

GOVERNMENT OF INDIA: MINISTRY OF RAILWAYS
RESEARCH DESIGNS & STANDARDS ORGANISATION
MANAK NAGAR, LUCKNOW-226 011

Global Tender Notice

- 1.0 Sealed tenders on **two packet system with pre bid conference** are invited, by Executive Director Standards Motive Power, RDSO, Manak Nagar, Lucknow-226011, India, for and on behalf of President of India, for execution of following work:

Tender No.	Name of Work	Approx. Cost of Work	Cost of Tender Document	Earnest Money
1	2	3	4	5
RDSO/MP/HTSC Fab-II	Design Validation of HTSC Fab-II Bogie Frame for HHP Locomotives	Rs. 89.17 Lakhs (or equivalent foreign currency)	Rs. 5,000/- (or equivalent foreign currency)	Rs. 1,78,340/- (or equivalent foreign currency)
Last date and Time of Submission of tender (both packets)		Date of Opening of Tender (Packet-I only)		Pre-bid Conference
6		7		8
20.07.2018 (Friday) 14:30 hours		20.07.2018 at 15:00 hours		02.07.2018 at 11:00 hours

- 2.0 Non-transferable tender documents, containing “Instructions to Tenderer”, “Special Tender / Contract Conditions”, “Indian Railways General Conditions of Contract for Services, “Technical Requirements of Work” & “Forms for Tender” for detailed description, specifications, terms & conditions and scope of work would be available from the office of ‘Executive Director Standards Motive Power, RDSO, Manak Nagar, Lucknow-226011, India’ between 10:00 hrs and 16:00 hrs on any working day from date of publishing of this tender notice onwards till one day before tender opening date, mentioned in Column 7 of Para 1.0 above, on production of Demand Draft (DD) payable to “Executive Director / Finance, RDSO, Lucknow, India” towards the cost of tender documents as mentioned in Column 4 of Para 1.0 above, with a request letter. No other mode of payment will be accepted for this purpose.
- 3.0 In case, tender documents are required by post, the request letter along with required Demand Draft as cost of tender documents and one more Demand Draft of Rs.500/- extra towards postal charges must reach this office at least 15 days before the opening date of tender, mentioned in Column 7 of Para 1.0 above, so that desired tender documents may be dispatched well in time. However, in case the tender documents do not reach the prospective tenderer in time, this office will not be responsible in any way.
- 4.0 These tender documents are also available at RDSO website www.rds.indianrailways.gov.in under head Tenders → Others Directorate Tender → Motive Power Directorate Tender. Tenderers can download and use these documents for the purpose of submitting the bids. However, it will be the responsibility of tenderer to ensure use of complete tender documents available on website. These documents will be considered equally legally valid for participation in the tender process as manual documents obtained from RDSO through manual process, subject to submission of prescribed declaration form and other details properly filled. The cost of downloaded bid documents as indicated in Column 4 of Para 1.0 above must be submitted at the time of pre-bid conference in the form of a demand draft payable to “Executive Director / Finance, RDSO, Lucknow, India”.
- 5.0 Bids from tenderers who have not purchased tender documents from the office of ‘Executive Director Standards Motive Power, RDSO, Manak Nagar, Lucknow-226011, India’ or from those who have downloaded the tender documents from RDSO website but not paid the requisite cost of tender documents or incomplete or submitted late / delayed, will be summarily rejected.

6.0 Scope of Work: Scope of work is “Design Validation of HTSC Fab-II Bogie Frame for HHP Locomotives”. For detail of work to be performed refer Para 3.0 of Technical Requirements of Work (Part-IV of tender documents).

7.0 Qualifying and Eligibility Criteria:

Tenderer(s) shall meet the criteria as under to participate in the tender:

7.1 Experience:

The tenderer shall have an experience in railroad bogie design. **The tenderer have designed at least two railroad bogie variants having axle load \geq 15 tonne and speed potential \geq 100kmph and are successfully running for the last three years.**

7.2 Financial Credential:

- a) The tenderer should have satisfactory completed **at least one similar single work for a minimum value of 35% of advertised tender value** within the qualifying period i.e. the last 3 financial years and current financial year (even though the work might have commenced before the qualifying period). Documentary evidence to this effect issued by the user or the statutory body shall be submitted.
- b) The tenderer has adequate financial stability and status to meet the obligations under the contract. For this purpose tenderer should have executed works / contracts of **150% of the tender value in the current financial year plus last three financial years**. In this regard, Annual / Audit reports (along with details of year wise turnover / balance sheet) certified by registered Chartered Accountant shall be submitted.
- c) The tenderer should have access to or has available liquid assets, lines of credit and other financial means to meet cash flow that is valued at **5% of the estimated bid value** net of applicant's commitments for other contracts. The audited balance sheet and / or banking reference certified by chartered accountant with his stamp, signature and membership number shall be submitted by the tenderer along with bid.

7.3 ISO Certification:

The tenderer must be **ISO 9001 certified** for providing engineering solutions in the area of design, modelling, analysis, modification & engineering support services.

8.0 Bid Evaluation System (Technical & Price Bids):

For Bid evaluation, Quality & Cost based system (QCBS) method shall be used. **The weightage of the technical requirements (i.e. quality) & financial (i.e. cost) components of the project shall be in the ratio of 70:30 respectively.**

9.0 Earnest Money: The tenderer is required to deposit Earnest money with the tender for the amount given in Column 5 of Para 1.0 above. Mode of depositing of earnest money and other conditions are given in Para 9.0 of “Instructions to Tenderer” (Part-I of the tender documents).

10.0 Performance Guarantee (PG): The successful bidder shall be required to submit a performance Guarantee at a rate of 10% of the contractual value as mentioned in Para 10.0 of “Instructions to Tenderer” (Part-I of the tender documents).

11.0 Pre-Bid Conference: A pre-bid conference shall be held between the prospective tenderers and the representatives of RDSO for discussing any issue(s), which might need clarifications, at 11.00 hours on date mentioned in Column 8 of Para 1.0 above in the Office of ‘Executive Director Standards Motive Power, RDSO, Manak Nagar, Lucknow-226011, India’. Tenderers shall submit a valid bank draft of requisite amount as the cost of bid document before starting of pre bid conference to attend the pre bid conference. Further details regarding pre-bid conference are given in Para 11.0 of “Instructions to Tenderer” (Part-I of the tender documents).

12.0 Submission of Bids under ‘Two Packet System’: Tenderers are required to submit their bids as mentioned in Para 12.0 of “Instructions to Tenderer” (Part-I of the tender documents).

13.0 Validity period of the Bids: The tenderer shall keep the bids, 'Technical' & 'Price', valid for a period of 180 days from their respective dates of opening. The offer not meeting this criterion is liable to be ignored. In cases where the original validity has expired before opening of the financial bid, bidders are required to extend the validity of financial bid before opening of financial bid, failing which their financial bid will not be opened and returned to them unopened.

14.0 Last Date of Receipt and Opening of the Tenders

- 14.1 Tenders complete in all respects should be dropped in Mechanical Engineering Directorate's tender box available at Centralised Tender Room of RPF Post (Thana) / RDSO, Manak Nagar, Lucknow – 226 011, India' not later than 14:30 hours on the date specified in Column 6 of Para 1.0 above.
- 14.2 Tenders sealed and super scribed as aforesaid can also be sent by registered post acknowledgement due addressed to "The President of India, Acting through Executive Director Standards Motive Power, RDSO, Manak Nagar, Lucknow - 226 011 (Uttar Pradesh), India. But, a tender which is received after the time and date specified, may not be considered. Any tender delivered or sent otherwise will be at the risk of the tenderer.
- 14.3 Tenders from tenderers not accompanied with cost of tender document, Earnest Money and tenders from Agents without letter of authority from the manufacturers are liable to be summarily rejected. Incomplete offers are also liable to be summarily rejected.
- 14.4 The bids received shall be opened (only technical bids), in the presence of such of the tenderers or their representatives who may like to be present, at 15.00 hours on the date specified in Column 7 of Para 1.0 above and where practicable, the names of tenderers and other information tendered by them will be read out.
- 14.5 Tenders which are received after the closure time and date specified above may not be considered. In case opening date/day falls on a gazetted holiday or subsequently declared as such a holiday, then the tenders will be opened on next working day at scheduled hour.
- 14.6 The date of opening of commercial bid will be advised later on to the bidders whose technical bids are found technically suitable.

Executive Director Standards Motive Power
For and on behalf of President of India
Research Designs and Standards Organization
Ministry of Railways, Manak Nagar
Lucknow-226011, UP, India



सत्यमेव जयते

GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS

**Global Tender for
DESIGN VALIDATION OF HTSC Fab-II BOGIE FRAME
FOR HHP LOCOMOTIVES**

**Tender Documents
In Two Packet System
Part – I, II, III, IV & V**

**Tender No. RDSO/MP/HTSC Fab-II
June 2018**

**RESEARCH DESIGNS & STANDARDS ORGANISATION
MINISTRY OF RAILWAYS, MANAK NAGAR
LUCKNOW - 226 011
INDIA**

Signature of Tenderer

Cost of Tender Document: Rs. 5,000/-
Page **4** of **64**

PREAMBLE

Tender documents for “DESIGN VALIDATION OF HTSC Fab-II BOGIE FRAME FOR HHP LOCOMOTIVES” have been divided in four parts, as under:-

- Part-I** : Instructions to Tenderer
Part-II : Special Tender / Contract Conditions
Part-III : Indian Railways General Conditions of Contract for Services
Part-IV : Technical Requirements of Work
Part-V : Forms for Tender

Total pages of the tender document are as follows:

S.No.	Description (Tender Document)	Pages
1.	Global Tender Notice	1 to 3
2.	Covering Sheet of Tender + Preamble	4 & 5
3.	Part-I: Instructions to Tenderer	6 to 20
4.	Part-II: Special Tender / Contract conditions	21 to 24
5.	Part-III: Indian Railways General Conditions of Contract for Services	25
6.	Part-IV: Technical Requirements of Work	26 to 40
7.	Part-V: Forms for Tender	41 to 64
Total Pages		64

Government of India, Ministry of Railways, Research Designs and Standards Organization reserves the right to accept or summarily reject or cancel any or all bids without assigning any reason.

In case of any contradiction in various conditions laid down in the various paras / sub-paras of any Part of the tender document, most stringent requirement shall apply or as decided by 'Executive Director Standards Motive Power, Research Designs and Standards Organization, Ministry of Railway, Manak Nagar, Lucknow-226011, India', whose decision shall be final.

Part - I

Instructions to Tenderer

INSTRUCTIONS TO TENDERER
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Instructions to Tenderer

1.0 General Instructions

- 1.1 For & on behalf of the President of India, the 'Executive Director Standards Motive Power, Research Designs and Standards Organization, Ministry of Railway, Manak Nagar, Lucknow-226011, India' (hereinafter referred to as Purchaser), invites bids for the work of "Design Validation of HTSC Fab -II Bogie Frame for HHP Locomotives" for Indian Railways as set forth in "Technical Requirements of Work" (Part-IV of the tender documents).
- 1.2 The contracts made under this tender will be governed by
 - i) Indian Railways General Conditions of Contract for Services
 - ii) Instructions to Tenderers
 - iii) Special Tender / Contract Conditions
 - iv) Technical Requirements of WorkIn case of conflict, the order of priority for document determining the conditions will be Technical Requirements of Work, Special Tender / Contract Conditions, Instructions to Tenderers and Indian Railways General Conditions of Contract for Services.
- 1.3 All the bids in the prescribed format included with tender documents should be submitted before the time and date fixed for the receipt of bids as set forth in tender notice. Bids received after stipulated time and date are liable to be rejected.
- 1.4 Throughout these bidding documents, the terms "bid" and "tender" and their derivatives ("bidder/tenderer," "bid/tendered," "bidding/tendering," etc.) are synonymous, and day means calendar day. Singular also means plural.
- 1.5 "**Similar Single Work**" for this tender means, the design and /or design validation work of any railroad bogie variants having axle load ≥ 15 tonne and speed potential ≥ 100 kmph.

2.0 Modification of tender conditions

Purchaser reserves the right to unconditionally revise the tender specifications, scope of work or other conditions in the tender document, without assigning any reason(s) to the buyers of the tender documents. In such a case, however, sufficient time and opportunity shall be given to tenderers to submit their bids in the light of such changes, before closing the tenders. However, decision of the Purchaser in this regard shall be final.

3.0 Guidelines for participation of Joint Venture (JV) Firms

- 3.1 Separate identity / name shall be given to the Joint Venture firm.
- 3.2 Number of members in a JV firm shall not be more than three.
- 3.3 A member of JV firm shall not be permitted to participate either in individual capacity or as a member of another JV firm in the same tender.
- 3.4 The tender form shall be purchased and submitted only in the name of the JV firm and not in the name of any constituent member.
- 3.5 Normally Earnest Money Deposit (EMD) shall be submitted only in the name of the JV and not in the name of constituent member. However, in exceptional cases EMD in the name of lead member can be accepted subject to submission of specific request letter from lead member stating the reasons for not submitting the EMD in the name of JV and giving written confirmation from the JV partners to the effect that the EMD submitted by the lead member may be deemed as EMD submitted by JV firm.
- 3.6 One of the members of the JV firm shall be the lead member of the JV firm who shall have a majority (at least 51%) share of interest in the JV firm. The other members shall have a share of not less than 20% each in case of JV firms with up to three members and not less than 10% each in case of JV firms with more than three members. In case of JV firms with foreign member(s), the lead member has to be an Indian firm with a minimum share of 51%.

