20% i.e. (25% - 5% floor price) of the amount finally payable to the Contractor as per accepted rates for the contracts where the period of completion is more than 2 years.
	NOTE:
	(i) The period of completion is the period originally mentioned in the tender documents and it will not include extension granted under any clause of GCC.
	(ii) Materials supplied free by Railway to the Contractor will fall outside the purview of Price Variation Clause.
	D - METHOD OF CALCULATION OF ADJUSTMENT:
	i) The amount of adjustment i.e. increase / decrease in total payable amount shall be calculated by the following formula for each component of input, i.e. labour, material, fuel, explosive, detonator. There shall be a fixed component also on which no adjustment shall be made.
	a) $L = \{R \times (I - I_0)/I_0\} \times (P/100)$
	b) $M = \{R \times (W - W_0)/W_0\} \times (Q/100)$
	c) $U = \{R \times (D - D_0)/D_0\} \times (Z/100)$
	d) $X = \{R \times (E - E_0)/E_0\} \times (S/100)$
	e) $N = \{R \times (D - D_0)/L_0\} \times (T/100)$
	Where, L = Amount of Price Variation in Labour. M = Amount of Price Variation in Materials. U = Amount of Price Variation in Fuel. X = Amount of Price Variation in Explosives. N = Amount of Price Variation in Detonators. R = Gross Value of the work done by the contractor as per On account Bills excluding cost of materials supplied by Railway free or at a fixed price. This will also exclude specific. Payment, if any, to be made to the consultants engaged by the contractors (such payment will be indicated in the contractor's offer). I ₀ = Consumer Price Index Number for Industrial Workers – All India – Published in R.B.I. Bulletin for the period. I = Average Consumer Price Index Number for Industrial Workers – All India – Published in R.B.I. Bulletin for the 3 months of the quarter under consideration. W ₀ = Index Number of whole sale prices – By groups and Sub-groups – All commodities – as Published in the R.B.I. Bulletin for the base period. W = Average Index Number of whole sale prices – By groups and Sub-groups – All commodities –as published in the R.B.I. Bulletin for the 3 months of the quarter under consideration. F ₀ = Index Number of whole sale prices – By groups and Sub-groups for Fuel, Power, Light and Lubricants as published in the R.B.I. Bulletin for the base period. F = Average Index Number of whole sale prices – By groups and Sub-groups for Fuel, Power, Light and Lubricants as published in the R.B.I. Bulletin for the 3

	<p>months of the quarter under consideration.</p> <p>E_o = Cost of explosive as fixed by DGS&D in the relevant rates contract of the firm from whom purchase of explosives are made by the contractor for the base period.</p> <p>E = Average Cost of explosive as fixed by DGS&D in the relevant rate contract of the firm from whom purchases of explosives are made by the contractor for the 3 months of the quarter under consideration.</p> <p>D_o = Cost of detonators as fixed by DGS&D in the relevant rate contract of the firm from whom purchases of detonators are made by the contractor for the base period.</p> <p>D = Average Cost of detonators as fixed by DGS&D in the relevant rate contract of the firm from whom purchases of detonators are made by the contractor for the 3 (three) months of the quarter under consideration.</p> <p style="padding-left: 40px;">P = % of Labour Component.</p> <p style="padding-left: 40px;">Q = % of Material Component.</p> <p style="padding-left: 40px;">Z = % of Fuel Component.</p> <p style="padding-left: 40px;">S = % of Explosive Component.</p> <p style="padding-left: 40px;">T = % of Detonators Component.</p>																										
	ii) INDEX NUMBER:																										
	<p>The base index number shall be that published by the R.B.I. for the month of opening of the tender and the quarters will commence from the month following the month of opening of the tender. However, in case of the tender is finalized after the negotiation, quarterly periods shall be counted commencing from the month following the month in which the last negotiation was held leading to the award of contract.</p> <p>The percentages P, Q, Z, S, T, of various components i.e. Labour, Material, etc. for different types of work shall be as follows:</p> <p><u>Earthwork items:</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding-left: 40px;">Labour Components</td> <td style="text-align: right;">50%</td> </tr> <tr> <td style="padding-left: 40px;">Fuel Components</td> <td style="text-align: right;">20%</td> </tr> <tr> <td style="padding-left: 40px;">Other Material Components</td> <td style="text-align: right;">15%</td> </tr> <tr> <td style="padding-left: 40px;">Fixed Components</td> <td style="text-align: right;">15%</td> </tr> </table> <p><u>Ballast and Quarry products items:</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding-left: 40px;">Labour Components</td> <td style="text-align: right;">55%</td> </tr> <tr> <td style="padding-left: 40px;">Fuel Components</td> <td style="text-align: right;">15%</td> </tr> <tr> <td style="padding-left: 40px;">Other Material Components</td> <td style="text-align: right;">15%</td> </tr> <tr> <td style="padding-left: 40px;">Fixed Components</td> <td style="text-align: right;">15%</td> </tr> </table> <p><u>Tunneling items:</u></p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding-left: 40px;">Labour Components</td> <td style="text-align: right;">45%</td> </tr> <tr> <td style="padding-left: 40px;">Fuel Components</td> <td style="text-align: right;">15%</td> </tr> <tr> <td style="padding-left: 40px;">Explosive Components</td> <td style="text-align: right;">15%</td> </tr> <tr> <td style="padding-left: 40px;">Detonators Components</td> <td style="text-align: right;">5%</td> </tr> <tr> <td style="padding-left: 40px;">Other Material Components</td> <td style="text-align: right;">5%</td> </tr> </table>	Labour Components	50%	Fuel Components	20%	Other Material Components	15%	Fixed Components	15%	Labour Components	55%	Fuel Components	15%	Other Material Components	15%	Fixed Components	15%	Labour Components	45%	Fuel Components	15%	Explosive Components	15%	Detonators Components	5%	Other Material Components	5%
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Detonators Components	5%																										
Other Material Components	5%																										

	Fixed Components	15%
	<u>Other Works items:</u>	
	Labour Components	30%
	Material Components	40%
	Fuel Components	15%
	Fixed Components	15%
	<u>Other Works items: (In case steel and cement are dealt separately)</u>	
	Labour Components	30%
	Material Components	25%
	Fuel Components	15%
	Fixed Components	30%
	iii) The amount on which the adjustment is to be calculated, shall be the amount payable to the contractor for the item or items of various types of works given in (e) (ii) above, refer (E) below for procedure of calculation of adjustment.	
	iv) The Calculation for adjustments in the amount payable to the contractor shall be made on the value of work done in each quarter by the contractor. Quarterly periods shall be counted commencing from the month following the month in which tender had been opened. However, in case of the tender is □inalized after the negotiation, quarterly period shall be counted commencing from the month following the month in which the last negotiation was held leading to the award of contract. Refer (E) below also:	
	v) The Calculation for adjustments should be based on the average period index of the 3 months of the quarter.	
	vi) The demand for the cost may be allowed on the basis of provisional indices made available by the Reserve Bank of India. Any adjustment needed to be done based on the finally published indices shall be made as end when they become available.	
	E - MAKING ADJUSTMENTS OF PRICE VARIATION:	
	i) The adjustment for variation in prices i.e. extra payment in case of increase and recovery in case of decrease, as required, shall be made once every quarter in the on account payments. If more than one on account payment is made to the contractor in a quarter, the adjustment, if required, shall be made in each bill.	
	ii) It shall be contractor's responsibility to submit the values of various price indices for appropriate points of time along with proof/authenticity thereof, to enable the Railway to calculate the price variations.	
	F - METHOD OF OPERATION OF THIS CLAUSE:	
	i) Since the adjustments in payments are based on the amount of work done by contractor in each quarter, measurements of the actual work done must be taken & recorded in the measurement books and signed by the contractor at the end of each quarter, if not frequently.	
	ii) Since the various indices are, published by RBI/Ministry of labour a few months later than the months to which they pertain, the normal on account bills based on quarterly measurements will be prepared as per current procedure on the accepted rates without considering the price variation clause. The adjustments for price variations shall be done subsequently, through separate series of on account bills, called Escalation-On-Account Bill Nos. 1, 2 etc. The adjustments bills will be kept independent of each other for facility of operations.	

	iii) Since the adjustments due to price variations are done on the basis of payments made for each type work as defined in Para C (ii) above, it will be advisable to record measurements and prepare abstracts for each type of work separately in each normal On A/Cs. Bill / measurements do not have to be worked upon again at the time of preparing Escalation-Account-Bills.
34.0	CONTRACTOR TO EXECUTE WORK WITH DILIGENCE & EXPEDITION:
34.1	The contractor shall execute the work with due diligence and expedition. Should he refuse or neglect to comply with any reasonable orders given to him in writing by the Railway in connection with the work or contrivance the provisions of the contract, the Railway shall be at liberty to give 07 (seven) days notice in writing to the contractor, requiring to make good the neglect or contravention complained of and should the contractor fail, to comply with the requisition made in the notice within 07 days, from the date of receipt if shall be lawful for the Railway to take the work wholly or in part out of the contractor's hands and without any further reference and get the work or any part thereof, as the case may be, completed by other agencies at the expense of the contractor without prejudice to any other right or remedy of the Railway.
35.0	CONTRACTOR TO MAKE GOOD THE DEFICIT FOR THE FAILURE TO COMPLY WITH THE WORK:
35.1	In the event of any loss to the Railway on account of execution and/or completion of the work or any part thereof by agencies other than the contractor in terms of above clause, the contractor shall be liable to reimburse the loss to the Railway without prejudice to other rights and remedies of Railway and reimbursement shall be at the option of the Railway, from out of all or any of the following sources wiz -
	a) Any amount due and payable to the contractor by the Railway on account of whatsoever
	b) The Contractor's Security deposit in the hands of the Railway, as far as available.
	c) Any other assets whatsoever of the contractor. In the event of reimbursement from out of sources (a) and/or (b) mentioned above, the Railway shall have the right of appropriation suomoto.
36.0	CONTRACTOR'S RESPONSIBILITY FOR ALTERATION OF WORK:
36.1	The contractor shall be responsible for and shall pay for any alteration of the works due to any discrepancies, errors or omissions that may arise from drawing or particulars have been approved by him, whether such drawings or particulars have been approved by the Railway or not. If any dimensioned figures on a drawing differ from those obtained by scaling the drawing the dimensioned figures are to be taken as correct. All dimensions, weights and measures shall be in metric units with British Standard Equivalents in bracket.
37.0	INSURANCE:
37.1	The contractor shall take out and keep in force a policy or policies in insurance against all liabilities of the contractor or the Railway at common head or under any status in respect of accidents to persons who shall be employed by the contractor in or about the site or the contractor's works or office for the purpose of carrying out of the contract works or to the works of other tenders against all recognized rights to the office accommodation and storage for which he is liable and hold the Railway Administration free from all responsibilities in these respects. The contractor shall also arrange insurance of all materials till the commissioning of the work at each station and taking over the Railways. Such insurance shall in all respects be on

	approval of the Railway and be affected jointly in the name of the contractor and the Railway Administration and lodged with the Engineer.
37.2	The contractor shall take out and keep in force a policy or policies of insurance for all materials being supplied by him till these are placed in service and handed over to the Railways. For Equipment be handed over to him at rate of 3 stations at a time, and insurance shall be taken for items which shall be for the period of installation/completion as given in the tender.
37.3	The contractor shall be liable for losses / damages to the materials either used up in the portion of work done or the material kept for use at site if it is proved to be due to his negligence.
37.4	The contractor should however, insure the store brought to site against risks in consequence of war and invasion, as required under the Emergency Risk (Goods) Insurance Act Force.
37.5	It may be noted that the beneficiary of the insurance policy should be the Railway or the policies should be pledged in favour of Railway. The contractor shall keep the policy / policies current till the installations are handed over to the purchaser. It may also be noted that in the event of contractor's failure to keep the policy current and alive, renewal of the policy will be done by the purchaser for which the cost of the premium plus any incidental and over head as applicable as per extent rules shall be recovered from the contractor.
37.6	For purpose of enabling the contractor to take the insurance cover in connection with this contract. The purchaser's engineer will advise the approximate price of all the Railway supply materials to the contractor.
37.7	The contractor shall take out all insurance covers in connection with this contract preferably with the General Insurance Corporation of India.
38.0	SAFETY MEASURES:
38.1	The Contractor shall take all possible precautions to ensure that none of his workers knowingly or otherwise cause interference to the circuits or equipments in use and give rise to unsafe conditions or dislocation of traffic.
38.2	No work shall be began above or under or adjacent to any line of the Railway, in consequence of which it may become necessary to foul any such line or it may in any way prejudice the same for safe passage of traffic until look out men and hand signal men as required by the Engineer or his representative shall have taken their duties.
38.3	The contractor shall take all precautionary measures in order to ensure the protection of their own personal moving about or working in the Railway Premises, which shall conform to the Rules and Regulations of the Railway. If and when, in the course of the works, there is likely to be any danger to persons in the employment of the contractor due to running traffic while working in the Railway sidings and premises, the contractor shall apply in writing to the Railway to provide flagmen or look out men for protection of such persons. The Railway will, however, decide as to whether it is necessary to post such flagmen for various types of work and also the number of such men required to protect the gang or gangs of contractor's staff working at site.
38.4	The Railway shall remain indemnified by the contractor, in the event of any accident occurring in the normal course of work, arising out of the failure of contractor or his men to exercise reasonable precautions at all places of work whether or not the Railway has posted flagmen at any particular site of work. The flagmen will be appointed by the Railway and no expense on this account will be charged to the

