

Standard Bidding Document

3CF/4P/0898/2026 Outsourcing Machining Work of Bogie manufactured in
CFI under 230 Coaches Project
(Non-Consultancy Services)

National

Single Stage-One Envelope



September 19, 2026

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PROCUREMENT NOTICE

PROCUREMENT OF NON-CONSULTANCY SERVICES

1. The **Pakistan Railways Carriage Factory (Pakistan Railways Carriage Factory)** has reserved Funds for the procurement planned for FY **2026-27**. The **Pakistan Railways Carriage Factory (Pakistan Railways Carriage Factory)** intends to apply part of the proceeds of this Fund to cover eligible payments under the contract for the **"3CF/4P/0898/2026 Outsourcing Machining Work of Bogie manufactured in CFI under 230 Coaches Project"** with the reference of **"P122332"**

2. The **Pakistan Railways Carriage Factory (Pakistan Railways Carriage Factory)** invites Bids through **EPADS v2.0** from eligible Bidders registered on **EPADS v2.0** for provision of Non-Consultancy Services.

3. **Single Stage-One Envelope** Procedure of Principal Method of Procurement (i.e. Open Competitive Bidding) will be used by adopting **Least Cost Based Selection (LCBS)** Technique for the subject procurement, in line with the Public Procurement Rules, 2004 and any Regulations, and Instructions issued by the Authority (from time to time).

4. All Bids must be accompanied by a Bid Security described in Bid Security Section in Bidding Document in the form of **Pay Order, Banker's Cheque, Call at Deposit, Bank Guarantee, Demand Draft** or Bid Securing Declaration on the prescribed format described.

5. E-Bidding documents, containing detailed terms & conditions, specifications and requirements etc. are available on **e-Pak Acquisition and Disposal System (EPADS)** at

<https://epads.gov.pk/opportunities/federal/procurements/122332>.

6. The e-bids, prepared in accordance with the instructions in the e-Bidding documents, must be submitted through **EPADS v2.0** on or before **Monday, October 5, 2026 12:00 PM**. E-bids will be opened on the same day at **Monday, October 5, 2026 12:30 PM**. Manual submission of Bids shall not be entertained. Those vendors who have not yet registered on the new

version of **EPADS v2.0**, may register themselves on <https://vendors.epads.gov.pk/>.

A tutorial to explain the registration process is available at <https://www.youtube.com/watch?v=MNW6T38v7tc>

7. In terms of Rules 48 of Public Procurement Rules, 2004 Grievance Redressal Committee (GRC) is notified for the subject procurement and notification copy is available on the procuring agency's website and also available on **EPADS v2.0** as well as Authority's website at (www.ppra.org.pk).

Pakistan Railways Carriage Factory (Pakistan Railways Carriage Factory),

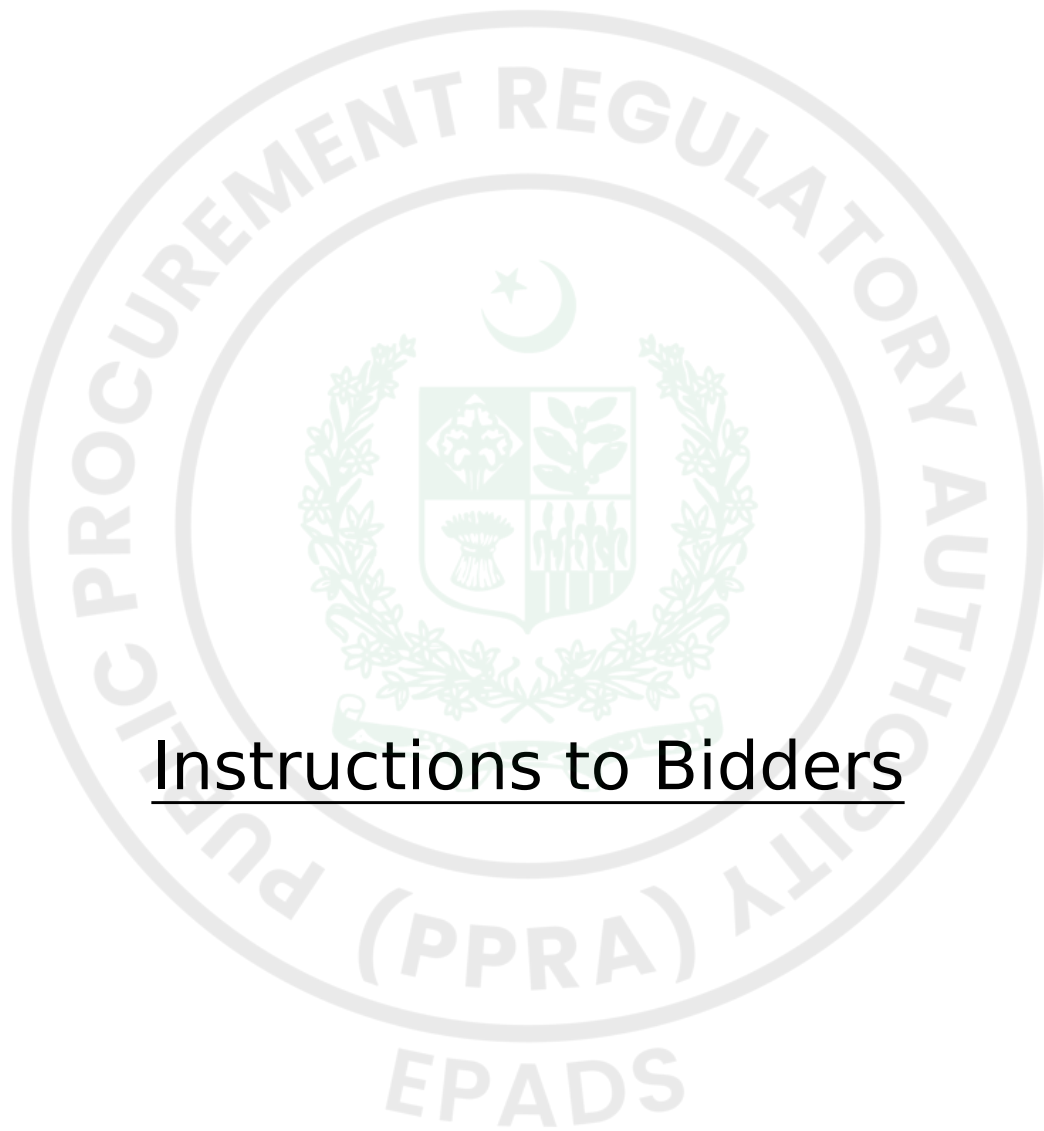
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Instructions to Bidders

A. Introduction

1. Scope of Bids

1.1. The Procuring Agency (PA), as indicated in the **Bids Data Sheet (BDS)** invites Bids through **EPADS v2.0** for the provision of Non-Consultancy Services for as specified in the BDS and in **Section Evaluation Criteria, Specifications & Schedule of Requirements**. The name, identification, and number of items/deliverables are provided in the **BDS**. **Single Stage-One Envelope** procedure of the open competitive method shall be used. The successful Bidders will be expected to provide the services within the specified period and timeline(s) as stated in the **BDS**.

2. Source of Funds

2.1. Source of funds is referred in Clause-1 of Invitation for Bids.

3. Fraudulent & Corrupt Practices

3.1. As defined under Rule 2(1)(f) of the Public Procurement Rules, 2004.

4. Eligible Bidders

4.1. A bidder is eligible to participate in a procurement process if the bidder:

4.1.1. possesses or has access to the technical competence, financial resources, equipment and other physical facilities, personnel, managerial capability, experience and reputation necessary to complete the procurement contract;

4.1.2. has the legal capacity to enter into a procurement contract;

4.1.3. is not insolvent, in receivership, bankrupt or being wound up and its activities or affairs are not suspended or being administered under any Act, by a court or by a judicial officer;

4.1.4. is not the subject of legal proceedings for any of the matters mentioned in sub-rule (c);

4.1.5. has fulfilled or has made substantial arrangements satisfactory to the relevant authorities, to fulfil its obligations to pay taxes and social security (where applicable) other contributions of its employees; and

4.1.6. has not, or in the case of a company, its owners and beneficial owners, directors or officers have not, been convicted of a criminal offence related to:

4.1.6.1. its professional conduct; or

4.1.6.2. a bidder (or, in the case of a company, its key individuals such as owners, beneficial owners, directors, or officers) must not have engaged in any prohibited practice, such as fraud, corruption, collusion, or coercion, within the time period stated in the bidding documents, which can be up to three years before the start of the procurement process. Additionally, the bidder must not have been debarred (i.e., banned) from participating in public procurement processes in Pakistan or by any international organization or country. If they have, they are ineligible to participate in the current bidding.

4.2. The procuring agency may require a bidder participating in the procurement process to provide the prescribed documentary evidence or other information to satisfy itself that the bidder is qualified in accordance with the criteria in sub-clause (1).

4.3. A procuring agency shall set out in the bidding document all the criteria for qualification to be applied in accordance with sub-clause (1).

4.4. Except as permitted under the Ordinance, Rules and Regulations, the procuring agency shall not establish a criterion for eligibility of a bidder that:

4.4.1. discriminates against or among a bidder or against categories of bidders; or

4.4.2. is not required for the performance of the procurement contract; or

4.4.3. is not related to the avoidance or management of legal, reputational or economic risk to the procuring agency unless it is in the national interest to do so, and the criteria is set out in the bidding documents.

4.5. A procuring agency shall assess the eligibility of a bidder for participation in the procurement process against the criteria for qualification under sub-clause (1).

4.6. In the case of a joint venture, consortium, or association, all members shall be jointly and severally liable for the execution of the contract in accordance with the terms and conditions of the contract. The joint venture, consortium, or association shall nominate a lead member as nominated in the BDS,

4.7. who shall have the Authority to conduct all business for and on behalf of any and all the members of Joint venture, consortium, or association during the bidding process, and in case of award of contract, during the execution of the contract.

4.8. The appointment of the lead Member in the joint venture, consortium, or association shall be confirmed by submission of valid power of Attorney to the procuring agency.

4.9. Subject to the limits specified in the BDS, the procuring agency may allow bidders to participate in the form of a Joint Venture (JV). However, each party in the JV must individually meet the eligibility criteria specified in the BDS

4.10. No Bidder can be a sub-contractor while submitting a Bids individually or as a member of a joint venture in the same Bidding process.

5. Qualification of the Bidder

5.1. All Bidders shall provide in Section VI, Bid Forms, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary.

B. Bidding Documents

6. Contents of Standard Bidding Document

6.1. The Services required, bidding procedure, and terms and conditions of the contract are prescribed in the bidding document. In addition to the Invitation for Bids, the bidding document which should be read in conjunction with any addendum issued by the Procuring Agency include:

Section I -Invitation to Bid

Section II Instructions to Bidders (ITB)

Section III Bid Data Sheet (BDS)

Section IV Eligible Countries

Section V Evaluation Criteria, Specifications, Schedule of Requirements, and Technical Specifications.

Section VI Bidding Forms

Section VII Fraudulent & Corrupt Practices

Section VIII - Material & Non-material deviation

Section IX General Conditions of Contract (GCC)

Section X Special Conditions of Contract (SCC)

Section XI Contract Forms

6.2. The Bidder is expected to examine all instructions, requirements, forms, terms and specifications in the bidding documents. Failure to furnish all the information required in the bidding document will be at the Service provider's risk and may result in the rejection of his bids.

7. Clarifications

7.1. Clarifications of the bidding documents may be requested in writing through EPADS v2.0 by any bidder up to three days prior to the deadline for the submission of bids.

The procuring agency shall respond promptly and in writing to any request by a bidder for clarification of the bidding documents and, in any event, no later than two days prior to the deadline for the submission of bids or proposals.

Responses to requests for clarification shall be communicated simultaneously and in writing to all bidders participating in the procurement proceedings.

No bidder shall be allowed to alter or modify his bid after the bids have been opened however, the procuring agency may seek and accept clarification to the bid that do not change the substance of the bid, through EPADS v2.0.

7.2. Procuring Agency's response will be uploaded on the EPADS v2.0, including a description of the inquiry.

7.3. Should the Procuring Agency deem it necessary to amend the bidding document as a result of a clarification, it shall do so following the procedure under **ITB 1.1.**

7.4. If indicated **in the BDS**, the bidder's designated representative is invited at the bidder's cost to attend a pre-bid meeting at the place, date and time mentioned **in the BDS**. During this pre-bid meeting, prospective bidder(s) may request clarification(s) regarding the schedule of requirements, the Evaluation Criteria or any other aspects of the bidding document.

7.5. Minutes of the pre-bid meeting, if applicable, including the text of the questions asked by bidders, and the responses given, together with any responses prepared after the meeting will be uploaded on EPADS v2.0. Any modification to the bidding document that may become necessary as a result of the pre-bid meeting shall be made by the Procuring Agency exclusively through the use of an Addendum.

7.6. To assist in the examination, evaluation and comparison of Bids of the Bidders, the Procuring Agency may, ask any Bidder for a clarification of its bid including breakdown of prices, through EPADS v2.0. Any clarification submitted by a bidder that is not in response to a request by the Procuring Agency shall not be considered.

No change in the prices or substance of the bid shall be sought, offered, or permitted.

The alteration or modification in the bid which in any way affect the following parameters will be considered as a change in the substance of a

bid:

- 7.6.1. evaluation & qualification criteria;
- 7.6.2. required scope of work or specifications;
- 7.6.3. all securities requirements;
- 7.6.4. tax requirements;
- 7.6.5. terms and conditions of bidding documents; and
- 7.6.6. change in the ranking of the bidders.

From the time of bid(s) opening to the time of contract award, if any bidder wishes to contact the procuring agency on any matter related to the bid, it should do so in writing or through electronic form that provides record of the content of communication.

8. Amendment of Bidding documents

8.1. Before the deadline for submission of bids, the procuring agency for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder or pre-bid meeting may modify the bidding documents by issuing addendum.

8.2. Any addendum issued including the notice of any extension of the deadline shall be part of the bidding document and shall be uploaded on EPADS v2.0 as well as Authority's website. The procuring agency shall promptly publish the addendum at the procuring agency's website indicated in the **BDS**:

Provided that the bidder who had either already submitted his bid, shall have the right to withdraw his already submitted bid and submit the revised bid, prior to the original or extended bid submission deadline.

8.3. To give prospective bidders reasonable time in which to take an addendum/corrigendum into account in preparing their bids, the Procuring Agency may, at its discretion, extend the deadline for the submission of bids:

Provided that the Procuring Agency shall extend the deadline for submission of bids, if such an addendum is issued within last three (03) days of the bid submission deadline.

C. Preparation of Bids

9. Documents Constituting the Bids

9.1. The bids prepared by the bidders shall constitute the following components: -

9.1.1. Forms of bid and Bid Prices completed in accordance with ITB BDS, GCC and SCC;

9.1.2. Documentary evidence established in accordance with BDS that services to be provided by the bidder are eligible services, and conform to the bidding documents;

9.1.3. Documentary evidence established in accordance with BDS that the bidder is eligible and/or qualified for the subject bidding process;

9.1.4. Documentary evidence established, that the bidder has been authorized to provide the services;

9.1.5. Bid security or Bids Securing Declaration furnished in accordance with BDS; and

9.1.6. Any other document required in the BDS.

10. Documents Establishing Eligibility of the Services and Conformity to bidding documents

10.1. To establish the conformity of the Non-Consulting Services to the Bidding document, the bidder shall furnish as part of its bid the documentary evidence that services provided conform to the requirements.

10.2. Standards for the provision of the Non-Consulting Services are intended to be descriptive only and not restrictive.

11. Documents Establishing Eligibility and Qualification of the Bidder

11.1. Pursuant to BDS, the bidder shall furnish, as part of its bid, all those documents establishing the bidder's eligibility to participate in the bidding process and/or its qualification to perform the contract if its bid is accepted.

11.2. The documentary evidence of the bidder's eligibility to bids shall establish to the satisfaction of the procuring agency that the bidder, at the time of submission of its bid, is from an eligible country as defined in Section-IV titled as "Eligible Countries".

11.3. The documentary evidence of the bidder's qualifications to perform the contract if its bid is accepted shall establish to the satisfaction of procuring agency that:

11.3.1. the bidder has the financial, technical, and supply/production capability necessary to perform the Contract, meets the qualification criteria specified in BDS.

11.3.2. that the bidder meets the qualification criteria listed in the Bids Data Sheet.

12. Form of Bid

12.1. The bidder shall fill the Form of Bid furnished in the bidding documents. The Bid Forms must be completed without any alterations to its format and no substitute shall be accepted.

13. Bids Prices

13.1. The Bids Prices quoted by the bidder in the Forms of Bid and in the price schedule shall conform to the requirements specified or exclusively mentioned hereafter in the bidding document.

13.2. All items in the Schedule of Requirements must be listed and priced separately in the Price Schedules. If a Price Schedule shows items listed but not priced and neither explicitly mentioned, their prices shall be construed to be included in the prices of other items.

13.3. The Bid price to be quoted in the Forms of Bid shall be the total price of the bid, excluding any discounts offered.

13.4. The bidder shall indicate on the appropriate Price Schedule, the unit prices (where applicable) and total bid price of the services, it proposes to provide under the contract.

13.5. Prices quoted by the bidder shall be fixed during the currency of the contract and not subject to variation on any account. A bid submitted with an adjustable price will be treated as non-responsive and shall be rejected, unless otherwise price adjustment is permissible under Conditions of the Contract. (May be reviewed)

14. Price Adjustment

14.1. Price adjustment shall not be applicable.

14.2. Procuring agency may increase the remuneration of the human resources involved in non-consultancy services on annual basis as per agreement.

14.3. Procuring agency shall incorporate the provisions to allow wage rate in compliance with Federal Government's minimum wage notification, subject to the applicability in that case.

15. Bids Currencies

15.1. Prices shall be quoted in Pakistani Rupees unless otherwise specified in the BDS.

16. Bid Validity Period

16.1. Bid(s) shall remain valid for the period specified in the BDS after the bid submission deadline prescribed by the Procuring Agency. A Bid valid for a shorter period shall be rejected by the Procuring Agency as non-responsive. The period of bid validity will be determined from the complementary bid securing instrument i.e. the expiry period of bid security or bid securing declaration as the case may be.