- 3.7 A copy of Memorandum of Understanding (MOU) executed by the JV members shall be submitted by the JV firm along with the tender. The complete details of the members of the JV firm, their share and responsibility in the JV firm etc. particularly with reference to financial, technical and other obligations shall be furnished in the MOU. The MOU format for this purpose is enclosed along with the tender as **Annexure F**.
- 3.8 Once the tender is submitted, the MOU shall not be modified/alterd/ terminated during the validity of the tender. In case the tenderer fails to observe/comply with this stipulation, the full Earnest Money Deposit (EMD) shall be forfeited. In case of successful tenderer, the validity of this MOU shall be extended till the currency of the contract expires.
- 3.9 Approval for change of constitution of JV firm shall be at the sole discretion of the Employer (Indian Railways). The constitution of the JV firm shall not be allowed to be modified after submission of the tender bid by the JV firm except when modification becomes inevitable due to succession laws etc. and in any case the Lead Member should continue to be the Lead Member of the JV firm. Failure to observe this requirement would render the offer invalid. Proforma for Power of Attorney for Lead Member shall be as per **Annexure H**.
- 3.10 Similarly, after the contract is awarded, the constitution of JV firm shall not be allowed to be altered during the currency of contract except when modification become inevitable due to succession laws etc. and in any case the minimum eligibility criteria should not get vitiated. Failure to observe this stipulation shall be deemed to be breach of contract with all consequential penal action as per contract conditions.
- 3.11 On award of contract to a JV firm, a single Performance Guarantee shall be required to be submitted by the JV firm as per tender conditions. Performance Guarantee shall be accepted only in the name of the JV firm and no splitting of guarantees amongst the members of the JV firm shall be permitted.
- 3.12 On issue of LOA (Letter of Acceptance), an agreement among the members of the JV firm (to whom the work has been awarded) has to be executed and got registered before the Registrar of the Companies under Companies Act or before the Registrar / Sub-Registrar under the Registration Act, 1908. This agreement shall be submitted by the JV firm to the Railways before signing the contract agreement for the work. (This agreement format should invariably be part of the tender condition. This agreement should invariably be made on the basis of agreed terms and conditions as made in the MOU). In case the tenderer fails to observe / comply with this stipulation, the full Earnest Money Deposit (EMD) shall be forfeited and other penal actions due shall be taken against partners of the JV and the JV. This joint venture agreement shall have, inter-alia, the following clauses:
- 3.12.1 **Joint and several liabilities** – The members of the JV firm to which the contract is awarded shall be jointly and severally liable to the Employer (Indian Railways) for execution of the project in accordance with General and Special conditions of the contract. The JV members shall also be liable jointly and severally for the loss, damages caused to the Railways during the course of execution of the contract or due to non-execution of the contract or part thereof.
- 3.12.2 **Duration of the Joint Venture Agreement** - It shall be valid during the entire currency of the contract including the period of extension and the warranty period, if any after the work is completed.
- 3.12.3 **Governing Laws** - The Joint Venture Agreement shall in all respect be governed by and interpreted in accordance with Indian Laws.
- 3.13 **Authorized Member** – Joint Venture members shall authorize one of the members on behalf of the Joint Venture firm to deal with the tender, sign the agreement or enter into contract in respect of the said tender, to receive payment, to witness joint measurement of work done, to sign measurement books and similar such action in respect of the said tender / contract. Proforma for Power of Attorney for signing of Application shall be as per **Annexure G**. All notices / correspondences with respect to the contract would be sent only to this authorized member of the JV firm.
- 3.14 No member of the Joint Venture firm shall have the right to assign or transfer the interest right or liability in the contract without the written consent of the other members and that of the employer (Indian Railways) in respect of the said tender / contract.

- 3.15 Documents to be enclosed by the JV firm along with the tender :
- 3.15.1 In case one or more of the members of the JV firm is/are partnership firm(s), the following documents shall be submitted:
- Notary certified copy of the Partnership Deed.
 - Consent of all the partners to enter into the Joint Venture Agreement on a stamp paper of appropriate value (in original).
 - Power of Attorney (duly registered as per prevailing law) in favour of one of the partners to sign the MOU and JV Agreement on behalf of the partners and create liability against the firm.
- 3.15.2 In case one or more members is/are Proprietary Firm or HUF, the following documents shall be enclosed: Affidavit on Stamp Paper of appropriate value declaring that his concern is a Proprietary Concern and he is sole proprietor of the Concern OR he is in position of "KARTA" of Hindu Undivided Family and he has the authority, power and consent given by other partners to act on behalf of HUF.
- 3.15.3 In case one or more members is/are limited companies, the following documents shall be submitted:
- Notary certified copy of the resolution of the Directors of the Company, permitting the company to enter in to a JV agreement, authorizing MD or one of the Directors or Managers of the Company to sign MOU, JV agreement, such other documents required to be signed on behalf of the Company and enter into liability against the company and/or do any other act on behalf of the company.
 - Copy of Memorandum and articles of Association of the Company.
 - Power of Attorney (duly registered as per prevailing law) by the company authorizing the person to do/act mentioned in the para (a) above.
- 3.15.4 I the members of the JV shall certify that they have not been black listed or debarred by Indian Railways or any other Ministry/Department of the Govt. of India/State Govt. from participation in tenders/contract on the date of opening of bids either in their individual capacity or the JV firm or partnership firm in which they were /are members/partners. An undertaking for the same shall be submitted by the tenderer as per **Annexure J**.

4.0 Applicability of Indian Railways General Conditions of Contract for Services

- 4.1 All relevant paras of Indian Railways General Conditions of Contract for Services (Part-III of the tender document) shall be applicable for this contract.
- 4.2 Indian Railways General Conditions of Contract for Services document and its latest correction slips, if any, issued from time to time by Railway Board shall also be applicable for this contract and may be referred from Indian Railways website www.indianrailways.gov.in under Ministry of Railways → Railway Board → About Indian Railways → Railway Board Directorates → Transformation Cell → Circulars.
- 4.3 However, 'Railway', 'General Manager' and 'Chief Engineer/Divisional Railway Manager/Engineer' mentioned in Indian Railways General Conditions of Contract for Services will mean 'RDSO', 'Director General' and 'Executive Director Standards Motive Power', respectively.

5.0 Conditions of Contract and Specifications:

Wherever, there is any conflict / contradiction between Instructions to tenderer (Part-I), Special tender / contract conditions (Part-II) and Indian Railways General Conditions of Contract for Services (Part-III), stipulations given in Part-II, then Part-I, thereafter Part-III shall prevail.

6.0 Employment / Partnership etc. of Retires Railway Employees:

- 6.1 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 or whether holding a pensionable post or not, in the Engineering or any other department of any of the railways owned and administered by the President of India for the time being, or should a tenderer being partnership firm have as one of its partners a retired engineer or retired Gazetted Officer as aforesaid, or should a tenderer being an incorporated company have any such retired engineer or retired 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 to the date of retirement of such Engineer or Gazetted Officer from the said service and in case where such Engineer or Officer had not retired from Government service at least 2 years prior to the date of submission of the tender as to whether permission for taking such contract, or if the contractor be a partnership firm or an incorporated company, to become a partner or Director as the case may be, or to take the employment under the contractor, has been obtained by the tenderer or the Engineer or Officer, as the case may be from the President of India or any officer, duly authorised by him in this behalf, shall be clearly stated in writing at the time of submitting the tender. Tenders without the information above referred to or a statement to the effect that no such retired Engineer or retired Gazetted Officer is so associated with the tenderer, as the case may be, shall be rejected.

- 6.2 Should a tenderer or contractor being an individual on the list of approved Contractors, have a relative(s) or in the case of partnership firm or company of contractors one or more of his shareholder(s) or a relative(s) of the shareholder(s) employed in gazetted capacity in the Engineering or any other department of the _____ Railway, the authority inviting tenders shall be informed of the fact at the time of submission of tender, failing which the tender may be disqualified/rejected or if such fact subsequently comes to light, the contract may be rescinded in accordance with provision in Clause 7.4 of General Conditions of Contract for Services.

Signature of Tenderer(s) _____ (Signature)
_____ (Designation)
Date _____ _____ Railway

7.0 Ensuring Legal applicability of Laws / Rules

All tenderers will be responsible for the legality of their offer and ensuring the implementation of various acts / laws as prevalent in their country as well as in India. Any tax / duty / levy, if not specifically mentioned in bid and contract, would be borne by the successful tenderer.

8.0 Compliance with Tender Conditions

- 8.1 The Tenderer shall indicate his compliance or otherwise give their remarks with justification against each para and sub-para of the 'Instructions to tenderer', Special tender / contract conditions', 'Indian Railways General Conditions of Contract for Services' and 'Technical Requirements of work' attached as Part-I, Part-II, Part-III and Part-IV of the tender documents.
- 8.2 The tenderer shall, for this purpose, enclose a separate statement of deviations as per format given in **Form – 1: Annexure B** (Part V) of tender documents, which should invariably be filled in and submitted along with the bid. Whenever the tenderer deviates from the provisions of a para/ sub-para, he shall furnish his detailed justification for the same.
- 8.3 The Purchaser, however, reserves the right to accept or reject these deviations and his decision thereon shall be final.
- 8.4 If the tenderer shall have any doubt as to the meaning of any portion of the conditions or of the specifications, he shall (before submitting the bid) set forth the particulars thereof and submit them to the Purchaser in writing, well in time, in order that any such doubt may be removed.

9.0 Earnest Money

- 9.1 The bidder is required to deposit Earnest Money with the tender for the due performance with the stipulation to keep the offer open for a period of 180 days from the date of opening of tender as mentioned in the tender notice, failing which the bid will not be considered. However, registered MSEs in terms of Ministry of MSMEs notification No. 503 are exempted from Earnest Money Deposit.
- 9.2 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 subject to

the period being extended further, if required by mutual agreement from time to time, he will not resile from his offer or modify the terms and conditions thereof in a manner not acceptable to RDSO. Should the tenderer fail to observe or comply with the foregoing stipulation, the aforesaid amount shall be liable to be forfeited by RDSO.

- 9.3 If the bid is accepted, the amount of Earnest Money will be returned to the successful bidder after the submission of the Performance Guarantees as per Para 10.0, for the due and faithful fulfilment of the contract. This amount of EBD shall be forfeited, if the Bidder / Contractor fail to execute the Contract Document within 7 days after receipt of notice issued by Railway that such documents are ready or to commence the work within 15 days (unless otherwise specified) after receipt of the order of the effect.
- 9.4 Earnest Money of the unsuccessful Bidder will, save as here-in-before provided, be returned to the unsuccessful Bidder within 15 days after finalization of the bid / negotiation, but the Railway shall not be responsible for any loss or depreciation that may happen to the Security for the due performance of the stipulation to keep the offer open for the period specified in the bid documents or to the Earnest Money while in their possession nor be liable to pay interest thereon.
- 9.5 Tenderers are required to furnish Earnest Money in the form mentioned below:
- 9.5.1 Fixed Deposit Receipts / Banker's Cheque / Demand Drafts in favour of "Executive Director/ Finance, RDSO, Lucknow, India" executed by the State Bank of India or any of the nationalized banks. No confirmatory advice from the Reserve Bank of India will be necessary.
- 9.5.2 Fixed Deposit receipts executed by the Scheduled Banks (other than the State Bank of India and the Nationalized Banks) approved by Reserve Bank of India for this purpose. RDSO will not, however, accept fixed deposit receipt without getting in writing the concurrence of the Reserve Bank of India.
- 9.6 The earnest money shall be valid and remain deposited with the purchaser for the period of 180 days from the date of tender opening. If the validity of the tender is extended, the validity of the instrument submitted in lieu of Earnest Money will also be suitably extended by the tenderer, failing which the tender after the expiry of the aforesaid period shall not be considered by the purchaser.
- 9.7 No interest will be payable by the Purchaser on the earnest money.

10.0 Performance Guarantee (PG)

The successful bidder shall have to submit a Performance Guarantee (PG) valuing 10% of the contract value in four separate parts of 2.5% each of the contract value, within 30 days from the date of issue of Letter of Acceptance (LOA) as mentioned in Para 4.11 of Indian Railway General Conditions of Contract for Services (Part-III of the tender document).

11.0 Pre-Bid Conference

- 11.1 A pre-bid conference shall be held between the prospective bidders and the representatives of RDSO for discussing any issue(s), which might need clarifications, at 11.00 hours on date mentioned in Column 8 of Para 1.0 of tender notice in the Office of 'Executive Director Standards Motive Power, RDSO, Manak Nagar, Lucknow-226011, India'.
- 11.2 The bidders, in their own interest, should attend the said conference without waiting for any communication from this organization.
- 11.3 Only those bidders, who have purchased bid documents, from the office of Executive Director Standards Motive Power, RDSO or paid the cost of downloaded bid documents, can participate in this Pre- bid conference.
- 11.4 Bidders are requested to send their queries to 'Executive Director Standards Motive Power / Director Motive Power, RDSO, Manak Nagar, Lucknow-226011 India' by post or by Fax at No. 91-522-2453916

or by e-mail at ID:edmprdso@gmail.com or ID:mp.directorvdg@gmail.com, so as to reach him at least 10 days before the date of Pre-bid conference.

- 11.5 RDSO accepts no liability for non-delivery of the queries / letters / FAX / e-mail to the concerned officer mentioned above. Questions received less than 10 days from the date of Pre-bid conference are liable to be excluded from the discussions during the pre-bid conference. However, Research Designs and Standards Organisation, Lucknow reserves the right to include any such query, even if received less than 10 days from the date of Pre-bid conference, for discussions in the said pre-bid conference.
- 11.6 Executive Director Standards Motive Power, RDSO may, at his discretion, change the date and venue of the Pre-bid conference. In such an event, the purchasers of the Bid document shall be duly notified by registered post or by FAX or by e-mail. RDSO does not take any responsibility for any postal delay/ non-receipt of the information once the same has been dispatched from this office.

12.0 Submission of Bids

- 12.1 All information in the bid and all related correspondence & documents in relation to the bidding process must be in English. Supporting documents and printed literature furnished by the Bidder with the Bid may be in any other language provided that they are accompanied by translations of all the pertinent passages in the English language, duly authenticated and certified by the Bidder, failure to comply with this may render the bid liable to be rejected. Supporting materials, which are not translated into English, may not be considered. For the purpose of interpretation and evaluation of the Bid, the English language translation shall prevail.
- 12.2 Tenderers are advised to submit printed copy of duly filled tender documents and related papers in A4 size only.
- 12.3 All pages of tender documents (Technical Bid & Price Bid) shall be signed by the authorised person.
- 12.4 All the alterations, omissions, additions or any other amendments made to the Bid shall be initialled by the person(s) signing the Bid. The Bid shall contain page numbers and shall be bound together in hard cover / spiral bound.
- 12.5 Individual signing the tender and other documents connected with this tender must specify whether he is signing as
- a) A sole proprietor of the firm or constituted attorney of the sole proprietor.
 - b) A partner of the firm having authority to quote and refer to arbitration disputes, in case of partnership firm either by virtue of partnership agreement or a power of attorney.
 - c) Constituted Attorney in case of Company.
- 12.6 In case of (ii) above a copy of partnership agreement and power of attorney attested by Notary Public should be furnished or Affidavit on stamped paper of all the partners admitting execution of the partnership agreement of the general power of attorney should be furnished.
- 12.7 In case of partnership firms, where authority to refer disputes has not been conferred on any of the partner, the tender and the related documents should be signed by all the partners of the firm.
- 12.8 A person signing the tender form or connected documents forming part of the contract shall be deemed to have the authority as indicated earlier. If on enquiry, it is found that the person so signing had no authority to do so, the Purchaser, without prejudice to other Civil and Criminal remedies, cancel the contract and hold the signatory liable for all costs and damages.
- 12.9 All prices and other information like discounts, etc., having a bearing on the price shall be written both in figures and words in the prescribed bid form.