	contractor.
38.5	While working within station limits, specially on passenger platforms, the contractor shall ensure that at all times sufficient space as per Railway's Schedule of Dimension as left for free movement of passenger traffic. He must cover and / or barricade the excavations carried out in such areas and continue to maintain these, till the work is completed with a view to avoid any accident to public or a Railway staff.
38.6	The work must be carried out most carefully without any infringement of the Indian Railway Act or the General and Subsidiary Rules in force on the Railway, in such a way that they do not hinder Railway operation nor effect the proper functioning of or damages any Railway Land, Equipment, Structure or Rolling Stock except as agreed to by the Railway, provided that all damage and disfiguration caused by the contractor to any Railway or Public property must be made good by the contractor at his own expenses failing which cost of such repairs shall be recovered from the contractor.
38.7	If safety of track etc is affected, as a consequence of works undertaken by the contractor, the contractor shall take immediate steps to restore normal conditions. In case of delay, the Railway shall, after giving due notice to the contractor in writing take necessary steps and recover the cost from the contractor.
38.8	The Contractor shall be held responsible for any damage to Railway property like telephone lines, cables or any other Railway gears & equipment, which may be caused by any of his action in connection with or in the execution of the work. All costs, damages or expenses which the Railway may have paid, for which under the contract, the contractor is liable, may be either deducted by the Railway at its discretion from any moneys due or to become due or refundable to the contractor under the contract, or may be recovered by actions at law or otherwise from the contractor under this contract and to set off the same against all claims whether arising out of this contract or out of any other transaction whatever against the contractor.
39.0	ISSUE OF MATERIALS FROM RAILWAY STORES:
39.1	If any material, which the contractor would normally have arranged for himself, if supplied by the Railway either at contractor's request or suomoto in order to prevent any possible delay in the execution of the work likely to occur due to contractor's inability to make adequate arrangements for supply thereof or otherwise, recovery of prices of such materials will be made from contractor's bill at the highest of the following rates:
	i) <i>Book Rate or Last Purchase Rate whichever is higher plus 5% on account of freight, plus 2% on account of charges plus 12.5% towards departmental charges on the over all cost.</i>
	ii) <i>Accepted tender rate for such material under contract.</i>
	If however, the material required by the contractor is not available in the Railway stock, or the Railway decides not to supply the same, be that for whatever reason, the Railway should not be bound to arrange for the supply at cost quoted above or at any other cost nor will this fact be accepted as an excuse for delay in execution of the work.
39.2	The contractor shall furnish an indemnity Bond as per Annexure-'D' of Rs. 3,00,000/- (Rupees Three Lakh only) for materials supplied by the Railway Administration direct to the contractor for works from the time he commences taking delivery of the materials to the time the works are completed at site and the quantities finally reconciled.

40.0	RESPONSIBILITY OF CONTRACTOR FOR SECURITY OF MATERIAL:
40.1	Security of all materials in the section where the work is in progress shall be the contractor's responsibility and he shall arrange to guard the same from theft. In the event of any loss the contractor shall be responsible to that effect and shall execute an indemnity bond for the materials that will remain in his custody, which has been supplied by the Railway. The store lost / unaccounted / consumed excess or damaged shall be recovered from the contractor.
41.0	RESPONSIBILITY FOR CONTRACT WORKS:
41.1	The contractor shall be responsible for and shall without delay make good all damages occurring to the contract works or to any materials or equipments forming or intended to form part thereof until acceptance of the same by the Railway's Engineers in reinstating the same at his own expense in all respect (including the cost of transport by sea and rail of any materials, equipment and things and the customs duties thereon). Provided that the contractor shall not be responsible for such damage occurring in the site as may be due in the opinion of the Railway, to the improper use thereof by the Railway or to the negligence of the Railway or any other contractor employed by the Railway on the site.
41.2	It is possible that certain defects may appear in the work during commissioning. The contractor shall be responsible to rectify these defects to the satisfaction of the Railway even this stage. Any delay on this account will not be a claim for extension of delivery period.
41.3	While undertaking the test of the Contractor's portion of the work and while testing the entire installation the contractor shall make such tests as would be necessary to demonstrate to the satisfaction of the Railway that the work as has been completed by him, is in accordance with the specification of the contract. The contractor shall provide such instruments and apparatus as may be necessary for making these tests.
42.0	PAYMENT TERMS:
42.1	For all items involving supply in the rate schedule, 90% of the supply rate quoted in the rate schedule shall be paid to the contractor as on account bills only on receipt of the materials in good condition at the stores of the consignee on production of the following documents:
	a) Inspection Certificate issued by R.D.S.O./ Railway representative in respect of items wherever necessary, else inspection waiver certificate issued by Railway.
	b) Bill should be prepared in Railway Format based on the measurement Book, showing the Description of each items, quantities as per measurement taken by site supervisor from time to time.
	c) Store receipt certificate issued by Railway official / Representative as per format at <i>Annexure 'J'</i> .
	d) Manufacturer's inspection certificates for large value items wherever necessary and as decided by the Railway Engineer, that the materials are in accordance with the specifications in the contract.
42.2	For all items involving either installation only or supply and installation, 80% of the installation rate quoted in the rate schedule shall be paid to the contractor as on account bills only on production of certificate by the site Engineer that relevant portion of installation has been completed.
42.3	The tenderer/s should not that payment against proof of dispatch of materials can be considered but will be restricted to 90% of rate schedule against each supply item.
42.4	The balance 10% of the supply rate and 20% of the installation rate quoted against each item involving both supply and installation or installation only may be released against

	equivalent amount of bank guarantee and 100% of the rate quoted in respect of items involving installation and commissioning shall be paid on completion of the installation/erection and on issue of the completion certificate by the authorized railway official/representative on submission of final bill in railway format along with measurement book duly measured by site supervisor. The validity of bank guarantee should be at least six months beyond the date of completion of the contract.
42.5	For items involving only supply such as Test and Measuring Instruments, Tools and plants accessories if any etc. which do not have any installation element, 100% shall be paid on receipt of the same in the store against the documents given at (a), (b), (c) & (d) (if applicable) of Para 42.1 above.
42.6	All payments shall be made on the certificate of the Engineer within a reasonable time of the submission of the necessary bills by the contractor. Payment shall be made through Cheques drawn on Reserve Bank of India or State Bank of India in the name of the contractor and the crossed cheque can be made available for delivery.
43.0	DEDUCTION:
43.1	Payment as in <i>Para 42</i> above shall be subject to deductions of any amount for which the contractor is liable under the contract against this tender or any other contract in respect of which the President of India is the Purchaser.
44.0	REFUND OF DEPOSITS:
44.1	The security deposit unless forfeited in whole or in part according to terms and conditions, will be refunded after the warranty period against any item of work on receipt of certificate from the Engineer concerned to the effect that the work has been satisfactorily completed in all respects as per 'Technical Specification, Instructions, Drawings' and receipt of 'No Claim' certificate from the contractor duly countersigned by the Engineer.
45.0	FORFEITURE OF SECURITY DEPOSIT:
45.1	The Security deposit shall, however, be liable to be forfeited wholly or in part in case of any breach by the contractor of any of the conditions of the contract or for non completion of full contract, without prejudice to the other rights and remedies of the Railway whether specifically provided or hereinafter or otherwise.
46.0	RESPONSIBILITY FOR COMPLETENESS:
46.1	Any fittings or accessories which may not be specifically mentioned in the Specifications but which are usual or necessary are to be provided by the contractor without extra charge, and the equipment must be complete in all details.
46.2	In all cases where the contractor provides for tests at site, the Purchaser except where otherwise specific, shall provide, Free of charge, such Labour, Materials, Fuels, Stores, Apparatus and Instruments as may be requisite from time to time and as many reasonable be demanded, efficient to carry out such tests of the plant, materials or workmanship etc. in accordance with the contract.
46.3	In the case of contracts requiring electricity for the completion of the works and for test on site, such electricity, where available, may be supplied free to the contractor at the voltage of the ordinary supply. However this is not binding on the Railway. The Contractor shall abide by the Indian Electricity Act as amended from time to time.
46.4	The bidder shall if required without fail, indicate the total number of supervisors, skilled technicians and unskilled personnel to be provided by the Railway for installation. In case of schedule for supervision of installation and commission is provided, this information shall be taken into account for evaluation purposes.

GOVERNMENT OF INDIA



**WORKSHOP PROJECTS
INDIAN RAILWAY**

SECTION - VI

FORMS OF TENDERS etc.

ANNEXURES

Signature of Tenderer(s)


Dy. CSTE/WP, PATNA

ANNEXURE-A

OFFER LETTER

To
 The President of India,
 Acting through Chief Administrative Officer,
 (or his successor)
 Workshop Projects,
 Chamber Bhawan,
 J. C. Road, Patna.

I / We have read the various conditions to tender attached here to and hereby agree to ABIDE BY THE SAID CONDITIONS. I / We also agree to keep this tender open for acceptance for a period of 180 days from the date fixed for opening the same and in default thereof, I / We will be liable for forfeiture of my/our Earnest Money. I/We offer to do the work as spelt out in the "Scope of the Work" as per schedule of requirement at Annexure-'Z' at the rates quoted by me/us in the attached schedules and hereby bind myself/ourselves to complete the work in the time period as mentioned in clause - 6 of the Special Conditions of Contract. I/We also hereby agree to abide by all the conditions specified in the tender and to carry out the works according to the Specifications for materials and works laid down by the Railways for the present contract.

A sum of Rs.(Rs.....) only is herewith forwarded as "Earnest Money". The full value of Earnest Money shall stand forfeited without prejudice to any other rights or remedies if,

- (a) I / We do not execute the contract documents within seven days after receipt of notice issued by the Railway that such documents are ready or,
- (b) I / We do not commence the work within 15 days after receipt or orders to that effect.

Until a formal agreement is prepared and executed the acceptance of this tender shall constitute a 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.

SIGNATURE OF CONTRACTOR(S)

	DATE:
SIGNATURE OF WITNESS	CONTRACTOR(S) ADDRESS:
1.	
2.	

Signature of Tenderer(s)


 Dy. CSTE/WP, PATNA

ANNEXURE-B**FORM OF BANK GUARANTEE BOND**

1. In consideration of the President of India (hereinafter called "the Government") having awarded the work of(Name of the work)..... VIDE Letter of Acceptance No.....dated..... (hereinafter called "the said Letter of Acceptance"), to M/s **NAME OF THE CONTRACTOR** (hereinafter called "The said Contractor(s)",

AND

Whereas the contractor(s) is required to furnish " Performance Guarantee" in the form of an Irrevocable Bank Guarantee for the sum of Rs. (Amount in Words), for the satisfactory completion of the work including maintenance period if any, by the said contractor(s)

AND

Whereas submission of performance guarantee is a condition precedent to the signing of the Contract Agreement.

We(hereinafter referred to as "the Bank" (Indicate the name of the bank) at the request of (contractor(s) do hereby undertake to pay to the Government an amount not exceeding Rs..... against any loss or damage caused to or suffered or would be caused to or suffered by the Government by reason of any breach of the said Contractor(s) of any of the terms or conditions contained in the said Letter of Acceptance and the Agreement to be signed, after furnishing of performance guarantee by the said contractor(s).

2. We..... (Indicate the name of the Bank) do hereby undertake to pay the amounts due and payable under this Guarantee without any demur, merely on a demand from the Government stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the Government by reason of breach by the said Contractor(s) of any of the terms or conditions contained in the said Letter of Acceptance and/or the Agreement or by reason of the Contractor(s) failure to perform the said Letter of Acceptance and/or the Agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.....
3. We undertake to pay to the Government any money so demanded notwithstanding any dispute or disputes raised by the Contractor(s)/Supplier(s) in any suit or proceedings before any court or Tribunal relating thereto our liability under this present bond being absolute and unequivocal. The payment so made by us under this Bond shall be a valid discharge of our liability for payment there under and the Contractor(s)/ Supplier(s) shall have no claim against us for making such payment.

Signature of Tenderer(s)


Dy. CSTE/WP, PATNA

4. We..... (Indicate the name of the Bank) further agree that the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the works covered in said letter of Acceptance and / or the Agreement including maintenance/ warranty period, and that it shall continue to be enforceable till all the dues of the Government under or by virtue of the said Letter of Acceptance and / or the Agreement have been fully paid and its claims satisfied or discharged or till..... (office / department) Ministry of certifies that the terms and conditions of the said Letter of Acceptance and / or Agreement have been fully and properly carried out by the said contractor(s) and accordingly discharges this Guarantee. Unless a demand or claim under this Guarantee is made on us in writing on or before the we shall be discharged from all liability under this Guarantee thereafter.

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

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

7. We.....(Indicate the name of Bank) lastly undertake not to revoke this Guarantee during its currency except with the previous consent of the Government in writing.

Date the..... day of200

for.....

(Indicate the name of the Bank)

ANNEXURE - C

**BANK GUARANTEE
(ON STAMP PAPER OF REQUISITE VALUE)**

To,
The President of India,
Acting through Chief Administrative Officer,
(or his successor)
Workshop Projects,
Chamber Bhawan,
J. C. Road, Patna

Whereas..... (here-in-after called the contractor) have entered into a contract with the President of India acting through the Chief Administrative Officer (Workshop Projects), Chamber Bhawan, J. C. Road, Patna-800001 (here-in-after called the Railway vide contract agreement No. where as the Railway has agreed to issue to contractor as the provision of the contract the signalling /telecom materials and to use them exclusively for the purpose for which they have been issued. The contractor further undertakes to fully Account for all the signaling / telecom materials at regular intervals as may be prescribed by the Railway as also when otherwise so demanded by the Railway and return all unused cables and other materials arising as per the provision of the contract. The contractor further agrees that they will give all the facilities to the Railway for physical verification of the signaling / telecom Materials whenever so directed by the Railway.

