



**PREQUALIFICATION DOCUMENT FOR DESIGN, CONSTRUCTION,
SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF 2X25KV
ELECTRIFICATION, SIGNALLING AND TELECOMMUNICATION AND
ASSOCIATED WORKS OF DOUBLE TRACK RAILWAYS LINES UNDER
CONSTRUCTION ON A DESIGN BUILD LUMP SUM BASIS FOR BHAUPUR-
KHURJA SECTION OF EASTERN DEDICATED FREIGHT CORRIDOR**

SYSTEMS WORKS CONTRACT PACKAGE

CONTRACT PACKAGE 104

Issued on: **17.07.2012**

Invitation for Prequalification No.:

ICB No.: HQ/SYS/DB/Bhaupur – Khurja

Employer:

DEDICATED FREIGHT CORRIDOR CORPORATION OF INDIA LIMITED

(A GOVERNMENT OF INDIA ENTERPRISE)

MINISTRY OF RAILWAYS

COUNTRY: INDIA

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Section I. Instructions to Applicants

A. General

- 1. Scope of Application**
 - 1.1 In connection with the Invitation for Prequalification¹ indicated in Section II, Prequalification Data Sheet (PDS), the Employer, as defined in the **PDS**, issues this Prequalification Document (PQD) to prospective applicants (“Applicants”) interested in submitting applications (“Applications”) for prequalification to bid for the Works described in Section VII, Scope of Works. In case the Works are to be bid as individual contracts (i.e. the slice and package procedure), these are listed in the PDS. The International Competitive Bidding (“ICB”) number corresponding to this prequalification is also provided in the PDS.

- 2. Source of Funds**
 - 2.1 The Borrower or Recipient (hereinafter called “Borrower”) indicated in the **PDS** has applied for or received financing (hereinafter called “funds”) from the International Bank for Reconstruction and Development or the International Development Association (hereinafter called “the Bank”) towards the cost of the project named in the **PDS**. The Borrower intends to apply a portion of the funds to eligible payments under the contract(s) resulting from the bidding for which this prequalification is conducted. Payment by the Bank will be made only at the request of the Borrower and upon approval by the Bank, and will be subject, in all respects, to the terms and conditions of the loan (or financing) agreement. The loan (or financing) agreement prohibits a withdrawal from the loan (or credit) account for the purpose of any payment to persons or entities, or for any import of goods, if such payment or import, to the knowledge of the Bank, is prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Borrower shall derive any rights from the loan (or financing) agreement or have any claim to the proceeds of the loan (or credit).

- 3. Corrupt and Fraudulent Practices**
 - 3.1 The Bank requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Section VI.
 - 3.2 In further pursuance of this policy, Applicants shall permit and shall cause its agents to permit the Bank to inspect all accounts, records and other documents relating to the submission of the Application, bid submission (in case prequalified), and contract performance (in the case of award), and to have them audited

¹ The Invitation for Prequalification (IFP) provided information for potential bidders to decide whether to participate, including the essential items listed in the Standard Prequalification Document and also any important or specialized prequalification requirements requested to qualify for the prequalification.

by auditors appointed by the Bank.