- 12.10 Bids should be addressed to the President of India through the Executive Director Standards Motive Power, Research Designs and Standards Organisation, Ministry of Railways, Manak Nagar, Lucknow-226011, India. Technical Bid documents shall be verified as per Check list of Technical Bid (**Annexure L**) of **Form - 1**. The commercial offer should be as per **Form - 5**. All the technical details along with Earnest Money, except the price and commercial terms should be submitted in technical bid.
- 12.11 Bidders are required to submit their bids in two separate packets, first packet being 'Technical Bid' and second packet being 'Price Bid'.
- 12.12 Two separate envelopes – 'Technical Bid', in one envelope and 'Price Bid', in other should be sealed and marked as under:
'Technical Bid' from M/s ----- against Tender No To be opened on.....
'Price Bid' from M/s ----- against Tender No To be opened later.
- 12.13 Both the above said envelopes should be placed inside a larger envelope and sealed further. Tender no., due date of opening and tenderer's name should be clearly mentioned on the cover and superscripted as follows:
Tender No: RDSO/MP/HTSC Fab-II
Tender Name: Design Validation of HTSC Fab -II Bogie Frame for HHP Locomotives
Due Date of Opening: **20.07.2018 at 15:00 hours**
To,
The President of India,
Acting through Executive Director Standards Motive Power,
Research Designs and Standards Organisation (Ministry of Railways),
Manak Nagar,
Lucknow- 226 011 (Uttar Pradesh)
India
This envelope consists of two separate envelopes
Technical Bid (Packet-I)
Price Bid (Packet-II)
From:
Tenderer's Full Address
With Phone No. & Fax No.
- 12.14 The Earnest Money in "original" shall be submitted along with Technical bid.
- 12.15 Apart from the bid to be submitted as detailed above, no copy of the bid should be sent to other offices either at Lucknow or elsewhere.
- 12.16 All tender documents attached with invitation to tender duly completed and signed are to be submitted with the bids, failing which the tender is likely to be treated as incomplete and ignored.
- 12.17 Each page of the bid must be numbered consecutively, should bear the tender number and should be signed by the tenderer at the bottom. A reference to the total number of pages comprising the bid must be made at the top right hand corner of the first page.
- 12.18 **"TECHNICAL BID" (Packet-I)**
- 12.18.1 'Technical Bid' (Packet-I) shall contain the documents as listed below. Tenderers are requested to ensure that all such documents as listed are submitted duly filled, in all respects, failing which his / their offer is likely to be summarily rejected:-
a) Tender Form Covering Letter, given as Form - 1 in Part-V of the tender document, duly filled in.

- b) Earnest Money as mentioned in Para 9.0 of Part- I of the tender document.
- c) **Form - 3** of Part-V of the tender documents duly containing details of tenderer and his collaborator(s), as applicable, and details of work to be done by tenderer and his collaborator(s).
- d) Submission of information on each Qualifying and Eligibility Criteria as mentioned in Para 1.0 of the tender document (Part II: Special Tender / Contract conditions) including documentary proof thereof.
- e) Firms must fill in the enclosed performance statement as per **Form – 1: Annexure C & Annexure D**.
- f) **Form – 1: Annexure A & Annexure B** of Part-V of the tender documents dully filled in, regarding compliance of conditions of 'Instructions to tenderer, Special tender / Contract conditions' and 'Indian Railway General Conditions of Contract for Services' and 'Technical Requirements of Work' of the tender documents.
- g) **Form – 2** of Part-V of the tender document duly filled in, regarding Certificate of undertaking for downloading the bid documents, as applicable.
- h) Particulars of Bank Account for electronic fund transfer as per **Form – 4** of Part-V of the tender documents.
- i) All tender documents duly completed and signed as per Para 12.16 of Part - I of the tender documents including **Form - 1: Annexure L** (Part-V of the tender document).

12.19 **“PRICE BID” (Packet-II)**

- 12.19.1 'Price Bid' (Packet-II) shall contain the details as per **Form - 5** of Part-V of tender documents, duly filled in, containing Rates for Work of 'Design validation of HTSC Fab-II Fabricated Bogie Frame for HHP Locomotives', failing which his/their offer is likely to be summarily rejected.
- 12.19.2 'Price Bid' of only those tenderer(s) will be opened whose technical bids are found acceptable by Indian Railways.
- 12.19.3 The time, date and venue of opening of Price Bid shall be notified to successful tenderer/s after evaluation of Technical Bids.
- 12.20 If, after the scrutiny of the Technical Bid, it is found necessary to have the same revised in scope and/or content, to bring the same at par with one another and in conformity with the tender conditions and specifications and such other conditions are found necessary, the tenderers will be advised accordingly to revise their technical bids to bring all the technical bids at par and submit their revised price bid as well.
- 12.20.1 It shall also be binding on the tenderer to keep the original technical bid and price bid open and the RDSO has the right to accept the original or revised technical and price bids. RDSO's decision in this regard shall be final and binding on the tenderer/s.
- 12.20.2 The "Original Price Bids" and/or the 'Revised Price Bids' will be opened at the time, date and venue as will be notified in advance and advised to tenderer/s.
- 12.20.3 The tenderer/s may note that RDSO reserve its right to either accept or reject any bid/s without assigning any reason(s) whatsoever and tenderer/s shall have no claim/s on this account.
- 12.20.4 Tendering firms who do not submit their bids on the prescribed tender forms, their bids are liable to be ignored and no correspondence regarding the same shall be entertained.
- 12.20.5 Legal jurisdiction shall be the place of signing of contract.
- 12.20.6 In case, the Technical Bid of the tenderer is found unsuitable, his Price Bid would not be opened and would be returned at the tenderer's address by registered post.

13.0 Completion of Tender Documents

- 13.1 The rate should be quoted in figures as well as in words. In case of variation between the rates quoted in figures and in words, the lower of the two shall be taken as correct. If more than one or improper rates are tendered for the same items, the tender is liable to be rejected.
- 13.2 Each page of the tender papers is to be signed and dated by the tenderer/s or such person /s on his /their behalf that is /are legally authorized to sign for him /them.
- 13.3 Tenders containing erasures and alterations of the tender documents are liable to be rejected. Any corrections made by the tenderer/s in his / their entries should be in Ink and must be attested by him / them under full signature and date.
- 13.4 Additional conditions or stipulations, if any, must be made by the tenderer/s in covering letter with the tender. The RDSO reserves the right not to consider conditional tenders and reject the same without assigning any reason. Only those additional conditions, which are explicitly accepted by the RDSO, shall form part of the contract.
- 13.5 Additional pages can be attached, if considered essential. A total number of enclosures should be indicated in the body of the tender and all the enclosures numbered serially.
- 13.6 In case, tenderer wants to furnish any other relevant information, the same can be furnished in a separate covering letter.
- 13.7 The tenderers must ensure that the conditions laid down for submission of bids detailed in various Paras of the tender documents, are completely and correctly fulfilled. Bids, which are not complete in all respects as stipulated above, may be ignored.

14.0 Last Date of Receipt of Bids

- 14.1 The bids complete in all respects should reach the office of 'Executive Director Standards Motive Power, RDSO, Manak Nagar, Lucknow-226011, India, not later than time & date specified in the 'Tender Notice'.
- 14.2 The bids received shall be opened, in the presence of such of the tenderers or their representatives who may like to be present, at 15:00 hours on the date specified in the 'Tender Notice' and where practicable, the names of tenderers and other information tendered by them will be read out.

15.0 Effect and Validity of Bid

- 15.1 The submission of any bid connected with these specifications and documents shall constitute an agreement that the tenderer shall have no cause of action or claim, against the Purchaser for rejection of his bid. The Purchaser shall always be at liberty to reject or accept any bid or bids at his sole discretion and any such action will not be called into question and the tenderer shall have no claim in that regard against the Purchaser.
- 15.2 The bid shall be kept valid for acceptance for a minimum period of 180 (one hundred and eighty) calendar days from the date set for opening of bids. In case the offer is silent about same, it will be presumed that bids are valid for 180 days for both Technical Bid as well as Price Bid from the respective date of opening.
- 15.3 Bids shall be deemed to be under consideration immediately after they are opened and until such time the official intimation of award of contract is made by the Purchaser to the tenderer. While the bids are under consideration, tenderers and or their representatives or other interested parties are advised to refrain from contacting the Purchaser by any means. If necessary, the Purchaser will obtain clarifications on the bids by requesting for such information, from any or all the tenderers, either in writing or through personal contact, as may be considered necessary. Tenderers will not be permitted to change the substance of their bids after the bids have been opened.

16.0 Rights of the Railway to Deal with Tender:

- 16.1 The authority for the acceptance of the tender will rest with the Railway. It shall not be obligatory on the said authority to accept the lowest tender or any other tender and no bidder shall demand neither any explanation for the cause of rejection of his tender nor the Railway to assign reasons for declining to consider or reject any particular tender or tenders.
- 16.2 If the bidder deliberately gives wrong information in his tender or creates circumstances for the acceptance of his tender, the Railway reserves the right to reject such tender at any stage.
- 16.3 If the bidder expires after the submission of his tender or after the acceptance of his tender, the Railway shall deem such tender cancelled. If a partner of a firm expires after the submission of their tender or after the acceptance of their tender, the Railway shall deem such tender as cancelled, unless the firm retains its charter.

17.0 Bid Evaluation System (Technical & Price Bids):

- 17.1 In this tender, Quality & Cost based system (QCBS) method of evaluation shall be used. **The weightage of the technical requirements (i.e. quality) & financial (i.e. cost) components of the project shall be in the ratio of 70:30.** The score attained for technical requirements (quality) & financial (cost) component will be separately worked out & combined score shall be rounded off to the nearest digit. The Bid with the highest weightage combined score (Quality & Cost) shall be selected.

The relative weightage of different requirements of technical criteria for the Bid Evaluation is given in **Annexure –K.**

- 17.2 For the financial Bid, full marks / score (i.e. 30) will be given to the lowest Bid. The other Bids will be given proportionally score as per the formula as under -

Score Obtained = (Lowest Bid Value / Offered Bid Value) x 30

- 17.3 To facilitate evaluation and comparison, the Purchaser will convert all Bid Prices expressed in the amounts in various currencies in the Bid Price as payable, to Indian Rupees at the B.C. selling exchange rate established by the State Bank of India, as on the date of the Bid Opening.

18.0 Price Basis

- 18.1 Tenderers are required to quote on firm price basis.
- 18.2 The prices quoted must include all charges e.g. Taxes (withholding tax, service tax etc), levies, duties, cess, packing, forwarding and delivery charge etc, as applicable.
- 18.3 Cost of all deliverables of physical nature by the Contractor to Purchaser, included in the scope of the work, should be on C & F basis.
- 18.4 The prices should be stated only in one currency and should be either in the currency of the manufacturer's country or in US dollar or in any other currency widely used in international trade. However, if the work is proposed to be carried out in more than one country, the tenderer may state portions of the bid price in respective currency of the country of origin in which he wishes to be paid. The bid price shall be the total of such portions. Alternatively, tenderer may, at his option, state the entire bid price in US dollar or in any other currency widely used in international trade. The portion of the bid price relating to work of Indian origin shall be invariably stated in Indian Rupees. Tenderers belonging to countries with which Government of India have Rupee Payment Agreements should quote the entire bid price in Indian Rupees.

19.0 Acceptance of Tender

- 19.1 'IF THE TENDERER/S DELIBERATELY GIVES WRONG INFORMATION / WHOSE CREDENTIALS / DOCUMENTS IN HIS / THEIR TENDERS AND THEREBY CREATES CIRCUMSTANCES FOR

ACCEPTANCE OF HIS / THEIR TENDER. RDSO RESERVES THE RIGHT TO REJECT SUCH TENDER AT ANY STAGE, BESIDES, SHALL SUSPEND THE BUSINESS FURTHER FOR ONE YEAR.'

- 19.2 The authority for acceptance of tender rests with the competent authority of the Ministry of Railways, who does not undertake to assign reasons for declining to consider any particular tender or tenders. He also reserves the right to accept the tender in whole or in part or to divide the tender amongst more than one tender, if deemed necessary.
- 19.3 The successful tenderer/s shall be required to execute an agreement with the President of India acting through the 'Executive Director Standards Motive Power, RDSO, Manak Nagar, Lucknow-226011, UP, India' for carrying out of the work as per agreed conditions. The cost of stamp for the agreement, if required will be borne by RDSO.
- 19.4 The bidders operation and proceedings in connection with the work shall at all times be conducted during the continuance of contract in accordance with the laws, ordinance, rules and regulations for the time being in force and the bidder shall further observe and comply with the bye-laws and regulations of the Govt. of India, State Govt. and of Municipal other authorities having jurisdiction in connection with the work or site over operations such as these are carried out by the bidder/s and shall give all notice required by such bye-laws and regulations. The Hospital and medical regulations in force for the time being shall also be complied with by the bidder/s and his workmen.
- 19.5 The tenderer/s shall not increase his / their rate in case the Railway Administration negotiates for reduction of rates. Such negotiations shall not amount to cancellation or withdrawals of the original offer and rates originally quoted will be binding on the tenderer/s.
- 19.6 The tenderer/s shall submit an analysis of rates, if called upon to do so.
- 19.7 Non-compliance with any of the conditions set forth herein is liable to result in the tender being rejected.
- 19.8 Acceptance of bid will be communicated by Express Letter / Fax or formal acceptance of bid. Such acceptance of bid shall be deemed to conclude the contract.

20.0 Execution of Contract Documents:

The successful bidder shall be required to execute an agreement with the President of India acting through Executive Director Standards Motive Power, Research Designs and Standards Organisation (Ministry of Railways), Manak Nagar, Lucknow for carrying out the work according to Indian Railways General Conditions of Contract for Services, Special Conditions & Technical requirements of work annexed to the tender. The contractor shall submit the "Contract Agreement" as per **Annexure-III** of Indian Railways General Conditions of Contract for Services.

21.0 Progress Reports

- 21.1 The contractor shall, from time to time, render such reports concerning the progress of the contract in such form as may be required by the Purchaser.
- 21.2 The submission, receipt and acceptance of such reports shall not prejudice the rights of the Purchaser under the contract, nor shall operate as a ground against Purchaser merely by reason of the fact that he has not taken notice of/ or subjected to test any information contained in such report.