By this Bank Guarantee, we, undertake to keep the Railway indemnified against any loss or damage, which they may suffer, by default of the contractor in fulfillment of the above conditions.

Further, we, the contractor, are bound to the Railway or their successor and as signs in the sum of Rs.....

Signed and delivered by ourselves on this day of 200....

Place Signature

Date Witness

Signature of Tenderer(s)


Dy. CSTE/WP, PATNA

ANNEXURE-D

STANDING INDEMNITY BOND

(FOR ON ACCOUNT OF PAYMENTS & STORES SUPPLIED BY RLYS.)

(On Stamp paper of Requisite Value)

We, M/s..... hereby undertake that we hold at our stores Depot/s at for and on behalf of the President of India in the premises through the chief Administrative Officer (Workshop Projects), Chamber Bhawan, Patna or his successor,(herein after referred to as "the Purchaser") all materials for which "On Account" payments have been made to us against the contract for -----

----- vide letter of Acceptance of Tender No..... Dated and the materials handed over to us by the purchaser for the purpose of execution of the said Contract, until such time the materials are duly erected or otherwise handed over to him.

We shall be entirely responsible for the safe custody and protection of the said materials against all risk till they are duly delivered as installed and/or erected equipment to the purchaser or as he may direct otherwise and shall indemnify the Purchaser against any loss, damage or deterioration what so ever in respect of the said materials while in our possession and against disposal of surplus materials. The said materials shall at all times be open to inspection by any Officer authorised by the chief Administrative Officer (Workshop Projects), Chamber Bhawan, J. C. Road, Patna.

Should any loss, damage or deterioration of materials occur or surplus materials disposed off and refund becomes due, the purchaser shall be entitled to recover from us the full cost as per prices included in the Contract (as applicable) and also compensation for such loss or damage if any along with the amount to be refunded without prejudice to any other remedies available to him by deduction from any sum due or any sum which at any time hereafter becomes due to us under the said or any other Contract.

In the event of any loss or damage as aforesaid the assessment of such loss or damage and the assessment of the compensation there for would be made by the President of India acting through the Chief Administrative Officer (Workshop Projects), Chamber Bhawan, Patna or his authorised nominee shall be final and binding upon us.

Dated this day of, 200

for and on behalf of
M/s
(Contractor)

Signature of Witness:

Name of Witness in block letters:

Address:

Signature of Tenderer(s)


Dy. CSTE/WP, PATNA

ANNEXURE-E**STATEMENT OF DEVIATIONS**
PROFORMA FOR STATEMENT OF DEVIATIONS

1. The following are the particulars of deviations from requirement of the instructions to Tenderers, General Conditions of contract.

1.1 General Conditions of Tendering:

CLAUSE	DEVIATION	REMARKS (Including justification)

1.2 General Conditions of Contract

CLAUSE	DEVIATION	REMARKS (Including justification)

1.3 Special Conditions of Contract

CLAUSE	DEVIATION	REMARKS (Including justification)

1.4 Instructions to Tenderers

CLAUSE	DEVIATION	REMARKS (Including justification)

2. The following are the particulars of deviations from requirement of the technical specifications:

(Separate Statement for each specification)

CLAUSE	DEVIATION	REMARKS (Including justification)

Note: Where there is no deviation, the statement should be returned duly signed with an endorsement indicating no deviations.

Signature of Tenderer(s)


Dy. CSTE/WP, PATNA

ANNEXURE-G

PROFORMA FOR THE WORK PERFORMANCE GUARANTEE

To
The President of India,

I/We..... hereby guarantee that the design on the basis of which we have submitted our Tender No.has been carefully made to confirm to the end objectives in the tender documents and to technical specification therein. We further guarantee that in the event of the performance of the equipment and/or work, when installed, not complying with the end objectives or with the specifications contained in the tender documents, we shall provide further inputs to enable the Railways to realise the end objectives contained in these documents without any additional payment for any additional equipment which may be required in this regard. We further guarantee that all the expenses including the expenses incurred in India for providing the additional inputs under the System guarantee will be borne by us. We further guarantee that these additional inputs will be provided by us to make the system workable within 8 months from the date on which this guarantee is invoked by the Purchaser.

(Signature of firm's authorised Officer)

Seal:

Signature of Witness :

1.....

2.....

Signature of Tenderer(s)


Dy. CSTE/WP, PATNA

ANNEXURE-H1**DETAILS OF PERSONNEL ORGANIZATION AVAILABLE ON HAND &
PROPOSED TO BE ENGAGED FOR THE WORK**

Sl. No.	Name	Age	Technical Qualification	Position with the tenderer	Commencement of present employment	Total experience	Emoluments.
1	2	3	4	5	6	7	8

Signature of Tenderer(s)


Dy. CSTE/WP, PATNA

ANNEXURE-H2**DETAIL OF PLANTS & MACHINERY AVAILABLE ON HAND**

S. No.	Description of equipments	Numbers available	Detail of purchase	Date of manufacture	Material	How driven (i.e. Petrol/ Diesel/ Electric)	Condition of the equipment	Where the equipment can be inspected
1	2	3	4	5	6	7	8	9

Signature of Tenderer(s)



Dy. CSTE/WP, PATNA

ANNEXURE-H3**DETAILS OF WORK AWARDED TO THE FIRM**

Sl. No.	Name of work taken up during last 3 years (Current financial year and 3 previous financial years).	Nature of work, Brief description.	Name and address of the Client / Dep't.	Contract value in lakh of Rupees.	Date of Award of contract.	Scheduled date of completion	Actual date of completion with brief reason for delay	Whether the work was completed, is continuing or terminated.
1	2	3	4	5	6	7	8	9

Signature of Tenderer(s)


 Dy. CSTE/WP, PATNA

ANNEXURE-H3

Continued...

Whether any specialized agencies/ other Contractor were employed by the tenderer and if so, what for.	Net payment received during the financial year against each of the contracts in the last 3 years (Current financial year and 3 previous financial years): 20011-12; 2010-11; 2009-10; 2008-09;	This year, i.e. 2011-12	Next year, i.e. 2010-11	Next year, i.e. 2009-10	Next year, i.e. 2008-09
10	11	12	13	14	15

Signature of Tenderer(s)



Dy. CSTE/WP, PATNA

ANNEXURE-H4**LIST OF ARBITRATION CASES DURING LAST 5 YEARS**

Sl. No.	Name of work	Value of work	Name of Client Dep't.	Amount and date of claim preferred	Claim of Dep't. If any.	Brief reasons of disputes	Final / Present position of the case
1	2	3	4	5	6	7	8

LIST OF COURT CASES DURING LAST 5 YEARS

Sl. No.	Name of work	Value of work	Name of Client Dep't.	Name of the Court	Date of institution of case.	Relief sought from court.	Brief reason of dispute	Final / Present position of the case
1	2	3	4	5	6	7	8	9

Signature of Tenderer(s)


 Dy. CSTE/WP, PATNA

ANNEXURE-H5**DECLARATION REGARDING ASSOCIATION OF RAILWAY OFFICER(S) WITH TENDERER(S)**

Sl. No.	Name	Status with the tenderer	If working in Rly on the date of tendering, designation & place of posting.	Date of retirement	Status at retirement	Particulars of permission taken for associating with the tenderer
1	2	3	4	5	6	7

Signature of Tenderer(s)


 Dy. CSTE/WP, PATNA

ANNEXURE-I**CERTIFICATE****of****Joint Inspection of Cable Trench & Protective Works**

1. The cable trench/chase including ducts, pipes etc. arrangements enroute has been jointly inspected by us on the following sections and the work has been done according to the specifications. The laying of cable can be taken on these sections after the deficiencies noted below are rectified and offered for further check.

2.

Sl. No.	From KM	To KM	Remarks/ Deficiency if any

3. The following Joints have been jointly supervised and provided as per manufacturer's instructions and it is confirmed that all the materials or kit have been used up.

Sl. No.	Type of Joint	Location (KM. No.)	Remarks/Deficiency if any

Signature of Contractor's
Representative with
Designation

Signature of Purchaser's
Representative with
Designation

Signature of Tenderer(s)


Dy. CSTE/WP, PATNA

ANNEXURE-J**RECEIPT CERTIFICATE (FOR SUPPLY ONLY)**

From: Sr. Section Engineer/Section Engineer (Tele)
Workshop Projects, Patna

No.

Date:

1	Contract No	
2	Name of Work	
3	Item No. as in Rate Schedule	
4	Description of Item.	
5	Material inspected by:	
6	Dispatch particular & date	
7	Quantity as per dispatch particular	
8	Quantity received	
9	Quantity short received	
10	Condition of Stores Received	
11	Name of Firm & Address	
12	Place of receipt	
13	Date of receipt	
14	Ledger No.	
15	Name & designation of Stores In-charge	

Signature of Stores-in-Charge

Signature of Tenderer(s)


 Dy. CSTE/WP, PATNA

ANNEXURE-K**EXTENSION OF PERIOD OF COMPLETION OF WORK
ON CONTRACTOR'S ACCOUNT**

(Regd. With A/D)

No.

Date:

To

.....

.....

.....

Sub: (i) (Name of Work)

(ii) Acceptance Letter No.

(iii) Undertaking /Agreement No.

Ref: (Quote specific application of the
Contractor for extension to date, if received)

Dear Sir,

The stipulated date for completion of the work mentioned above is / was.....
However, the work is / was not completed on this date.

Expecting that you may be able to complete the work if some time is given and in
consideration of your Letter No....., the CAO (WP) / Patna (or his
successor) on behalf of the president of India, although not bound to do so, hereby extends the
time for completion from to

Please note that liquidated damages @1/2% per week or part thereof of the entire contract
value will be recovered for delay in the completion of the work after the expiry of (1)
(give here the stipulated date for completion without any penalty fixed earlier) from you as
mentioned in *Para 19.1* of the General Conditions of Contract for the extended period.

The above extension of the completion date will also be subjected to the further condition
that no increase in rates on any account will be payable to you.

Please note that in the event of declining to accept the extension on the above said
conditions or in the event of your failure after accepting or acting up to this extension to complete
the work by (2)..... (here mention the extended date), further action will be taken in
terms of relevant para of Conditions of Contract.

Yours faithfully,

for & on behalf of President of India.

Note:

1. Give here the stipulated date for completion without any penalty fixed earlier.
2. Here mention the extended date.

Signature of Tenderer(s)


Dy. CSTE/WP, PATNA

ANNEXURE-L

EXTENSION OF PERIOD OF COMPLETION OF WORK

No.

Date:

To

.....
.....
.....

Dear Sirs,

Sub: (i) (Name of Work)
(ii) Acceptance Letter No.
(iii) Undertaking /Agreement No.
Ref: (Quote specific application of the
Contractor for extension to date, if received)

The stipulated date for completion of subject work under the above contract was..... In consideration of the Contractor's Letter No., CAO (WP), Patna (or his successor) on behalf of the President of India, is pleased to grant extension of the time for completion of works without liquidated damages under *Para 19.2* of General Conditions of Contract for the contract as mentioned below:

“.....”

It may be noted that unless repugnant to the context, all the terms and conditions of the Contract will remain unaltered during the extended period from to also, and further no increased additional rates and claims of recoveries which have not been already envisaged in terms of the conditions of the Contract will be livable either by you or by the purchaser in respect of this extended period.

Yours faithfully,

()

for and on behalf of President of India

Signature of Tenderer(s)


Dy. CSTE/WP, PATNA

ANNEXURE-M**MODIFICATION TO GENERAL CONDITIONS OF CONTRACT AND STANDARD SPECIFICATIONS**

Para-I (i), C, D, & E under heading “Definitions and Interpretation of the Book RAILWAY ENGINEERING DEPARTMENT GENERAL CONDITIONS OF CONTRACT AND STANDARD SPECIFICATIONS”, on which the schedule of rates is based, stand modified as follows:

1.0 Definitions

- C. “Railway” shall mean Chief Administrative Officer, Workshop Projects (CAO/WP) who is heading the unit of Workshop Projects (WP) which is responsible for setting up of Rail Wheel Plant at Bela (RWP/Bela) and its successor Railway authorised to deal with any matters, which these presents are concerned on his behalf.
- D. “Engineer “shall mean the Chief Mechanical Engineer (CME-I/WP), Deputy Chief Signal & Telecom Engineer (Dy. CSTE/WP), Senior Signal & Telecom Engineer (SSTE/WP), Assistant Signal & Telecom Engineer (ASTE) of Workshop Projects (WP) or its successor Railways in executive charge of the Works and shall mean and include the representative of Workshop Projects (WP) or its successor Railway, as authorised by any of the above officers/Engineers to deal with any matters, which these presents are concerned with and shall also mean and include the Engineer of the successor Railway.
- E. “ENGINEER’S REPRESENTATIVE “ - shall mean the Assistant Engineer in direct charge of the works and shall include Assistant Signal & Telecommunication Engineer & Inspector (Senior Section Engineer/Section Engineer/Junior Engineer) of the Signal & Telecommunication Engineering Department appointed by the Railway and shall mean and include the Engineer’s representative of the successor Railway.

Signature of Tenderer(s)


Dy. CSTE/WP, PATNA

ANNEXURE-N**ACKNOWLEDGEMENT**
FOR RECEIVING MATERIALS AND CABLES FROM RAILWAY

STATION:

DATE:

Sub :- Receipt of Materials /Cable from Railway.