4. Eligible Applicants

- 4.1 Applicants shall meet the eligibility criteria as per clause 5.1. For the purpose of applying the eligibility criteria listed in this Clause 4 and 5, references to the “Applicant” include all entities involved or intended to be involved with the proposed Works (including all partners and any of their affiliates that directly or indirectly control, or are controlled by or are under common control with the firm), specialized sub-contractors, consultants, manufacturers or suppliers (as mentioned in Form ELI-1.2 Applicant’s Party Information Form), and the personnel of each, for any part of the contract including related services.
- 4.2 An Applicant may be a firm that is a private entity, a government-owned entity—subject to ITA 4.9 - or a combination of such entities in the form of a joint venture (“JV”) under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent. In the case of a JV, all members shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms. The JV shall nominate an authorized representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the prequalification process, bidding (in the event the JV submits a bid) and during contract execution (in the event the JV is awarded the Contract). Unless specified in the **PDS**, there is no limit on the number of members in a JV.
- 4.3 A firm may apply for prequalification both individually, and as part of a joint venture, or as a sub-contractor. If prequalified, it will not be permitted to bid for the same contract both as an individual firm and as a part of the joint venture or as a sub-contractor. However, a firm may participate as a sub-contractor in more than one bid, but only in that capacity. Bids submitted in violation of this procedure will be rejected.
- 4.4 A firm and any of its affiliates (that directly or indirectly control, are controlled by or are under common control with that firm) may submit its application for prequalification either individually, as joint venture or as a sub-contractor among them for the same contract. However, if prequalified only one prequalified applicant will be allowed to bid for the same contract. All bids submitted in violation of this procedure will be rejected.
- 4.5 An Applicant may have the nationality of any country, subject to the restrictions pursuant to ITA 5.1. An Applicant shall be deemed to have the nationality of a country if the Applicant is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents

of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed specialized sub-contractors or suppliers for any part of the Contract including related Services.

- 4.6 Applicants shall not have a conflict of interest. Applicants shall be considered to have a conflict of interest, if they participated as a consultant in the preparation of the design or technical specifications or have been hired or proposed to be hired by the Employer or Borrower as Engineer for contract implementation of the works that are the subject of this prequalification.
- 4.7 An Applicant that has been sanctioned by the Bank in accordance with the above ITA 3.1, including in accordance with the Bank's Guidelines on Preventing and Combating Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants ("Anti-Corruption Guidelines"), shall be ineligible to be prequalified, to bid for, awarded a Bank-financed contract or benefit from a Bank-financed contract, financially or otherwise, during such period of time as the Bank shall have determined.
- 4.8 The list of debarred firms and individuals is available at the electronic address specified in the **PDS**.
- 4.9 Government-owned enterprises or institutions in the Employer's Country may participate only if they can establish that they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not dependent agencies of the Employer². To be eligible, a government-owned enterprise or institution shall establish to the Bank's satisfaction, through all relevant documents, including its Charter and other information the Bank may request, that it: (i) is a legal entity separate from the government (ii) does not currently receive substantial subsidies or budget support; (iii) operates like any commercial enterprise, and, inter alia, is not obliged to pass on its surplus to the government, can acquire rights and liabilities, borrow funds and be liable for repayment of its debts, and can be declared bankrupt; and (iv) is not bidding for a contract to be awarded by the department or agency of the government which under their applicable laws or regulations is the reporting or supervisory authority of the enterprise or has the ability to exercise influence or control over the enterprise or institution.
- 4.10 An Applicant shall not be under suspension from bidding by the Employer as the result of the execution of a Bid-Securing Declaration.

² Other than Force Account units, as permitted under paragraph 3.9 of the Procurement Guidelines

4.11 An Applicant shall provide such evidence of eligibility satisfactory to the Employer, as the Employer shall reasonably request.

5. Eligibility

5.1 Firms and individuals may be ineligible if they are nationals of ineligible countries as indicated in Section V. The countries, persons or entities are ineligible if (a) as a matter of law or official regulations, the Borrower's country prohibits commercial relations with that country, provided that the Bank is satisfied that such exclusion does not preclude effective competition for the supply of goods or the contracting of works or services required; or (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's country prohibits any import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country.

B. Contents of the Prequalification Document

6. Sections of Prequalification Document

6.1 This Prequalification Document consists of parts 1 and 2 which comprise all the sections indicated below, and which should be read in conjunction with any Addendum issued in accordance with ITA 8.

PART 1 Prequalification Procedures

- Section I. Instructions to Applicants (ITA)
- Section II. Prequalification Data Sheet (PDS)
- Section III. Qualification Criteria and Requirements
- Section IV. Application Forms
- Section V. Eligible Countries
- Section VI. Bank Policy – Corrupt and Fraudulent practices

PART 2 Works Requirements

- Section VII. Scope of Works

6.2 Unless obtained directly from the Employer, the Employer accepts no responsibility for the completeness of the document, responses to requests for clarification, the minutes of the pre-Application meeting (if any), or Addenda to the Prequalification Document in accordance with ITA 8. In case of any discrepancies, documents issued directly by the Employer shall prevail.