22.0 Responsibility of the Contractor for Executing the Contract

The contractor shall perform the contract in all respect in accordance to the terms and conditions elaborated in tender document.

23.0 Force Majeure

For Force Majeure, Para No. 4.12 of Indian Railways General Conditions of Contract for Services (Part-III of the tender document) shall be applicable.

24.0 Settlement of Disputes - Indian Railway Arbitration Rules

For Settlement of Disputes between Contractor and Purchaser, Section VIII of Indian Railways General Conditions of Contract for Services (Part-III of the tender documents) shall be applicable.

25.0 Secrecy

- 25.1 The Contractor shall take all reasonable steps necessary to ensure that all persons employed in any work in connection with the contract, have full knowledge of the Official Secrets Act and any regulations framed there under.
- 25.2 Any information obtained in the course of the execution of the contract by the contractor, his servants or agents or any person so employed, as to any matter whatsoever which would or might be directly or indirectly, of use to any enemy of India, must be treated secret and shall not at any time be communicated to any person.
- 25.3 Any breach of the aforesaid conditions shall entitle the Purchaser to cancel the contract.

26.0 Changes in the Contract

Changes to Contract may be necessitated as a result of changed requirements, changed site conditions, intermediate test results, test equipment limitations, and other unforeseen circumstances. If circumstances arises which, in the opinion of either party, call for a change (including addition or deletion) to the work, such party may initiate a modification of the Contract by notifying the other party. Upon agreement over the need for and nature of any proposed change, Contractor shall prepare a written proposal describing all changes to the work and any changes to the estimated cost or price, which shall be furnished to the Purchaser in a Change Form, which shall reflect any increase or decrease in the Contract Detail price. This form will be incorporated into and constitute a part of the Contract when signed by the authorized personnel of the Contractor and the Purchaser. Should contractor believe that continuation of the work pending approval of the modification is impracticable, work will cease until such Change Form has been executed. The reasonable cost of such work stoppage will be borne by the Purchaser. Should the parties be unable to agree to the terms of the proposed change in the Contract within a reasonable amount of time after notice of a proposed change has been given, Contractor or Purchaser may terminate the Contract.

27.0 Indemnity

The prices stated are to include all rights (if any) or patent, registered design or trade mark and the contractor shall at all times indemnify the Purchaser against all claims which may be made in respect of the stores for infringement of any right protected by patent, registration of designs or trade mark; provided always that in the event of any claim in respect of alleged breach of a patent, registered designs or trade mark being made against the Purchaser, the Purchaser shall notify the contractor of the same and the contractor shall, at his own expense, either settle any such dispute or conduct any litigation that may arise there from.

28.0 Treatment of Data

- 28.1 Ownership of all data, technical reports, photographs, drawings, plans, specifications, models, patterns, samples, or any other information, including the test results attained, produced, or acquired by Contractor from the Purchaser in connection with this Contract shall vest in Purchaser. Contractor shall take all reasonable steps not to disclose or make available to third parties the above in any manner unless Purchaser grants Contractor written permission to do so.
- 28.2 Contractor shall not utilize specific results that it obtains from Purchaser or Purchaser's test for Contractor's own purposes nor those of any third party. Contractor shall not retain such information and results in Contractor's general data base files after the Contract is concluded and the results are reported. Contractor shall retain the information and results only in a separate file, treated as proprietary and

accessible only to Purchaser and to those employees of Contractor who need to know the information and results to carry out the services contained in the Contract. IN ANY EVENT, CONTRACTOR SHALL NOT RETAIN ANY DATA (OTHER THAN A HARD COPY OF THE FINAL REPORT) BEYOND 90 DAYS OF CONCLUSION OF THE WORK DEFINED BY THE CONTRACT AND SUBMISSION OF ALL DELIVERABLES. UNLESS PURCHASER HAS SPECIFIED OTHERWISE IN WRITING, ALL DATA WILL BE RETURNED TO PURCHASER. Nothing herein shall in any way limit or restrict Contractor from using any ideas, skills, know-how, methodologies, and principles that may have been used, developed or enhanced in the course of the work performed under the Contract.

- 28.3 Proprietary documents that originate with the Purchaser shall be marked "PROPRIETARY" by Purchaser, and Contractor shall take all reasonable steps within its control to prevent the unauthorized release of proprietary data.
- 28.4 The above restriction on the disclosure of proprietary data shall not apply to the data which Contractor receives from a source other than the Purchaser, which is in the public domain, which is developed by Contractor independently, or which Contractor is required to disclose pursuant to an order of a court or other tribunal of competent jurisdiction.
- 28.5 Contractor will inform the Purchaser of the test results in writing. Test results and related reports developed and prepared by the Contractor will neither represent nor imply any endorsement by the Contractor of any product, service, or process.

29.0 Intellectual Property Rights

Contractor shall permit the usage of knowledge gained as given in Para 7.0 of "Technical requirements of Work" (Part-IV of tender document).

30.0 GST

Contractor shall comply with GST Act, 2017 – Change in Para (a) of Clause 6, Part-I of Indian Railways Standard General Conditions of Contract, July 2014 according to Railway Board's Letter No. 2017/CE-I/CT/4/GST dated 23.06.2017.

http://www.indianrailways.gov.in/railwayboard/uploads/directorate/civil_engg/downloads/2017_CE-I_CT_4_GST.pdf

Part - II

Special Tender / Contract Conditions

SPECIAL TENDER / CONTRACT CONDITIONS

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1.0 Qualifying and Eligibility Criteria

Tenderer(s) shall meet the criteria as under to participate in the tender:

1.1 Experience:

The tenderer shall have an experience in railroad bogie design. **The tenderer have designed at least two railroad bogie variants having axle load \geq 15 tonne and speed potential \geq 100kmph and are successfully running for the last three years.**

1.2 Financial Credential:

- a) The tenderer should have satisfactory completed **at least one similar single work for a minimum value of 35% of advertised tender value** within the qualifying period i.e. the last 3 financial years and current financial year (even though the work might have commenced before the qualifying period). Documentary evidence to this effect issued by the user or the statutory body shall be submitted.
- b) The tenderer has adequate financial stability and status to meet the obligations under the contract. For this purpose tenderer should have executed works / contracts of **150% of the tender value in the current financial year plus last three financial years**. In this regard, Annual / Audit reports (along with details of year wise turnover / balance sheet) certified by registered Chartered Accountant shall be submitted.
- c) The tenderer should have access to or has available liquid assets, lines of credit and other financial means to meet cash flow that is valued at **5% of the estimated bid value** net of applicant's commitments for other contracts. The audited balance sheet and / or banking reference certified by chartered accountant with his stamp, signature and membership number shall be submitted by the tenderer along with bid.

1.3 ISO Certification:

The tenderer must be **ISO 9001 certified** for providing engineering solutions in the area of design, modelling, analysis, modification & engineering support services.

2.0 Time schedule of Work

The entire work of "DESIGN VALIDATION OF HTSC Fab-II BOGIE FRAME FOR HHP LOCOMOTIVE" shall be completed by the successful bidder within a period of Twelve months from the date of awarding of the contract, as given in Para 10.0 of "Technical Requirement of Works for Design validation of HTSC Fab-II Fabricated Bogie Frame for HHP Locomotives" of the tender documents.

3.0 Payment

- 3.1 The contract price will be normally paid in the currency or currencies in which the price is stated in the successful bid. However, Purchaser reserves the right to effect payment of equivalent amount in the currency or currencies of the country of origin of the work/goods in case the price is stated in other currencies. The equivalent amount will be calculated on the basis of exchange rate prevailing on the date of payment.
- 3.2 The payment at different stages will be made as per phases mentioned in Para 8.0 of Part-IV 'Technical Requirement for Tender of Design validation of HTSC Fab-II Fabricated Bogie Frame for HHP Locomotives' of the tender documents. The payment shall be made as under:

Phases	Stages of the Project	Deliverables	Percentage of Payment #
Phase 1	Measurement of field data	Report 1	10%
	Finalization of load cases		
Phase 2	FEA of existing & improved bogie frame	Report 2	30%
	Final improved design report submission		
	Submission of FEA, Fatigue, Simulation & Weld analysis reports		

Phase 3	Submission of 3D & FEA models of improved design	Models, Drawings & Calculations	30%
	Submission of 2D manufacturing drawings of improved design with welding details & calculations		
Phase 4	Strain gauging drawing & Fatigue test scheme	Drawing & Fatigue Test Scheme	30%
Phase 5	Development of design skills	Training	Training Cost

- The percentage of payment specified against first four phases constitutes design validation cost (Total cost of the project minus training cost).

- 3.3 Phase 1: Report 1 shall contain requirements of Para 10.1, 10.2 & 10.3 of Part-IV of tender document.
Phase 2: Report 2 shall contain requirements of Para 10.4, 10.5 & 10.6 of Part-IV of tender document.
Phase 3: Models, Drawings & Calculations shall contain requirements of Para 10.7, 10.8, 10.9, 10.10, 10.11 & 10.12 of Part-IV of tender document.
Phase 4: Drawing & Fatigue Test Scheme shall contain requirements of Para 10.13 & 10.14 of Part-IV of tender document.
Phase wise payment (Phase 1 to Phase 4) shall be made after acceptance of relevant deliverables by in-charge of the project in RDSO.
Phase 5 will constitute development of design skills as per Para 10.15 of Part-IV (i.e. Training to RDSO officials) and will be paid only after satisfactory completion of training.
- 3.4 Tenderer to give consent in a mandate form for receipt through ECS / EFT. Tenderer to provide the details of bank account in line with RBI guidelines for the same. These details will include bank name, branch name and address, account type, bank account number and bank & branch code as appearing on MICR cheque by bank. Tenderer to attach certificate from their bank certifying the correctness of all such information.
- 3.5 In case of non-payment through ECS / EFT or where ECS / EFT facility is not available, payment will be released through the cheque.
- 3.6 **Paying Authority:** Executive Director / Finance, RDSO, Manak Nagar, Lucknow-226011, India will make the payment after satisfactory completion of different stages.

4.0 Notification of Delivery

After the completion of each phase of work, the tenderer shall submit the details to RDSO as elaborated in Para 3.2 & Para 3.3 above.

5.0 Training

Training shall be imparted to the RDSO officials as specified in Para 3.4 of "Technical requirement of work" (Part IV of Tender document).

6.0 Testing, Field Trials & Warranty

On the basis of design improvements suggested by the contractor, one prototype bogie frame shall be manufactured by Indian Railways (at their own cost). The prototype bogie frame shall be subjected to static / fatigue testing in Fatigue test laboratory at RDSO / Lucknow (Testing charges shall be borne by the Indian Railways) as per the test scheme provided by the contractor to validate design.

Performance Guarantee (PG) shall be released after warranty period i.e. successful static / fatigue testing of the prototype bogie frame or 2 years after completion of all the deliverables, whichever is earlier.

In case of any defects i.e. cracks etc, during static / fatigue testing, contractor shall suggest improvements and submit complete details in support of that to RDSO at their cost.

Part-III

Indian Railways General Conditions of Contract for Services

http://www.indianrailways.gov.in/railwayboard/uploads/directorate/Transformation_Cell/General_Condition_260218.pdf

Part-IV

Technical Requirements of Work

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**Terms of Reference
For
Design Validation of HTSC Fab-II Fabricated Bogie Frame for HHP Locomotives**

1.0 BACKGROUND

Indian Railways had imported WDP4 / WDG4 locomotives from M/s Electro-Motive, USA in 1997-98 under TOT. These locomotives were fitted with cast steel HTSC truck frames. Subsequently, DLW started manufacturing of the WDP4 / WDG4 series of locomotives with cast truck frames.

To meet the increasing production target of EMD locomotives, DLW requested RDSO to develop a fabricated bogie design as an alternate to HTSC Cast Truck Frame. Accordingly, RDSO developed fabricated version named as HTSC FAB-I bogie frame with completely interchangeable suspension and brake rigging components. Three HHP locomotives fitted with FAB-I bogie were rolled out by DLW in 2009.

Further, DLW planned to develop dual cab version for HHP locomotives, designated as WDP4D. To achieve the targeted axle load of Dual Cab Locomotive, RDSO developed FAB-II version of bogie frame with the weight reduction of approx. 500 kg with respect to FAB-I bogie frame.

Diesel loco shed GOC has reported first crack case of Fab-II bogie frame on WDP4D locomotive during June 2014. Subsequently, Zonal Railways reported development of cracks in HTSC Fab-II bogie frames at specific locations during service. Photographs are attached as **Annexure-II** for reference. Till date approx. 55 nos. of cracked bogie frames cases has been reported. From the details of failure, it is seen that most of the cracks have been observed at outer vertical plate of longitudinal beam near middle axle.

RDSO issued a modification sheet no. MP.MOD.VL-04.09.14, July 2014 to repair cracked bogie frames as well as to strengthen un-cracked bogie frames in-service and lying at DLW awaiting fitment. After strengthening, strengthened bogie frame are running successfully.

After detail design review, RDSO modified the design of HTSC Fab-II bogie frame in January 2015. In modified design bogie frame mainly thickness of both inner & outer vertical plates of longitudinal beams has been increased from 16 mm to 20 mm and provided continuous beading at the bottom of vertical plates. Further, considering safety, end beam again added to the bogie frame in October 2015.

Bogie frame being critical safety item, an in depth analysis of the improved design is required to check its adequacy for reliable service. The analysis may lead further improvements in the design of the existing bogie frame to ensure reliability during service.

2.0 OBJECTIVES

- .1 Structural design validation (Static and fatigue) of the HTSC Fab-II fabricated bogie frame for HHP locomotives through FEM/ Fatigue analysis software.
- .2 Suggestions to improve design of the bogie frame and validation of the suggested design incorporating improvements such that no permanent deformations or fatigue failures occur in the specified life of the new bogie frame.
- .3 The design of the new bogie frame shall be acceptable in service without the occurrence of defects such as ruptures, permanent deformation and fatigue cracks etc when fitted under HHP locomotives of IR.