It is hereby acknowledged that the following material / and cable as detailed have been received in full and good condition by me on..... at for the work coming under the Agreement No..... dated

S. No.	Description of Material and cable	Quantity (Meter/ Nos.)	Remarks if any

Witnessed by:

(Signature of Purchaser's
Representative with
Designation.)

(Signature of Contractor or
Contractor's Representative)

Signature of Tenderer(s)


Dy. CSTE/WP, PATNA

ANNEXURE-O**Source for Specifications / Drawings**

Sl. No.	Drawings / Specifications	Source
1	IRS Drawings and Specification	Director General, R.D.S.O., Lucknow
2	TEC Drawings & specifications	Telecommunications Engineering Centre, Kurshid Lal Bhawan, Janpath, New Delhi - 110 001.
3	Standard Specifications (BSS & ISS, etc.)	Indian Standard Institution, 9, Mathura Road, New Delhi.
4	Railway Publications such as Railway Rules, Codes and Practices, etc.	Government of India, Ministry of Railways, Rail Bhawan, New Delhi.
5	Eastern Railway Drawings	Chief Signal & Telecom. Engineer, East Central Railway, Hajipur
6	Central Government Laws and Acts	Government of India, Ministry of Information, Publications Division, Tilak Road, New-Delhi.
7	Manual of Instructions for Installation of S&T Equipment 25 KV 50 C/S single phase Electrified section	Director General, R.D.S.O., Lucknow

Signature of Tenderer(s)


 Dy. CSTE/WP, PATNA

GOVERNMENT OF INDIA



**WORKSHOP PROJECTS
INDIAN RAILWAY**

SECTION - VII

ANNEXURE Z

SCHEDULES

Signature of Tenderer(s)


Dy. CSTE/WP, PATNA

ANNEXURE Z**TECHNICAL SUPPLEMENT****1. GENERAL TECHNICAL REQUIREMENTS:****1.1 OBJECTIVE:**

The end objective of this system is to provide a good Telecomm network at RWP/ Bela, Dist Saran (Chhapra) Bihar by:

- 1.1.1 Provision of ISDN based exchanges at Administrative building/ RWP/ Bela and integrating the exchanges seamlessly into the other systems at RWP/ Bela.
- 1.1.2 Optimising the system to upcoming transmission facilities such as VoIP thus making the system cost effective and allowing simultaneous transmission of voice and data on the same platform.
- 1.1.3 Making Q-Sig features and ISDN capabilities accessible to users from ISDN switches covered under this tender and then gradually expand ISDN exchange network over the entire system as the need arises.
- 1.1.4 Leaving scope for expansion of this ISDN exchange in due course if necessary by simple addition of cards (without addition or up-gradation of CPU or software version) to maximum of 5000 ports capacity as a single integral system only and not as a combination of independent systems interconnected on tie lines.
- 1.1.5 Offered system should have a valid TEC approval till the opening of the tender for at least 2000 extensions and TEC certificate should be in the name of tenderer only.
- 1.1.6 Making available scope for such hitherto non-existent facilities to users as multimedia / Video conferencing and Voice mail for greater productivity.
- 1.1.7 Creating scope for or provision of ACD, Call Centre applications, CTI, VoIP, IP trunk facilities as per present and future requirement.

Tenderers' qualifying criteria (supporting documents must be enclosed)

Sl. No.	Conditions	Complied/ Not complied
1	The tenderer / dealer must be an original manufacturer of the model offered or a dealer authorized by the OEM.	
2	In case of a dealer or channel partner the association with particular OEM must be at least 5 years old for the quoted model. Relevant documents must be enclosed.	
3	The tenderer must enclose a letter from OEM assuring support for a minimum of 10 years.	
4	The model offered must be in operation with Indian Railway or any other Government organization as a transit switch in 2000 line configuration or above. The transit switch must have satisfactory working interconnection with other exchanges over digital E1/PRI and E&M circuits. Certificate for the same has to be submitted.	
5	The tenderer must produce valid TEC Approval Certificate for at least 3000 lines for the particular model of the exchange quoted, supporting the ISDN PRI connectivity and the same must be issued in the name of the vendor quoting in the tender.	
6	Should have completed at least single work regarding installation and	

Signature of Tenderer(s)


 Dy. CSTE/WP, PATNA

	commissioning of multi unit ISDN based exchange (minimum 1000 lines) with <u>Remote Shelf working</u> in Indian Railway/ Government/ PSU organization	
7	At least one performance certificate for a DECT system with offered model must be enclosed.	
8	Should not be a defaulter in AMC and provision of exchange in last 5 years.	
9	Should not ever be black listed by any Railways/PSU/ Govt.	
10	Should be ready to provide spare materials, services and technical support for 10 years (Certificate from OEM to be enclosed.)	
11	The tenderer should attach manufacturer's detailed technical specification in original (not photo copy) of the model quoted, indicating all the technical specifications mentioned in the tender document.	

Note: In all above cases, date of opening of the tender will be considered as reference date.

1.2 **SCOPE OF WORK:**

The scope of the work covered under this tender is as follows:

- 1.2.1 Installation and commissioning of ISDN Exchanges at RWP/ Bela and facilitating connectivity/ configuration of trunks from the installed exchanges and to other exchanges at different locations on E1s, PRIs, E&Ms and other i.e. IP-network. Integration of voice and data in regards to trunk net-wok is a prime objective of the tender.
- 1.2.2 Interconnecting the same over different transmission media/ standards such as Analog Trunks / Tie lines, BRI, PRI, E1, IP etc.
- 1.2.3 Demonstrating the ISDN capabilities and 100% "Feature Transparency" potential across the Network (on ISDN BRI/PRI trunks) on completion of the installation.
- 1.2.4 **Maintenance:** Support of the Exchange hardware, software and accessories installed as part of this work for period of **TWELVE MONTHS** from the date of commissioning.
- 1.2.5 Warranty on equipments and software including peripherals supplied under this work shall be executed for a period of minimum **ONE YEAR** from the date of commissioning.
- 1.2.6 **Spares / Technical support:** The Contractor shall offer Technical/ spare/ Maintenance support for a period of at least **TEN YEARS** from the date of commissioning. A letter from the OEM shall be enclosed along with the offer.
- 1.2.7 The vendor should not be ever black listed by any Govt. or PSU.

Signature of Tenderer(s)


Dy. CSTE/WP, PATNA

2. TECHNICAL SPECIFICATIONS:

2.1.1 Technical Specification of ISDN Exchange:

- i. The exchange shall be Integrated Services Private Network Exchange of SPC type PCM/TDM (A-law based) non-blocking supporting ISDN feature for subscriber line and trunks/ tie-lines/ junctions and shall house all **Operating Software in Flash-Memory**.
- ii. The System shall have full hardware redundancy for – In case of catastrophic failures, the processor in HOT STANDBY MODE should take over without dropping / interrupting any of the existing call in progress. System should have duplication of the following modules:
 - a. Power supply, Processor & Control Unit (Cards)
 - b. Highway Interface Cards on the peripheral shelf
 - c. TDM Bus
 - d. Tone Clock
 - e. Memory (Flash RAM/ Flash Disk)
with hot standby, hot swappable (possibility of removing the main control cards, Processor card, Power Supply and Highway interface cards for maintenance in power-on condition without disturbing the system operation) and auto-changeover without disconnection of calls during changeover. Interconnections to other cabinets shall all be duplicated.
- iii. System architecture should be built up with suitable Processor to handle traffic of at least **2,50,000 BHCA** (OEM's catalogue mentioning BHCA should be attached).
- iv. The exchange shall be based on state of art technology, with **Pentium based processor** (32-bit or higher end processor) and should switch simultaneously Voice, Data & Images without any degradation of service quality. The exchange should comply with the following:
 - (a) The system should boot from Flash RAM/ Flash Disk for faster booting. It should be to take backups in Flash RAM/ Flash Disk, and the **system should not use HDD/FDD drives**, as Flash RAM/ Flash Disk based systems are required due to their better reliability. The total software up gradation of system should be possible by just changing the Flash RAM/ Flash Disk with upgraded software.
 - (b) The system should be the art of state based software controlled and should switch simultaneously Voice, Data & images without any degradation of service quality.
 - (c) The system shall be IP enable telecom server. The switch should support **MGCP** protocol for transmission of voice over IP network. It should also support **G.711 & G.729** encoding standards.
 - (d) The system should support ISDN between premise such as a PBX's and desktop equipment such as Voice terminals, data terminals and PCs equipment. System should support ISDN PRI & BRI. Trunk limitations if any, regarding maximum number of ports/ cards supported should be clearly specified.
 - (e) The system should be totally non-blocking type and all the ports/ cards should have equal access to any free available Time-slot and should have equal access time to TDM Bus.
 - (f) System should be based on Universal port architecture except for common Control and Power supply cards and should not impose any restriction in terms of slots usage for a particular functional benefit.
- v. System shall work on (-) 48 VDC Power supply with voltage variation of ± 4 Volts and shall not need any proprietary Charger or Battery bank for the purpose. The system shall work satisfactorily on SMPS based chargers (or Power Plant) as per IRS Specification RDSO/SPN/TL/23/99 Ver.4.0 with Low maintenance Lead-Acid battery as per IRS-S-88/93 with latest amendments.

Signature of Tenderer(s)


Dy. CSTE/WP, PATNA

- vi. The offered system shall be TEC approved for at least 3000 ports and the TEC Certificates shall be necessarily in the name of the tenderer. Copy of TEC Approval Certificate for ISDN Connectivity, ISDN PRI and normal PBX connectivity must be enclosed along with the offer. TEC Certificate should clearly mention the Loop resistance of the analog extension, which should not be less than 1800 Ohms (including telephone) for normal extensions and 2300 Ohms (including telephone) for long distance extensions. In case, it is required, the Vendor may have to produce the original TEC approval copy for verification.
- vii. **The Exchange shall support all common PBX Feature such as:**
1. Abbreviated Dialling
 2. Last Number Redial
 3. Call Forwarding (Busy, No Answer & Time-out)
 4. Caller Line ID for both analog & Digital trunks & extensions
 5. Caller ID on Call Waiting
 6. Call Pickup
 7. Connected Line Identification
 8. Connected Line Identification Restrictions (COLR)
 9. Malicious call trace (across ISDN network)
 10. Simultaneous paging on Digital extensions
 11. Integrated Voice guidance messages
 12. Boss Secretary feature
 13. Multiple Subscriber Number (MSN)
 14. Auto attendant announcement in case all operators are busy.
 15. Voice Announcement informing callers about status of called extensions
 16. Executive Override
 17. DOD with Authorization to access PSTN lines
 18. Authorization to access Railway Trunking
 19. Floating PIN to log-in from any extension by dialling ID code
 20. Leave Word calling
 21. Simultaneous 3-Conference bridge (of 14 party and above)
 22. Integrated directory (for Digital phones)
 23. Don't disturb
 24. Wakeup call with announcements
 25. Mixed Mode dialling (DTMF / Pulse interchangeable)
 26. DID / DOD
 27. Call Park
 28. Call waiting
 29. Closed User Group (CUG)
 30. Hot line between two points with ring extended on lifting of the Handset to redefined destination (With and without delay)
 31. Call warming (audio beep to user when operator lands)
 32. Group Conference calling for more than 20 parties (CONF)
 33. Missed call reporting on digital terminals.
- viii. **CLI** (Caller Line Identification): The exchange shall support Caller Line Identification with name and number display for all ISDN network subscribers including analog subscribers.

Signature of Tenderer(s)


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- ix. Shall work seamlessly in multi vendor (Q-sig Compliant) Private Integrated Services Network environment with connectivity to PSTN. The exchange shall support Q-Sig on PRI/ BRI. The offered system shall be Q-Sig compliant as per ECMA/ISO/JTCl Standards and shall be suitable of being networked with the existing ISDN EPABX systems in Railways, if any, for future transparency. Adequate documentary proof of Q-Sig compliance of the offered EPABX system and proof of Tenderer's capability to integrate ISDN EPABX systems with any other make of Q-Sig compliant systems shall be submitted along with the bid. These documents shall be:
- (a) Proof of the tenderer having successfully demonstrated Q-Sig features on ISDN PRI with ISDN EPABX systems of any other make, in the form of customer certifications in the name of tenderer.
- (b) A list of Q-Sig features supported by the offered Exchange.
- x. Exchange shall support following Signalling Protocols:
- a. ISDN PRI, R2MFC, CEPT
- b. ISDN BRI
- c. E&M (2/4 Wires)
- d. Ring Down
- e. DTMF
- f. Loop Tie on DTMF
- g. All the Common Signalling Standards adopted for ISDN / Non-ISDN connections to PSTN.
- xi. Should have built in ACD functionality
- xii. Up gradable to CTI with direct Ethernet Connectivity to LAN
- xiii. Voice Mail with E-mail Integration
- xiv. **E-mail Voice Mail Integration:** By this it is to say that "the system with the help of software loaded in to customer premises PC (LAN node) that the Voice-mail system Hardware and Software – shall be able to access the voice mails from any connected LAN node's screen".
- xv. Shall support Automatic Route Selection.
- xvi. Up-gradable to VoIP phones trunks without needing external Server by inserting appropriate interface cards and without having to replace the existing system.
- xvii. **Remote Shelf working:**
- It shall be possible to achieve Remote Shelf working without re-wiring or additional/ alteration of any common cards to provide Remote Shelf working with the following.
- The system should support Remote Shelf working minimum up to 20 KM on optical fibre connectivity. It should support dual OFC on same card for redundancy. The optical fibre should be directly terminated on the system without the need of additional optical terminal equipments.
- (a) System should provide high reliability for remote extensions.
- (b) The remote shelf should operate as an integral part of the switching system exactly as if it were inside the main cabinet.
- (c) Operational Control Processor at the remote locations for self-healing / standby operations in the event of fibre optic failure to provide by addition of control cards.
- (d) Remote shelf should have minimum 300 channels for connecting with the main exchange through OFC without using any converter.
- (e) The tenderer has to submit installation certificate either from Railway/ Government/ PSU.