17. Bid Security or Bid Securing Declaration

17.1. Unless otherwise specified in the BDS, the bidder shall furnish as part of its bid, in the amount and currency specified in the BDS or Bid Securing Declaration on the format provided in Section VI (Bid Forms) The scanned copy of the Bids Security shall be uploaded in the EPADS v2.0 while submitting bid, whereas the original forms of Bid Security shall be submitted to the procuring agency before the bid submission deadline. The bidder who failed to submit the original bid security before the submission deadline shall be disqualified straightaway.

17.2. The Bid Security or Bid Securing Declaration is required to protect the Procuring Agency against the risk of Bidder's conduct which would warrant the security's forfeiture.

17.3. The Bid Security shall be payable promptly upon written demand by the Procuring Agency in case any of the conditions listed in BDS, GCC and SCC are invoked.

17.4. Unsuccessful Bidders' Bid Security will be discharged or returned as promptly as possible after the award of contract, however in no case later than thirty (30) days after the expiration of the period of Bid Validity prescribed by the Procuring Agency. The Procuring Agency shall make no claim to the amount of the Bid Security, and shall promptly return the Bid Security document, whichever of the following that occurs earliest:

17.4.1. the expiry of the Bid Security;

17.4.2. the entry into force of a procurement contract and the provision of a Performance Guarantee, for the performance of the contract if such a guarantee, is required by the bidding document;

17.4.3. the rejection by the Procuring Agency of all Bids;

17.4.4. the withdrawal of the Bid prior to the deadline for the submission of bids, unless the bidding document stipulate that no such withdrawal is permitted.

17.5. The Bid Security may be forfeited or the Bid Securing Declaration executed:

17.5.1. if a bidder:

17.5.1.1. withdraws its bid during the period of bid validity as specified by the Procuring Agency, and referred by the bidder in the Forms of Bid, except as provided for in the ITBs; or

17.5.1.2. does not accept the correction of errors, or

17.5.2. in the case of a successful bidder fails:

17.5.2.1. **to sign the contract in accordance with SCC; or**

17.5.2.2. **to furnish Performance Guarantee in accordance with BDS and SCC.**

17.6. The bid security shall be valid for a period specified in BDS. Bids with shorter bid security validity period shall be rejected straight away.

18. Alternative Bids by Bidders

18.1. Alternatives will not be considered, unless specifically allowed for in the BDS.

18.2. When alternative times for completion are explicitly invited, a statement to that effect will be included in the BDS and the method of evaluating different time schedules will be described in Evaluation and Qualification Criteria.

19. Withdrawal, Substitution, and Modification of Bids

19.1. Before Bids submission deadline, any bidder may withdraw, substitute, or modify his bid after it has been submitted.

20. Format and Signing of Bids

20.1. The bidder shall prepare and submit his bid with due diligence after carefully reading all the terms and conditions before submission through

EPADS v2.0.

20.2. Any interlineations, erasures, or overwriting shall be valid only if they are signed by the person(s) signing the forms of bid.

D. Submission of Bids

21. **Submission of Bids through EPADS v2.0 before Dead deadline**

21.1. The Technical and Financial Bids as the case may be, shall be submitted in the due portion of the EPADS v2.0, before bid submission deadline. The bid submission option shall be automatically disabled once the deadline is over.

21.2. The Procuring Agency may, under exceptional circumstances and at its discretion, extend the deadline for the submission of bids by amending the Bidding Documents. In such a case, all rights and obligations of the Procuring Agency and the Bidders that were previously subject to the original deadline shall thereafter be subject to the revised deadline.

E. Opening and Evaluation of Bids

22. **Opening & Evaluation of Bids by the Procurement Cell/Evaluation Committee**

22.1. The Procuring Agencies to constitute odd number Bid Evaluation Committee for the purpose of bid opening and evaluation of all procurements. As per Rules 29 & 30 of Public Procurement Rules, 2004, The Procuring Agency is required to establish a Procurement Cell/Evaluation Committee which shall Evaluate the Bids in accordance with the evaluation criteria, terms and conditions given in the bidding documents.

23. **Opening of Bids**

23.1. The Bid Evaluation Committee of the Procuring Agency will open all bids through EPADS, in the presence of bidders' or their representatives who

choose to attend, and other parties with a legitimate interest in the bid proceedings at the place, on the date and at the time, specified in the **BDS**. The Bidders' representatives present shall sign attendance sheet as proof of their attendance.

23.2. The bids shall be opened one at a time, and the following read out and recorded: (a) the name of the bidder; (c) the presence of a bid security, if required; and (d) any other details as the procuring agency may consider appropriate.

23.3. No bid will be rejected at the time of bid opening except for bids whose bid security has not been provided to the procuring agency before submission deadline.

23.4. The procuring agency shall prepare minutes of the bid opening. The record of the bid opening shall include, as a minimum: the name of the bidder and the bid price, if applicable.

24. **Confidentiality**

24.1. Information relating to the examination, clarification, evaluation and comparison of bids and recommendation of contract award shall not be disclosed to bidders or any other person(s) not officially concerned with such process, until the time of the announcement of the respective evaluation report.

24.2. Any effort by a bidder to influence the procuring agency processing of bids or award decision may result in the rejection of his bid.

25. **Preliminary Examination of Bids**

25.1. Prior to the detailed evaluation of bids, the procuring agency will determine whether each bid:

25.1.1. meets the eligibility criteria defined in **BDS**;

25.1.2. has been prepared as per the format and contents defined by the procuring agency in the bidding document;

25.1.3. is accompanied by the required securities; and

25.1.4. is substantially responsive to the requirements of the bidding document.

25.2. The procuring agency will confirm that the documents and information specified under **BDS, GCC and SCC** have been provided in the bids. If any of these documents or information is missing, or is not provided in accordance with the Instructions to Bidders, the bids shall be rejected.

25.3. If a bid is not substantially responsive, it will be rejected by the procuring agency and may not subsequently be evaluated for complete technical responsiveness.

26. Examination of Terms and Conditions, Technical Evaluation

26.1. The procuring agency shall evaluate the technical aspects of the bids submitted in accordance with **BDS**, to confirm that all requirements specified in **Evaluation Criteria, Technical Specifications and Schedule of Requirements**, prescribed in the bidding document have been met without material deviation or reservation.

26.2. If after the examination of the terms and conditions and the technical evaluation, the procuring agency determines that the bid is not substantially responsive in accordance with **BDS**, it shall reject the bids.

27. Correction of Errors

27.1. Bids determined to be substantially responsive will be checked for any arithmetic errors. Errors will be corrected as follows: -

27.1.1. if there is a discrepancy between unit prices and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected, unless in the opinion of the procuring agency there is an obvious misplacement of the decimal point in the unit price, in which the total price as quoted shall govern and the unit price shall be corrected;

27.1.2. if there is an error in a total corresponding to the addition or subtraction of sub-totals, the sub-totals shall prevail and the total shall be corrected; and

27.1.3. where there is a discrepancy between the amounts in figures and in words, the amount in words will govern.

27.1.4. Where there is discrepancy between grand total of price schedule and amount mentioned on the Forms of bid, the amount referred in Price Schedule shall be treated as correct subject to elimination of other errors.

27.2. The amount stated in the bid will be adjusted by the procuring agency in accordance with the above procedure for the correction of errors and, with the concurrence of the bidder that shall be considered as binding upon the bidder. If the Bidder does not accept the corrected amount, his bid will then be rejected, and the Bid Security may be forfeited or the Bid Securing Declaration may be executed.

28. Conversion to Single Currency

28.1. As per Rule 30 of Public Procurement Rules, 2004.

29. Evaluation of Bids

29.1. The procuring agency shall evaluate bids in accordance with Rule 30 of Public Procurement Rules, 2004 and compare only those bids determined to be substantially responsive.

29.2. In evaluating the Technical Bids of each Bidder, the Procuring Agency shall apply the evaluation criteria and methodologies specified in the Bid Data Sheet (BDS) and in accordance with the Statement of Requirements and Technical Specifications. No other evaluation criteria or methodologies shall be permitted.

29.3. In case of tie of bids, the bidders shall be provided an opportunity to offer their best and final monetary offer through EPADS. However, in no case the rates shall be higher than the original financial bids.

29.4. The Procuring agency evaluation of a bid will take into account:

29.4.1. the bid price, excluding provisional sums and the provision, if any, for contingencies in the summary bill of quantities, but including day work items, where priced competitively;

29.4.2. price adjustment for correction of arithmetic errors in accordance with **ITB 6**;

29.5. converting the amount resulting from applying (a) and (b) above, if relevant, to a single currency in accordance with **ITB 7**;

29.6. The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in bid evaluation.

29.7. If these bidding documents allow bidders to quote separate prices for different lots, and the award to a successful bidder of multiple lots, the methodology of evaluation to determine the lowest evaluated lot combinations in the Form of Bid, is specified in the **BDS**.

30. Determination of Most Advantageous Bids

30.1. Selection technique will be adopted for determining the Successful Bid in accordance with the criteria referred in the **BDS** or prescribed in the separate section titled as Evaluation Criteria.

31. Abnormally Low Financial Bids

31.1. Procuring agency may reject a bid if it has determined that the price, in combination with other constituent elements of the bid, is abnormally low in relation to the subject matter of the procurement, such that it raises material concerns on the part of the procuring agency, as to the ability of the bidder to perform the procurement contract satisfactorily for the offered price.

A procuring agency shall not reject a bid as abnormally low under sub-clause (1) above unless the procuring agency -

31.1.1. requested in writing through EPADS from the bidder a written clarification of his bid, including a detailed price analysis of his bid price in relation to the subject matter of the procurement contract, scope, methodology, schedule, allocation of risks and responsibilities and any other requirements of the bidding document; and

31.1.2. having taken account, the information provided by the bidder in response to a request under paragraph (a) and the information included in the bid, the procuring agency determines that the bidder has failed to demonstrate its ability to perform the procurement contract satisfactorily for the offered price.

The procuring agency shall promptly communicate to the bidder concerned its decision to reject the bid, including the reasons for the decision.

32. Rejection of Bids

32.1. As per Rule 33 of the Public Procurement Rules, 2004

33. Single Responsive Bid

33.1. The procuring agency may consider single responsive bid subject to underlying conditions of Rule 38(b) of the Public Procurement Rules, 2004.

34. Arbitration

34.1. As per Rule 49 of Public Procurement Rules, 2004.

F. Award of Contract

43. Criteria of Award

43.1. The procuring agency will award the Contract to the bidder whose bid has been determined to be substantially responsive to the bidding document and who has been declared as most advantageous Bid.

44. Procuring Agency's Right to reject All Bids

44.1. The procuring agency reserves the right to reject all the Bids and to annul the procurement process at any time prior to acceptance of the bid(s), without thereby incurring any liability to the affected bidder(s).

44.2. Notice of the rejection of all bids shall be given promptly to all bidders that have submitted the bids. The procuring agency shall upon request communicate to any bidder the grounds for the rejection of his bid, but is not required to justify those grounds.

45. Notification of Award

45.1. Prior to the award of contract, the procuring agency shall issue a Final Evaluation Report giving justification for acceptance or rejection of the bids.

45.2. Bidder whose bid has been accepted, will be notified for the award by the Procuring Agency prior to expiration of the Bid Validity period through EPADS. The Letter of Acceptance will state the sum that the procuring agency will pay the successful bidder in consideration for the execution of the scope of works as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price").

45.3. The notification of award will constitute the formation of the Contract, subject to the condition that bidder furnish the Performance Guarantee and signing of the contract.

46. Signing of Contract

46.1. Promptly after notification of award, Procuring Agency shall send the successful bidder the draft agreement, incorporating all terms and conditions as agreed by the parties to the contract. The successful bidder and the procuring agency shall sign the contract.

47. Performance Guarantee

47.1. After the receipt of the Letter of Acceptance, the successful bidder, within the specified time, shall deliver to the Procuring Agency a Performance Guarantee in the amount and in the form stipulated in the **BDS**

and SCC, denominated in the type and proportions of currencies in the Letter of Acceptance and in accordance with the Conditions of Contract.

47.2. Failure of the successful bidder to comply with the requirement of **BDS, SCC and GCC** shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security, in which event the procuring agency may make the award to the next ranked bidder or call for new bids.

48. Corrupt & Fraudulent Practices

48.1. Procuring Agencies (including beneficiaries of Government funded projects and procurement) as well as Bidders/Contractors under Government financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts, and will avoid to engage in any corrupt and fraudulent practices.

G. Grievance Redressal & Complaint Review Mechanism

53. Constitution of Grievance Redressal

53.1. Procuring agency shall constitute a Grievance Redressal Committee (GRC) comprising of an odd number of persons with proper power and authorization to address the complaint. The GRC shall not have any of the members of Procurement Evaluation Committee.

54. GRC Procedure

54.1. Any aggrieved party or bidder as the case may be, may file grievance in accordance with Rule 48 of the Public Procurement Rules, 2004 and Redressal of Grievance Regulations, 2022

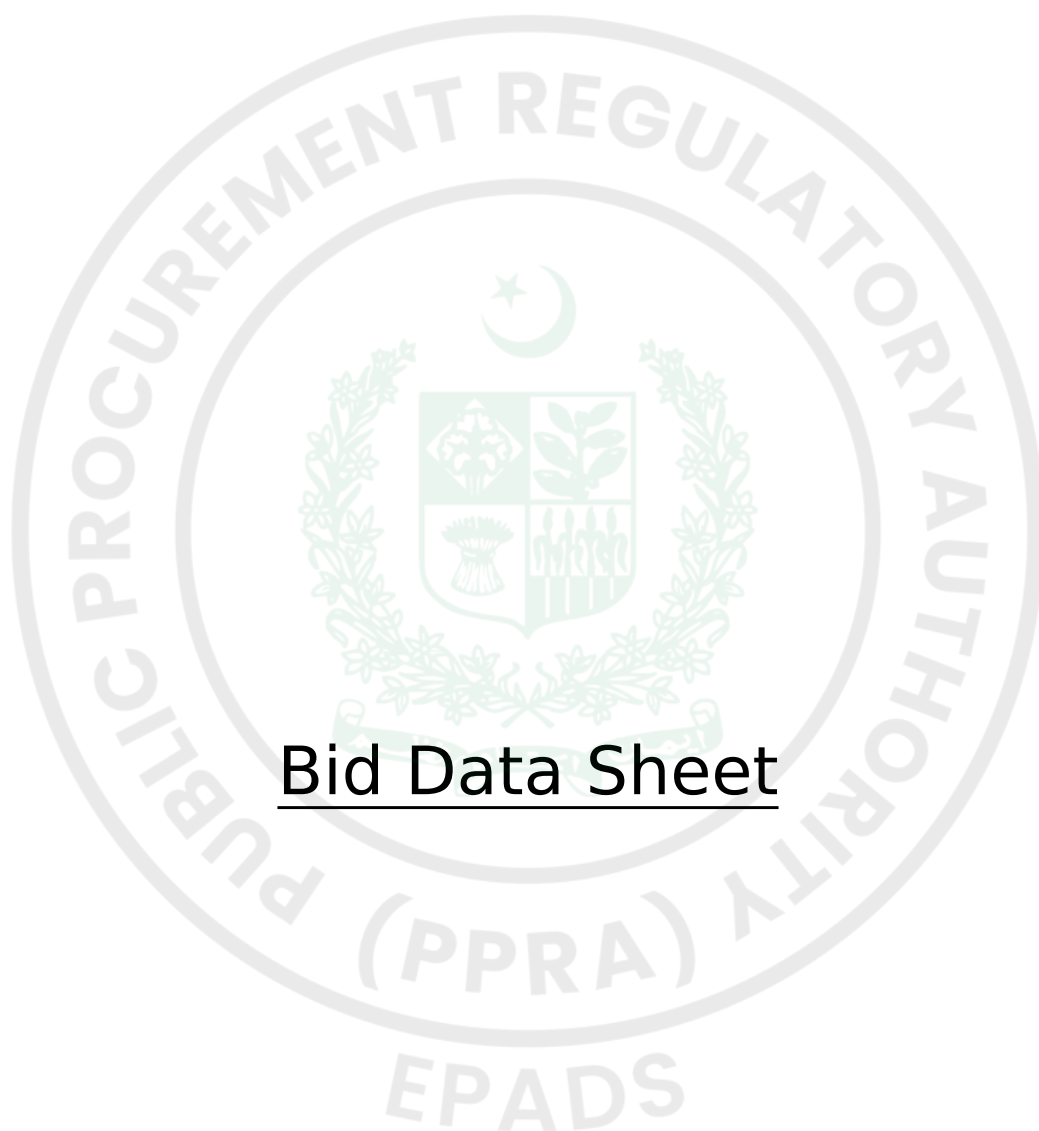
H. Blacklisting/ Debarment

55. Procedure for Blacklisting/Debarment

55.1. The procuring agency may initiate blacklisting proceedings against contractor/supplier in accordance with Rule-19 of the Public Procurement

Rules, 2004 , Mechanism for Blacklisting, Debarment Regulations, 2024 and Regulation on “procedure for filling and disposal of review petition under rule-19(3) of the Public Procurement Rules, 2004.





Bid Data Sheet

Bids Data Sheet (BDS)

The following specific data for the procurement of Non-Consultancy Services to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

BDS Clause Number

ITB Number

Amendments of, and Supplements to, Clauses in the Instruction to Bidders

A. Introduction

BDS Clause Number 1

Name of Procuring Agency: **Pakistan Railways Carriage Factory (Pakistan Railways Carriage Factory)**

The subject of procurement is: **3CF/4P/0898/2026 Outsourcing Machining Work of Bogie manufactured in CFI under 230 Coaches Project**

Expected commencement date: **Wednesday, December 30, 2026**

BDS Clause Number 2

Financial year for the operations of the Procuring Agency: **2026-27**

Name and identification number of the Contract: **P122332**

BDS Clause Number 3

JV/Consortium or Association Allowed: **Yes**

Number of JV/Consortium Members: **3**

B. Bidding Documents

BDS Clause Number 4

The Bidders may seek clarifications through **EPADS v2.0**: Clarification Date: Monday, September 28, 2026

Pre-Bid Meeting: Thursday, September 24, 2026 11:00 AM

Venue: Pakistan Railways Carriage Factory, IJP Road, I-11 Islamabad.