3.0 SCOPE OF WORK

3.1 Actual measurements of loads in static and dynamic conditions for structural design validation (Static and Fatigue analysis) in existing modified HTSC Fab-II bogie frame design (SK.VL-507, Alt.-7):

Actual loads on the bogie frame required to be measured in the normal operation of the locomotive in traffic use. This will cover all type of operating conditions of locomotive. Following activities to be carried out by the tenderer in this module;

- .1 Selection of one WDP4D locomotive by IR.
- .2 Identify critical locations for strain gauging in the bogie frame and accelerations/displacements measuring in relevant components of bogie/suspension by the tenderer.
- .3 Tenderer is advised to select all necessary sensors for measuring both input & response on bogie structure that may be required for FEA validation and development of load case matrix to evaluate proof & fatigue strength of parent material and weldments.
- .4 Fixing of strain gauges/accelerometers/instrument for displacement measurement and acquisition of data by RDSO under monitoring of tenderer as per the methodology for measurement specified by the tenderer based on their study.
- .5 List of strain gauges/accelerometers/instruments and any other requirements for measurement and acquisition of data shall be provided by tenderer.
- .6 The same shall be checked with RDSO's Testing Directorate and provided for data measurement. However, any special instrument, not available with RDSO, shall be arranged by the tenderer at their cost.
- .7 Additional measurements, if any required for the other parameters affecting performance of bogie frame shall be done by the tenderer.
- .8 Tenderer shall analyze the data collected from the measurement done and use the same as input for their analysis.
- .9 Structural analysis shall cover strength of bogie frame including all the brackets of the bogie frame to hold subassemblies/components like damper brackets etc.
- .10 On each phase, two different structural verification are required:
 - a) Static calculations including exceptional load cases representing extreme loads that might occur only rarely during the life of the bogie.
 - b) Fatigue calculation with normal service load cases representing those loads that can occur during normal operations.
- .11 Load calculations for the purpose of FEA etc. to be submitted along with report of measurements.

3.2 FE Analysis and Design verification of bogie frame:

Following activities shall be carried out by the tenderer;

- .1 Generation of load cases based on the design data/ measured parameters following International standards. Sample load cases for structural calculations for static test and structural calculations for fatigue test have been defined in **Annexure-III**. The load cases have been defined for guidance only; the tenderer may add/ delete/ modify the load cases suiting the objective in consultation with MP Dte RDSO, duly specifying the reason. The load cases should be selected for both static and fatigue analysis considering following;
 - a) Determination of the forces that occur in the interfaces of the structure.
 - b) Combination of these forces in load cases representing operation conditions.
 - c) Assessment of the stress values caused by the application of every load cases.

- d) Analysis of the calculated stress values comparing them to the acceptable stress limits.
- .2 Tenderer shall study the overall integration of bogie from under-frame and superstructure of locomotive from attachment point of view and mention it's adequacy in the report with detailed analysis.
 - .3 Interface between underframe & bogie shall not be changed.
 - .4 2D drawings of Locomotive general arrangement, bogie arrangement and bogie frame and 3-D model as available shall be provided to tenderer by IR. In case any minor modification is required, underframe to be analyzed & design shall be agreed upon.
 - .5 Tenderer to consider existing welding fixtures detail and propose design changes that can be implemented with minimum modifications on existing manufacturing framework.
 - .6 In case of design change, selection of plate/material should be as per IS or equivalent standard mutually agreed.
 - .7 FE model to be developed with mutually agreed upon quality guidelines for both parent metal & weld evaluation.
 - .8 Analysis methodology, pass/fail criteria's, stress recovery evaluation for weldment & parent metal shall be documented in detailed & mutually agreed upon. Report shall be submitted to IR for acceptance.
 - .9 FEA validation of existing Fab-II bogie to be evaluated based on the static & operating loads measured as per Para 3.1 above. Validation report to be submitted to IR.
 - .10 Load case matrix for Proof & Fatigue loads to be developed based on:
 - a) BS EN 13749 :2011, BS EN 15827 :2011 or equivalent mutually accepted International standard.
 - b) Load measured as per Para 3.1 above, whichever represents worst case scenario. Load case matrix needs to be mutually agreed upon.
 - .11 FEA of parent metal & weldment to be performed on Fab-II existing bogie frame based on mutually agreed upon:
 - a) Load matrix as per 3.2.10,
 - b) BS 7608, BS EN 15085-1 to 5 or equivalent mutually accepted International standards.Detailed report needs to be submitted to IR.
 - .12 Based on FE analysis as per 3.2.10, identify critically stressed areas/hot-spots for parent metal & weldment. Design improved bogie frame structure to overcome design limitations of existing Fab-II bogie considering following factors;
 - a) No interface change between platform & bogie.
 - b) No change in the suspension arrangement.
 - c) No change in the brake gear arrangement/ brake power.
 - d) No change is lifting arrangement, ladder, lateral & yaw stops.
 - e) Weight of the bogie frame shall not exceed existing weight of the HTSC fabricated bogie frame i.e. 5.05 tone (UG NX Model Weight). Weight of bogie frame may be optimized to achieve maximum weight reduction.
 - .13 FEA of parent metal & weldment to be performed on Fab-II improved bogie frame based on mutually agreed upon:
 - a) Load matrix as per 3.2.9,
 - b) BS 7608, BS EN 15085-1 to 5 or equivalent mutually accepted International standardsDetailed report needs to be submitted to IR.
 - .14 Recommendations shall be feasible to implement and to be submitted with details before finalization.
 - .15 FEA, Fatigue and Weld Analysis of finalized design shall be carried out by tenderer based on mutually agreed international standards like UIC, EN, DVS, etc. and report shall be submitted to IR for acceptance.

- .16 FEA shall preferably be performed using ANSYS/ MSC Nastran/ NX Nastran software as solver & Altair Hyper works Hyper Mesh, Hyper View software as pre & postprocessor. Report shall be submitted to IR for acceptance.
- .17 Parent metal & weldment fatigue analysis shall be performed using mutually accepted software/tool. Report shall be submitted to IR for acceptance.

3.3 Prototype Bogie Frame Validation

- .1 For the purpose of the verification of the design (incorporating suggested improvements), the prototype bogie frame will be manufactured and shall be subjected to fatigue test.
- .2 Tenderer shall depute their specialized technical representative in the manufacturer's premises at their own cost to ensure overall quality and implementation of modifications advised during manufacturing.
- .3 Tenderer should indicate critical location that needs to be strain gauged during field trial to prove out weldment and parent metal proof & fatigue strength for Fab-II improved bogie frame design.
- .4 Tenderer shall provide detailed fatigue test scheme to IR based on the infrastructure available in Fatigue test laboratory at RDSO/Lucknow and impart onsite training and assistance to IR officials for carrying out fatigue test of the bogie frame under the scope of this work. The actual fatigue testing will be outside the scope of this work and will be arranged by IR on its own cost.
- .5 After Fatigue test bogie will be sectioned to evaluate weld quality & penetration, especially at critical locations. In case any weld defects found after sectioning, Tenderer to recommend design changes for weld improvement & inspection methodology.

3.4 Training to RDSO Officials

- .1 Tenderer shall impart Training of at-least three IR officials for 2 weeks i.e. 10 working days as a part of this contract as per the following;
 - a) General Design methodology using classical calculation methods for 2 days.
 - b) Important details of International Standards followed for bogie design for 1 day.
 - c) Methodology of assessment of loads and development of load cases for FEA & Fatigue analysis for 1 day.
 - d) Training of FEA and fatigue analysis using software including post processing and assessment of results for 4 days.
 - e) Evaluation of results and design finalization according to standards for 1 day.
 - f) Onsite training on fatigue testing scheme and methodology for 1 day.
- .2 Training (other than point 3.4.1f) shall be provided by tenderer at their premises where sufficient workstations installed with software in proper working condition for nominated officials shall be available. To and fro fare and living expenses of all such IR staff shall be borne by Indian Railways.

3.5 Approval and Validation

The stress calculations made by the tenderer would be examined in detail by a team of two representatives of RDSO. The consultant shall not be authorized to release the output of stress analysis unless this examination has been done and approved. The tenderer must lay down method of validation of stress analysis that would be used wherever FEA is adopted.

3.6 Finite Element Analysis

- .1 CAD & FEA files should be compatible with
 - a) UG (NX 8.5) (3D& 2D CAD)
 - b) Altair Hyper works : Hyper Mesh (pre processor) / Hyper View (postprocessor)
 - c) ANSYS, MSC/NX Nastran or mutually agreed (FE solver)
 - d) Fatigue analysis (mutually agreed solver)

In addition, FE & Fatigue input solver files (inclusive of all macros & customization) shall also be provided in Ascii/txt format. These files inclusive of input & results shall be handed over to RDSO on a CD/DVD/hard disk or equivalent media.

- .2 The FEA results shall consist of all the results covered under the scope of work.

4.0 RESPONSIBILITIES OF RDSO

- .1 RDSO shall be responsible for coordinating the field visits of the consultant and providing them the data required for the execution of the project.
- .2 RDSO would have responsibilities for supplying the direct input like:

4.1 General Design Data related to Bogie

- a) Axle load
- b) Operating Speed
- c) Traction Motor Data
- d) Gear Pinion Ratio
- e) Wheel Diameter
- f) Specified bogie frame weight
- g) Intended Life of Bogie Frame
- h) Tractive Effort of the Locomotive

4.2. Component specifications and drawings:

- a) Loco General arrangement
- b) Bogie General arrangement
- c) Bogie Suspension Arrangement
- d) Detailed drawings of bogie frame
- e) Detailed drawings of sub-assemblies
- f) Specification of bogie frame
- g) Modification Sheet No. : MP.MOD.VL-04.09.14, July 2014
- h) Available 3-D model of bogie frame
- i) Vehicle Body Interfaces and Clearances
- j) Bogie Movement Envelope
- k) Conventional Brake Power Calculation

A list of technical data of the bogie to be used as input parameters are attached as **Annexure-I** and technical data shall be provided to the contractor for execution of re-validation work.

4.3 Fatigue testing of Bogie Frame:

On the basis of design improvements suggested by the contractor, one prototype bogie frame shall be manufactured by Indian Railways (at their own cost). The prototype bogie frame shall be subjected to static / fatigue testing in Fatigue test laboratory at RDSO / Lucknow (Testing charges shall be borne by the Indian Railways) as per the test scheme provided by the contractor to validate design.

5.0 RESPONSIBILITIES OF THE CONSULTANT

The consultant would be responsible for:

- a) Clearly stating the required inputs to RDSO giving a margin of at least one week.
- b) Supplying any information related to the project sought by RDSO during the project.
- c) Arrange for travel and stay of their officials during execution of the project.

6.0 COORDINATORS REPRESENTING RDSO AND THE CONSULTANT

RDSO:

- a) Director Standards (Motive Power) - VDG (Project Coordinator)
- b) Dy. Director (Motive Power) - VDG
- c) Sr. Section Engineer (Motive Power) - VDG
- d) Any other official nominated by Executive Director Standards (Motive Power)

Consultant:

The consultant shall submit the names of the officials who will work on this project and coordinate with RDSO and designate one of its project team members as a project coordinator. The consultant should submit the names, qualifications and the credentials of the experts involved at each stage of the project.

7.0 TRANSFER OF KNOW-HOW & INTELLECTUAL PROPERTY RIGHTS

- .1 The bidder will not divulge any confidential technical data and any information supplied by RDSO to any third party, nor will reproduce data/information in any form.
- .2 The reports will be the property of RDSO and the use of the reports in any form and for any purpose will be made only with the prior approval of RDSO. RDSO shall be free to use design, drawings and specifications developed during the project for regular manufacture/application. RDSO shall also be free to apply/modify the design, drawing and specification on any other locomotive/locomotives for domestic as well as export market.
- .3 All the specifications and the related reference drawings issued by any authority of Indian Railway / RDSO for the consultancy work have been prepared by Indian Railways. All rights conferred by the law of copyright and by virtue of International copyright convention are reserved with Indian Railways; irrespective of the fact whether the same has been mentioned on any of such documents or otherwise. Re-production in whole or in part requires the prior written consent of Indian Railways. As the drawing / document incorporate confidential information, its disclosure to third parties also requires Indian Railways prior written consent.

8.0 DURATION OF PROJECT

- .1 The entire work of "Design Validation of HTSC Fab-II Fabricated Bogie Frame for HHP Locomotives" shall be completed by the successful bidder within **12 Months** from the issue of LOA (Letter of Acceptance).

Phases	Stages of the Project	Deliverables	Time Duration in Months	
Phase 1	Measurement of field data	Report 1	10	
	Finalization of load cases			
Phase 2	FEA of existing & improved bogie frame	Report 2		
	Final improved design report submission			
	Submission of FEA, Fatigue, Simulation & Weld analysis reports			
Phase 3	Submission of 3D & FEA models of improved design	Models, Drawings & Calculations		
	Submission of 2D manufacturing drawings of improved design with welding details & calculations			
Phase 4	Strain gauging drawing & Fatigue test scheme	Drawing & Fatigue Test Scheme		2
Phase 5	Development of design skills	Training		

The time for the first phase shall start from the date of dispatch of RDSO's advice to the consultant, indicating acceptance of the offer.

- .2 All efforts shall be made by RDSO to adhere to the time frame given. However, RDSO shall not accept any financial responsibility for delay due to reasons beyond its control.

9.0 REVIEW OF PROJECT

- .1 Formal review of the implementation of the project shall be made by RDSO with the consultant. The consultant shall depute the project coordinator or an expert of standing not less than the project coordinator for the review meetings.
- .2 Any dispute in the scope of project, speed of implementation etc. shall be resolved jointly by the project coordinator representing the consultant and Director Standards (Motive Power)-VDG, representing RDSO. In case of any disagreement, the matter shall be referred to the Exe. Director Standards (Motive Power), RDSO, Manak Nagar, Lucknow, whose decision shall be final.

10.0 DELIVERABLES

- .1 Detailed report of actual field measurements.
- .2 FEA validation report of existing Fab-II bogie (under static & operating loads) based on field measurements.
- .3 Proof & Fatigue Load case matrix report based on mutually accepted International standard & field measurements whichever is worst. Exceptional & Fatigue loads for attachments.
- .4 Detailed FEA report of parent metal & weldment as per Para 3.2.11 for existing & proposed mutually agreed improved bogie design including attachments. The improvements should be quantified through the simulation studies vis-à-vis existing design.
- .5 The recommended design with improvements in the Fab-II bogie frame along with details to meet the objective.
- .6 FEA, Fatigue and Weld Analysis report of finalized design incorporating mutually agreed improvements. The improvements should be quantified through the simulation studies vis-à-vis existing design.
- .7 3D model of complete bogie frame incorporating suggested improvements as soft copy compatible with UG (NX 8.5).

- .8 FEA model of bogie frame in soft copy after incorporating improvements inclusive of all macros & customization.
- .9 2D manufacturing drawings of the improved bogie frame including plate drawing specifying edge preparation for weld, sub-assembly drawings specifying plate weld sequence, weld details, root gap etc.
- .10 Weld sequence procedure.
- .11 Weld classification based on weld performance & inspection class.
- .12 Bolted joint calculation in case interface bolts at bogie gets changed.
- .13 Report of critical locations that needs to be strain gauged during field trial to prove out weldment and parent metal proof & fatigue strength for Fab-II improved bogie frame design.
- .14 Fatigue test scheme for bogie frame based on mutually agreed test protocol (Test data from field trials of existing Fab-II bogie, BS EN 13749:2011, EN 14363:2013 or equivalent International standard) & infrastructure available in Fatigue test laboratory at RDSO/Lucknow.
- .15 Development of design skills by training RDSO officials as stated in Para 3.4.