xviii. **Feature Transparency:** The PBXs shall be able to extend features availability over the ISDN exchange network. The Q-Sig feature availability shall be applicable to at least the following:

- (a) Audio speech basic call
- (b) Calling Line Identification and Name Identification
- (c) Call forwarding (Busy, No Answer, All calls)
- (d) Camp on (Call completion on no reply)
- (e) Camp on (Call completion on no busy)
- (f) Call Offer
- (g) Rerouting (Call forwarding across network)
- (h) Calling and Answering party Name and Number ID
- (i) Uniform & non-uniform dialling plan across network
- (j) Don't disturb / Override
- (k) Intelligent path control
- (l) Follow me
- (m) Voice page over ISDN
- (n) Message feature support over ISDN
- (o) Hot line between two points with ring extended on lifting of the Handset to predefined destination

xix. **Up-gradation feature / facilities:**

- (a) The up-gradation should be in building block architecture by adding on additional stacks / cabinets. However, such expansion should neither involve any processor up-gradation nor any of the other common cards and the processor & controls in the main shelf should be able to support the entire expandable capacity as mentioned in SOW (i.e. **5000 ports** for item no.1 & **3000 ports** for item no.2).
- (b) The following features/ functions should be supported by the Vendors by merely addition of relevant cards in to the system:
 - The system should support Voice over IP, ATM and Frame Relay Application by inserting appropriate interface cards without having to replace the existing system.
 - IP Trunks
 - System should support Q-Sig networking and feature transparency on Internet protocol by inserting appropriate interface.
 - ACD Functionality
 - CTI Functionality

xx. **Computer Telephony Integration Upgrade-ability:**

1. System should be able to interface with computer for screen pop-up with other applications
2. System should be CSTA compliant
3. System should support TSAPI, TAPI, Call path and CT-Connect
4. System should be capable of having built-in LAN Connectivity
5. It should be possible to connect Computers to PBX through digital phone
6. Simultaneous voice and data transfer should be possible through RS-232, RS-449, RS-530, V.35 and X.25.

xxi. **Trunk Features:**

1. Support all Signalling Standards
 2. Transit calls
 3. CO to Tie Line restriction
 4. Tie Line Tandem Restriction
 5. Trunk Camp ON
 6. Digital Tie Line
 7. CO to CO transfer
 8. Q-Sig Compatibility with all features
 9. Area code restriction
 10. Call Monitoring System
 11. Night Monitoring
 12. Night attendant
 13. Console
- xxii. Shall support Video Telephony, Multimedia transportation by mere addition of Customer premises ISDN compatible Terminal equipments.
- xxiii. Shall support expandable (in terms of Hours and Voice-mail boxes) Voicemail with E-mail integration. The customer terminal software and hardware shall be upgradeable to more user and voicemail hours.
- xxiv. **Conference:** The offered system shall have automatic gain control for balancing the gain during conferencing. This must be a flexible conferencing type enabling any combination of the number of subscribers and conferences at any given time, as well as accommodate any number of trunks or extension limited only by 64. The conference, both internal (extension) and external (trunk) parties in a single conference of various combinations such as two number of Single conference of 32-parties, Four conferences of 16-parties, Eight conferences of 8-parties and so on.
- xxv. The system peripheral cards should have their own power supply for generating the operating voltage required for the cards there by eliminating a single point of failure due to power supply card.
- xxvi. The system should provide high-speed Internet access on analog extension up to 56 kbps.
- xxvii. **Integrated Line Testing and Diagnostic Features:**
The system shall have built in integrated line testing and diagnostic feature such as:
- It should be able to check Open circuit, Short circuit condition, Cross-talk test, Dial-tone test, and high voltage on each line.
 - It should be able to check number of parallel phones on each line.
 - It should be able to conduct automatic circuit assurance test for fault trunk identification.
 - It should be able to conduct battery feed test, Loop around test, conference test, station present test for internal extensions.
 - It should be able to conduct Cross-talk test, Loop around test, conference test, station present test, automatic circuit assurance test for trunk extensions.
- xxviii. **DECT:** The system should support DECT based cordless extensions by just addition of a card and the DECT base station. It should work only on a single pair and powered by the same line. It should be possible to connect at-least 8 base stations on one radio exchange card.

DECT should support in built message sending facility (SMS) from one wireless handset to other wireless handset without using any external device(s). The vendor should submit installation certificate from Railway/ Government/ PSU.

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- xxix. Suitable marking should be done for different type of cards and fuses to enable easy identification and replacement.
- xxx. The system offered should be based upon **distributed co-processor technology**, where in every card shall have its own co-processor and in case of any failure, particular section is excluded and other functions work smoothly, making the system more reliable.
- xxxii. **Traffic Measurement and Recording:** Facility shall be provided to measure and record various parameters of the exchange and to enforce effective supervision of the exchange.
- (a) The following measurement shall be available.
- The number of incoming & outgoing calls on each trunk group
 - Traffic intensity of incoming & outgoing calls on each trunk group
 - Number of times trunk group was busy received out going calls
 - (Number of busy state encountered on each trunk group)
- (b) Any other traffic measurement possible should be detailed in the user manual.
- (c) It should be possible to fix time slots and interval for each measurement by issuing the related commands.
- (d) It should be possible to output (print) traffic data automatically in a prefixed interval depending upon the registered times slot or directly by entering the related commands and to keep traffic data at least for 24 hours.
- (e) The above measurement when performed, shall not unduly affect the call handling capacity of the processor.
- xxxiii. **Intercom group:** It shall be possible to configure a minimum of 10 groups with up to 99 subscribers in each group within the exchange. Dialling scheme within group shall be flexible.
- xxxiv. The system should have at least one Ethernet LAN port and 3 numbers of serial interfaces for maintenance purpose
- xxxv. **Malicious Calls:** The system shall support Malicious Call trace and same should be displayed/ stored under maintenance console PC when the user dials a code.
- xxxvi. The system should have inbuilt greeting message facility in place of dial tone such as New Year / Deepawali / Independence day greetings etc. It should be stored in external devices and can be played depending upon the occasion. It is desirable to have facility for recording multiple greeting messages externally.
- xxxvii. **Installation, Operation and Maintenance Documents:**
- (a) Two sets of hardcopy and softcopy in (CD) of the following documents required for installation, operation and maintenance shall be supplied with the exchange.
- Installation manual
 - Equipment layout diagram
 - Cabling and wiring diagram
 - Overall system specifications, hardware, software explaining facilities, functions and principles.
 - Detailed description of input/output devices and test equipments
 - Installation instructions and testing procedures
 - Fault localization and trouble shooting instructions including fault dictionary
 - Operational manual
 - Man Machine Language (MML) Manual

- Operating & maintenance manual for all input output devices and auxiliary equipments
- Emergency action procedure
- Spare part catalogues, including component values tolerances

xxxvii. **Software documents:** Two sets to be supplied with each exchange.

xxxviii. **Maintenance Tools:** One set of tools as mentioned below is to be supplied by the tenderer for regular and periodic maintenance of the exchanges installed.

Sl.No. Item of the tools	Quantity & make of tools
1. Vacuum cleaner with standard accessories	-1 Set (Eureka Forbes Trendy model)
2. Earth resistance tester (Digital, 3-spike)	-1 Set (Standard make)
3. Combination pliers 7"	-1 No. (Standard make)
4. Snip nose pliers 6"	-1 No. (Standard make)
5. Side cutting pliers 6"	-1 No. (Standard make)
6. Wire stripper	-1 No. (Standard make)
7. Crimping tool 1.5 to 10 mm	-1 Set (Standard make)
8. Krone insertion tool LSA plus	-1 No. (KRONE make)
9. Krone testing cord 2-way	-2 No. (KRONE make)
10. Krone testing cord 4-way	-1 No. (KRONE make)
11. Screw driver set (812)	-1 No. (Standard make)
12. Spanner set 6 mm to 22 mm	-1 No. (Standard make)
13. Adjustable wrench 8"	-1 No. (Standard make)
14. Steel tape –3 metre length	-1 No. (Standard make)
15. Straight Twizer	-1 No. (Standard make)
16. Angled Twizer	-1 No. (Standard make)
17. Hand drill machine ¼"	-1 No. (Standard make)
18. Drill bit set (13 bit set)	-1 No. (Standard make)
19. Wire wrapping gun	-1 No. (Standard make)
20. Hammer 1.0 kg	-1 No. (Standard make)
21. Triangular file 6"	-1 No. (Standard make)
22. Flat file 10"	-1 No. (Standard make)
23. Hacksaw Frame with blade of 9"	-1 No. (Standard make)
24. Soldering iron 60 Watt (Ceramic)	-1 No. (Standard make)
25. Soldering iron 25 Watt (Ceramic)	-1 No. (Standard make)
26. De-soldering pump	-1 No. (Standard make)

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| 27. Solder resin core (100 gm packet) | -1 No. (Standard make) |
| 28. Soldering flux (100 gm) | -1 No. (Standard make) |
| 29. PVC Tape, Set of 3 (Red, Black & Green) | -1 No. (Standard make) |
| 30. Brief case/Tool box to hold item (3 to 29) | -1 No. (Standard make) |

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2.2 Subscriber Cards:

- 2.2.1 **Analog Extension Card:** Analog interface card with CLI facility and workable in tandem with item No.1 & 2 of SOW. Each card should have 24 ports to accommodate required number of extensions. The loop resistances of "Normal" and "Long-distance" analog subscriber card shall not be less than 1800 Ω and 2300 Ω respectively, including telephone instrument.
- 2.2.2 **Digital Extension Card:** Workable in tandem with the item No.1 & 2 of SOW. Each card should have 24 ports to accommodate required number of extensions. The working range of extension should not less than 1,000 metres.
- 2.2.3 **Hot-line / Ring-down Card:** Workable in tandem with item No.1 of SOW. This facility can be provided and programmed with normal analog subscriber card but in this case total number of analog extensions should not be affected.
- 2.2.4 **Magneto Extension/ Trunk Card:** This card should contain at least 8-No. of circuit over 2-wire magneto extension/ trunk circuits. The audio impedance of the circuit should be around 600 Ω (nominal), the loop limit shall not be less than 20 KM (over 19 AWG cable) whereas ring generator's signal shall be Sinusoidal within 15 – 25 Hz.

2.3 Trunk Card:

- 2.3.1 **E&M cards:** It should have minimum 4 or maximum 8 circuits in each card workable on 2wire/4wire, Pulse/Tone mode suitable for item No.1 & 2 of SOW.
- 2.3.2 **E-1 Trunk Interface Card:** It should have 30 channels of 2 Mbps connectivity suitable for item No. 1 & 2 of SOW. E-1 trunk interface cards must have provision for interfacing E-1 tributary of STM. Number of cards reckons for 30 channels, which may vary accordingly, depending upon the number of channels accommodated in each card.
- 2.3.3 **PRI cards:** It should have 30-channel digital connectivity of 2 Mbps suitable for item no. 1 & 2 of SOW. PRI cards must have provision for interfacing of E-1 tributary of STM. Number of cards reckons for 30 channels, which may vary accordingly, depending upon the number of channels accommodated in each card.
- 2.3.4 **PRI / E1 MODEM:** The modems that will be installed in pairs, should be able to provide:
- An E1 link with E1/ PRI interface.
 - A high-speed Data link access to E1 with DET interface at one end and E1 at the other. Line rate: 2048 Kbps, Compatible with ISDN PRI & E1 interface. (If PRI & E1 Modems are different, they are to be supplied in proportionate to interface ports or as per demand of Railway).
- 2.3.5 **Fibre interface card:** This card shall be used for connecting the main exchange and remote shelf. It should be possible to directly terminate the optical fibres through this card to the exchange without the need of additional optical terminal equipments/ converters.
- 2.3.6 **Voice Over IP (VoIP) Card:** In-skin VoIP card shall be enable to connect directly to IP cloud (H323/SIP), with the ability to convert analog signals to packets and routing calls through the IP backbone. Uses standard codec with built-in echo cancellation.

2.4 Telephone Instruments:

- 2.4.1 **Single-line Caller ID Push button Telephone** (Item No. 12 of SOW)
Similar to Beetel Caller ID Telephone BLUE CLIP 95.

Specifications

- DTMF /FSK Caller ID System compatible
- 12-Digits LCD Display
- Incoming displaying, Checking, Dialling-back, Redialling etc.

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- Off line real time display with current Date & time
- 5 Outgoing calls Memory
- 16 incoming calls Memory
- Line Tapping Protection
- Intelligent back light control
- New call LED indication
- 8-ring melody selectable
- DOT/TEC Approval-certificate to be attached.
- RG-11 Rosette with 2-metres extension cord.
- One year Replacement warranty.

Preferred Make: Panasonic, Beetel, CG.

2.4.2 Plan 1+1 (Boss Secretary Telephone)

- Tone/ Pulse Switch-able
- Redial, Flash, Pause & Mute buttons
- Call Transfer with consultation
- Busy line Indicator
- Call privacy
- Intercom Facility
- Desk/wall mountable
- Ringer volume control
- CLI (Option)

Preferred Make: Beetel, CG,

2.4.3 Magneto Telephones: (Item No. 14 of SOW)

Magneto Telephone Desk type as per specification No. IRS: TC 36-2000 with latest amendment.