BDS Clause Number 5

Any addendum, in case issued, shall be published on **Pakistan Railways Carriage Factory (Pakistan Railways Carriage Factory)** website and on **EPADS v2.0**.

BDS Clause Number 6

List of documents required along with the bid:

1. ISO 9001 certification
2. Any additional certifications (e.g., IRIS, EN 15085, AS9100) will be considered as an added advantage.
3. Firm must submit Company Profile along with the bid. Minimum 5 years of experience in precision machining of heavy-duty components or equivalent.
4. Undertaking by the bidder
5. Warranty Certificate.

BDS Clause Number 7

The qualification criteria to establish the supply / production capability of the bidder.

see Eligibility Criteria

BDS Clause Number 8

Services and Their related documents:

See section Required Services and Scope of Work

BDS Clause Number 9

Price schedule will be provided according to the format defined and acquired.

see section price schedule.

BDS Clause Number 10

Specifications:

see section of specifications.

C. Preparation of Bids

BDS Clause Number 11

The price shall be **Fixed**.

BDS Clause Number 12

Currency of the Bids shall be : **PKR**

BDS Clause Number 13

The Bids/Bid Validity period shall be: **90 Days**

BDS Clause Number 14

The amount of Bid Security shall be as defined in Bid Security Section for items and lots given in **BDS 6**

The Bid Security shall be in the form of: **Pay Order, Banker's Cheque, Call at Deposit, Bank Guarantee, Demand Draft**

BDS Clause Number 15

The Bids security shall be valid for twenty-eight (28) days beyond the expiry of the Bids validity period specified in the bidding documents, for example the bid validity is 90 days so the bid security shall be valid for $90+28 = 118$ days.

BDS Clause Number 16

Alternative Bids to the requirements of the bidding documents will not be permitted.

D. Submission of Bids

BDS Clause Number 17

Bid shall be submitted online on EPADS v2.0 whereas hard copy of the bid security should be submitted to the following;

Pakistan Railways Carriage Factory, IJP Road, I-11 Islamabad.

Bids that are not submitted on EPADS v2.0 shall be disqualified.

The deadline for Bids submission is: **Monday, October 5, 2026 12:00 PM**

E. Opening and Evaluation of Bids

BDS Clause Number 18

The Bids opening shall take place on **EPADS v2.0**.

Day : **Monday**

Date: **Monday, October 5, 2026**

Time : **12:30 PM**

BDS Clause Number 19

Selection technique adopted will be: **Least Cost Based Selection (LCBS)**
see Evaluation Criteria

F. Award of Contract

BDS Clause Number 20

The Performance guarantee shall: **10.00%**.

The Performance Guarantee shall be acceptable in the form of: **Pay Order, Banker's Cheque, Call at Deposit, Bank Guarantee, Demand Draft**

21.

51.1

Arbitrator shall be appointed by mutual consent of the both parties.

G. Review of Procurement Decisions

BDS Clause Number 22

Grievance against this procurement shall be submitted online on EPADS v2.0.



Eligibility Criteria

Bidder's Type	Required Registration
Any	FBR (NTN) FBR (GSTN)

Eligibility Criteria	Document
The bidder must possess Min 3 Axis CNC, CAD/CAM operated machine having bed size at minimum of X-axis minimum 4000mm, Y-axis minimum 3000mm and Z-axis minimum 1000mm, spindle speed min. 10-6000rpm, cutting feed rate: 1-5000mm/min, tool shank BT50.	Yes
The Machining Facility should be within 100 Km radius of CFI.	Yes
Valid machine calibration certificate at accuracy of 0.01 to 0.05mm on X,Y and Z axis from an ISO accredited body be attached.	Yes
The bidder must possess CNC/NC machining centers capable of handling bogie frames of up to 02 Ton.	Yes
Machining shall be performed as per drawings and tolerances provided by Pakistan Railways. Machining process will be done as per Drawing No. T0016702411/ M000003584059 Rev "H" and Process Documents D0000359002 Rev "H" and fulfill the dimensional criteria with accuracy level of ± 0.1 mm defined in the stage inspection sheet No. D0000406464 (pages 1 to 5) available on demand at Design office/CFI.	Yes
The firm is bound to submit comprehensive information on specifications including feed, speed, accuracy, technical data sheet of the machine being offered for the services at site.	Yes

The firm will be entirely responsible for execution of the Contract in all aspects according to the terms of the Contract. The firm shall also ensure to take the responsibility of all the work assigned to them and no subletting shall be allowed.	Yes
No third party contractor can participate in the bid.	Yes
Interim payment will only be made after successful completion of every batch of six (06 Nos) of bogie frames after successful inspection by the inspection committee at CFI.	Yes
List of necessary tools as per process sheet be provided with bid.	Yes
Bidders must quote rates with or without charges of transportation to site, While PR reserves the right to accept offer based on with or without transportation options.	Yes
The Bidder confirms acceptance of the Procuring Agency's right to increase quantities up to 15% or decrease quantities up to 50% at any stage of the bidding process, without any change in unit prices or other terms and conditions of the Bid.	Yes
The bidder has submitted duly signed and stamped undertaking as per prescribed format, unconditionally accepting all the terms and conditions of the bidding documents.	Yes
The successful bidder will be bound to submit the Performance security amounting to 10% of the contract value. The Performance security shall be released after physical completion of the work based on 'Completion Certificate' issued by the competent authority stating that the contractor has completed the work in all respects satisfactorily.	Yes

Evaluation Criteria

Least Cost Based Selection (LCBS)

Weightage

Technical Evaluation %	
100	
Technical Marks	100
Passing Marks	80
Technical Evaluation Criteria	
The firm's offered delivery period against the item is within the maximum period/schedule allowed in the tender documents. (Quantitative)(Doc Required)	20
The firm has unconditionally agreed to the validity period mentioned in the bidding documents without any deviation. (Quantitative)(Doc Required)	20
The offered material confirms to the specifications, standards, description mentioned against each item. (Quantitative) (Doc Required)	20
The bidder has submitted duly signed and stamped undertaking as per prescribed format, unconditionally accepting all the terms and conditions of the bidding documents. (Quantitative)(Doc Required)	20
The bidder has submitted comprehensive information on specifications including feed, speed, accuracy, technical data sheet of the machine being offered for the services at site. (Quantitative)(Doc Required)	20

Required Services

Positions Without Lots :

Position	Delivery Schedule	Quantity	Bid Security
Outsourcing Machining Work of Bogie Manufactured in CFI under 230 Coaches Project.	Address: Pakistan Railways Carriage Factory, IJP Road, I-11 Islamabad. Schedule: Delivery Period shall be Six (06) working days from the date of handing over of bogie by CFI. No grace period shall be allowed. Working days shall exclude all public holidays and any local holidays declared by the Government or local administration. Quantity: 32/EACH	32/EACH	640000 PKR

Related Services :

Yes

Position	Related Services
Outsourcing Machining Work of Bogie Manufactured in CFI under 230 Coaches Project.	Transportation Charges to be quoted separately.

Services Specifications

Positions Without Lots :

Position: Outsourcing Machining Work of Bogie Manufactured in CFI under 230 Coaches Project.

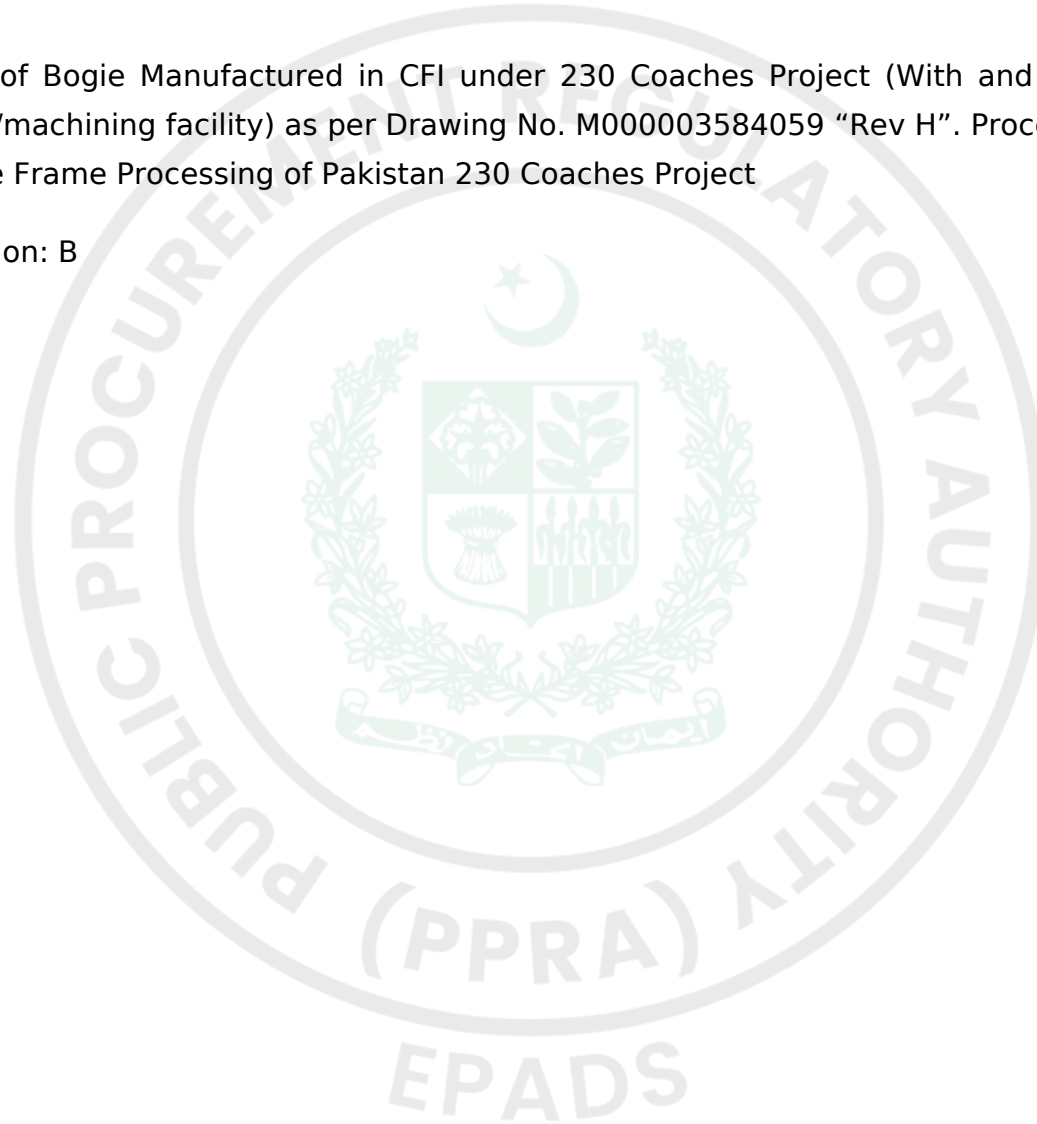
Specifications / Requirements:

Outsourcing Machining Work of Bogie Manufactured in CFI under 230 Coaches Project . (With and without transportation/ logistic management from CFI to site /machining facility) as per Drawing No. M000003584059 "Rev H". Process Sheet Document name: TOT Process Specification for Bogie Frame Processing of Pakistan 230 Coaches Project Doc. No.: D0000359002/Revision: B The scope includes complete precision machining of individual railway bogie frame as per Pakistan Railways' design and specifications. The machining shall include all required operations such as milling, boring, drilling, facing, and alignment as per drawing specification and satisfaction of the inspector.

Scope of Work

Outsourcing Machining Work of Bogie Manufactured in CFI under 230 Coaches Project (With and without transportation/ logistic management from CFI to site /machining facility) as per Drawing No. M000003584059 "Rev H". Process Sheet Document name: TOT Process Specification for Bogie Frame Processing of Pakistan 230 Coaches Project

Doc. No.: D0000359002/Revision: B



Price Schedule

For Individual Positions

#	Position Title	Quantity	Unit Price (PKR)	Total Price (PKR)	Delivery Location	Delivery Period / Year	Country of Origin
1							
2							

For Lots

#	Lot Title	Total Lot Price (PKR)	Country of Origin
1	[Lot 1 Title]		





General Conditions of Contract

A. General

1. Definitions

1.1. Unless the context otherwise requires, the following terms whenever used in this Contract shall have the same meaning and shall be interpreted as indicated

1.1.1. “Applicable Law” means the laws and any other instruments having the force of law in the Government’s Country, or in such other country as may be specified in the Special Conditions of the Contract (SC), as they may be issued and in force from time to time;

1.1.2. “The Contract” means an agreement enforceable by law;

1.1.3. “The Contract Price” means the price payable to the Contractor under the Contract for the full and proper performance of its contractual obligations;

1.1.4. “The Services” means the work to be performed by the Contractor pursuant to this Contract and as prescribed in the Specifications and Schedule of Activities included in the Contractor’s Bid;

1.1.5. “Ancillary Services” means those services ancillary to the provision of Services, such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Contractor covered under the Contract;

1.1.6. “GCC” means the General Conditions of Contract contained in this section;

1.1.7. “SCC” means the Special Conditions of Contract by which the GCC may be amended or supplemented;

1.1.8. “Day” means calendar day unless indicated otherwise;

1.1.9. “Effective Date” means the date on which this Contract comes into force and effect;

1.1.10. “The Contractor” means the individual or corporate body whose Bids to provide the Services has been accepted by the Procuring Agency;

1.1.11. “The Project Site,” where applicable, means the place or places named in Bid Data Sheet and technical Specifications;

1.1.12. “Government” means the Government of Pakistan;

1.1.13. “Local Currency” means the currency of Pakistan;

1.1.14. “In Writing” means communicated in written form with proof of receipt;

1.1.15. “Completion Date” means the date of completion of the Services by the Contractor as certified by the Procuring Agency;

1.1.16. “Foreign Currency” means any currency other than the currency of the country of the Procuring Agency;

1.1.17. "Party" means the Procuring Agency or the Contractor, as the case may be, and "Parties" means both of them;

1.1.18. "Service" means any object of procurement other than goods or works;

1.1.19. "Subcontractor" means any entity to which the Bidder subcontracts any part of the Services.

2. Applicable Law

2.1. The contract shall be governed and interpreted in accordance with the laws of Pakistan, unless otherwise specified in SCC.

3. Language

3.1. The Contract as well as all correspondence and documents relating to the Contract exchanged between the Contractor and the Procuring Agency, shall be written in the **English language** unless otherwise stated in the SCC. Supporting documents and printed literature that are part of the Contract may be in another language provided these are accompanied by an accurate translation of the relevant passages in English, in which case, for purposes of interpretation of the Contract, this translation shall govern.

4. Notices

4.1. Any notice, request, or consent made pursuant to this Contract shall be in writing and shall be deemed to have been made when delivered in person to an authorized representative of the Party to whom the communication is addressed, or when sent by registered mail, telex, telegram, or facsimile to such Party at the address specified in the SCC.

5. Location

5.1. The Services shall be performed at such locations as the Procuring Agency may approve and as specified in SCC.

6. Authorized Representatives / Authority of Member in charge

6.1. Any action required or permitted to be taken, and any document required or permitted to be executed, under this Contract by the Procuring Agency or the Contractor may be taken or executed by the officials specified in the SCC.

B. Commencement, Completion, Modification, and Termination of Contract

7. Effectiveness of Contract

7.1. This Contract shall come into effect on the date the Contract is signed by both parties and such other later date as may be stated in the SCC.

8. Commencement of Services

8.1. The Contractor shall confirm availability of Key Experts and begin carrying out the Services not later than the number of days after the Effective Date specified in the SCC.

9. Program schedule

9.1. Before commencement of the Services, the Contractor shall submit to the Procuring Agency for approval a Program showing the general methods, arrangements, order and timing for all activities. The Services shall be carried out in accordance with the approved Program as updated.

10. Starting Date/Expiration Date

10.1. The Contractor shall start carrying out the Services Five (05) days after the date the Contract becomes effective, or at such other date as may be specified in the SCC.

10.2. Unless terminated earlier pursuant to Clause **GCC 14** hereof, this Contract shall expire at the end of such time period after the Effective Date as specified in the SCC.

11. Entire Agreement

11.1. This Contract contains all covenants, stipulations and provisions agreed by the Parties. No agent or representative of either Party has authority to make, and the Parties shall not be bound by or be liable for, any statement, representation, promise or agreement not set forth herein.

12. Modification

12.1. Any modification or variation of the terms and conditions of this Contract, including any modification or variation of the scope of the Services, may only be made by written agreement between the Parties. However, each Party shall give due consideration to any modification(s) or variation(s) made by the other Party.

12.2. In cases of any modification(s) or variation(s), the prior written consent of the Procuring Agency is required.

13. Force Majeure

13.1. Definition

For the purposes of this Contract, "Force Majeure" means an event which is beyond the reasonable control of a Contractor and which makes a Contractor's performance of its obligations under the Contract impossible or so impractical as to be considered impossible under the circumstances.

13.2. No Breach of Contract

The failure of a Party to fulfill any of its obligations under the contract shall not be considered to be a breach of, or default under, this Contract in so far as such inability arises from an event of Force Majeure, provided that the Party affected by such an event (a) has taken all reasonable precautions, due care and reasonable alternative measures in order to carry out the terms and conditions of this Contract, and (b) has informed the other Party as soon as possible about the occurrence of such an event.

13.3. Extension of Time

Any period within which a Contractor shall, pursuant to this Contract, complete any action or task, shall be extended for a period equal to the time during which such Party was unable to perform such action as a result of Force Majeure.

13.4. Payments

During the period of their inability to perform the Services as a result of an event of Force Majeure, the Contractor shall be entitled to continue to be paid under the terms of this Contract, as well as to be reimbursed for additional costs reasonably and necessarily incurred by them during such period for the purposes of the Services and in reactivating the Service after the end of such period.