11.0 ASSOCIATION OF RDSO IN THE DESIGN VALIDATION/ VERIFICATION

Representatives from MP Dte/ RDSO/ Lucknow shall be associated during the design validation and verification process to make them conversant with the process and also to provide necessary inputs required for the purpose of verification apart from this document, to the extent possible. This may also require visit of RDSO representatives to the firm's premises.

Annexure-I

Technical inputs of the Bogie

Following are the technical details of the HTSC Fab-II bogie, which may require to be used as input parameters for the simulation exercise. Any other details required for the analysis will be provided by RDSO on demand to the extent possible:

1. General Design Data :

- a. Axle Load : 20.5 tonne
- b. Operating Speed : 135 kmph
- c. Traction Motor : M/s Siemens TM No. - ITB2525-OTA02
(Weight: 2125 kg)
- d. Gear Pinion Ratio : 77 / 17
- e. Wheel Diameter : Φ 1092 mm
- f. Bogie Frame Weight : 5.05 tonne (UG NX Model Weight)
- g. Intended Life of Bogie Frame : 18 Years
- h. Max. Tractive Effort of the Loco. : 400 KN
- i. Gauge : Broad Gauge (1676mm)

2. Design drawings of repair cracked bogie frames as well as strengthened un-cracked bogie frames by DLW, which are currently in service:

S.No.	Description of drawing	Drawing no.
1	Bogie frame arrangement	SK.VL-507 Alt.4
2	Bogie frame details (sheet 1 of 4)	SK.VL-508_1 Alt.3
3	Bogie frame details (sheet 2 of 4)	SK.VL-508_2 Alt.3
4	Bogie frame details (sheet 3 of 4)	SK.VL-508_3 Alt.3
5	Bogie frame details (sheet 4 of 4)	SK.VL-508_4 Alt.3
6	Bogie frame welding plan (sheet 1 of 2)	SK.VL-509_1 Alt.3
7	Bogie frame welding plan (sheet 2 of 2)	SK.VL-509_2 Alt.3
8	Machining details of Bogie frame	SK.VL-510 Alt.3

3. Design drawings of modified bogie frame in service. The Structural design validation of this bogie frame has to be done.

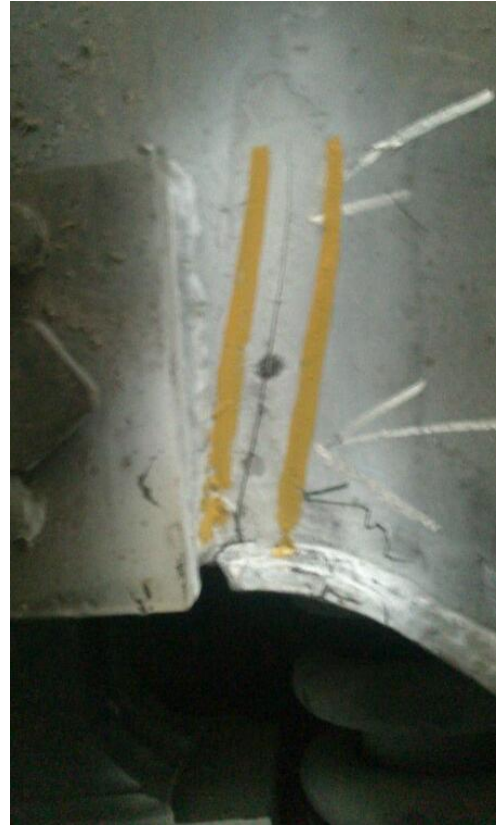
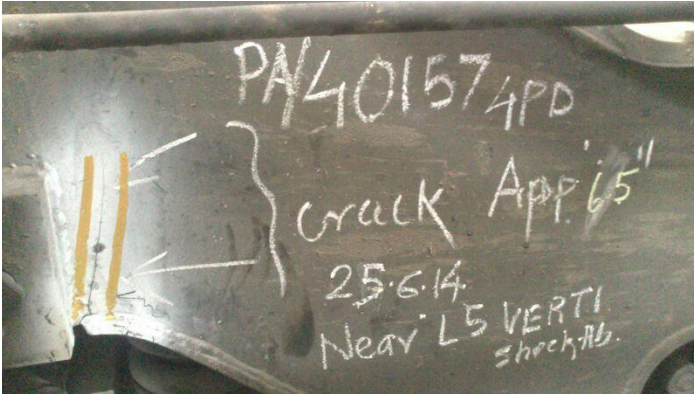
S.No.	Description of drawing	Drawing no.
1	Bogie frame arrangement	SK.VL-507 Alt.7
2	Bogie frame details (sheet 1 of 4)	SK.VL-508_1 Alt.4
3	Bogie frame details (sheet 2 of 4)	SK.VL-508_2 Alt.5
4	Bogie frame details (sheet 3 of 4)	SK.VL-508_3 Alt.5
5	Bogie frame details (sheet 4 of 4)	SK.VL-508_4 Alt.6
6	Bogie frame welding plan (sheet 1 of 2)	SK.VL-509_1 Alt.5
7	Bogie frame welding plan (sheet 2 of 2)	SK.VL-509_2 Alt.5
8	Machining plan of Bogie frame	SK.VL-510 Alt.6

4. Other design details of bogie

S.No.	Description of Drawing / Document	Drawing / Document
1	Loco General Arrangement	SK.DL- 4686 Alt e
2	Bogie General Arrangement	SK.VL-609 Alt. Nil
3	Bogie Suspension Arrangement	SK.VL-610 Alt. Nil
4	Technical specification for fabricated Bogie frame	VL.SPEC-6
5	Modification Sheet for Strengthening(July 2014)	MP.MOD.VL-04.09.14
6	3D model of the existing bogie frame	-
7	Truck Application - WDP4 Loco (Vehicle body interface and clearance)	40087066
8.	Brake Power Calculation	SK.VL-420 Alt 2

Annexure-II

Failure Details Of Fab-II Bogie Frame Experienced During Service



Annexure-III

SAMPLE LOAD CASES

1. BASIC LOAD CASES

Basic Load Case 1 (BLC1): 1V Static load: This load case is performed using the bogie frame g-load, the traction motor weight on the nose link supports and the secondary spring loads. This load case will illustrate the effect of the side frame bending under static load condition.

Basic Load Case 2 (BLC2): 1V plus Lateral load: This load case illustrates the areas affected by lateral loading. BLC2 applies the lateral load in positive y-direction.

Basic Load Case 2a (BLC2a): 1V plus Lateral load: This load case illustrates the areas affected by lateral loading. BLC2a applies the lateral load in negative y-direction.

Basic Load Case 3 (BLC3): 1V plus Traction: Traction loads of the magnitude of the starting tractive effort are superimposed to the static loads.

Basic Load Case 3a (BLC3a): 1V plus Traction: Traction loads of the magnitude of the starting tractive effort are superimposed to the static loads.

Basic Load Case 4 (BLC4): 1V plus Twist loads: This family of 3 (+1) load cases studies the impact of track twist to the bogie frame.

BLC4 has the wheel 1L going through a dip of 1.5". BLC4a applied the twist distortion to wheel 2L and BLC4b to wheel 3L. Since the structure is almost symmetrical to the centre line, load case for wheel 1R, 2R and 3R are not required. However, to demonstrate symmetric behavior of the model, it is recommended to verify this for at least 1 additional wheel (BLC4c).

Basic Load Case 4a (BLC4a): 1V plus Twist loads: Displacement of 38.1mm in -Z direction is applied at node at location 3 as twist load.

Basic Load Case 4b (BLC4b): 1V plus Twist loads: Displacement of 38.1 mm in -Z direction is applied at node at location 1 as twist load.

Basic Load Case 4c (BLC4c): 1V plus Twist loads: Displacement of 38.1 mm in -Z direction is applied at node at location 6 as twist load.

Basic Load Case 5 (BLC5): 1V plus Braking loads: Braking loads for full service braking are superimposed on to the static loads.

Basic Load Case 5a (BLC5a): 1V plus Braking loads: Braking loads for full service braking are superimposed on to the static loads.

2. EXTREME LOAD CASES

Extreme Load Case 1 (ELC1): Vertical Overload 2.5V: In addition to the static loads (1V) a vertical car body load equal to 150% of the static load (+1.5V) is applied. The reaction load is split between the primary springs and the primary vertical stop.

Extreme Load Case 2 (ELC2): 1 V without center axle: This load case simulates the situation, when a locomotive is dragged with a center axle removed or when a center axle has been removed in a railroad shop without jacking either the bogie frame or the carbody.

Extreme Load Case 3 (ELC3): 1 V with Twist overload: This load case simulates derailment of one wheel until it is fully unloaded. The analysis is based on the wheel, which has been identified to be the most critical in load cases BLC4/4a/4b/4c.

Extreme Load Case 3a (ELC3a) : 1 V with Twist overload: Displacement of 100 mm in -Z direction is applied at node at location 1 as twist load. Stress limit is yield.

Extreme Load Case 4 (ELC 4): 1 V plus Lateral overload: A lateral overload equal to 165% of the Prud'homme level is added to the static vertical load.

Extreme Load Case 5 (ELC5): 1 V and 3-g Buff load: Stress limit is yield.

Extreme Load Case 6 (ELC 6): 1 V and 5-g Buff load: Stress limit is ultimate.

Extreme Load Case 7 (ELC7): 1 V and Flash-over or Crow-bar: Beside the vertical loads traction loads are applied in the magnitude of the starting conditions, with the nose link loads increased to 5 times the nominal value. This load case represents high torque reactions, when electrical failures in traction motors or failures in the traction motor control system occur.

Extreme Load Case 8 (ELC8): 1 V and Worst case combination of Service brake and parking brake: This load case represents the situation, when the locomotive engineer applies the parking brake before releasing the service brake or when the engineer applies the service brake before releasing the parking brake.

3. FATIGUE LOAD CASES

Fatigue Load Case 1 (FLC1): Starting at low speed: This load case simulates starting at low speed with high tractive effort and twist due to 1.5 inch rail joint. Load cases BLC3/3a and BLC4/4a/4b/4c should clarify the load directions needed to generate maximum (FLC1) and minimum (FLC1a) stress levels in the critical areas.

Fatigue Load Case 1a (FLC1a): Starting at low speed: Displacement of 38.1 mm in –Z direction is applied at node at location 2 as twist load.

Fatigue Load Case 2(FLC 2): Full vertical and lateral dynamic: Full vertical dynamic load consisting of positive and negative 20% bouncing and 10% rolling as well as a lateral load of 92 % of Prud'homme effective at the end axles are superimposed to the static vertical load.

Fatigue Load Case 3 (FLC 3): Full vertical and lateral dynamic and twist: A twist load equal to 1.5 inches of wheel displacement is overlaid to the ranges of load case FLC2/2a.

Fatigue Load Case 3a (FLC 3a): Displacement of 38.1 mm in –Z direction is applied at node at location 5 as twist load.

Fatigue Load Case 4 (FLC 4): Full vertical and lateral dynamic and twist with braking loads: Braking loads for are overlaid to the ranges of load case FLC3/3a. The braking loads are equivalent to full braking with a braking ratio of 37% and a shoe friction level of 35%.

Fatigue Load Case 4a (FLC 4a): Displacement of 38.1 mm in –Z direction is applied at node at location 5 as twist load.

Fatigue Load Case 5 (FLC 5): Full vertical and lateral dynamic and twist with tractive effort at higher speeds: Traction loads at higher speeds are added to the ranges of load case FLC3/3a. Tractive effort level should be calculated for 50 kmph on the basis of the maximum expected power level.

Fatigue Load Case 5a (FLC 5a): Displacement of 38.1 mm in –Z direction is applied at node at location 4 as twist load.

Fatigue Load Case 6 (FLC 6): Damper loads: This load case evaluates the effect of damper loads. For typical dampers a fatigue load of ± 15 KN for primary vertical and ± 25 KN for secondary lateral dampers should be assumed.

Part-V

Forms for Tender

LIST OF FORMS

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FORM - 1
Tender Form Covering Letter

Tender No.: RDSO/MP/HTSC Fab-II

Name of Work: Design Validation of HTSC Fab-II Fabricated Bogie Frame for HHP Locomotives

The President of India,
Acting through the Executive Director Standards Motive Power,
Research Designs and Standards Organization (RDSO),
Manak Nagar,
Lucknow - 226 011 (U.P.), India

1. Name of Bidder - Single entity / Joint venture.
2. Lead Member & other members of joint venture, if applicable.
3. 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 (one hundred eighty days), for both 'technical' and 'price' bids, from their respective 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 of "DESIGN VALIDATION OF HTSC Fab-II BOGIE FRAME FOR HHP LOCOMOTIVES" for Indian Railways at the rates quoted in the "Price Bid" in the prescribed format and hereby bind myself / ourselves to complete the work in all respects within the prescribed period given in Part-IV of the tender document from the date of issue of letter of acceptance for the work.
4. I / We also hereby agree to abide by the Instructions to tenderer, Special tender / contract conditions, Indian Railways General Conditions of Contract for Services with all correction slips up-to-date and to carry out the work as laid down in technical requirements of the work, given in Part-IV of the tender documents.
5. A sum of Rs. ... only is herewith forwarded as Earnest Money. The full value of the earnest money shall stand forfeited without prejudice to any other right or remedies in case my / our tender is accepted and if:-
 - a) I / We do not execute the contract documents within seven days after receipt of the notice issued by the railway that such documents are ready;
 - b) I / We do not commence the work within fifteen days after receipt of orders to that effect.
6. I /We am / are a Micro and Small Enterprise registered from (body approved by Ministry of MSME) with registration No. and terminal validity up to for similar service contracts.
7. Until a formal agreement is prepared and executed, 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
8. I / We enclose the following statements as Annexure:
 - a) Proforma for Tender Documents Acceptance: Tender documents, duly signed on every page by the authorised signatory. A declaration in this regard shall be submitted as Annexure A.
 - b) Proforma for Statement of Deviations (Annexure B) (Mention "No Deviation" statement if there is no deviation).
 - c) Proforma for Deliverables (Annexure C)

- d) Proforma for Performance Statement from concern OEM / Railroad (Annexure D)
- e) Proforma for Financial Eligibility Criteria – (Annexure E)
- f) Memorandum of Understanding for Joint Venture Agreement (Annexure F)
- g) Proforma for Power of Attorney for signing of Application (Annexure G)
- h) Proforma for Power of Attorney for Lead Member of JV (Annexure H)
- i) Proforma of Bank Guarantee for Earnest Money (Annexure I)
- j) Undertaking regarding Blacklisting / Non – Debarment (Annexure J)
- k) Bid Evaluation – Technical Criteria (Annexure K)
- l) Checklist of Technical Bid (Packet – I) (Annexure L)

(Signature of Tenderer)

Name (in Block Letters):

.....