- 3-Nos. of 1.5V Rail Road cells.
- Wooden Rack/ carrier for the instrument.
- Standard accessories like, Rosette, Cord etc.

2.4.4 Digital Key Telephones: (Item No. 11 of SOW)

It should have the following features/ specifications:

- 3-lines x 40-characters LCD, Alphanumeric (display).
- Minimum 24 programmable keys for extension busy status, junction-programming feature with lamp indication.
- Shall support soft key
- Message wait indicator
- Administrator or individual user defined buttons.
- Navigational Keys
- Incoming Speech Gain Control
- Ringer Volume control
- Display of minimum 50 numbers of incoming/ outgoing calls/ Missed call display

- Should provide multiple Ringing Cadence for differentiating between ringing of 2 key Telephones placed nearby.
- Full speakerphone
- Good sensitivity of mic.
- Hot dial from key pad
- Adjustable Handset and Monitor speaker volume.
- Monitor Speaker/ On-hook dialling/ Background Music selection/Voice page
- Working range of at least 1.0 KM (from cabinet) and 2.0 KM with extender.
- Expandable by additional Button Modules.

2.4.5 For all Telephone sets:

- (a) Available colours be mentioned by the vendor quoting the tender.
- (b) It is desirable to have **IR** logo marked on all Telephone instruments.

2.5 In-skin Voice guidance & integrated Voice mail system:

Should be minimum 16-port for providing Voice guidance to the users for internal calls. It should also be used for E1 & E&M trunk ports for incoming calls. It should be able to store messages of length not less than 16 minutes for each port.

Features:

- (a) Support Voice prompt Messages.
- (b) Support all DISA Messages.
- (c) Support Free flowing Messages.
- (d) Provide 16 DTMF Receiver for E1 & E&M trunks.

Descriptions required for integrated in-skin Voice mail System:

- I. The system should have 16-port integrated voice mail facility and auto attendant system with minimum 250 hours storage and capability to configure up to 500 mailboxes of jarring size depending upon the individual user requirements.
- II. The hardware/ software required (internal to PBX & external if any) along with relevant authorized software shall be supplied.
- III. The cost shall include the dicer charges for 500 voicemail users.
- IV. The voice mail system should be embedded one i.e. it should fit inside the cabinet of the system and not PC based voice mail system.
- V. The storage capacity should be a minimum of 144 hrs of voicemail should use TDM bus as ports of the voicemail.
- VI. The voicemail quoted should be from the same product line of the original manufacturer of the system quoted. No third party solution will be considered.
- VII. Message wait notification on normal analog phones- this should be in terms of audible & visible notifications.
- VIII. Different call treatment for external & internal calls. The conditions, on which particular call should go to the voicemail, can be specified. Typically the call can reach a voice mail on the following conditions:
 - Ring on, no answer (Number of rings after which the call to be routed to voicemail) can be specified.
 - Busy/ Don't disturb/on call forwarding to the respective user/ Time based slide to voicemail

- Quick disconnect facility: Should be possible to sense the blank calls and disconnect immediately. Built in busy tone. Detector should be provided in voicemail.
- Personal greeting should be possible, to have different personal greetings for internal, external and out of hour's calls for the same voicemail box.

2.6 Console Systems (PC Based):

2.6.1 Technical specification:

It should be Windows based attendant console that can be used with the supplied system. Multiple consoles shall be connected via existing Railway LAN network. The system should support the following features:

- Automatic screen updates
- Busy / idle
- Display of DID Trunks on PC based console
- Call accounting
- Calling information
- Directory
- Group name
- PC based console guest
- Remarks about each guest
- VIP status
- Dial number,
- Consol priority, if not defined the calls are "first-in, first-out (FIFO).
- Department Search / Directory:** The system should create a sub-directory of departments by name upon command. The Railway will made available the information for directory i.e. names, numbers, designations, departments, station remarks.
- First-Name search/ directory:** The system should create a subdirectory of First-Name upon command.
- Keyboard Answering:** Console attendant can answer incoming call by a single keystroke instead of lifting the receiver.
- Keyboard dialling:** Call may be dialled from keyboard number pad.
- Message Waiting** (Attendant Message)
- Message Centre:** The PC based Console should contain a complete message centre with automatic day/date/time stamp and space for free form text created from the keyboard. Completion of a message lights the message lamp at the station. Message may be printed, deleted or saved to magnetic media.
- Mnemonic Search:** All directories and sub-directories may be searched by mnemonic address. The more letter entered in a search category the closer the directory search becomes given multiple potential conflicts first.
- Modify Trunk Group:** The attendant with regard to their PC BASED CONSOLE display status may modify Trunk groups and / or individual trunks within groups.
- Name Search:** The system searches the directories available by name entered from the keyboard.
- Non-Attendant Operations
- All PC Console functions are available to a PC programmed as a "non-attendant," i.e., all the functions are present except the functions pertaining to trunk calls and attendant console recalls. This allows other PC consoles to use the directories, auto dial and messaging capabilities, etc., without regard to having to actually handle the attendant functions.

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- ❑ **Print Directory:** A utility is available with the PC Console software, which allows a user to print the directory to the PC based console printer.
- ❑ **Private Library:** A private library should be available for the PC based console attendant. This library is separate from EPBAX system libraries and can contain names, number and remarks.
- ❑ The main directory should offer station busy/idle status information to the attendant prior to dialling /extending the call to that station
- ❑ **Trunk Status:** The trunk group status shall be reported on the screen. The individual trunks status within a group may be viewed.
- ❑ **VIP Search / Directory:** A subdirectory of visitors or key personnel may be created. The names shall be identified on the main directory with additional icon markings.
- ❑ **View Trunk Group Status:** A trunk group may be reviewed for purpose of reviewing the status of individual trunks within that group.

PC based console shall be reputed make, such as HP/ Dell/ Lenovo/ HCL make with:

- a) CPU Intel® Core 2 Duo T4200 (2.0 GHz) or better
- b) CACHE 512 KB (min.)
- c) RAM 2.0 GB DDR2 SDRAM (min.)
- d) Hard Disk 300 GB /SATA
- e) Intel® Integrated graphic Media Accelerator x 3100, EPA Energy Star
- f) Optical Drive Combo DVD-RW
- g) Ports 2 enhanced parallel, Serial & 4 USB ports (2F+2B).
- h) Monitor 19" TFT/LCD (Resolution 1280 x 768) or better
- i) Others 5.1 Channel speakers, MM-Keyboards, Optical mouse, etc
- j) **Printer:** Laser printer model HP M1005 or HP 1005 mfp.
- k) **UPS:** 1.0 KVA, 1-hour backup of reputed make like APC/ Elnova/ Uniline or similar.
- l) **Software:** The Operating System Software like, Windows-XP (Professional) or Windows-7 along with user license and functional software required for PC based Attendant console must be preloaded and configured as per requirement. Original OS CDs, 2-set of functional software on CD or Flash drive shall also be supplied with each set of consoles. Anti-virus software for protection of the system.

2.6.2 Supervisory/ Maintenance Console Terminal (PC based multimedia) shall be reputed make such as HP/ Dell/ Lenovo/ HCL make with:

- a) CPU: Intel® Core 2 Duo T4200 (2.0 GHz) or better
- b) CACHE: 512 KB min.
- c) RAM: 2.0 GB DDR2 SDRAM
- d) Hard Disk: 300 GB Standard
- e) Intel® Integrated graphic Media Accelerator x 3100, EPA Energy Star
- f) Optical Drive: Combo DVD-RW
- g) Ports: 2 enhanced parallel, Serial & 4 USB ports (2F+2B).
- h) Monitor: 19" TFT/LCD (Resolution 1280 x 768)
- i) Peripherals: 5.1 Channel speakers, MM-Keyboards & Optical mouse
- j) Printer: 9 Pin, 136 Col., 300 CPS Dot matrix printer of reputed make like EPSON, Panasonic or similar.
- k) UPS: 1.0 KVA, 1-hour backup of reputed make like APC/ Elnova/ Uniline.
- l) **Software:**

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(A) The Operating System Software like, Windows-XP (Professional) or Windows-2007 along with user license and functional software required for PC based Administrative & Supervisory console/ maintenance console must be preloaded and configured as per requirement. Original OS CDs, 2-set of functional software on CD or Flash drive shall also be supplied with console. Anti-virus software for protection of the system

(B) **Call Billing Software** suitable for item No. 1 of SOW.

2.7 MAIN DISTRIBUTION FRAMES:

There are **three** part of this work.

- (a) Provision of IDF (Intermediate Distribution Frame) of 1248 (800+224*2=1248) ports for termination of extensions (Subscribers & Trunks) of both exchanges (item No.1 & 2 of SOW).
- (b) Provision of MDF (Main Distribution Frame) of 1248 ports for termination of Subscribers & Trunk equipments.
- (c) Provision of "Test & Monitoring panel" for trunk circuits.

2.7.1 Specification for MDF/IDF

- The MDF/IDF shall be of Krone make, self-supported, ground mountable type, enclosed in individual cabinets of adequate size having both front and the back doors with lock facility.
- The cabinets should be of suitable width so that the doors close properly after IPM modules are fitted into Krone connectors inside the IDF.
- 16 ports digital connectors for PRI/E1 trunks are included in 224 ports trunk termination modules.
- All connectors should be of M/s Krone make and no other make shall be acceptable. Each limb in IDF to be protected with an *integrated protection magazine* offering parallel protection through one GD tube and series protection through two glass fuses of appropriate rating. Breaking voltage to be specified.
- Suitable clamps and cable management systems to be provided in MDF & IDF for holding cables.
- Supplier shall supply the necessary cables require for termination of the extension and trunks from system to IDF and IDF to MDF. The IDF as well as the MDF shall be mounted at or near the Exchange room.
- All metal parts of the frames, supports etc. shall be mechanically rugged and made from corrosion resistance material and powder coated. 4 mm angle should be used for IDF / MDF frame.
- GD tubes with normal flashing voltage of 250-300 volts along with PTCs shall be used.
- The jump-ring shall be undertaken with standard 0.5 mm PVC insulated copper wires.
- Scope also includes neat lay out of trays / troughs / ladder between Exchange, IDF and MDF.
- The switchboard cables, which will be supplied by the tenderer, shall be used for the termination of the IFD and MFD. As per the Engineer's instruction, tenderer shall execute the necessary casing/capping/ladder/trench work.

2.7.2 Test and Monitoring Panel for Trunk circuits:

- The test and monitoring panel should be installed near the cable termination points, which should be easily accessible, by the maintenance staff.

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- It must have high quality testing links (U-Links) to facilitate the maintenance staff for easy disconnection, reconnection, loop-test, and earth-test with the help of test links.
- The test panel shall be so designed that card printed slip bearing the name of the circuit, trunk, channel send and receive legs may be identified. Monitoring panel must have 8-KC tone generator, dB meter, dialler and handset (600 Ω / Hi impedance) for performing measurement on the trunk channels.

2.8 SMPS based FC/BC Battery Charger:

- 2.8.1 SMPS based FC/BC Battery Charger of capacity 48 V DC/50 Amp in N+1 configuration using three number of hot plug-gable Rectifier modules of 48V/25 Amp with remote control and monitoring facility as per RDSO Spec. No. RDSO/SPN/TL/23/1999 (Ver.4.0) with latest amendments in a rack fully wired to house at least 3 no. of 25 Amp SMPS Rectifier modules along with fuses etc and necessary wiring arrangements up to the battery banks. An anti-static floor mat should also be provide before and behind of the B/charger of suitable dimension.

INPUT SPECIFICATION

Nominal Voltage	230 VAC Single Phase, 50 Hz
Voltage Range	150 – 275 VAC, 47 – 53 Hz or better
I/P Current	25 Amp RMS or Less
Power Factor	0.98 Minimum (at load of 50% to 100%)
Efficiency	> 90%
Dielectric Strength	1.5 KV AC (I/P to O/p & Case) or more

OUTPUT SPECIFICATION

Nominal Voltage	54 VDC
O/P Voltage Span Adjustment	48V – 5 V or better
O/P Current	2 x 25 Amp.
Power	2 x 1400 W (approx)
Net Regulation	± 0.5 V
Ripple	<300 mV p-p
Audible Noise	<50 dBA
Battery Current Limit	0.1 AH of Battery Capacity (Presetable)
Battery Protection	LVD (43 – 44V)

ALARM DISPLAY

1. AC Fail
2. Battery Low
3. AC ON Battery discharge
4. Battery Reverse
5. Module Fail
6. Load ON
7. Battery ON
8. System on Float
9. System on Charge

MONITORING DISPLAY

1. Battery Voltage
2. Load Voltage
3. Battery Current
4. Load Current

ENVIRONMENT

Operating Temperature:	0° to 50° C
Humidity:	Better than 90% RH
Cooling system:	Convection

Make/Models to be Supplied: DYNA, AMARAJA, Electric-Industries.