14. Termination

14.1. By the Procuring Agency

The Procuring Agency may terminate this Contract in case of the occurrence of any of the events specified in paragraphs (a) through (e) of this Clause. In such an occurrence the Procuring Agency shall give at least thirty (30) calendar days' written notice of termination to the Contractor in case of the events referred to in (a) through (d); at least sixty (60) calendar days' written notice in case of the event referred to in (e);

14.1.1. If the Contractor fails to remedy a failure in the performance of its obligations hereunder, as specified in a notice of suspension;

14.1.2. If the Contractor becomes (or, if the Contractor consists of more than one entity, if any of its members becomes) insolvent or bankrupt or enter into any agreements with their creditors for relief of debt or take advantage of any law for the benefit of debtors or go into liquidation or receivership whether compulsory or voluntary;

14.1.3. If the Contractor fails to comply with any final decision reached as a result of arbitration proceedings;

14.1.4. If, as the result of Force Majeure, the Contractor is unable to perform a material portion of the Services for a period of not less than sixty (60) calendar days;

14.1.5. If the Procuring Agency, in its sole discretion and for any reason whatsoever, decides to terminate this Contract;

14.2. By the Contractor

The Contractor may terminate this Contract, by not less than thirty (30) calendar days' written notice to the Procuring Agency, in case of the occurrence of any of the events specified in paragraphs (a) through (d) of this Clause.

14.2.1. If the Procuring Agency fails to pay any money due to the Contractor pursuant to this Contract and not subject to dispute within forty-five (45) calendar days after receiving written notice from the Contractor that such payment is overdue;

14.2.2. If, as the result of Force Majeure, the Contractor is unable to perform a material portion of the Services for a period of not less than sixty (60) calendar days;

14.2.3. If the Procuring Agency fails to comply with any final decision reached as a result of arbitration;

14.2.4. If the Procuring Agency is in material breach of its obligations pursuant to this Contract and has not remedied the same within forty-five (45) days (or such longer period as the Bidder may have subsequently approved in writing) following the receipt by the Procuring Agency of the Contractor's notice specifying such breach.

C. Obligations of the Contractor

15. General

15.1. Standard of Performance

15.1.1. The Contractor shall perform the Services and carry out the Services with all due diligence, efficiency and economy, in accordance with generally accepted professional standards and practices, and shall observe sound management practices, and employ appropriate technology and safe and effective equipment, machinery, materials and methods. The Contractor shall always act, in respect of any matter relating to this Contract or to the Services, as a faithful adviser to the Procuring Agency, and shall at all times support and safeguard the Procuring Agency's legitimate interests in any dealings with the third parties;

15.1.2. The Contractor shall employ and provide such qualified and experienced Experts and Sub-Contractors as are required to carry out the Services.

15.2. Law Applicable to Services

The Contractor shall perform the Services in accordance with the Contract and in accordance with the Law of Pakistan and shall take all practicable steps to ensure that any of its Experts and Sub-Bidders, comply with the Applicable Law.

16. Conflict of Interests

16.1. Contractor Not to Benefit from Commissions and Discounts

The remuneration of the Contractor shall constitute the Contractor's sole remuneration in connection with this Contract or the Services, and the Contractor shall not accept for their own benefit any trade commission, discount, or similar payment in connection with activities pursuant to this Contract or to the Services or in the discharge of their obligations under the Contract, and the Contractor shall use their best efforts to ensure that the Personnel, any Subcontractors, and agents of either of them similarly shall not receive any such additional remuneration.

16.2. Contractor and Affiliates Not to be Otherwise Interested in Project

The Contractor agree that, during the term of this Contract and after its termination, the Contractor and its affiliates, as well as any Subcontractor and any of its affiliates, shall be disqualified from providing Services (other than the Services and any continuation thereof) for any project resulting from or closely related to the Services.

16.3. Prohibition of Conflicting Activities

Neither the Bidder nor its Subcontractors nor the Personnel shall engage, either directly or indirectly, in any of the following activities:

- 16.3.1. during the term of this Contract, any business or professional activities in the Government's country which would conflict with the activities assigned to them under this Contract;
- 16.3.2. during the term of this Contract, neither the Contractor nor their Subcontractors shall hire public employees in active duty or on any type of leave, to perform any activity under this Contract;
- 16.3.3. after the termination of this Contract, such other activities as may be specified in the **SCC**.

17. Insurance to be Taken Out by the Contractor

17.1. The Contractor(a) shall take out and maintain, and shall cause any Subcontractors to take out and maintain, at its (or the Sub-contractors', as the case may be) own cost but on terms and conditions approved by the Procuring Agency, insurance against the risks, and for the coverage, as shall be specified in the **SCC**; and (b) at the Procuring Agency's request, shall provide evidence to the Procuring Agency showing that such insurance has been taken out and maintained and that the current premiums have been paid.

18. Contractor's Actions Requiring Procuring Agency's Prior Approval

18.1. The Contractor shall obtain the Procuring Agency's prior approval in writing before taking any of the following actions:

- 18.1.1. appointing such members of the Personnel not provided by the Contractor;
- 18.1.2. changing the Program of activities; and
- 18.1.3. any other action that may be specified in the **SCC**.

19. Reporting Obligations

19.1. The Contractor shall submit to the Procuring Agency the reports and documents in the numbers, and within the periods as prescribed by the Procuring Agency.

20. Liquidated Damages

20.1. Payments of Liquidated Damages

The Contractor shall pay liquidated damages to the Procuring Agency at the rate per day stated in the **SCC** for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount defined in the **SCC**. The Procuring Agency may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's liabilities.

20.2. Correction for Over-payment

If the Intended Completion Date is extended after liquidated damages have been paid, the Procuring Agency shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in **SCC**.

20.3. Lack of performance penalty

If the Contractor has not corrected a Defect within the time specified in the Procuring Agency's notice, a penalty for Lack of performance will be paid by the Contractor. The amount to be paid will be calculated as a percentage of the cost of having the Defect corrected, assessed as specified in the Contractor

21. Performance Guarantee

21.1. Within the time stipulated in the acceptance letter from the Procuring Agency, the successful Bidder shall furnish the Performance Guarantee in shape and amount **specified in SCC**.

21.2. The proceeds of the Performance Guarantee shall be payable to the Procuring agency as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

21.3. The Performance Guarantee shall be denominated in the currency of the Contract, or in a freely convertible currency acceptable to the Procuring agency and shall be in the acceptable form as specified in **SCC**.

21.4. The Performance Guarantee will be discharged by the Procuring agency and returned to the Supplier not later than thirty (30) days following the date of completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless otherwise **specified in SCC**.

22. Sustainable Procurement

22.1. The Contractor shall conform to the sustainable procurement contractual provisions, if and as specified in the **SCC**.

D. Contractor's Personnel

23. Description of Personnel

23.1. The titles, agreed job descriptions, minimum qualifications, and estimated periods of engagement in the carrying out of the Services of the Contractor's Key Personnel. The Key Personnel listed by title as well as by name are hereby approved by the Procuring Agency.

24. Removal and / or Replacement of Personnel

24.1. Except as the Procuring Agency may otherwise agree, no changes shall be made in the Key Personnel. If, for any reason beyond the reasonable control of the Contractor, it becomes necessary to replace any of the Key Personnel, the Contractor shall provide as a replacement a person of equivalent or better qualifications.

24.2. If the Procuring Agency finds that any of the Personnel have (i) committed serious misconduct or have been charged with having committed a criminal action, or (ii) have reasonable cause to be dissatisfied with the performance of any of the Personnel, then the Contractor shall, at the Procuring Agency's written request specifying the grounds thereof, provide as a replacement a person with qualifications and experience acceptable to the Procuring Agency.

24.3. The Contractor shall have no claim for additional costs arising out of or incidental to any removal and/or replacement of Personnel.

E. Obligations of the Procuring Agency

25. Change in the Applicable Law

25.1. If, after the date of this Contract, there is any change in the Applicable Law with respect to taxes and duties which increases or decreases the cost of the Services rendered by the Contractor, then the remuneration and reimbursable expenses otherwise payable to the Contractor under this Contract shall be increased or decreased accordingly by agreement between the Parties, and corresponding adjustments shall be made to the amounts referred in the SCC.

26. Services and Facilities

26.1. The Procuring Agency shall make available to the Contractor and the Experts, for the purposes of the Services and free of any charge, the services, facilities and property described in the Terms of Reference, at the times and in the manner specified in the Terms of Reference.

26.2. In case that such services, facilities and property shall not be made available to the Contractor, the Parties shall agree on (i) any time extension that it may be appropriate to grant to the Contractor for the performance of the Services, (ii) the manner in which the Contractor shall procure any such services, facilities and property from other sources, and (iii) the additional payments, if any, to be made to the Contractor as a result thereof.

F. Payments to the Contractor

27. Contract Price

27.1. The price payable shall be in Pakistani Rupees unless otherwise specified in the SCC.

28. Terms and Conditions of Payment

28.1. Payments will be made to the Contractor according to the payment schedule stated in the SCC and as per actual invoice submitted by the Contractor.

28.2. Unless otherwise stated in the SCC, the advance payment shall be made against the provision by the Contractor of a bank guarantee for the same amount, and shall be valid for the period stated in the SCC. Any other payment shall be made after the conditions listed in the SCC for such payment have been met, and the Contractor have submitted an invoice to the Procuring Agency specifying the amount due.

29. Quality Control Identifying Defects

29.1. The principle and modalities of Inspection of the Services by the Procuring Agency shall be as indicated in the SCC. The Procuring Agency shall check the Contractor's performance and notify him of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Procuring Agency may instruct the Contractor to search for a Defect and to uncover and test any service that the Procuring Agency considers may have a Defect. Defect Liability Period is as defined in the SCC.

30. Correction of Defects, and Lack of Performance Penalty

30.1. The Procuring Agency shall give notice to the contractor of any Defects before the end of the Contract. The Defects liability period shall be extended for as long as Defects remain to be corrected.

30.2. Every time notice a Defect is given; the contractor shall correct the notified Defect within the length of time specified by the Procuring Agency's notice.

30.3. If the contractor has not corrected a Defect within the time specified in the Procuring Agency's notice, the Procuring Agency will assess the cost of having the Defect corrected, the contractor will pay this amount, and a Penalty for Lack of Performance.

31. Settlement of Disputes Amicable Settlement

31.1. The Parties shall use their best efforts to settle amicably all disputes arising out of or in connection with this Contract or its interpretation.

32. Dispute Settlement

32.1. Arbitration

If any dispute of any kind whatsoever shall arise between the procuring agency and the contractor in connection with or arising out of the Contract, including without prejudice to the generality of the foregoing, any question regarding its existence, validity or termination, or the execution of the contract, the parties shall seek to resolve any such dispute or difference by mutual consultation. If the parties fail to resolve such a dispute or difference even after negotiations or mediation, then the dispute shall be referred within fourteen (14) days in writing by either party to the Arbitrator, with a copy to the other party.

Any dispute in respect of which a notice of intention to commence arbitration has been given, in accordance with **GCC sub-clause 32.1**, shall be finally settled by arbitration. Arbitration may be commenced prior to or after completion of the Contract. Arbitration proceedings shall be conducted in accordance with Arbitration Act 1940. Notwithstanding any reference to arbitration herein, the parties shall continue to perform their respective obligations under the Contract unless otherwise agreed. The Procuring Agency shall continue to pay the Contractor any undisputed amounts due under the Contract during the resolution of any dispute.



Special Conditions of Contract

SECTION VIII. SPECIAL CONDITIONS OF CONTRACT

The following Special Conditions of Contract shall supplement the General Conditions of Contract. Whenever there is a conflict, the provisions herein shall prevail over those in the Conditions of Contract. The corresponding clause number of the GCC is indicated in parentheses.

Number of GC Clause

Amendments of, and Supplements to, Clauses in the General Conditions of Contract

Definitions

The Procuring Agency is: Pakistan Railways Carriage Factory (Pakistan Railways Carriage Factory), Managing Director Pakistan Railways Carriage Factory, IJP Road, I-11 Islamabad.

The Supplier is:

The title of the subject procurement is: 3CF/4P/0898/2026 Outsourcing Machining Work of Bogie manufactured in CFI under 230 Coaches Project

Number of GC Clause 2

Applicable/Governing Law:

The Contract shall be interpreted in accordance with the laws of Islamic Republic of Pakistan

Number of GC Clause 3

Language:

The language of the Contract, all correspondence and communications to be given, and all other documentation to be prepared and supplied under the Contract shall be in **English**.

Number of GC Clause 4

Notices:

The addresses for the notices are:

Procuring Agency:

Pakistan Railways Carriage Factory (Pakistan Railways Carriage Factory), Managing Director
Pakistan Railways Carriage Factory, IJP Road, I-11 Islamabad.

+92-519-278094

acpcfi.ppra@gmail.com

Contractor/ Bidder:

[Name, address and telephone number].

The Contractor/ Bidder's Representative(s)

[Name, address, telephone number and e-mail address]

Number of GC Clause 6.1

The Authorized Representatives are:

For the Procuring Agency:

Pakistan Railways Carriage Factory (Pakistan Railways Carriage Factory), Managing Director
Pakistan Railways Carriage Factory, IJP Road, I-11 Islamabad.
+92-519-278094
acpcfi.ppra@gmail.com

For the Bidder:

Name:

Designation:

Address:

Number of GC Clause 7

Effectiveness of the contract

The Contractor/Bidder shall be effective within days from the date of signature of the Contract by both parties

Number of GC Clause 8

Commencement of Contract:

The Contractor/ Bidder shall provide Non-Consultancy Services from the effective date of contract.

Number of GC Clause 10.2

Expiration of Contract:

The time period shall be

Number of GC Clause 14

Termination

In the event of termination of the contract due to any reason as already defined in the General Conditions of Contract, the Bidder shall be responsible for providing to the Authority the Services till the time of alternate arrangements.

Number of GC Clause 16

Conflict of Interest:

The Procuring Agency reserves the right to determine on a case-by-case basis whether the Bidder should be disqualified from providing services due to a conflict of a nature described in Clause GCC C2.

Number of GC Clause 20

Liquidated Damages

If the Bidder fails to provide services as required under the contract or in case of any data loss/data breach or any incident compromising the data security or other such failures related to any services, the Bidder shall pay to the Procuring Agency as Liquidated Damages at a rate of **0.07% to 10.00%** of the Contract value, in accordance with the extent of performance failure & the cost of investigating such incidents as judged by the Authority.

Number of GC Clause 21

Performance Guarantee:

The amount of performance guarantee shall be 10.00% of the contract price in acceptable form of Pay Order, Banker's Cheque, Call at Deposit, Bank Guarantee, Demand Draft

Number of GC Clause 27

Currency of Payment:

All the payment to be released to the contractor/Bidder shall be in Pakistani Rupees.

Number of GC Clause F

Payment terms:

Payment will be made to the Bidder against the procured Goods and services according to the actual invoice or running bills submitted by the Bidder against the services provided within the time given in the conditions of the contract.

Number of GC Clause F

Identifying Defects:

The Authority reserves the right at any time to inspect the premises of the provider to inspect the goods and monitor the goods being provided.

Inspections & Tests Requirements

All bogies will be inspected by Pakistan Railways QA team at the contractor's premises.

Stage wise inspection and process monitoring will be done by CFI team during course of this contract.

Final acceptance will be based on dimensional conformity, surface finish, and alignment criteria conducted by CFI nominated team at CFI

PR reserve the right to accept or reject any operation if unqualified.

In case of any deficiency/damage pointed out by PR representatives, the same shall be attended by the contractor immediately.

Any deviation during machining process shall not be rectified without consultation with Pakistan Railways Carriage Factory, Islamabad.

OEM standard quality will be ensured by the firm.

Final inspection shall be carried out at CFI comprising a committee of PE, SME/Project, SME/D. In case of any deficiency the decision of CFI will be final which will be binding to the firm.

Delivery & Documents

Copies of the Supplier's invoice showing Goods' description, quantity, unit price, and total amount;

Manufacturer's or Supplier's Valid Warranty Certificate;

Inspection Certificate issued by the Nominated Inspection Agency (if any), and the Supplier's Factory Inspection Report;

Interim payment will only be made after successful completion of every batch of six (06 Nos) of bogie frames after successful inspection by the inspection committee at CFI.

Number of GC Clause F 5 & 6

Following is the guidance for Dispute Resolution

- i. If any dispute of any kind whatsoever shall arise between the Authority and the Bidder in connection with or arising out of the Contract, including without prejudice to the generality of foregoing, any question regarding its existence, validity, termination and the execution of the Contract – whether during developing phase or after their completion and whether before or after the termination, abandonment or breach of the Contract – the parties shall seek to resolve any such dispute or difference by mutual diligent negotiations in good faith within 14 (fourteen) days following a notice sent by one Party to the other Party in this regard.
- ii. At future of negotiation the dispute shall be resolved through mediation and mediator shall be appointed with the mutual consent of the both parties.
- iii. At the event of failure of mediation to resolve the dispute relating to this contract such dispute shall finally be resolved through binding Arbitration by sole arbitrator in accordance with Arbitration Act 1940. The arbitrator shall be appointed by mutual consent of the both parties. The Arbitration shall take place in Islamabad, Pakistan and proceedings will be conducted in English language.
- iv. The cost of the mediation and arbitration shall be shared by the parties in equal proportion however the both parties shall bear their own costs and lawyer's fees regarding their own participation in the mediation and arbitration. However, the Arbitrator may make an award of costs upon the conclusion of the arbitration making any party to the dispute liable to pay the costs of another party to the dispute.
- v. Arbitration proceedings as mentioned in the above clause regarding resolution of disputes may be commenced prior to, during or after completion of the contract.

Notwithstanding any reference to the arbitration herein, the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree that the Authority shall pay the Bidder any monies due to the Bidder.

Arbitrator's fee:

The fee shall be specified in Pak Rupees, as determined by the Arbitrator, which shall be shared equally by both parties.