Capacity in which tender is signed:

.....

Address of firm in full:

.....

.....

.....

Date:

ANNEXURE A

PROFORMA FOR TENDER DOCUMENTS ACCEPTANCE

Tender No.....

Date of opening.....Time.....Hours

Name of the Firm / JV

I / We certify that I / We have read and understood the terms & conditions of the Technical Requirements of Work, Special Tender / Contract conditions, Instructions to tenderers and Indian Railways General Conditions of Contract for Services (Latest Revision) and agree to undertake the works for “Design Validation of HTSC Fab-II Fabricated Bogie Frame for HHP Locomotives” as per these terms & conditions. **I / We have counter-signed each any every page of tender documents.**

The deviations, if any, have been specified as per **Annexure B**.

ANNEXURE B

PROFORMA FOR STATEMENT OF DEVIATIONS

Tender No.....

Date of opening.....Time.....Hours

Name of the Firm / JV

1. Deviations from Technical Requirements of Work

PARA No.	DEVIATION	REMARKS (Including Justification)

2. Deviations from Special Tender / Contract conditions

PARA No.	DEVIATION	REMARKS (Including Justification)

3. Deviations from Instructions to tenderers

PARA No.	DEVIATION	REMARKS (Including Justification)

4. Deviations from Indian Railways General Conditions of Contract for Services (Latest Revision)

PARA No.	DEVIATION	REMARKS (Including Justification)

Note: Where there is no deviation, a statement should be written duly signed with an endorsement indicating "No Deviations".

ANNEXURE C

PROFORMA FOR DELIVERABLES

Tender No.....

Date of opening.....Time.....Hours

Name of the Firm / JV

Deliverables in support of Design Credentials

**As per Para 1.0: Qualifying and Eligibility Criteria
of Part-II: Special Tender / Contract conditions of Tender Document**

S.No.	Order placed by (Full address of Purchaser)	Order No. and Date	Details of Deliverables	Type of Bogie with Axle Load & Speed	Place of Operation	Performance Certificate of concerned OEM / Railroad attached or Not (Yes / No)	Remarks If Any

Tenderers have to submit details of **at least two railroad bogie variants having axle load \geq 15 tonne and speed potential \geq 100kmph and are successfully running for the last three years** in the format at **Annexure D** along with tender. Tenderer shall also enclose relevant certificate / documents issued by concerned authority OEM / Railroad in this regard.

ANNEXURE D

PROFORMA FOR PERFORMANCE STATEMENT FROM CONCERN OEM / RAILROAD

Certificates from concerned OEM / Railroads in support of satisfactory performance of bogies shall cover at least following information:

S.No.	Description	Remarks
1.	Description of Work	
2.	Contract awarding Authority (OEM/ Railroad)	
3.	Contact Agreement No. with Date	
4.	Whether worked in the individual capacity or in a Joint Venture	
5.	Bogie running successfully since year	
6.	Place of Operation	

Note: Tenderer shall also enclose relevant certificate / documents issued by concerned authority / OEM/ Railroad in support of above.

ANNEXURE E

PROFORMA FOR FINANCIAL ELIGIBILITY CRITERIA

1. The tenderer is required to submit the details of **at least one similar single work completed** for a minimum value of 35% of advertised tender value within the qualifying period i.e. in the last 3 financial years and current financial year as per the following format:

S.No.	Details of Work / Contract executed	Total Value of the Contract / Payment Received	Supporting Documents	Remarks (If any)
i				
ii				

2. The tenderer is required to submit the turnover details in support of executed works / contracts of 150% of the tender value in the current financial year plus last three financial years as per the following format:

S.No.	Financial Year	Value of Works / Contracts executed	Supporting Documents	Remarks (If any)
i	Current Financial Year till the date of opening of the tender			
ii	Year 2017 - 18			
iii	Year 2016 - 17			
iv	Year 2015 - 16			

3. Whether the certificate issued for the turnover amount is audited & certified by chartered accountant. **YES / NO**
4. Whether the one similar single work executed is more than 35% of advertised tender value i.e. Rs. 31,20,950/- only. **YES / NO**
5. Whether the turnover amount for which the certificate is issued is more than 150% eligibility requirement i.e. Rs. 1,33,75,500/- only. **YES / NO**

**MEMORANDUM OF UNDERSTANDING
FOR JOINT VENTURE AGREEMENT**
(On Non-judicial stamp of Rs. 100/-)

1. This memorandum of understanding executed this _____ day of _____ 20__ between _____ (Name of Co.) _____ a company registered under the Companies Act 1956 having its registered office at _____ represented through its Director / Authorized Representative _____ (hereinafter referred to as _____ which expression shall unless repugnant to the context thereof includes its successors) of the **FIRST PART**.

AND / OR

M/s. _____ a partnership firm constituted under the Indian Partnership ACT 1932, having its registered office at _____, represented through its partner Shri _____ /Authorized Representative Shri _____ (hereinafter referred to as _____ which expression shall unless repugnant to the context thereof includes its successors) of the **FIRST PART**.

AND / OR

M/s. _____ a proprietary concern having its registered office at _____ represented through its sole proprietor Shri _____ (hereinafter referred to as _____ which expression shall unless repugnant to the context thereof includes its successors) of the **FIRST PART**.

Whereas, the party of the First part i.e. M/s. _____ details to be supplied of the expertise in their field.

Whereas, the party of the Second part M/s. _____ details to be supplied of the expertise in their field.

Whereas, the party of the Third part M/s. _____ details to be supplied of the expertise in their field.

AND whereas parties to this MOU have agreed to co-operate with each other to associate jointly and to form a Joint Venture Firm to participate in the RDSO Tender of Indian Railways.

Now, therefore, in consideration of the promises and mutual promises and of the undertaking contained herein, it is hereby agreed between the parties of the MOU as follows:

1. **The purpose of MOU**

M/s. _____, _____ and _____ agree to Co-operate with each other for the purpose of joint participation in the RDSO Tender (Design Validation of HTSC Fab-II Bogie Frame for HHP Locomotives as per Technical requirements of Work - Part-IV of Tender Documents) and in the event, the contract is awarded, to jointly execute the contract. The broad interfaces and scope of work of each party is set forth below:

2. The name of the Joint Venture firm shall be _____

3. The parties, hereto, represent that:

- a) They are in **possession** of all approvals and valid authorization for the purpose of execution of this MOU.
b) They have not entered into any agreement / MOU of equal or similar nature with any third party for this Tender no. RDSO/MP/HTSC Fab-II, Dated 28.05.2018.

That each of the parties of JV, agrees and undertake to place at the disposal of the JV, benefits of its individual experience, technical knowledge and skill and shall in all respects bear its share of the responsibility, including the provision of information advice and other assistance required in connection with the works. The share and the participation of the partners in the JV shall broadly be follows:

M/s. _____ %

M/s. _____ %

M/s. _____ %

“That M/s. _____ shall be the lead member of JV firm who shall have a majority (at least 51%) share of interest in the JV firm. The other members shall have a share of not less than 20% each (in case of firm with upto three member) The other members shall have a share of not less than 10% each (in case of JV firm with more than three members). In case of JV firm with foreign member(s), the lead member has to be an Indian firm with a minimum share of 51% (strike out which is not applicable) And all right, interest, liabilities, obligations, work experience and risks (net profits or net losses) arising out of the contract shall be shared or borne by the Parties in proportionate to these shares. Each of the parties shall bound by guarantees, sureties required for the work as well as its proportionate share in working capital and other financial requirements.

4. The parties to this MOU undertake:

- a) That after submission of the tender, the MOU shall not be modified/alterd/terminated during the validity of the tender including extension and warranty period except when modification becomes inevitable due to succession laws etc., but in no case the minimum eligibility criteria would be vitiated.
- b) That after the contract is awarded the constitution of the JV Firm shall not be altered during the currency of contract except when modification becomes inevitable due to Succession Law etc., “but in no case the minimum eligibility criteria would be vitiated”.
- c) That with respect of the RDSO Tender neither party, nor any subsidiary company of either Party, not any joint venture company or any other entity, in which the party/parties, is or are in any way interest, shall complete together with or through any third party, nor shall be parties advise, consult for, engage in or otherwise assist in any way person or entity or any affiliate thereof in respect of any orders or contracts related to this tender.
- d) That none of the members of joint ventures is black listed and/or debarred by the Indian Railways or and other ministry or department of Govt. of India/State Govt. from participation in contract / under in the past either in individual capacity or the JV Firm or partnership firm in which they were/are members/partners.

5. **Joint & Several Liability**

In respect of the RDSO Tender, all commercial terms shall comply each part on back-to basis specifications of the RDSO Tender or any other mutually agreed terms with the Owner / Customer. The Parties hereto shall, if awarded the contract for the project for which the Joint Venture is formed, be jointly and severally liable to the Indian Railways for execution of the project in accordance with the contract. The Parties hereto also undertake to be liable jointly and severally for the loss, damages caused to the Indian Railways in course of execution or due to non-execution of the contract or part thereof arising out of the contract.

6. Shri _____ be authorized partner / person on behalf of the Joint Venture to deal with tender, to sign the agreement or enter into contract in respect of the said tender, to receive payment, to witness joint measurement of work done, to sign measurement books, and similar such action in respect of RDSO Tender / Contract. All notices / correspondence with respect to the contracts would be sent only to this authorized partner / person of the JV firm.
7. Notwithstanding anything herein, in respect of the RDSO Tender, with regard to the internal relationship, the inter se liabilities between the parties shall be in proportion to their respective scope of work and shall be subject to the provisions of this MOU.

8. **Responsibility**

Each Party shall assume and accept full responsibility for its Scope of Work and the obligations imposed in the Contract and in this MOU as if it was, with regard to this Scope of Work, an independent partner contracting individually with the Customer. In the event of any defect and damage or any claim arising from the Customer under the Contract or any third party in relation to or as a consequence of any failure to meet the performance specification the Party, within whose Scope of Work the claim arises, shall be entirely responsible for the claim and shall indemnify and hold harmless the other Party from any liability, demand, claim burden cost, expense attorney’s fees and costs arising from thereof.

9. Assign ability

No party to the Joint Venture has right to assign or transfer the interest, right or liability in the contract without the written consent of the other party and that of the Indian Railway.

10. Use of Machinery, Instruments, Labour Force etc.

The Parties here to undertake that whatever the machinery, instruments, Labour force (including unskilled, skilled, inspectors, Engineers etc.) they possess at the time of entering into Joint Venture Agreement or which subsequently shall come in their possession and if such machinery, instruments, labour force is required for the speedy and efficient execution of the work, the Party / Parties having the control over the said machinery, instrument, labour force etc. without having any regard to their share of profit and loss agreed to between the Parties in Joint Venture Agreement shall hand over the same at the disposal of the other party who is actually executing the work for the purpose of execution of the contract without any hindrances and obstacle.

11. Duration of MOU

It shall be valid during entire currency of contract including the period of extension or till all the contractual liabilities including warranty / guarantee obligations are discharge completely.

12. Applicable Law

The MOU and any arrangement /agreements regarding the performance shall be construed and interpreted in accordance with and governed by the Laws of India and shall be subject to the exclusive jurisdiction of the courts at the place where MOU is executed/signed between the parties.

13. Settlement of Disputes

In the event of disputes arising from the MOU, the Parties to the MOU undertakes to endeavour to settle the said disputes amongst them amicably. However, if the parties fail to resolve the disputes amongst them amicably, the said disputes arising out of or in connection with the present MOU shall be resolved through Arbitration as per the provisions enshrined under the Arbitration and Conciliation Act, 1996 or /and statutory modifications made thereafter.

14. All communications or notices provided for herein shall be in the English language and be delivered, mailed, or tele-faxed to the Parties addresses as indicated below:-

M/s. _____

M/s. _____

All correspondence and notices to the Joint Venture firm shall be addressed to the Lead Member i.e.

M/s. _____/Shri _____ at the address stated herein below:-

M/s. _____

Such communication or notices shall be deemed to have been duly given when so delivered or, if mailed, when received at destination.

15. Each Part shall have full and sole responsibility to bear the expense of and effect the payment of any taxes, duties, special insurance, fees or assessments of any nature whatsoever (including personal income taxes levied or imposed or any of its employees or personnel or any of its subcontractor's employees or personnel) including penalties and interest, if any, levied in connection with the execution of this MOU.

In witness whereof, the Parties have caused this MOU to be executed by their respective authorized representative on the date and year mentioned herein above.

Signature:-

Shri _____

of M/s. _____

Signature:-

of Shri _____

M/s. _____

Signature:-

of Shri _____

M/s. _____

Witnesses:

1) Name:

Address:-

2) Name:

Address:-

ANNEXURE G

PROFORMA FOR POWER OF ATTORNEY FOR SIGNING OF APPLICATION

Know all men by these presents, We..... (name of the firm and address of the registered office) do hereby irrevocably constitute, nominate, appoint and authorize Mr / Ms (name),son / daughter / wife of and presently residing at....., who is (presently employed with us / the Lead Member of our Joint Venture Firm and holding the position of), as our true and lawful attorney (hereinafter referred to as the "Attorney") to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our application for submission of our bid for Design, supply erection, testing and commissioning of escalators at various stations on Indian Railways proposed or being developed by the Ministry of Railways (the "Purchaser") including but not limited to signing and submission of all applications, bids and other documents and writings, participate in Pre- Purchaser and other conferences and providing information / responses to the Purchaser, representing us in all matters before the Purchaser, signing and execution of all contracts including the Agreement and undertakings consequent to acceptance of our bid, and generally dealing with the Purchaser in all matters in connection with or relating to or arising out of our bid for the said Project and / or upon award thereof to us and/or till the entering into of the Agreement with the Purchaser.

AND we hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deeds and things done or caused to be done by our said Attorney pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

IN WITNESS WHERE OF WE,, THE ABOVE NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS DAY OF, 2.....

For

.....

(Signature)

(Name, Title and Address)

(Signature, name and designation of the authorised signatory)

Witnesses:

1.