- 2.8.2 **In view of the Safety of Maintenance personnel as well as the Entire Communication system, Scope for provision of Earthing is also included in this item.**

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Details of work for Earthing is as under-

- Earthing shall be maintenance free of Industrial type with earth enhance compound for gradual improvement of earth resistance value with time. Earthing is required for (1) Battery charger earthing (2) +ive terminal of 48 VDC battery Earthing, (3) All equipments earthing for surge and lightning protection (4) Outdoor cable screening (armour earthing) etc.
- Following materials shall be required for provision of Earthing pit and connectivity:
 - i. Two 'B' class mild steel electrodes, one inside the other, are subject to hot dip Galvanization: 80-100 micron on the secondary electrode and 250-300 micron on the primary electrode. Empty space inside the primary electrode and the secondary electrode is filled with crystalline conductive mixture and then sealed. The size of electrode is 3 metres in length and 50 mm in diameter.
 - ii. 2 bags of BFC (Back Filled Compound) containing eco-friendly materials, which maintains moisture and enhance conductivity around the electrode. (It does not mix with or leach in to the soil.) The mixture absorbs more than 10 times moisture to its dry volume.
 - iii. cables/wires of size 10 SWGR having required length for laying from pit to the Earthing terminal in side the Exchange/battery room.
 - iv. Connectors, lugs and nuts & bolts etc.

Completion Test: The above arrangement must be maintenance free and earth resistance of such earth system should be less than one Ohm (preferably around 0.5 Ohm) in all-possible environmental condition.

2.9

Low Maintenance Battery: Each set of battery consists of 24-No. of Low Maintenance Lead Acid Cells of 2V/200 AH capacity at 10 hour discharge rate at 27° C to an end voltage of 1.85V conforming to IRS: S-88/93 or latest. The container of battery should be hard rubber. The battery should be of RDSO approved firms in Part-I of RDSO list. Each set of batteries shall be supplied with the following accessories:

- **Suitable Single-row double-tier battery stands (Rack)** made of good quality Saal-wood coated with black anti-sulphuric acid paint. **One Set.**
- Inter Cells / inter row connectors (all lead coated). **One complete set.**
- Sufficient quantity of sulphuric acid solution (electrolyte for cells) of spec.gr. 1.195 (or as per manufacture's recommendation) at 27° C required for first filling, packed in non-returnable Polyethylene jars. **One lot.**
- Hydrometer set with indicating range of 1100/1300. **Two Nos.**
- Cell testing Voltmeter 3-0-3 volts to IS: 1248, Ind. Grade – A **One No.**
- Mercury thermometer (for electrolyte of cells), 0° -100°C. **One No.**
- Wall mounting Teakwood holder for Hydrometer. **One No.**
- Spanner (for Cells' nuts & bolts), set of 2- Nos.). **One Set**
- Plastic Funnel 6" (150mm) dia. **One No.**
- Acid resisting Plastic Mug (1 ltrs. Capacity) **One No.**
 - Cells should be from RDSO approved firms in Part-I for this capacity.
 - Insulating stands for each cell, electrolyte level indicator (Float), etc.
 - Lead coated lugs for connection of the battery.

Preferred make to be Supplied: Exide

2.10 Fire Detection and Extinguishing System:

The system should have fire/smoke detection sensors based on infrared ionisation principle to send out a continuous sound alarm on detection of fire (flame or smoke) and subsequently

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manually operated valve for release of fire extinguishing gas mixture. Number of sensors to cover the entire area has to be submitted in form of design by contractor.

It should give audible as well as visible alarm to draw the immediate attention of maintenance staff to attend the accident site. The indication should be individual for individual sensor, location wise for easy identification of place of incident where the fire is suspected or sensed.

The fire alarm system should have sufficient number of fire fighting equipments to control the electrical /electronic and physical fire without any risk to person deputed for maintenance of the system. The alarm should be so sensitive that it should sense the smoke & even slight sparking taking place within the range.

Technical Specifications:

Accessories:

- Sensors
- Control panel
- Extinguishing equipments (Dry Chemical type each of 1 kg capacity – 2 No.)
- Mains Power Isolation Device

Technical Requirements:

- Solid state Sensor for detection of fire/ smoke. (Total nos. as per requirement and coverage area [minimum 06 numbers.]
- Alarm continuous sounds at 110 dB
- Time delay before extinguishing 0-30 Sec. (preset-able)
- Power Supply 220 VAC (Standard) / 12 VDC
- Auto-charger with built-in maintenance free battery of 12 VDC/ 13 AH.
- Fault signalled by LEDs and Buzzers.

2.11 Digital Multi-metre

- 4½ digit LCD
- Only Fluke-187 or higher model is acceptable
- Necessary probes & accessories should also be supplied with.

2.12 Training to Railway Personnel

Training on the maintenance of all the equipments & subsystem installed and periodical maintenance, programming, addition/ change of subscribers & services, trouble shooting etc shall be provided by the contractor on 30 man weeks at his own cost. Nomination will be given by competent authority depending on number of heads the man week will be adjusted or enhanced at the sole discretion of the Railway.

The training handouts must be provided to each trainee. The training shall be provided partly in the supplier's premises and partly at the site during installation and commissioning. All costs of transportation, boarding and lodging for the training of Trainees shall be borne by Railways. The cost of training materials shall be borne by the contractor.

2.13 Tech. Specification for installation, testing and commissioning:

1. Delivery of all the materials has to be done firstly at CWP/Bela, thereafter at the installation sight shall be done by the contractor as per instructions given by the tenderer.
2. Within ten days of issue of acceptance letter, the Contractor must depute his personnel for survey and deciding the layout for installation of different equipments in the equipment room and put up CAD diagram to Dy. CSTE/WP for approval.
3. Installations of the equipments are to be done by the contractor as per the manual of the equipment under the supervision of the Railway Engineer. The installation materials required for installation is to be supplied by the contractor.

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4. All the equipments must be protected against any out-side interference/ connection (such as Power, data channel, Voice graded data channel etc.) for surges, lightning, over-voltage & over current, short-circuiting of power supply etc. The wiring material required for electrical (Power) connection is to be supplied by the contractor. The power cable should be of $\geq 300\%$ higher rating of the current expected to flow through that cable. Railway will provide power outlet points at fixed places in the equipment room or in the rear by room.
5. Equipments are normally to be firmly fastened to the floor and support from the top with Aluminium runway of suitable sizes. The material required for this is to be supplied by the contractor.
6. For all type of installations the materials required for fixing, wiring etc. should be supplied by the contractor.
7. The instruments required for testing and commissioning of the entire system shall be arranged by the contractor.
8. The workmanship of the complete work should be neat and clean with proper lasing, placing of maintenance consoles, racks and fixing of other equipments, termination of cable and should be in such a manner that the physical appearance of the equipment room should looks attractive, decent and reflect high quality of workmanship.
9. After the execution of work the contractor(s) himself/themselves will inform. The Railway administration/WP will appoint committee consisting of an Engineer of Railway and another one Engineer of contractor(s). The committee after completing the testing will submit the Certificate in respect of execution and functioning of work as per approval plan, drawing and agreement.
10. The contractor shall chalk-out testing-procedure for testing of various equipments after installation and shall submit the same by engineer in charge or his representative. The testing shall then be done accordingly. The testing procedure will incorporate the following test also-
 - a. The wiring of installation as per wiring diagram/ scheme.
 - b. The wires have been terminated at the proper terminals as per wiring diagrams.
 - c. All the equipments have been installed according to the approved plan and layout.
 - d. All the equipments as installed are in good condition and are functioning properly.
 - e. Insulation resistance of each circuit is adequate and there is no leakage to the earth and or to circuits.
 - f. The insulation resistance shall be not less than 10 M Ohm between conductor and conductor / ground.
11. **Any other test required by Railway not covered in the specification to satisfy the integrity of the installation will also be conducted.**

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ANNEXURE Z**RATE SHEET**

Name of Work: Supply, installation, testing & commissioning of Digital / ISDN Telephone Exchange at Rail Wheel Plant, Bela, Dist. Saran (Chhapra), Bihar.

Item SI.No.	Detail of Works	Unit	Qty	Rate (Rs.)	Rate in Words
1	Supply, installation, testing and commissioning of Digital / ISDN Switches, ATM complied & 100% duplicated CPU, PS & Common control cards based on PCM/TDM technology, SPC type EPABX for an ultimate wired capacity of 1024 ports, expandable to 5,000 ports without addition/ alteration of CPU & Control cards but fully equipped and configured as per the details given below & technical supplement annexed, confirming to RDSO specification No. RDSO/SPN/TC/27/2007 Rev.-1.0	Set	1	18,70,000	Eighteen lakh Seventy thousand
(a)	Cabinet fully wired to accommodate all cards, modules & peripherals of item No. 1 above.	Se1	1		
(b)	Subscriber's line cards with CLIP facility:	Port	800		
	(i) Analog (normal) ports: 640 Lines				
	(ii) Analog (long distance) ports: 96 Lines				
	(iii) Digital subscriber ports: 48 Lines				
	(iv) Hot-line / Ring-down ports: 8 Lines				
	(v) Magneto Extension/trunk ports: 8 Lines				
(c)	2W/4W E&M port with Tone/Pulse dialing:	Port	48		
(d)	2-mbps digital trunk cards for PRI / E1 circuits including RRI/E1 modems. (If E1 & PRI cards are different then both cards of equal number i.e. 3 ports of PRI & 3 ports of E1 cards to be supplied)	Port	6		
(e)	CO trunks to link DOT lines	Port	8		
(f)	Attendant / Operator's Console	Port	8		
(g)	In-skin VoIP interface	Port	1		
(h)	100% duplicated "Fibre interface card" with all accessories for interconnection of switches/ Remote shelf on one pair single mode OFC.	Set	1		
(i)	Operating and maintenance tools as per Tech specification annexed.	Set	1		
(j)	Other cards /accessories to provide facilities as given in tender specifications.	Set	1		
2	Supply, installation, testing and commissioning of Digital / ISDN Switches, ATM complied & 100% duplicated CPU, PS & Common control cards based on PCM/TDM technology, SPC type EPABX for an ultimate wired capacity of 300 ports, expandable to 3,000 ports without addition/ alteration of CPU & Control cards but fully equipped and configured as per the details given below & technical supplement annexed, confirming to RDSO specification No. RDSO/SPN/TC/27/2007 Rev.-1.0	Set	1	5,53,000	Five lakh fifty-three thousand.


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(a)	Cabinet fully wired to accommodate all cards, modules & peripherals of item No. 2 above	Set	1		
(b)	Digital Subscribers line card	Port	112		
(c)	2-mbps digital trunk cards for PRI / E1 circuits including RRI/E1 modems. (If E1 & PRI cards are different then both cards of equal number i.e. 2 ports of PRI & 2 ports of E1 cards to be supplied)	Port	4		
(d)	CO trunks t lines	Port	8		
(e)	Attendant / Operator's Console	Port	8		
(f)	In-skin VoIP interface	Port	1		
(g)	100% duplicated "Fibre interface card" with all accessories for interconnection of Remote Shelf on one pair single mode OFC.	Set	1		
(h)	Operating and maintenance tools as per Tech specification annexed.	Set	1		
(i)	Other cards /accessories to provide facilities as given in tender specifications.	Set	1		
Note - 1 : All cards & peripherals of item No. 1 & item No. 2 shall be interchangeable. 2: If so desired item No. 2 may be configured as "Remote shelf" of item No.1.					
3	Supply, installation and commissioning of PC based Operator's Console including printer and required hardware & Software etc. as per details in technical supplement annexed.	Set	2	60,000	Sixty thousand
4	Supply of PC based Supervisory & Maintenance console with printer & required Hardware and Software including Call Billing software, as per details in technical supplement annexed.	Set	1	55,000	Fifty-five thousand
5	Supply and installation of 8 port Voice processing unit / Voice mail system as per technical supplement annexed.	Set	1	1,90,000	One lakh ninety thousand
6	Supply of covered MDF (including IDF) Krone type for 800 subscribers + 224 trunks as per technical supplement annexed.	Set	1	1,00,800	One lakh eight hundred
7	Supply and installation of Cable runway from main exchange to MDF as per technical supplement annexed.	Lot	1	20,000	Twenty thousand
8	Supply, installation, charging, testing and commissioning of 2V / 200 AH Low maintenance Lead Acid cells with micro porous vent plug along with electrolyte and accessories like inter-cell connector, vent plug, float, insulators etc. including wooden battery rack as per technical supplement annexed.	No.	48	1,363	One thousand three hundred Sixty-three
9	Supply, installation & commissioning of Battery charger (SMPS based Power Plant) of capacity 48V / 50 Ampere in N+1 configuration using three modules of 48V / 25 Amp confirming to RDSO/ SPN/TC/23/1999 Ver.-4.0 including provision of maintenance free Earthing and as per technical supplement annexed.	No.	2	61,360	Sixty-one thousand three hundred sixty.
10	Supply, installation, testing & commissioning of "Fire detection alarm system" complete with all materials including battery, b/charger, wiring, etc. as per technical supplement annexed.	Job	L.S.	37,000	Thirty-seven thousand

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11	Supply and installation of Digital Multi-key Telephone with minimum of 24 programmable keys, 40x3 lines alphanumeric characters (large size) LCD display, full featured hands free speakerphone, suitable to work with item No. 1 & 2 as per technical supplement annexed.	No.	60	8,000	Eight thousand
12	Supply of single line CLI based push button analog telephone set suitable to work with (item No.1 above) as per technical supplement annexed.	No.	500	550	Five hundred fifty.
13	Supply of Plan 1+1 (Boss / Secretary) Telephone set with accessories as per technical supplement annexed.	Set	20	2,300	Two thousand three hundred
14	Supply of Hand generating Magneto Telephone as per Specification No. IRS:TC 36-2000 with latest Amdt.	Set	15	1,200	One thousand two hundred
15	Supply of Digital Multi-meter as per technical supplement annexed.	No.	2	4,000	Four thousand
16	Training to Railway Personnel	Man week	30		

Total value of the contract is Rs. **39,60,944/=** (Rupees Thirty Nine lakh Sixty thousand Nine hundred Forty-four only).