Appointing Authority for Arbitrator:

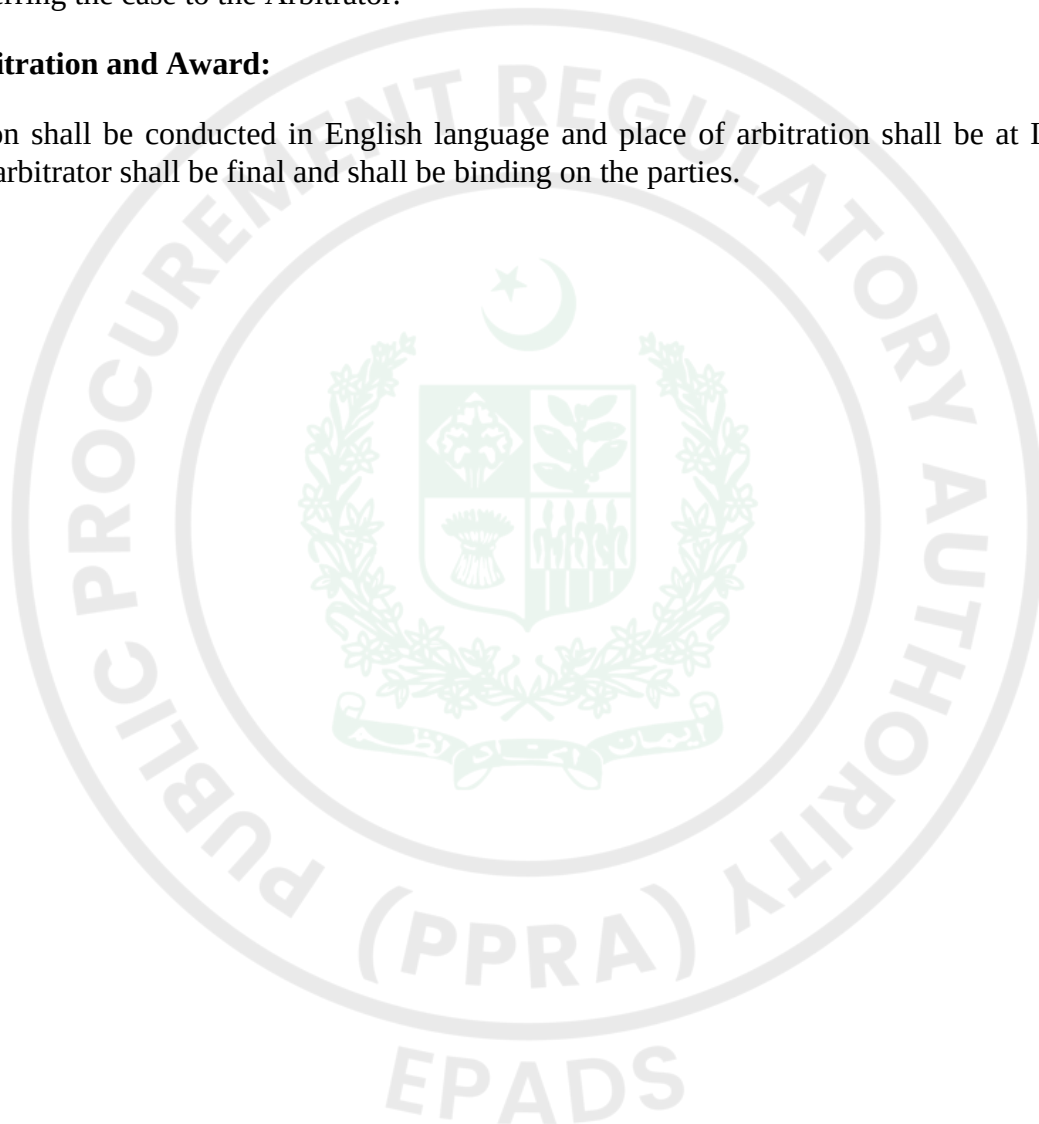
By the Mutual Consent or in accordance with the provisions of Arbitration Act, 1940, in case the parties fail to reach a consensus on the name of sole arbitrator, any party may submit an application to the Chief Justice Islamabad High Court for appointment of sole arbitrator. The Chief Justice IHC may appoint a former judge of any High Court or Supreme Court as the sole arbitrator to resolve the dispute between the parties.

Rules of procedure for arbitration proceedings:

Any dispute between the Authority and a Bidder who is a national of the Islamic Republic of Pakistan arising in connection with the present Contract shall be referred to adjudication or arbitration in accordance with the laws of the Islamic Republic of Pakistan including Arbitration Act 1940, however above provision shall prevail in referring the case to the Arbitrator.

Place of Arbitration and Award:

The arbitration shall be conducted in English language and place of arbitration shall be at Islamabad. The award of the arbitrator shall be final and shall be binding on the parties.





Bid Securing Declaration

Form 9: Bid Securing Declaration

Date: *[insert date (as day, month and year)]*

Bid No.: **P122332**

To: **Pakistan Railways Carriage Factory (Pakistan Railways Carriage Factory), Managing Director Pakistan Railways Carriage Factory, IJP Road, I-11 Islamabad.**

We, the undersigned, declare that:

We understand that, according to your conditions, Bids must be supported by a Bid Securing Declaration.

We accept that we will be blacklisted and henceforth cross debarred for participating in respective category of public procurement proceedings for a period of (not more than) six months, if fail to abide with a bid securing declaration, however without indulging in corrupt and fraudulent practices, if we are in breach of our obligation(s) under the Bid conditions, because we:

1. have withdrawn or modified our Bid during the period of Bid Validity specified in the Form of Bid;
2. Disagreement to arithmetical correction made to the Bid price; or
3. having been notified of the acceptance of our Bid by the Procuring Agency during the period of Bid Validity, (i) failure to sign the contract if required by Procuring Agency to do so or (ii) fail or refuse to furnish the Performance Security or to comply with any other condition precedent to signing the contract specified in the Bidding Documents.

We understand this Bid Securing Declaration shall expire if we are not the successful

Bidder, upon the earlier of (i) our receipt of your notification to us of the name of the successful Bidder; or (ii) twenty-eight (28) days after the expiration of our Bid.



Contract Form

SECTION IX: CONTRACT FORMS

THIS AGREEMENT made the ____ day of _____ 20____ between **Pakistan Railways Carriage Factory (Pakistan Railways Carriage Factory), Managing Director Pakistan Railways Carriage Factory, IJP Road, I-11 Islamabad.**

(hereinafter called “the Procuring Agency”) of the one part and [name of Bidder] of [city and country of Bidder] (hereinafter called “the Bidder”) of the other part:

WHEREAS the Procuring Agency invited Bids for provision of goods, viz., **3CF/4P/0898/2026 Outsourcing Machining Work of Bogie manufactured in CFI under 230 Coaches Project (P122332)** and has accepted a Bids by the Bidder for the provision of Goods in the sum of [contract price in words and figures] (hereinafter called “the Contract Price”).

NOW THIS CONTRACT WITNESSETH AS FOLLOWS:

1. In this Contract words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.

2. The following documents shall be deemed to form and be read and construed as part of this Contract, In the event of any ambiguity or conflict between the Contract Documents listed below, the order of precedence shall be the order in which the Contract Documents are listed below:-

1. This form of Contract;
2. the Form of Bids and the Price Schedule submitted by the Bidder;
3. the Schedule of Requirements;
4. the Technical Specifications;
5. the Special Conditions of Contract;
6. the General Conditions of the Contract;
7. the Procuring Agency’s Letter of Acceptance; and
8. [add here: any other documents]

3. In consideration of the payments to be made by the Procuring Agency to the Bidder as hereinafter mentioned, the Bidder hereby covenants with the Procuring Agency to provide the Goods related services and to remedy defects therein in conformity in all respects with the provisions of the Contract.

4. The Procuring Agency hereby covenants to pay the Bidder in consideration of the provision of Goods and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the contract at the times and in the manner prescribed by the contract.

IN WITNESS whereof the parties hereto have caused this Contract to be executed in accordance with their respective laws the day and year first above written.

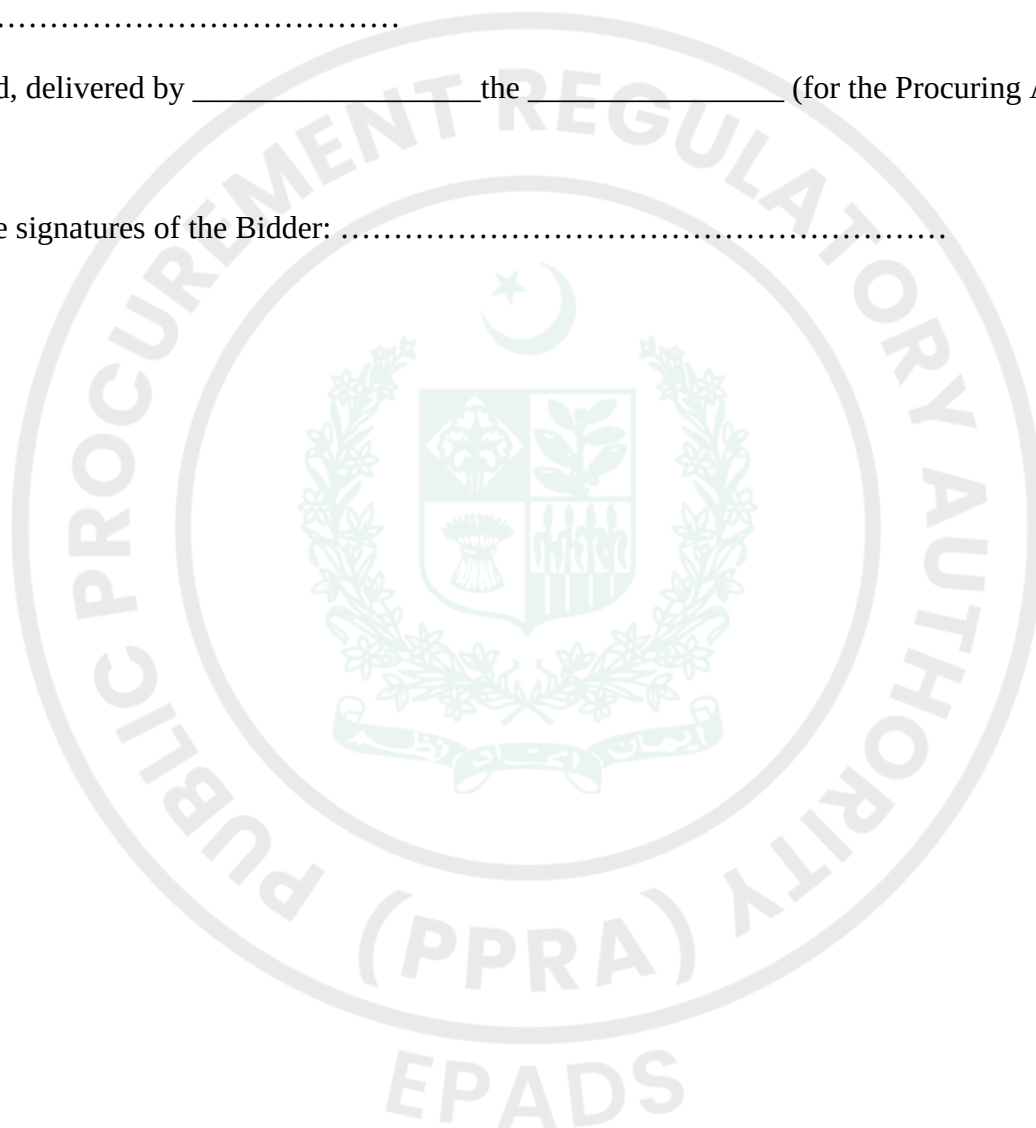
Signed, sealed, delivered by _____ the _____ (for the Procuring Agency)

Witness to the signatures of the Procuring Agency:

.....

Signed, sealed, delivered by _____ the _____ (for the Procuring Agency)

Witness to the signatures of the Bidder:





Integrity Pact

Integrity Pact

DECLARATION OF FEES, COMMISSION AND BROKERAGE ETC. PAYABLE BY THE SUPPLIERS OF GOODS, SERVICES & WORKS IN CONTRACTS WORTH RS.10.00 MILLION OR MORE

Contract

Number: Contract

Value: Contract Title:

Dated:

[Name of Supplier] hereby declares that it has not obtained or induced the procurement of any contract, right, interest, privilege or other obligation or benefit from Government of Pakistan or any administrative subdivision or agency thereof or any other entity owned or controlled by it (GoP) through any corrupt business practice.

Without limiting the generality of the foregoing [Name of Supplier] represents and warrants that it has fully declared the brokerage, commission, fee etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultations fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP, except that which has been expressly declared pursuant hereto.

[Name of Supplier] certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with GoP and has not taken any action or will not take any action to circumvent the above declaration, representative or warranty.

[Name of Supplier] accepts full responsibility and strict liability for making and false declaration, not making full disclosure, misrepresenting fact or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other right and remedies available to GoP under any law, contract or other instrument, be voidable at the option of GoP.

Notwithstanding any rights and remedies exercised by GoP in this regard, [Name of Supplier] agrees to indemnify GoP for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GoP in an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by [Name of Supplier] as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP.



Performance Guarantee Form

Performance Guarantee Form

To: **Pakistan Railways Carriage Factory (Pakistan Railways Carriage Factory), Managing Director Pakistan Railways Carriage Factory, IJP Road, I-11 Islamabad.**

WHEREAS *[name of Bidder]* (hereinafter called “the Bidder”) has undertaken, in pursuance of Contract No. *[reference number of the contract]* dated *[insert date]* for provision of Goods(hereinafter called “the Contract”).

AND WHEREAS it has been stipulated by you in the said Contract that the Bidder shall furnish you with a Bank Guarantee by a reputable bank for the sum specified therein as security for compliance with the Bidder’s performance obligations in accordance with the Contract.

AND WHEREAS we have agreed to give the Bidders guarantee:

THEREFORE, WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Bidder, up to a total of *[amount of the guarantee in words and figures]*, and we undertake to pay you, upon your first written demand declaring the Bidder to be in default under the Contract and without cavil or argument, any sum or sums within the limits of *[amount of guarantee]* as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the: *[insert date]*

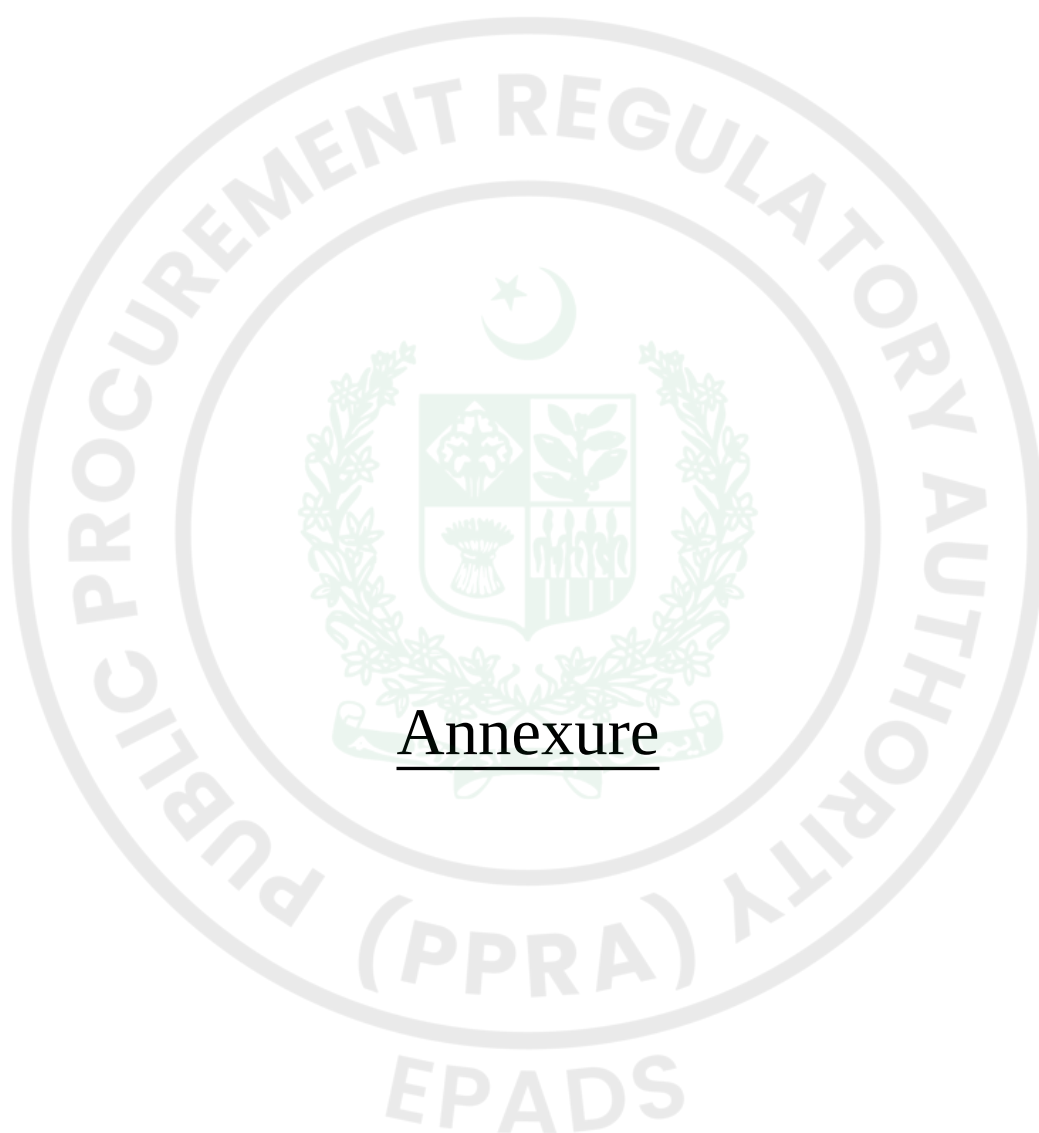
Signature and seal of the Guarantors

[name of bank or financial institution]

[address]

[date]





Annexure

TOT Process Specification for Bogie Frame Processing of Pakistan 230 Coaches Project.