(Notarised)

2.

Accepted

.....

(Signature)

(Name, Title and Address of the Attorney)

Notes:

1. The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure.
2. Wherever required, the Applicant should submit for verification the extract of the charter documents and documents such as a board or shareholders' resolution / power of attorney in favour of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Applicant.
3. For a Power of Attorney executed and issued overseas, the document will also have to be legalised by the Indian Embassy and notarized in the jurisdiction where the Power of Attorney is being issued. However, the Power of Attorney provided by Applicants from countries that have signed the Hague Legislation Convention 1961 are not required to be legalised by the Indian Embassy if it carries a conforming Apostille certificate.

ANNEXURE H

PROFORMA FOR POWER OF ATTORNEY FOR LEAD MEMBER OF JV

Whereas the Ministry of Railways (“the Purchaser”) has invited applications from interested parties for **Design Validation of HTSC Fab-II Bogie Frame for HHP Locomotives** as per Technical requirements of Work (Part-IV of Tender Documents). Whereas, and (collectively the “JV”) being Members of the JV are interested in bidding for the bid in accordance with the terms and conditions of the bid document and Whereas, it is necessary for the Members of the JV to designate one of them as the Lead Member with all necessary power and Purchaser to do for and on behalf of the JV, all acts, deeds and things as may be necessary in connection with the JV’s bid for the bid and its execution.

NOW, THEREFORE, KNOW ALL MEN BY THESE PRESENTS

We, M/s. having our registered office at M/s. having our registered office at and having our registered office at (hereinafter collectively referred to as the “Principals”) do hereby irrevocably designate, nominate, constitute, appoint and authorise M/s having its registered office at being one of the Members of the JV, as the Lead Member and true and lawful attorney of the JV (hereinafter referred to as the “Attorney”). We hereby irrevocably authorise the Attorney (with power to sub-delegate) to conduct all business for and on behalf of the JV and any one of us during the bidding process and, in the event the JV is awarded the contract, during the execution of the bids and in this regard, to do on our behalf and on behalf of the JV, all or any of such acts, deeds or things as are necessary or required or incidental to the pre-qualification of the JV and submission of its bid, including but not limited to signing and submission of all applications, bids and other documents and writings, participate in bidders and other conferences, respond to queries, submit information / documents, sign and execute contracts and undertakings consequent to acceptance of bid of the JV and generally to represent the JV in all its dealings with the Purchaser, and / or any other Government Agency or any person, in all matters in connection with or relating to or arising out of the JV’s bid and / or upon award thereof till the Agreement is entered into with the Purchaser.

AND hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deeds and things done or caused to be done by our said Attorney pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us / JV.

IN WITNESS WHEREOF WE THE PRINCIPALS ABOVE NAMED HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS DAY OF2.....

For
(Signature)
.....
(Name & Title)
For
(Signature)
.....
(Name & Title)
For
(Signature)
.....
(Name & Title)

Witnesses:

- 1.
- 2.

.....
(Executants)
(To be executed by all the Members of the JV)

Signature of Tenderer

Notes:

1. *The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure.*
2. *Also, wherever required, the Applicant should submit for verification the extract of the charter documents and documents such as a board or shareholders' resolution / power of attorney in favour of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Applicant.*

For a Power of Attorney executed and issued overseas, the document will also have to be legalised by the Indian Embassy and notarised in the jurisdiction where the Power of Attorney is being issued. However, the Power of Attorney provided by Applicants from countries that have signed the Hague Legislation Convention 1961 are not required to be legalised by the Indian Embassy if it carries a conforming Apostille certificate.

ANNEXURE I

PROFORMA OF BANK GUARANTEE FOR EARNEST MONEY

(On Bank's Letter Head with Adhesive stamp)

Ref.....

Date.....

Bank Guarantee No.....

To,

The President of India,
Acting through the Executive Director Standards Motive Power,
Research Designs and Standards Organization (RDSO),
Manak Nagar,
Lucknow - 226 011 (U.P.), India

Dear Sir,

In accordance with your invitation to tender No..... for **Design Validation of HTSC Fab-II Bogie Frame for HHP Locomotives** M/s.....hereinafter called the bidder with the following Directors on their Board of Directors / Partners of the firm:

1. _____ 2. _____
3. _____ 4. _____

Wish to participate in the said tender for **Design Validation of HTSC Fab-II Bogie Frame for HHP Locomotives**

As a Bank Guarantee against Earnest Money Deposit for a sum of(in words and figures) valid for (180) one hundred eighty days from required to be submitted by the bidder as a condition for the participation, this Bank hereby guarantees and undertakes during the above said period of (225) two hundred and twenty five days to immediately pay, on demand by The President of India, Acting through the Executive Director Standards Motive Power, Research Designs and Standards Organization (RDSO),Manak Nagar, Lucknow - 226011 (U.P.), India in writing the amount of(in words and figures) to the said

The President of India, Acting through the Executive Director Standards Motive Power, Research Designs and Standards Organization (RDSO),Manak Nagar, Lucknow - 226011 (U.P.), India and without any reservation and recourse if :

- (i) the bidder after submitting his tender, modifies the rates or any of the terms and conditions thereof, except with the previous written consent of the purchaser; or
- (ii) the bidder withdraws the bid within 225 days after opening of bid; or
- (iii) the bidder having not withdrawn the bid, fails to execute the contractual documents within the period provided in the contract; or
- (iv) having executed the contracts fails to give the bonds so aforesaid within the period provided in the contract.

This guarantee shall be irrevocable and shall remain valid upto 4.00 PM onif further extension to this guarantee is required, the same shall be extended to such required period on receiving instructions from M/s..... on whose behalf this guarantee is issued.

Date

Place

Witness

Signature.....

Printed Name.....

(Designation)

.....
(Bank's common seal)

ANNEXURE J

UNDERTAKING REGARDING BLACKLISTING / NON – DEBARMENT
(On Stamp Paper of Requisite Value)

Tender No.....

Date of opening.....Time.....Hours

Name of the Firm / JV

To,

The President of India,
Acting through the Executive Director Standards Motive Power,
Research Designs and Standards Organization (RDSO),
Manak Nagar,
Lucknow - 226 011 (U.P.), India

We, all the members of the JV certify that M/s

& M/s are not black listed or debarred by Indian Railways or any other Ministry / Department of the Govt. of India / State Govt. from participation in tenders / contract on the date of opening of bids either in their individual capacity or the JV firm or partnership firm in which they were / are members / partners.

For

Authorised Signatory

Date:

For

Authorised Signatory

Date:

ANNEXURE K

**BID EVALUATION – TECHNICAL CRITERIA
(Max. Score: 70)**

S.No.	Weightage	Technical Criteria	Documentation	Scoring
1	50%	Design Credentials Deliverables: Tenderers shall submit details of at least two railroad bogie variants having axle load \geq 15 tonne and speed potential \geq 100kmph.	Supporting documents shall be submitted in accordance to Annexure C of Form-1.	<ol style="list-style-type: none"> 35 Marks (100%) – If the number of railroad bogie variants designed are more than 4. 28 Marks (80%) – If 3 to 4 nos. of railroad bogie variants has been designed. 21 Marks (60%) – If 2 nos. of railroad bogie variants has been designed.
2	30%	Nos. of Years in Operation: Bogie variants running successfully for the last three years.	Supporting documents shall be submitted in accordance to Annexure D of Form-1.	<ol style="list-style-type: none"> 21 Marks (100%) – If at-least 2 bogie variants are running successfully for more than 5 years. 16.8 Marks (80%) – If at-least 2 bogie variants are running successfully for more than 3 years but less than 5 years.
3	20%	Financial Turnover: Tenderer should have executed works / contracts of 1.5 times of the tender value in the current financial year plus last three financial years.	In this regard, Annual / Audit reports (along with details of year wise turnover / balance sheet) certified by registered Chartered Accountant shall be submitted in accordance to Annexure E of Form-1.	<ol style="list-style-type: none"> 14 Marks (100%) – If the turnover for current financial year plus last three financial years is more than 5 times of the tender value. 10.5 Marks (75%) – If the turnover for current financial year plus last three financial years is more than 1.5 times and less than 5 times of the tender value.

ANNEXURE L

CHECKLIST TO TECHNICAL BID (PACKET-I)

Name of work: Tender for Design Validation of HTSC Fab-II Fabricated Bogie Frame for HHP Locomotives.

CHECK LIST OF ITEMS TO BE COMPLIED BY THE TENDERERS

S.No.	Description of Item	Reference Document	Compliance	Remarks (Page No. of Tender Document)
1.	Have the two bids (i.e. Technical Bid & Financial Bid) have been sealed, as mentioned in Submission of Bids Para 12.10 to 12.14 of Instructions to Tenderer (Part-I of Tender Documents) in separate envelopes and put these separately sealed envelopes in one large outer envelope.	Para 12.10 to Para 12.14	Yes / No	
2.	Have the Tender Form Covering Letter have been submitted and Original / Downloaded Tender document including Tender Forms duly signed and stamped on each page?	Form – 1 with Annexures	Yes / No	
3.	Have the required cost of tender document has been submitted [as per Para 4.0 of Global Tender Notice] in case of downloaded tender document at the time of pre-bid conference? Tenderer should also submit Certificate of Undertaking as per Form 2 along with the offer.	Para 4.0 & Form - 2	Yes / No	
4.	Have the details of the Tenderer and his Collaborator (s) has been attached.	Form - 3	Yes / No	
5.	Have the bank details for electronic money transfer has been enclosed?	Form – 4	Yes / No	
6.	Have a declaration that the tenderer accepts all the terms and conditions of RDSO Tender Documents have been enclosed? In case of deviations, have you furnished – Statement of Deviations?	Annexure A & Annexure B	Yes / No	
7.	Have the Deliverables & Performance Certificate regarding meeting technical eligibility criteria has been furnished for satisfactory designing at least two railroad bogie variants having axle load ≥ 15 tonne and speed potential ≥ 100 kmph and are successfully running for the last three years. This Form should be accompanied with certificate from user Railways.	Annexure C & Annexure D	Yes / No	
8.	The documents required for ascertaining Financial Credentials as specified in Qualifying Eligibility Criteria shall also be enclosed in the offer. Have the Annual / Audit reports (along with details of year wise turnover / balance sheet) certified by registered Chartered Accountant been furnished for the last three Financial Years?	Annexure E	Yes / No	
9.	Have the certified copy of MoU (JV agreement) have been furnished? (In case of offer is from JV firm)	Annexure F	Yes / No	

10.	Have the Power of Attorney for signing of Application and Lead Member of JV has been enclosed?	Annexure G & Annexure H	Yes / No	
11.	Have the requisite Earnest Money (EMD) has been submitted in prescribed form along with the Technical Bid document's envelope (Packet-I)? Note: In case EMD and cost of tender document are not accompanied in the Technical Bid envelope (Packet-I), the offer will be summarily rejected.	Para 9.0 & Annexure I	Yes / No	
12.	Have the undertaking regarding blacklisting / non – debarment has been submitted.	Annexure J	Yes / No	
13.	Have a list of Test equipment and other special tools / softwares as required for data input, simulation testing, and design validation work etc. have been furnished (Required for execution of work listed in Para 3.0 of the Technical Requirements of Work) ? In this regard, a detailed technical proposal about the procedure to be adopted should also be furnished.	Para 3.0	Yes / No	

FORM – 2

CERTIFICATE OF UNDERTAKING

(To be given by tenderers, downloaded tender documents from RDSO website)

Tenderer will give a certificate as under:

- (a) Cost of tender documents has been paid as required in tender notice.
- (b) "I/We certify that I/We have checked this down Loaded bid documents along with the application form with the bid documents available on line at www.rdsolndianrailways.gov.in and there is no discrepancy / variation / printing mistake and it is further certified that no alteration / modification has been made in the bid documents and the application form. I/We accept the entire responsibility of ensuring that this application form along with other documents is as per original documents available on web site is mine/ ours. I/We also agree that if any things contrary is found, the decision of RDSO / Administration will be final and binding on me / us."

Signature of Tenderer with Seal

Name in Block Capitals-----

Address-----

Phone Nos -----

Fax Nos -----

FORM – 3

**DETAILS OF THE TENDERER AND HIS COLLABORATOR(S)
(AS APPLICABLE)**

Sr. No.	Details	Tenderer	Collaborator No.1 (as applicable)	Collaborator No.2 (as applicable)
1	Full name			
2.	Address of Registered Head Office			
3.	Address of Branch office in India, if any			
4.	Address on which correspondence regarding this tender should be made:			
a)	Postal Address			
b)	Telephone No. (including country code)			
c)	Fax No.			
d)	E-mail address			
5.	Details of Work to be done along with supporting details.			

FORM – 4

MANDATE FORM FOR RTGS / NEFT ELECTRONIC FUND TRANSFER

S.No.	Details	Description	Remarks
1.	Company Name		
2.	Company Address		
3.	Company Work Address		
4.	Company Office Address		
5.	Company Phone Nos. (Works & Office)		
6.	Company Fax Nos. (Works & Office)		
7.	Company Email ID		
8.	Bank Name		
9.	Bank Branch & Code		
10.	Bank Address with City		
11.	Bank Telephone Nos.		
12.	Bank MICR Code (9 Digit)		
13.	Bank (RTGS / NEFT) IFSC Code		
14.	Bank Account No.		Please enclose a cancelled bank cheque.
15.	Account Type		
16.	PAN No.		
17.	GSTIN No.		Attach copy of Registration.

Declaration: We hereby declare that the particulars given above are correct and complete. If the transaction is delayed or not affected at all for reasons of incomplete and incorrect information, the user institution i.e. RDSO, will not be held responsible. I have understood the scheme and agree to discharge the responsibility for which I am liable as a participant under the scheme.

Date:.....

Signature of Firm / Person / Part

FORM – 5
SCHEDULE OF RATES

To,
The President of India,
Acting through the Executive Director Standards Motive Power,
Research Designs and Standards Organization (RDSO),
Manak Nagar,
Lucknow - 226 011 (U.P.), India

NAME OF THE WORK: “DESIGN VALIDATION OF HTSC Fab-II BOGIE FRAME FOR HHP LOCOMOTIVES”

S.No.	Description of Work	Rates Quoted (In Words)	Rates Quoted (In Figures)
1.	DESIGN VALIDATION OF HTSC Fab-II BOGIE FRAME FOR HHP LOCOMOTIVES		
		Taxes (As applicable along with supporting details)	
2.	TRAINING COST		
		Taxes (As applicable along with supporting details)	
Total Rates Quoted (In Words)			(In Figures)

Signature of Tenderer with Seal

Signature of Tenderer