Note: Detail technical specifications are furnished under "Annexure- Z" of Technical supplement.

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ANNEXURE Z**Bill of Material**

- Note:**
1. Tenderers are required to fill the Bill of material as per proforma given below.
 2. Only complied or non-complied is to be written in the column where make and model cannot be specified.
 3. **In no case any rate should be quoted in the Performa given below, otherwise, the offer will be out-rightly rejected.**

Sl. No.	Description	Unit	Qty.	Make and Model
1	Supply, installation, testing and commissioning of Digital / ISDN Switches, ATM complied & 100% duplicated CPU, PS & Common control cards based on PCM/TDM technology, SPC type EPABX for an ultimate wired capacity of 1024 ports, expandable to 5,000 ports without addition/alteration of CPU & Control cards but fully equipped and configured as per the details given below & technical supplement annexed, confirming to RDSO specification No. RDSO/SPN/TC/27/2007 Rev.-1.0	Set	1	
(a)	Cabinet fully wired to accommodate all cards, modules & peripherals of item No. 1 above.	Set	1	
(b)	Subscriber's line cards with CLIP facility:	Port	800	
	(i) Analog (normal) ports: 640 Lines			
	(ii) Analog (long distance) ports: 96 Lines			
	(iii) Digital subscriber ports: 48 Lines			
	(iv) Hot-line / Ring-down ports: 8 Lines			
	(v) Magneto Extension/trunk ports: 8 Lines			
(c)	2W/4W E&M port with Tone/Pulse dialing:	Port	48	
(d)	2-mbps digital trunk cards for PRI / E1 circuits including RRI/E1 modems. (If E1 & PRI cards are different then both cards of equal number i.e. 3 ports of PRI & 3 ports of E1 cards to be supplied)	Port	6	
(e)	CO trunks to link DOT lines	Port	8	
(f)	Attendant / Operator's Console	Port	8	
(g)	In-skin VoIP interface	Port	1	
(h)	100% duplicated "Fibre interface card" with all accessories for interconnection of switches/ Remote shelf on one pair single mode OFC.	Set	1	
(i)	Operating and maintenance tools as per Tech specification annexed.	Set	1	
(j)	Other cards /accessories to provide facilities as given in tender specifications.	Set	1	

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2	Supply, installation, testing and commissioning of Digital / ISDN Switches, ATM complied & 100% duplicated CPU, PS & Common control cards based on PCM/TDM technology, SPC type EPABX for an ultimate wired capacity of 300 ports, expandable to 3,000 ports without addition/alteration of CPU & Control cards but fully equipped and configured as per the details given below & technical supplement annexed, confirming to RDSO specification No. RDSO/SPN/TC/27/2007 Rev.-1.0	Set	1	
(a)	Cabinet fully wired to accommodate all cards, modules & peripherals of item No. 2 above	Set	1	
(b)	Digital Subscribers line card	Port	112	
(c)	2-mbps digital trunk cards for PRI / E1circuits including RRI/E1 modems. (If E1 & PRI cards are different then both cards of equal number i.e. 2 ports of PRI & 2 ports of E1 cards to be supplied)	Port	4	
(d)	CO trunks t lines	Port	8	
(e)	Attendant / Operator's Console	Port	8	
(f)	In-skin VoIP interface	Port	1	
(g)	100% duplicated "Fibre interface card" with all accessories for interconnection of Remote Shelf on one pair single mode OFC.	Set	1	
(h)	Operating and maintenance tools as per Tech specification annexed.	Set	1	
(i)	Other cards /accessories to provide facilities as given in tender specifications.	Set	1	
<p>Note - 1: All cards & peripherals of item No. 1 & item No. 2 shall be interchangeable. 2: If so desired item No. 2 may be configured as "Remote shelf" of item No.1.</p>				
3	Supply, installation and commissioning of PC based Operator's Console including printer and required hardware & Software etc. as per details in technical supplement annexed.	Set	2	
4	Supply of PC based Supervisory & Maintenance console with printer & required Hardware and Software including Call Billing software, as per details in technical supplement annexed.	Set	1	
5	Supply and installation of 8 port Voice processing unit / Voice mail system as per technical supplement annexed.	Set	1	
6	Supply of covered MDF (including IDF) Krone type for 800 subscribers + 224 trunks as per technical supplement annexed.	Set	1	
7	Supply and installation of Cable runway from main exchange to MDF as per technical supplement annexed.	Lot	1	

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8	Supply, installation, charging, testing and commissioning of 2V / 200 AH Low maintenance Lead Acid cells with micro porous vent plug along with electrolyte and accessories like inter-cell connector, vent plug, float, insulators etc. including wooden battery rack as per technical supplement annexed.	No.	48	
9	Supply, installation & commissioning of Battery charger (SMPS based Power Plant) of capacity 48V / 50 Ampere in N+1 configuration using three modules of 48V / 25 Amp confirming to RDSO/SPN/TC/23/1999 Ver.-4.0 including provision of maintenance free Earthing and as per technical supplement annexed.	No.	2	
10	Supply, installation, testing & commissioning of "Fire detection alarm system" complete with all materials including battery, b/charger, wiring, etc. as per technical supplement annexed.	Job	L.S.	
11	Supply and installation of Digital Multi-key Telephone with minimum of 24 programmable keys, 40 x 3 lines alphanumeric characters (large size) LCD display, full featured hands free speakerphone, suitable to work with item No. 1 & 2 as per technical supplement annexed.	No.	60	
12	Supply of single line CLI based push button analog telephone set suitable to work with (item No.1 above) as per technical supplement annexed.	No.	500	
13	Supply of Plan 1+1 (Boss / Secretary) Telephone set with accessories as per technical supplement annexed.	Set	20	
14	Supply of Hand generating Magneto Telephone as per Specification No. IRS:TC 36-2000 with latest Amdt.	Set	15	
15	Supply of Digital Multi-meter as per technical supplement annexed.	No.	2	
16	Training to Railway Personnel	Man week	30	

Note: The tenderer must quote rates with all terms and conditions, if any, for AMC of the above exchanges minimum for three years after expiry of the warranty period.

Sl. No.	Description of work	Rate for AMC (in %) as per value of items offered.		
		First Year	Second Year	Third Year
1	Annual Maintenance contract for the above entire system from Sl. No. 01 to 11 only after expiry of the warranty period.			

Signature of Tenderer(s)


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ANNEXURE-Z**SCHEDULE OF WORK**

Name of Work: Supply, installation, testing & commissioning of Digital / ISDN Telephone Exchange at Rail Wheel Plant, Bela, Dist. Saran (Chhapra), Bihar.

Sl. No.	Detail of Works	Unit	Qty	Rate (in figure)	Rate (in words)	Amount (in figure)	Amount (in words)
1	Supply, installation, testing and commissioning of Digital / ISDN Switches, ATM complied & 100% duplicated CPU, PS & Common control cards based on PCM/TDM technology, SPC type EPABX for an ultimate wired capacity of 1024 ports, expandable to 5,000 ports without addition/ alteration of CPU & Control cards but fully equipped and configured as per the details given below & technical supplement annexed, confirming to RDSO specification No. RDSO/SPN/TC/27/2007 Rev.-1.0	Set	1				
(a)	Cabinet fully wired to accommodate all cards, modules & peripherals of item No. 1 above.	Set	1				
(b)	Subscriber's line cards with CLIP facility:	Port	800				
	(i) Analog (normal) ports: 640 Lines.						
	(ii) Analog (long distance) ports: 96 Lines.						
	(iii) Digital subscriber ports: 48 Lines.						
	(iv) Hot-line / Ring-down ports: 8 Lines.						
	(v) Magneto Extension/trunk ports: 8 Lines.						
(c)	2W/4W E&M port with Tone/Pulse dialing:	Port	48				
(d)	2-mbps digital trunk cards for PRI/E1 circuits including RRI/E1 modems. (If E1 & PRI cards are different then both cards of equal number i.e. 3 ports of PRI & 3 ports of E1 cards to be supplied).	Port	6				
(e)	CO trunks to link DOT lines.	Port	8				
(f)	Attendant / Operator's Console.	Port	8				
(g)	In-skin VoIP interface.	Port	1				

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(h)	100% duplicated "Fibre interface card" with all accessories for interconnection of switches/ Remote shelf on one pair single mode OFC.	Set	1				
(i)	Operating and maintenance tools as per Tech specification annexed.	Set	1				
(j)	Other cards /accessories to provide facilities as given in tender specifications.	Set	1				
2	Supply, installation, testing and commissioning of Digital / ISDN Switches, ATM complied & 100% duplicated CPU, PS & Common control cards based on PCM/TDM technology, SPC type EPABX for an ultimate wired capacity of 300 ports, expandable to 3,000 ports without addition/ alteration of CPU & Control cards but fully equipped and configured as per the details given below & technical supplement annexed, confirming to RDSO specification No. RDSO/SPN/TC/27/2007 Rev.-1.0	Set	1				
(a)	Cabinet fully wired to accommodate all cards, modules & peripherals of item No. 2 above	Set	1				
(b)	Digital Subscribers line card	Port	112				
(c)	2-mbps digital trunk cards for PRI / E1 circuits including RRI / E1 modems. (If E1 & PRI cards are different then both cards of equal number i.e. 2 ports of PRI & 2 ports of E1 cards to be supplied)	Port	4				
(d)	CO trunks t lines	Port	8				
(e)	Attendant / Operator's Console	Port	8				
(f)	In-skin VoIP interface	Port	1				
(g)	100% duplicated "Fibre interface card" with all accessories for interconnection of Remote Shelf on one pair single mode OFC.	Set	1				
(h)	Operating and maintenance tools as per Technical supplement annexed.	Set	1				
(i)	Other cards /accessories to provide facilities as given in tender specifications.	Set	1				
<p>Note - 1 : All cards & peripherals of item No. 1 & item No. 2 shall be interchangeable. 2 : If so desired item No. 2 may be configured as "Remote shelf" of item No.1.</p>							

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3	Supply, installation and commissioning of PC based Operator's Console including printer and required hardware & Software etc. as per details in technical supplement annexed.	Set	2				
4	Supply of PC based Supervisory & Maintenance console with printer & required Hardware and Software including Call Billing software, as per details in technical supplement annexed.	Set	1				
5	Supply and installation of 8 port Voice processing unit/ Voice mail system as per technical supplement annexed.	Set	1				
6	Supply of covered MDF (including IDF) Krone type for 800 subscribers + 224 trunks as per technical supplement annexed.	Set	1				
7	Supply and installation of Cable runway from main exchange to MDF as per technical supplement annexed.	Lot	1				
8	Supply, installation, charging, testing and commissioning of 2V / 200 AH Low maintenance Lead Acid cells with micro porous vent plug along with electrolyte and accessories like inter-cell connector, vent plug, float, insulators etc. including wooden battery rack as per technical supplement annexed.	No.	48				
9	Supply, installation & commissioning of Battery charger (SMPS based Power Plant) of capacity 48V / 50 Ampere in N+1 configuration using three modules of 48V / 25 Amp confirming to RDSO/ SPN/TC/23/1999 Ver.-4.0 including provision of maintenance free Earthing and as per technical supplement annexed.	No.	2				
10	Supply, installation, testing & commissioning of "Fire detection alarm system" complete with all materials including battery, b/charger, wiring, etc. as per technical supplement annexed.	Job	L.S.				

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11	Supply and installation of Digital Multi-key Telephone with minimum of 24 programmable keys, 40 x 3 lines alphanumeric characters (large size) LCD display, full featured hands free speakerphone, suitable to work with item No. 1 & 2 as per technical supplement annexed.	No.	60				
12	Supply of single line CLI based push button analog telephone set suitable to work with (item No.1 above) as per technical supplement annexed.	No.	500				
13	Supply of Plan 1+1 (Boss / Secretary) Telephone set with accessories as per technical supplement annexed.	Set	20				
14	Supply of Hand generating Magneto Telephone as per Specification No. IRS:TC 36-2000 with latest Amdt.	Set	15				
15	Supply of Digital Multi-meter as per technical supplement annexed.	No.	2				
16	Training to Railway Personnel	Man week	30				

TOTAL Rupees (in words)

Note: In case of any discrepancy between rates/amounts given in figures & words, the lowest of the amount arrived at as per the rate/amount quoted in words/figures shall be considered for evaluation of tender offer.

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ANNEXURE-Z (Contd.)**Schedule-D****WORKSHOP PROJECTS****INDIAN RAILWAY**

Tender No: -	WP/S&T/Tele/RWP/EPABX/2012
Name of the work: -	Supply, installation, testing & commissioning of Digital/ ISDN Telephone Exchange at RWP/Bela, Dist. Saran (Chhapra) Bihar.

I / We offer general rebate of% (in figures)% (In Words) as lump sum rebate on items of all schedules.

NOTES: -

- (1) If any tenderer wishes to give any rebate on the rates quoted by him, the same can be filled by him in this schedule.
- (2) It is to be noted that such rebate if offered, shall apply on the rates quoted for all the items in all the other schedules of the tender documents. Such rebate shall be totally unconditional.
- (3) In case a tenderer does not wish to give any rebate, he should write 'NIL' in this schedule. In case nothing has been filled in by the tenderer in this schedule, it will be treated as 'Nil' and shall be so recorded in the blanks above at the time of opening of the tender by the tenderer by the officials opening the tenders.
- (4) If any tenderer gives any type of conditional rebate, such rebate shall not be considered for evaluation of the tenderer.

Witness

1.

2.

Signature of Tenderer(s)**Date.....****End of Tender Document***********

Signature of Tenderer(s)


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