Information (Read-Only)

See Form Under Additional Forms and Documents: **TOT Process Specification for Bogie Frame Processing of Pakistan 230 Coaches Project.** (page number: 71)

Drawing

Information (Read-Only)

See Form Under Additional Forms and Documents: **Drawing** (page number: 103)

Undertaking by the bidder

Technical Submission (Vendor)

Document Required

See Form Under Additional Forms and Documents: **Undertaking by the bidder** (page number: 104)

Warranty certificate

Technical Submission (Vendor)

Document Required

See Form Under Additional Forms and Documents: **Warranty certificate** (page number: 105)



Procurement Forms







Additional Forms and Documents

文件名称：技术转让巴基斯坦 230 辆客车项目转向架构架加工工艺规程

Document name: TOT Process Specification for Bogie Frame Processing of Pakistan 230 Coaches Project

文件编号/Doc. No. :D0000359002

文件版本/Revision:B

文件类别/Category:B

物料号: M000003584059

"Material No." ":"

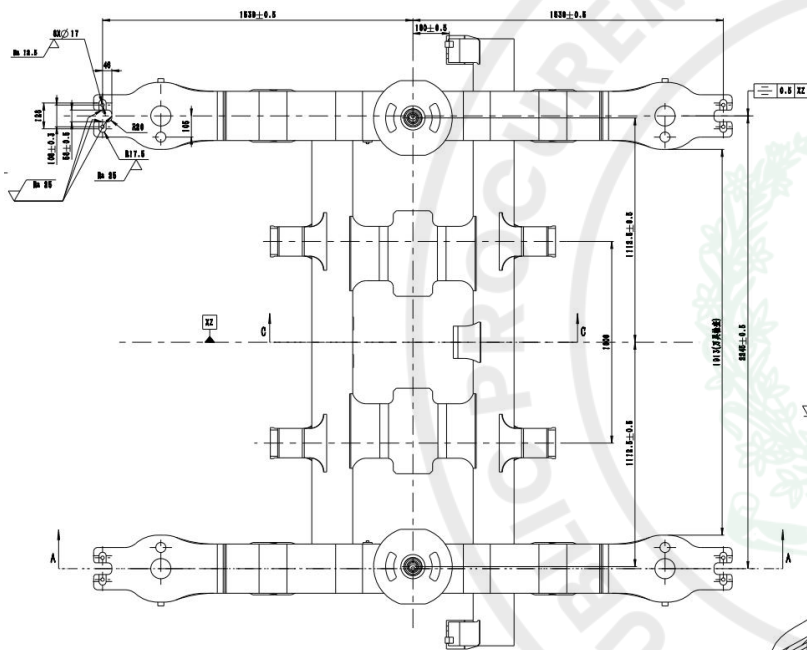
	职位 Position	姓名 Name	日期 Date
编制 Prepared by:	工艺技术 Process technology	李海瑞 Li Hairui	2022-04-28
校对 Verified by:	系统主管 System Manager	孙林祥 Sun Linxiang	2022-04-28
审核 Reviewed by:	中层助理、部长 Director Assistant, Director	安博 An Bo	2022-04-28
批准 Approved by:	中心主任 Director of the Center	刘军 Liu Jun	2022-04-28

Revision History

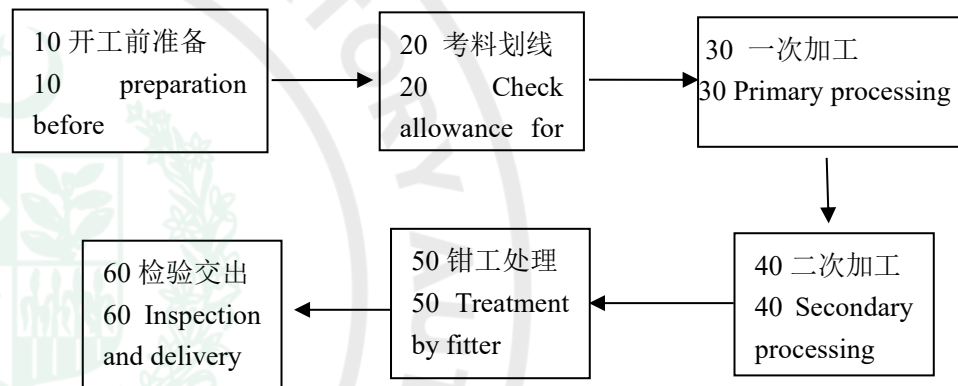
上之文件版本变更记录

参考文件 Reference paper			
序号 No.	文件编号 Document number	文件名称 File name	备注 Remarks
1	ISO 2768-1-1989	一般公差 第 1 部分:不带单独公差标识的线性和角度尺寸公差 General tolerances -- Part 1: Tolerances for linear and angular dimensions without individual tolerance designations	
2	ISO 2768-2-1989	一般性公差 第 2 部分: 用于特征的不带单独公差标识的几何公差 General tolerances -- Part 2: Geometrical tolerances for features without individual tolerance designation	
3	T0016702411	构架(加工) Frame (processing)	
4	ISO 1302-2002	产品几何量技术规范产品技术文档中表面特征的表示法 Geometrical Product Specifications (GPS)-Indication of Surface Texture in Technical Product Documentation	

示意图 Schematic diagram



工艺流程图 process flow diagram



工作资源清单

Working Resource List

劳动保护用品 PPE(Personal Protective Equipment)		    					
序号 No.	设备、工装 Equipment & Fixtures	是否定检 Calibration	序号 No.	工具 Tools	是否定检 Calibration	序号 No.	生产辅料 Production Material
1	龙门加工中心 Longmen Processing center	否 N	1	游标卡尺 vernier caliper 300mm	是 Y	1	切削液 cutting fluid
2	构架反面加工工装 Frame First Time Machining Jigs & Fixtures	否 N	2	内径千分尺 inside micrometer、百分表 dialgage	是 Y	2	石灰水或粉笔 Limewash or chalk
3	构架正面加工工装 Frame First Time Machining Jigs & Fixtures	否 N	3	钻头 drill Φ10.2、Φ17、Φ28、Φ31、Φ14、Φ16、Φ58U 钻/drill、Φ40 加长钻头/extended drill	否 N		
4	双臂划线仪 Double arm scribing instrument	是 Y	4	盘铣刀 disc milling cutter Φ200	否 N		
5	天车 overhead travelling crane	是 Y	5	倒角铣刀 chamfer cutter 45°	否 N		
6	吊带 hammock ≥ 3T	是 Y	6	棒铣刀 Rod milling cutter Φ25	否 N		
		否 N	7	粗糙度比较样块 Roughness comparison blocks	是 Y		
			8	锉刀 file steel、角磨机 angle grinder、	否 N		

				样冲 anvil、手锤 bishop、毛刷 hairbrush			
			9	内径量表 Inner scale 18-35、50-65	是 Y		
			10	方肩铣刀 Square shoulder milling cutter Φ80(R3)、Φ32、Φ100、Φ63	否 N		
			11	成型铣刀 formed cutter R8; 1:10/R6	否 N		
			12	坡口刀 Groove knife 30°	否 N		
			13	铣刀 Φ32R6、Φ40R5 Milling cutter Φ 32R6、 Φ 40R5	否 N		
			14	丝锥 M12-6H Screw tap M12-6H	否 N		
			15	通止规 M12 Go-No go gauge M12	是 Y		
			16	镗刀 粗镗刀Φ59.7、粗镗刀Φ100、精镗刀Φ60 Boring cutter Rough boring cutter Φ 59.7, Rough boring cutter Φ100, Fine boring cutter Φ60	否 N		
			17	玉米铣 Φ63 Corn milling cutter Φ 63	否 N		
			18	反镗刀 Φ35 Counterface cutter Φ 35	否 N		
			19	构架加工检测样规 Sample gauge for frame processing and inspection	否 N		

			20	深度尺 Depth gauge	是 Y		
			21	划线盘 Tosecan	否 N		
			22	吸尘器 Vacuum cleaner	否 N		
工作环境 Working Environment							
1、工作环境照明条件良好，具备全天候 24 小时工作的条件。 1、The working environment lighting conditions are good, with 24 hours a day working conditions. 2、工作环境符合环保与职业健康标准，保证员工身体安全健康。 2、The working environment meets environmental and occupational health standards,to keep employees safe and healthy.							
人员资质 Personnel Qualification							
操作人员必须经过上岗前培训。 Operators must undergo Pre-job training.							
工序	图片	工序内容描述			设备、工装	工具	特性

Process	Picture	Process Description	Equipment & Fixtures	Tools	Characteristic
10	/	产前准备 Preparation before commencement			
10.1	/	准备工作: Preparation: ①、工艺装备、工具检查: 检查机床的回零位精度; ①. Inspection of equipment and tools: check zero return accuracy of machine tool; ②、检查量具应齐全, 且在检测有效期内; ②. Check that measuring tools shall be complete and within the validity period; ③、检查使用的工装、设备、工具、量具状态良好, 满足生产需要; ③. Check that the tooling, equipment, tools and measuring tools used are in good condition and meet the production needs; ④、操作者劳动保护用品佩戴齐全; ④. Operators shall wear complete PPE; ⑤、检查卡片是否齐全; ⑤. Check whether cards are complete; ⑥、构架质量是否合格: ⑥. Check that the frame quality is qualified: 各管码螺纹孔倒角处理、毛刺是否清除干净; Check whether the chamfering and burrs of threaded holes of pipe bracket are removed; 2) 各管卡是否磕碰、歪斜、变形; 是否有焊豆、豁口成型是否良好; 2) Whether each pipe clip is bumped, skewed or deformed; Whether there are welding beans, and the notch is well formed;	工作资源清单 中的设备、工装 Equipment and tooling in work resource list	工作资源 清单中的 工具 Tools in work resource list	
20		考料划线 Check allowance for machining by crossed instrument			
20.1	/	将构架转臂定位座平面向上吊至划线平台上, 吊装时吊带的栓挂位置为侧梁内侧	天车	吊带	

		横梁钢管处 4 点，用 4 根 3T 的吊带拴挂，吊挂后查看构架是否平衡栓挂牢固，吊运过程中注意指挥操作协调、呼应。吊至划线平台的划线工装上并用三个顶镐定位，调整顶镐找平制动安装座及转臂定位座。 Positioning seat of rotating arm of frame shall be lifted upward to streak platform. During lifting, the lifting position of the sling is the 4 points at the steel pipe of lateral beam inside the side beam, and four 3T slings shall be used for hanging. After hanging, check whether the frame is balanced and fastened firmly. Pay attention to the coordination and response of command and operation during the lifting process. Lift it onto the line marking tooling of streak platform and position it with three jacks. Adjust the jacks to level the brake mounting base and positioning base of rotating arm.	crane 双臂划线仪 Double arm crossed instrument 构架划线工装 Framework line marking tooling	sling	
20.2	/	检查外观质量（构架裂纹折皱及过烧焊接质量），检查构架各部位尺寸是否满足技术要求： Check the appearance quality (cracks, wrinkles and overburning welding quality of frame), and check whether dimensions of each part of the frame meet the technical requirements: a)将工件放在三维划线仪平台上找平，两侧梁的平行度为 2mm。其四角高度差不大于 2mm，4 个轴箱弹簧安装座面高低不大于 2mm。侧面与上、下盖板的垂直度为 1mm。四个轴箱弹簧安装面上之中心孔 4-Φ90mm 之对角线之差不大于 2.8mm； a) Place the workpiece on three-dimensional crossed instrument platform for leveling, and parallelism of the beams on both sides is 2mm. Height difference of four corners is not more than 2mm, and height difference of mounting seat surfaces of four axle box spring is not more than 2mm. Perpendicularity between the side face and the upper, lower cover plates is 1mm. Difference between diagonal lines of center hole 4-Φ90mm of mounting surface of four axle box spring shall not be greater than 2.8 mm; b)两侧空气弹簧座安装面高度差不大于 1.6mm； b) Height difference between mounting surfaces of air spring seats on both sides shall	双臂三维划线仪 Double arm three-dimension al crossed instrument	构架划线 工装、 Framewor k line marking tooling 毛刷、石灰 水、样冲 Brushes, limewash, anvil	

		not be greater than 1.6mm; c)横梁以内两侧梁的平行度为 1mm, 横梁以外部分的横向弯曲向内不大于 1mm, 向外不大于 2mm, 横梁与侧梁的垂直度为 1.6mm; c) Parallelism of two side beams inside the lateral beam is 1mm, the lateral bending of the parts outside the lateral beam is not more than 1mm inward and 2mm outward, and the perpendicularity between the lateral beam and side beam is 1.6mm; d)四个制动吊梁安装座上平面应在同一平面内, 其偏差不大于 2mm。 d) Upper surface of the mounting seat of four brake lifting beams shall be in same plane, and its deviation shall not be greater than 2mm.			
20.3	/	在大致划线部位先刷好石灰水, 晾干后准备划线。考虑焊接参考线和各加工尺寸的加工余量, 保证图纸要求加工部位的最小壁/板厚尺寸, 在侧梁外侧立面上划出水平找正线, 在转臂定位座外侧面划出高度基准零线(车轴水平中心线), 并划出构架的横向中心线和纵向中心线。 Apply limewash on approximate position of line marking, and prepare to mark line after drying. Considering the welding reference line and the machining allowance of each machining dimension, to ensure the minimum thickness size of wall/plate of machining part required by drawing, draw a horizontal alignment line on the outer facade of side beam, draw a height reference zero line (horizontal centerline of the axle) on the outer side of the rotary arm positioning seat, and draw the transverse centerline and longitudinal centerline of the frame.			
20.4	/	以横纵向中心线、纵向中心线、车轴水平中心线为零点划出以下内容: With the horizontal/ longitudinal centerline, the longitudinal centerline, and the horizontal centerline of axle as zero point, marking for the following: 1、划出侧梁中心距 $2245 \pm 0.5\text{mm}$ 和轴距 $2500 \pm 0.5\text{mm}$。 1. Mark out the center distance of side beam $2245 \pm 0.5\text{mm}$ and axle distance $2500 \pm 0.5\text{mm}$. 2、划出转臂定位座上端面 14mm、T 型槽外侧立面 $1455 \pm 0.5\text{mm}$、定位座处中心线 $1400 \pm 0.5\text{mm}$。			

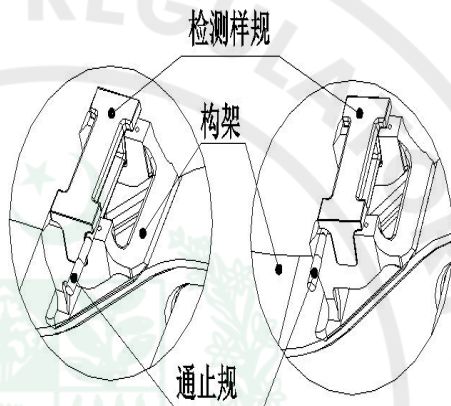
		2. Mark out the upper end face of positioning seat of rotary arm 14mm, the external vertical face of T-groove $1455 \pm 0.5\text{mm}$, and centerline of positioning seat $1400 \pm 0.5\text{mm}$. 3、划出转臂定位座内外加工线 $2075 \pm 0.5\text{mm}$、$170 \pm 0.5\text{mm}$、260mm。 3. Mark out the inside and outside processing lines of positioning seat of rotary arm $2075 \pm 0.5\text{mm}$, $170 \pm 0.5\text{mm}$, 260mm. 4、划出转臂定位座加工线 65mm、$57.5 (-0.2, 0) \text{mm}$。 4. Mark out the processing line of positioning seat of rotary arm 65mm and $57.5 (-0.2, 0) \text{mm}$. 5、划出空簧座板加工线 $395 \pm 0.5\text{mm}$（保证空簧座板厚度余量不小于 10mm）。 5. Mark out the processing line of seat plate of air spring $395 \pm 0.5\text{mm}$ (ensure that thickness allowance of air spring seat plate is not less than 10mm). 6、划出端盖板上测量块加工线 $478 \pm 0.5\text{mm}$。 6. Mark out the processing line of measuring block on end cover plate $478 \pm 0.5\text{mm}$ end cover plate. 7、划出一系簧安装面尺寸 $456 \pm 0.5 \text{mm}$，保证上盖板最小壁厚不小于 14mm。 7. Mark out the mounting surface of primary spring $456 \pm 0.5 \text{mm}$, and ensure that the minimum thickness of the wall of upper cover plate is not less than 14mm. 8、划出制动吊座安装座加工线尺寸 $350.5 \pm 0.5\text{mm}$、$1414 \pm 0.5\text{mm}$，$1341.3 \pm 0.5\text{mm}$。 8. Mark out the processing line dimensions of mounting base of brake lifting seat $350.5 \pm 0.5\text{mm}$, $1414 \pm 0.5\text{mm}$, $1341.3 \pm 0.5\text{mm}$. 9、划出拉杆座内外立面加工线 $295 \pm 0.5\text{mm}$、$126.5 \pm 0.5\text{mm}$，内侧端面尺寸 $120 (0, +1) \text{mm}$，$85 \pm 0.3\text{mm}$。 9. Mark out the processing line of internal and external vertical face of traction rod seat $295 \pm 0.5\text{mm}$, $126.5 \pm 0.5\text{mm}$, and dimension of inside end face is $120 (0,+1) \text{mm}$, $85 \pm 0.3\text{mm}$. 10、划出牵引拉杆座通孔位置 $180 \pm 0.5\text{mm}$，$46.5 \pm 0.5\text{mm}$。 10. Draw out the through hole position of traction rod seat $180 \pm 0.5\text{mm}$, $46.5 \pm$			
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		0.5mm. 11、划出一系测量块加工线 1297.5±0.5mm、320±0.5mm。 11. Mark the processing line of primary measuring block 1297.5 ± 0.5mm, 320 ± 0.5mm. 12、划出一系减振器座安装孔位置尺寸 1539±0.5mm，108±0.5mm。 12. Mark out the position dimensions of mounting hole of primary damper seat 1539 ± 0.5mm and 108 ± 0.5mm. 13、划出抗蛇行减振器座测量块加工线 290±0.5mm、180±0.5mm。 13. Mark the processing lines of measuring block of yaw damper seat 290 ± 0.5 mm, 180 ± 0.5mm. 14、各部位划好线且满足加工余量后，打样冲眼。 14. Mark lines at each part and the machining allowance is met, drill the sample hole. 15、划线合格后，将构架吊下工作台，吊装位置和吊装方式参照工序 20.1 中内容。 15. After line marking is qualified, the framework shall be lifted down from workbench, lifting position and method shall refer to the contents of process 20.1.			
30		一次加工 Primary processing			
30.1	/	构架装夹找正： Frame clamping and alignment: 将构架反面向上吊至加工中心工作台上，吊装位置为侧梁内侧横梁钢管处 4 点，用 4 根 3T 的吊带拴挂,吊挂后查看构架是否平衡拴挂牢固，吊运过程中注意指挥操作协调、呼应。 Frame shall be lifted downward to the workbench of processing center. During lifting, the lifting position of the sling is the 4 points at the steel pipe of lateral beam inside the side beam, and 4 3T slings shall be used for hanging. After hanging, check whether the frame is balanced and fastened firmly. Pay attention to the coordination and response of command and operation during the lifting process.	天车 crane 龙门加工中心、 构架反面加工 工装 Longmen Processing center, Frame First Time Machining Jigs	吊带、 sling 划线盘、 Tosecan 百分表 Dialgage	

							& Fixtures		
30.2	/	完成上述构架装夹后，按侧梁找正水平线、构架横向中心线，侧梁纵向中心线找正工件，压夹，压夹后复校找正线，复校无误后建立坐标，调用程序，加工前检查面刀片是否满足使用要求，是否夹紧，准备好后开始加工。 After frame clamping is completed, align the workpiece according to horizontal line of side beam, the horizontal center line of frame, and longitudinal center line of side beam. After clamping, re-calibrate and align the line. After the re- calibration is correct, establish the coordinates and call the program. Before processing, check whether the face blade meets the requirements and is clamped. Start processing when it is ready.					龙门加工中心、动车构架反面加工工装 Longmen Processing center, reverse tooling of motor car frame	百分表、百分表座压紧扳手、吊带 Dialgage, dial gage seat pressing wrench, sling	
			切削深度 depth of cut(mm)	走刀次数 Feeding times	进给量 Feed rate (mm/min)	主轴转数 The spindle revolutions (r/min)			
30.3	/	铣定位座面保证距车轴中心面尺寸 14±0.5mm、Ra12.5。 Milling surface of positioning seat shall be 14 ± 0.5mm, Ra12.5 away from the axle center surface	1 -2	4 -5	700 -900	700 -1000	天车 crane 龙门加工中心 Longmen Processing center	Φ100 方肩铣刀 Φ 100 square shoulder milling cutter	
30.4	/	铣一系测量块，保证尺寸 320±0.5mm，1297.5±0.5mm。 Mill the primary measuring block to ensure the dimension of 320 ± 0.5mm and 1297.5 ± 0.5mm.	1 -3	1 -3	400 -600	600 -800	巴基斯坦构架加工反面工装 Pakistan frame processing reverse side tooling	Φ100 方肩铣刀 Φ 100 square shoulder milling	

								cutter	
30.5	/	铣一系弹簧安装座面，保证尺寸 456±0.5mm，Φ246mm，Ra12.5。 Mill the mounting surface of primary spring to ensure the dimension is 456 ± 0.5mm, Φ 246mm, Ra12.5.	1 -2	4 -6	1200 -1500	800 -1000		Φ100 方肩 铣刀 Φ 100 square shoulder milling cutter	
30.6	/	刀具检查帽筒处侧梁下盖板周 圈。 Milling cutter shall be used to check the circumference of lower cover plate of side beam at position of steel spring barrel.	1 -3	1	800 -1000	800 -1000		Φ25 棒 铣 刀 Φ 25 rod milling cutter	
30.7	/	铣牵引拉杆座前后立面，保证尺 寸 295±0.5mm，126.5±0.5mm， Ra12.5。 Mill the front and rear facades of traction rod seat to ensure the dimensions are 295 ± 0.5mm, 126.5 ± 0.5mm, Ra12.5.	2	44	1800 -2000	1200 -1300		Φ80R3 方 肩铣刀 Φ 80R3 square shoulder milling cutter	
30.8	/	铣牵引拉杆座内立面，保证尺寸 120 (0,+1) mm，85mm，Ra12.5。 Mill the internal vertical face of traction rod seat, ensuring the dimensions of 120 (0,+1) mm, 85 mm and Ra12.5.	2	44	1800 -2000	1200 -1300		Φ63 方肩 铣刀 Φ 63 square shoulder milling cutter	

30.9	/	铣定位座内侧面，保证尺寸 170±0.5 mm, 2075±0.5mm, Ra25。 Mill the inner side of the positioning seat to ensure that the dimensions are 170 ± 0.5 mm, 2075 ± 0.5 mm, Ra25.	1	110	3000 -4000	1500 -1800	Φ40R5 方肩铣刀 Φ 40R5 square shoulder cutter
30.10	/	刀具检查定位座外侧面，保证图纸尺寸要求。 Milling cutter shall be used to check the outer side of positioning seat to ensure the dimensional requirements of drawing.	1 -3	2 -3	1000 -1200	1000 -1100	Φ63 玉米铣 Φ 63 Corn milling cutter
30.11	/	粗铣削定位座槽保证 1: 10，预留 0.2mm 余量。 Rough milling of positioning seat groove shall be 1:10, and 0.2mm allowance shall be reserved.	1	65	3000 -3500	1500 -1800	Φ32 R6 粗铣刀 Φ 32 R6 rough milling cutter
30.12	/	精铣定位座立面及 R6 根部倒角，保证尺寸 1455±0.5mm 及两端定位座纵向尺寸之差≤0.1 mm，Ra 12.5。 Finish-milling the vertical face of positioning seat and chamfer of the root of R6 to ensure that dimension is 1455 ± 0.5mm and difference between longitudinal dimensions of positioning seats at both ends is ≤	0.2	1	800-1000 ; 200-300	500-600 ; 500-600	Φ25 棒铣刀 ; Φ32 R6 粗铣刀 Φ 25 Rod milling cutter; Φ 32 R6 rough milling cutter

		0.1mm, Ra 12.5.							
30.13	/	精铣定位座处槽保证尺寸1400mm，1：10锥度，57.5(-0.2,0)mm，65mm，Ra 12.5。加工完成一处定位座的2个U型槽后用构架加工检测样规进行检测，要求：样规放入2个U型槽后，用通止规检测样规下平面距定位座上平面的间距尺寸，手握通止规手柄，让通止规直径最小的端头侧从两平面之间能通过，同时通止规的中间位置处圆柱无法从两平面之间通过，可视为合格，即通规通、止规止；右图为2个检测点，要用此方法还需检测样规另一端两检测点共计检测4个位置的检测点；还要用0.08塞尺检测样规与U型槽斜面间隙，要求：用钢板尺在塞尺上划出30mm标记线，然后进行检测，塞尺塞入深度不应超过30mm标记线位置。样规检测合格后方可加工其它3处定位座，并重复此检测方法进行定位座加工后的检测。 Finish-milling of groove at positioning seat to ensure the dimensions of 1400mm, 1:10 taper,	0.2	1	200	500		1: 10 成型铣刀 1: 10 Forming milling cutter 构架加工检测样规 Sample gauge for frame processing and inspection	

		57.5 (- 0.2,0) mm, 65mm, Ra 12.5. After processing the two U-shaped grooves of one positioning seat, use sample gauge of framework processing for detection. Requirements: after sample gauge is placed in two U-shaped grooves, use the Go no-go gauge to detect the distance between the lower surface of sample gauge and the upper surface of the positioning seat. Hold the Go no-go gauge handle so that the end side with the smallest diameter of the Go no-go gauge can pass between two surfaces. At the same time, cylinder at middle position of Go no go gauge cannot pass between the two surfaces, which can be regarded as qualified, that is, the Go gauge goes through and no-go gauge stops; The right figure shows two detection points. To use this method, two detection points at the other end of the sample gauge need to be detected to detect 4 detection points in total; 0.08 feeler gauge shall also be used to detect the gap			
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		between the sample gauge and U-shaped groove slope. It is required that a 30mm marking line shall be marked on feeler gauge with a steel ruler, and then the feeler gauge shall be used for detection. The insertion depth of the feeler gauge shall not exceed the position of 30mm marking line. The other 3 positioning seats can be processed only after the inspection by sample gauge is qualified, and the inspection method shall be repeated to detect the positioning seats after processing.						
30.14	/	钻定位座通孔 8-Φ17mm。加工完成后检查孔的位置是否偏离。保证尺寸 215 ± 0.5 mm 和 1400 ± 0.5mm。 Drill through hole of positioning seat 8- Φ 17mm。 Check whether the hole position deviates after machining. Ensure the dimensions 215 ± 0.5 mm and 1400 ± 0.5 mm.			150 -200	750 -850		Φ 17 钻头 Φ 17 Drill bit
30.15	/	钻定位座孔 8- Φ10.2$\times$33mm。保证位置尺寸 55 ± 0.5 mm 和 215 ± 0.35mm, Ra12.5。			150	750 -900		Φ 10.2 钻头 Φ 10.2

		Drill positioning seat hole 8- $\Phi 10.2 \times 33\text{mm}$. Ensure that the position dimensions are $55 \pm 0.5\text{ mm}$ and $215 \pm 0.35\text{ mm}$, Ra12.5.						Drill bit	
30.16	/	8- $\Phi 10.2 \times 33$ 孔铣倒角 $2 \times 45^\circ$ 。倒角前检查刀具参数。 8- $\Phi 10.2 \times 33$ hole milling chamfer $2 \times 45^\circ$. Check the tool parameters before chamfering.	2	1	150	750 -900		倒角铣刀 Chamfer milling cutter	
30.17	/	定位座攻丝 8-M12 $\times 33\text{mm}$,攻丝前吹净各盲孔内铁屑, 攻丝后每孔用塞规检测, 达到通规通、止规止。 Screw tap of positioning seat 8-M12 $\times 33\text{mm}$, before tapping, blow out the iron dust in each blind hole, and after tapping, use a plug gauge to detect each hole, to reach the Go gauge goes through and No-go gauge stops.			175	100		M12-6H 丝锥 M12-6H tap 通止规 Go no-go gauge	
30.28	/	加工牵引拉杆座安装孔 2- $\Phi 31\text{mm}$ 。先用 $\Phi 28$ 钻头钻底孔, 再用 $\Phi 31$ 钻头扩孔, 保证尺寸 $180 \pm 0.5\text{mm}$, 46.5mm , Ra12.5。 Machining the mounting hole of traction rod seat- 2 $\Phi 31\text{mm}$. Drill the bottom hole with a $\Phi 28$ drill bit and then reaming hole with $\Phi 31$			150-200 ; 40-60	600-800 ; 80-100		$\Phi 28$ 钻头; $\Phi 31$ 钻头 $\Phi 28$ Drill bit; $\Phi 31$ Drill bit	

		drill bit, ensuring the size of $180 \pm 0.5\text{mm}$, 46.5mm , $Ra12.5$.						
30.19	/	铣一系垂向减振器安装孔安装底面, 保证尺寸 128mm , 35mm , 2mm , $Ra25$. Mill the bottom surface of the mounting hole of primary vertical damper to ensure the dimensions of 128mm , 35mm , 2mm and $Ra25$.	2	1 -2	200 -400	700 -800		$\Phi 32$ 方肩铣刀 $\Phi 32$ square shoulder milling cutter
30.20	/	加工轴箱簧座中心孔, 粗加工至 $\Phi 98\text{ mm}$, $Ra25$. Machine the center hole of the spring seat of axle box, and rough machine it to $\Phi 98\text{ mm}$, $Ra25$.	1 -2	20	1500 -1800	1200 -1300		$\Phi 63$ 方肩铣刀 $\Phi 63$ square shoulder milling cutter
30.21	/	加工轴箱簧座中心孔, 精加工至 $\Phi 100\text{ mm}$, $Ra12.5$. Machine the center hole of the spring seat of axle box, and finish machining to $\Phi 100\text{ mm}$, $Ra12.5$.	1	1 -2	100 -200	600 -800		$\Phi 100$ 粗镗刀 $\Phi 100$ rough boring cutter
30.22	/	一系簧安装面倒角 C2, $Ra25$. Chamfer of primary spring mounting surface C2, $Ra25$.	2	1	800 -1000	900 -1000		倒角刀 Chamfering knife
30.23	/	反镗定位座 $\Phi 17$ 螺栓安装孔底面 $8\text{-}\Phi 35$. Countersink locating seat $\Phi 17$	2	1		80 -100		$\Phi 35$ 反镗刀 $\Phi 35$

		Bottom surface of bolt mounting hole 8- Φ 35。						Counterface cutter	
30.24	/	加工后卸下构架,吊运至翻转指定区域,吊运方式同 30.1 工序。 After processing, remove the framework and lift it to the designated area for overturning. The lifting method is the same as process 30.1.				天车 crane	吊带 sling		
30.25	/	翻转工件,以备二次加工。翻转时吊装位置为侧梁内侧同一横梁钢管处 2 点,用 2 根 3T 的吊带拴挂,吊挂后查看构架是否平衡拴挂牢固,翻转过程中注意不许磕碰、划伤构架。 Turn over the workpiece for secondary processing. When overturning, the lifting position is the 2 points at the same cross beam steel pipe inside the side beam, which are tied with 2 of 3T slings. After hanging, check whether the framework is balanced and fastened firmly. During the overturning process, pay attention not to bump or scratch the framework.				天车 crane	吊带 sling		
40		二次加工 Secondary processing							
40.1	/	将构架吊至龙门加工中心工作台上,吊装位置为侧梁内侧横梁钢管处 4 点用 4 根 3T 的吊带拴挂,吊挂后查看构架是否平衡拴挂牢固,吊运过程中注意指挥操作协调、呼应。Z 轴以定位座加工面定位, X 轴、Y 轴按构架横纵中心线找正,压紧工件,确定零点,确定刀具与刀位号、调程序。加工前检查工件压夹状态,校核工件零点是否正确,刀具是否满足使用要求,开始加工。 The frame shall be lifted to workbench of Longmen Processing center. During lifting, the lifting position of the sling is the 4 points at the steel pipe of lateral beam inside the side beam, and 4 3T slings shall be used for hanging. After hanging, check whether the frame is balanced and fastened firmly. Pay attention to the coordination and response of command and operation during the lifting process. Z axis is positioned by machining surface of positioning seat, the X axis and Y axis are aligned according to the horizontal and vertical centerline of frame, compress the workpiece, determine the zero point, and determine the tool and tool position number, and adjust				天车 crane 龙门加工中心、 动车构架正面 加工工装 Longmen processing center, motor car Frame First Time Machining Jigs & Fixtures Processing to	吊带、划线盘 sling, Tosecan		

		the program. Before processing, check the clamping state of workpiece, check whether zero point of the workpiece is correct and whether the tool meets the requirements of usage, then start processing.					oling for the fr ont of the mac hining center a nd motor car f rame in the Int ernational Gam es/Jinan II/this workshop		
			切削深度 Cutting depth depth of cut(mm)	走刀次 数 Feeding times Feeding times	进给量 Feed rate (mm/min)	The spindle revolutions (r/min)			
40.2	/	铣空簧座板面，保证尺寸 395±0.5mm，确保盖板厚≥10mm， Ra12.5。加工完成以后用深度尺 测量板厚,周圈不少于4处。 Mill the face of air spring seat plate to ensure that the size is 395 ± 0.5mm and the thickness of the cover plate is ≥ 10mm, Ra12.5. After processing, use a depth gauge to measure the thickness of the plate, with no less than 4 points at circumferential ring.	1	4 -6	600 -800	450 -600	龙门加工中心 Longmen Processing Center 巴基斯坦构架 加工正面工装 Front tooling for frame processing in Pakistan	Φ200 面铣 刀 Φ 200 face milling cutter 深度尺 Depth gauge	
40.3	/	铣端部盖板上测量块，保证尺寸 478±0.5mm，Ra12.5。 Mill the measuring block on end	4 -6	2	500 -600	800 -900		Φ100 方肩 铣刀 Φ 100	

		cover plate to ensure the size is $478 \pm 0.5\text{mm}$, Ra12.5.						square shoulder milling cutter	
40.4	/	刀具检查帽筒处端部盖板内侧间距 1908mm。 The inner space of the end cover plate at the tool inspection cap barrel is 1908mm.	1 -2	1	1500 -1600	800 -1000		Φ100 方肩铣刀 Φ 100 square shoulder milling cutter	
40.5	/	铣抗蛇行减振器座测量块，保证尺寸 $290 \pm 0.5\text{mm}$ ， $180 \pm 0.5\text{mm}$ ，Ra12.5。 Mill the measuring block of yaw damper base with the guaranteed size of $290 \pm 0.5\text{mm}$ ， $180 \pm 0.5\text{mm}$ and Ra12.5.	4 -6	1 -2	500 -600	800 -900		Φ100 方肩铣刀 Φ 100 square shoulder milling cutter	
40.6	/	钻空簧导柱孔至 Φ58 mm。 Drill the hole of air spring guide rod to Φ 58 mm.	4 -6	1 -2	80 -100	800 -900		Φ58U 钻 Φ 58U drill	
40.7	/	1、加工前检查刀具，确认刀具无误并满足使用要求下再进行加工 1. Before processing, check the tool and confirm that the tool is correct and meets the use requirements before processing 2、粗镗至 Φ59.7 mm。	0.85	2	80 -90	600 -800		Φ59.7 粗镗刀 Φ 59.7 rough boring cutter 游标卡尺	

		2. Rough boring to $\Phi 59.7$ mm. 3、粗镗完成后用游标卡尺进行测量，合格后进行下一工步 3. After rough boring, use vernier caliper to measure, and then proceed to the next step if qualified						Vernier caliper	
40.8	/	1、加工前检查刀具，确认刀具无误并满足使用要求下再进行加工。 1. Before processing, check the tool and confirm that the tool is correct and meets the use requirements before processing. 2、精镗至 $\Phi 60$ ($0, +0.12$) mm, Ra6.3。 2. Fine boring to $\Phi 60$ ($0, +0.12$) mm, Ra6.3. 在镗深 5-8mm 时先用内径量表对孔进行测量，尺寸无误后再进行整个孔加工。 When boring depth is 5-8mm, first measure the hole with an inner diameter gauge, and then process the whole hole after the size is correct.	0.15	1 -2	800 -900	900 -1000		$\Phi 60$ 精镗刀、50-65 内径量表 $\Phi 60$ fine boring cutter, 50-65 inner diameter gauge	
40.9	/	加工倒角 R8 mm , Ra6.3, 先粗加工至 R7.5mm , 再精加工至 R8mm。	0.1 -3	2 -4	100 -200	500 -600		R8 成型铣刀 R8	

		Machining chamfer R8 mm, Ra6.3, rough machining to R7.5 mm first, then finish machining to R8 mm.						forming milling cutter	
40.10	/	用吸尘器吸净空簧孔内铁屑及冷却液。 Use a vacuum cleaner to remove iron dust and coolant from the air spring hole.						吸尘器 Vacuum cleaner	
40.11	/	加工空簧孔内Φ40mm 孔, 钻孔时不能开切削液。 Machining a hole with Φ of 40mm at inside of air spring, cutting fluid shall not be cutted during drilling.	20	1	10 -20	100		Φ40 加长钻头 Φ 40 Extended drill bit	
40.12	/	钻孔后用专用工具清理空簧孔气室内铁屑, 取出钻头加工形成的切削物, 如铁片等, 注意: 防止专用清理工具头部的吸铁石掉入气室内部。 After drilling, use a special tool to clean the iron dust in the air spring hole air chamber, and take out the cutting objects, such as iron dust, formed by the drilling bit. Note: prevent the magnet at the head of the special cleaning tool from falling into the air chamber.						专用工具 Special tools	
40.13	/	用吸尘器吸净空簧孔内铁屑, 用黄油均匀涂抹空簧孔面, 然后用胶带封好空簧孔。 Use a vacuum cleaner to clean the iron dust in the air spring hole, smear the air spring hole surface with butter evenly, and then seal the air spring hole with tape.						吸尘器、毛刷、胶带 Vacuum cleaner, hairbrush, tape	
40.14	/	加工一系垂向减振器安装座内立面, 保证尺寸 58±0.5mm, 46mm, R20mm, Ra25, 加工完后对棱边打磨圆滑。 The inner elevation of the primary	3 -5	15 -18	900 -1000	1000 -1100		Φ32 方肩铣刀 Φ 32 square shoulder	

		vertical shock absorber mounting base shall be processed to ensure the dimensions of $58 \pm 0.5\text{mm}$, 46mm , $R20\text{mm}$ and $Ra25$. After processing, the opposite edges shall be polished smoothly.						milling cutter	
40.15	/	钻一系垂向减振器安装孔 $8-\Phi 17\text{mm}$ 通孔, $Ra12.5$ 。 Drill mounting hole for primary vertical damper $8-\Phi 17\text{mm}$ through-hole, $Ra12.5$.			150 -200	750 -850		$\Phi 17$ 钻头 $\Phi 17$ Drill bit	
40.16	/	铣一系垂向减振器安装孔安装底面, 保证尺寸 128mm , 35mm , 2mm , $Ra25$ 。 Mill the bottom surface of the mounting hole of primary vertical damper to ensure the dimensions of 128mm , 35mm , 2mm and $Ra25$.	2	1 -2	400 -500	900 -1000		$\Phi 32$ 方肩铣刀 $\Phi 32$ square shoulder milling cutter	
40.17	/	加工制动吊梁安装座立面, 保证尺寸 $1414 \pm 0.5\text{mm}$, $Ra12.5$ 。 Vertical surface of mounting seat of brake suspension beam shall be processed to ensure the dimension of $1414 \pm 0.5\text{mm}$, $Ra12.5$.	2 -3	1 -3	300 -400	300 -400		$\Phi 200$ 面铣刀 $\Phi 200$ face milling cutter	
40.18	/	加工制动吊梁安装座上端面, 保证尺寸 $1341.3 \pm 0.5\text{mm}$, $350.5 \pm 0.5\text{mm}$, $Ra12.5$ 。 Process the upper end face of	2 -4	5 -6	900 -950	800 -900		$\Phi 100$ 方肩铣刀 $\Phi 100$ square	

		mounting base of brake lifting beam to ensure the dimensions are 1341.3 ± 0.5mm, 350.5 ± 0.5mm and Ra12.5.						shoulder milling cutter	
40.19	/	加工制动吊梁安装座上端面 30°坡口。 Process 30 ° groove on upper end face of mounting base of brake lifting beam.	1 -3	1 -2	400 -500	900 -1000		30°坡口刀 30 ° groove cutter	
40.20	/	加工纵向梁上盖板单侧通孔，Φ14mm，271.5±0.5mm，52.5±0.5mm，Ra12.5。 Machining the through hole on one side of upper cover plate of longitudinal beam, Φ 14mm, 271.5±0.5mm, 52.5±0.5mm, Ra12.5.			150 -200	750 -850		Φ14 钻头 Φ 14 Drill bit	
40.21	/	加工后卸下构架，吊运方式同 40.1 工序。 After processing, remove the framework, and lifting method is the same as that in process 40.1.					天车 crane	吊带 sling	
50		钳工处理 Treatment by fitter							
50.1	/	钳工处理,去除飞边毛刺。 Treatment by fitter, to remove flash and burr.						风磨机、锉刀 Air grinder, file	

50.2	/	1、用内窥镜探视空簧孔气室内铁屑的位置；2、用专用工具取出钻头加工形成的切削铁片及铁屑，注意：防止专用清理工具头部的吸铁石掉入气室内部； 1. Check the position of iron dust in the air spring hole chamber with an endoscope; 2. Use special tools to take out the cutting iron chips and iron dust formed by drilling. Note: prevent the magnet at the head of the special cleaning tool from falling into the air chamber; 3、用内窥镜再次探视空簧孔气室，确认钻头加工形成的切削物已取出。 3. Check the air spring hole air chamber again with the endoscope to confirm that the cutting objects formed by drill bit processing has been taken out.		内窥镜, 专用工具 Endoscope, special tools	
60		检验交出 Inspection and delivery			
60.1	/	将构架定位座面向上吊至双臂划线仪工作台上，吊装位置为侧梁内侧横梁钢管处4点，用4根3T的吊带拴挂，吊挂后查看构架是否平衡拴挂牢固，吊运过程中注意指挥操作协调、呼应。以定位座上平面建立Z基准、以定位座槽外侧直面$1455\pm0.5\text{mm}$和内侧定位座外立面$2075\pm0.5\text{mm}$尺寸建立X、Y基准，建好坐标系后，输入检测程序，开始检测。 Frame positioning seat shall be lifted upward to workbench of Double arm scribing instrument. During lifting, the lifting position of the sling is the 4 points at the steel pipe of lateral beam inside the side beam, and 4 3T slings shall be used for hanging. After hanging, check whether the frame is balanced and fastened firmly. Pay attention to the coordination and response of command and operation during the lifting process. Z datum is established by upper surface of positioning seat, and X and Y datum are established by outer straight surface $1455 \pm 0.5\text{mm}$ of positioning seat slot and outer facade $2075 \pm 0.5\text{mm}$ of inner positioning seat. After coordinate system is established, input the detection program to start the detection.	天车 crane 双臂划线仪 Double arm scribing instrument	吊带 sling	
60.2	/	侧梁两定位座（纵向）$1455\pm0.5\text{mm}$。对称度0.5mm. Two positioning seats (longitudinal) of side beam $1455 \pm 0.5\text{mm}$. Symmetry 0.5mm	双臂划线仪 Double arm		

60.3	/	定位座内侧距 $170 \pm 0.5\text{mm}$ 。定位臂横向尺寸 $2075 \pm 0.5\text{mm}$, 对称度 0.5mm 。 Inside distance of positioning seat is $170 \pm 0.5\text{mm}$. Lateral dimension of positioning arm is $2075 \pm 0.5\text{mm}$, and the symmetry is 0.5mm	scribing instrument		
60.4	/	用构架加工检测样规检测定位座槽, 检测方法同 50.12 工序。 Use sample gauge of frame processing to detect the positioning seat groove. Detection method is the same as that in process 50.12.			
60.5	/	检测定位座平面加工表面的粗糙度 Check the roughness of machined surface of the positioning seat plane			
60.6	/	检查螺纹孔 M12-6H。保证通规通、止规止。 Check threaded hole M12-6H. Ensure that the Go gauge goes through and the No-go gauge stops.		通止规 Ensure the Go gauge goes through, and No-go gauge stops M12-6H	
60.7	/	检测定位座面其它各部加工尺寸。 Check the machining dimensions of other parts of positioning seat surface.			
60.8	/	定位座端面与侧梁弹簧座内面 $470 \pm 0.5 (14+456 \pm 0.5)\text{mm}$, 同一构架高度差 $\leq 1\text{mm}$ 。 $470 \pm 0.5 (14+456 \pm 0.5)\text{mm}$ between end face of the positioning seat and the inner face of the side beam spring seat, and the height difference of the same frame is $\leq 1\text{mm}$.			
60.9	/	定位座与空簧面之距 $409 \pm 0.5 (14+395 \pm 0.5)\text{mm}$ 。空气弹簧座面平面度 $\leq 0.1\text{mm}$, 同一构架两侧空气弹簧座面平面度 $\leq 0.4\text{mm}$ Distance between positioning seat and air spring surface is $409 \pm 0.5 (14+395 \pm 0.5)\text{mm}$. Flatness of air spring seating surface $\leq 0.1\text{mm}$, and flatness of air spring seating surface on both sides of the same frame is $\leq 0.4\text{mm}$			

60.10	/	侧梁两定位座及轴箱座孔中心距(横向)2245±0.5mm, 对称度≤0.5mm。 Center distance (transverse) between two positioning seats of side beam and the axle box seat is 2245 ± 0.5mm, and the symmetry is ≤ 0.5mm.			
60.11	/	四个轴箱弹簧安装面高低差≤1mm, 端盖板板厚≥14mm。 Height difference of mounting surfaces of four axle box spring is ≤ 1mm, and thickness of end cover plate is ≥ 14mm.			
60.12	/	牵引拉杆座距构架中心 295±0.5mm, 120 (0,+1) mm。 Distance between the traction rod seat and the frame center is 295 ± 0.5mm, 120 (0,+1) mm.			
60.13	/	牵引拉杆座Φ31 中心距 180±0.5mm, 距车轴中心线 46.5mm。 Traction rod seat Φ 31 center distance 180 ± 0.5mm and 46.5mm from the axle centerline.			
60.14	/	检测其它各部加工各部的位置度。 Check position of other parts.			
60.15	/	吊下构架(吊运方法同 70.1 工序)。翻转构架检测构架空簧孔一面。翻转时吊装位置为侧梁内侧同一横梁钢管处 2 点, 用 2 根 3T 的吊带拴挂, 吊挂后查看构架是否平衡拴挂牢固, 翻转过程中注意不许磕碰、划伤构架。 Lifting the framework down (lifting method is the same as that in process 70.1). Turn over the frame to detect one side of the spring hole of frame. When overturning, the lifting position is the 2 points at the same cross beam steel pipe inside the side beam, which are tied with 2 3T slings. After lifting, check whether the framework is balanced and fastened firmly. During overturning, pay attention not to bump or scratch the framework.	天车 crane	吊带 sling	
60.16	/	将构架空簧孔面向上吊至双臂划线仪工作台上, 吊装位置为侧梁内侧横梁钢管处 4 点, 用 4 根 3T 的吊带拴挂, 吊挂后查看构架是否平衡拴挂牢固, 吊运过程中注意指挥操作协调、呼应。以定位座面建立 Z 基准、4 个一系簧孔Φ100 (0,+0.5) 建立 X、Y 基准, 建好坐标系后, 输入检测程序, 开始检测空簧座孔中心距构架中心 1112.5±0.5mm, 空簧座孔Φ60(0,+0.12)mm, 侧梁两Φ100 孔纵向中心距	双 臂 划 线 仪 Double arm scribing instrument 双臂划线仪检	吊带、内径 量表 50-65、游 标 卡 尺 300mm	

		2500±0.5mm,横向尺寸 2245±0.5mm。 Frame air spring hole shall be lifted upward to workbench of Double arm scribing instrument. During lifting, the lifting position of the sling is the 4 points at the steel pipe of lateral beam inside the side beam, and 4 3T slings shall be used for hanging. After hanging, check whether the frame is balanced and fastened firmly. Pay attention to the coordination and response of command and operation during the lifting process。 Establish Z datum and 4 primary spring holes 100 (0,+0.5) with positioning seat surface. Establish X and Y datum. After coordinate system is built, input the detection program to detect the distance between center of air spring seat hole and center of bogie is 1112.5 ± 0.5mm,air spring seat hole 60 (0,+0.12) mm, central distance of two holes of Φ100 at both sides of side beams is 2500±0.5mm,the lateral distance is 2245 ± 0.5mm.0.	测工装 Double arm scribing instrument measuring machine	sling, inner diameter gauge 50-65, vernier caliper 300mm	
60. 17	/	检测测量块端面与车轴中心线距离 478±0.5 mm Distance between end face of the measuring block and axle centerline is 478 ± 0.5 mm			
60. 18	/	制动吊梁安装座尺寸 1414±0.5mm, 1341.3±0.5mm, 350.5±0.5mm, 对称度≤0.5mm。 Dimension of brake lifting beam mounting base is 1414 ± 0.5mm, 1341.3 ± 0.5mm, 350.5 ± 0.5mm, and the symmetry is ≤ 0.5mm.			
60. 19	/	一系减振器安装孔尺寸 1539±0.5mm, 58±0.5mm, 108±0.5mm。 Dimensions of mounting holes of primary damper are 1539 ± 0.5mm, 58 ± 0.5mm and 108 ± 0.5mm.			
60. 20	/	抗蛇行减振器座测量块尺寸 290±0.5mm,180±0.5mm。 Measuring block dimension of anti yaw damper seat is 290 ± 0.5mm, 180 ± 0.5mm.			
60. 21	/	检测加工表面的粗糙度。 Inspect the roughness of machined surface.		粗糙度比 较样块 Roughness compariso n sample	

60.22	/	检测完成后,将构架吊运至指定区域内,吊装位置为侧梁内侧横梁钢管处4点,用4根3T的吊带拴挂,吊挂后查看构架是否平衡拴挂牢固,吊运过程中注意指挥操作协调、呼应。 After inspection, the frame shall be lifted the specific area. During lifting, the lifting position of the sling is the 4 points at the steel pipe of lateral beam inside the side beam, and 4 3T slings shall be used for hanging. After hanging, check whether the frame is balanced and fastened firmly. Pay attention to the coordination and response of command and operation during the lifting process.	天车 crane	吊带 sling	
60.23	/	1、按照《技术转让巴基斯坦 230 辆客车项目转向架构架组成加工检查卡片》编号: D0000406464, 进行全面的自检、互检合格后填写检查卡片和测量表。 1. Fill in the inspection card and measurement table after passing the comprehensive self inspection and mutual inspection according to the TOT Inspection card for bogie frame assembly processing of Pakistan 230 passenger coaches project (No.: D0000406464). 2、填写卡片必须规范,有尺寸要求的项点须填写具体尺寸,书写阿拉伯数字时清晰可辨认,填写内容不能超出所在的格子范围。 2. The card must be filled in in a standard way. Items with size requirements must be filled in with specific dimensions. Arabic numerals must be legible when written, and the contents must not exceed the range of the box.			
60.24	/	提检交出。 Submit for inspection and hand over.			

UNDERTAKING BY THE BIDDER

Tender No.: _____

Name of Procurement: _____

Name of Bidder/Firm: _____

I/We, the undersigned, being the authorized representative(s) of M/s _____, hereby unconditionally undertake, declare and affirm that:

1. I/We have carefully read, understood and accepted all the terms and conditions, specifications, eligibility criteria, evaluation criteria, instructions to bidders, and all other provisions contained in the Bidding Documents without any reservation or deviation.
2. I/We acknowledge and agree that each Tender, Purchase Order, Letter of Acceptance/Award and the resulting Contract shall constitute a separate and independent transaction. I/We shall perform all contractual obligations, including supply, delivery, installation (where applicable), testing, commissioning, warranty and after-sales obligations, strictly in accordance with the terms and conditions of the respective contract, independent of any other past, present or future contract with Pakistan Railways.
3. I/We further undertake that performance under any contract shall not be linked, conditioned, delayed, suspended or otherwise affected on account of payments, disputes, claims, delays, pending bills, execution status or completion of any other contract, tender or procurement with Pakistan Railways or any other organization.
4. I/We acknowledge that, in pursuance of Rule-19 of the Public Procurement Rules, 2004, Pakistan Railways reserves the right, in the event of any default on our part during tender finalization or after placement of Purchase Order/Contract, to forfeit the Bid Security, Performance Security, Standing Security and/or any other outstanding amount, including that of our sister concern(s), where applicable. I/We further understand and accept that the firm and/or its sister concern(s), if so warranted, may be debarred from participation in procurement proceedings or blacklisted in accordance with the PPRA Rules.
5. I/We undertake that wherever testing is required under the Contract, such testing shall be carried out through the pre-qualified testing firms approved by Pakistan Railways, and all related expenses shall be borne entirely by us.
6. I/We certify that this undertaking is irrevocable and forms an integral part of our bid. Any violation, misrepresentation or breach of this undertaking shall render our bid and/or contract liable to rejection, cancellation, forfeiture of securities and any other action permissible under the PPRA Rules, the Contract and applicable laws.

We hereby sign this undertaking voluntarily, without any coercion or qualification, and agree to remain bound by its contents.

Signature _____
Name of Firm _____
Seal of the firm _____

WARRANTY CERTIFICATE

i.	The seller warrants that the material will be in accordance with the particulars mentioned in Purchase Order.
ii.	The seller warrant that the store will be free from defects in material and workmanship.
iii.	The seller's obligation under the warranties expressed in sub-paragraphs (i) & (ii) above Shall be limited to replacement DAP Carriage Factory, Islamabad free of cost for stores Which at the time of receipt by the consignee or under normal use and maintenance prove defective in material/ Workmanship or fail to comply with the required performance in the normal course of service The warranty shall be valid till completion of the work based on 'Completion Certificate' issued by the competent authority stating that the contractor has completed the work in all respects satisfactorily.
iv.	The purchaser would be entitled to retain the 10% security deposit against the Purchase Order until receipt of a satisfactory completion report from the consuming branch.
v.	This warranty shall be in addition to the normal inspection.

**Signature and Seal of the Bidder/
Sole Agent/Authorized Dealer.
Dated: - _____**