6.3 The Applicant is expected to examine all instructions, forms, and terms in the Prequalification Document and to furnish with its Application all information or documentation as is required by the Prequalification Document.

7. Clarification of Prequalification Document and

7.1 A prospective Applicant requiring any clarification of the Prequalification Document shall contact the Employer in writing at the Employer's address indicated in the **PDS**. The Employer

Pre-Application Meeting

will respond in writing to any request for clarification provided that such request is received no later than fourteen (14) days prior to the deadline for submission of the applications. The Employer shall forward a copy of its response to all prospective Applicants who have obtained the Prequalification Document directly from the Employer, including a description of the inquiry but without identifying its source. If so indicated in the **PDS**, the Employer shall also promptly publish its response at the web page identified in the **PDS**. Should the Employer deem it necessary to amend the Prequalification Document as a result of a clarification, it shall do so following the procedure under ITA 8 and in accordance with the provisions of ITA 17.2.

7.2 If indicated in the **PDS**, the prospective Applicant's designated representative is invited at the Applicant's cost to attend a pre-Application meeting at the place, date and time mentioned in the **PDS**. During this pre-Application meeting, prospective Applicants may request clarification of the project requirement, the criteria for qualifications or any other aspects of the Prequalification Document.

7.3 Minutes of the pre-Application meeting, if applicable, including the text of the questions asked by Applicants, including those during the meeting (without identifying the source) and the responses given, together with any responses prepared after the meeting will be transmitted promptly to all prospective Applicants who have obtained the Prequalification Document. Any modification to the Prequalification Document that may become necessary as a result of the pre-Application meeting shall be made by the Employer exclusively through the use of an Addendum pursuant to ITA 8. Non-attendance at the pre-Application meeting will not be a cause for disqualification of an Applicant.

8. Amendment of Prequalification Document

8.1 At any time prior to the deadline for submission of Applications, the Employer may amend the Prequalification Document by issuing an Addendum.

8.2 Any Addendum issued shall be part of the Prequalification Document and shall be communicated in writing to all prospective Applicants who have obtained the Prequalification Document from the Employer. The Employer shall promptly publish the Addendum at the Employer's web page identified in the **PDS**.

8.3 To give prospective Applicants reasonable time to take an Addendum into account in preparing their Applications, the Employer may, at its discretion, extend the deadline for the submission of Applications in accordance with ITA 17.2.

C. Preparation of Applications

- 9. Cost of Applications** 9.1 The Applicant shall bear all costs associated with the preparation and submission of its Application. The Employer will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the prequalification process.
- 10. Language of Application** 10.1 The Application as well as all correspondence and documents relating to the prequalification exchanged by the Applicant and the Employer, shall be written in the language specified in the **PDS**. Supporting documents and printed literature that are part of the Application may be in another language, provided they are accompanied by an accurate translation of the relevant passages in the language specified in the **PDS**, in which case, for purposes of interpretation of the Application, the translation shall govern.
- 11. Documents Comprising the Application** 11.1 The Application shall comprise the following:
- (a) Application Submission Form, in accordance with ITA 12.1;
 - (b) documentary evidence establishing the Applicant's eligibility, in accordance with ITA 13.1;
 - (c) documentary evidence establishing the Applicant's qualifications, in accordance with ITA 14; and
 - (d) any other document required as specified in the **PDS**.
- 11.2 The Applicant shall furnish information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Application
- 12. Application Submission Form** 12.1 The Applicant shall complete an Application Submission Form as provided in Section IV, Application Forms. This Form must be completed without any alteration to its format.
- 13. Documents Establishing the Eligibility of the Applicant** 13.1 To establish its eligibility in accordance with ITA 4, the Applicant shall complete the eligibility declarations in the Application Submission Form and Forms ELI (eligibility) 1.1 and 1.2, included in Section IV (Application Forms).
- 14. Documents Establishing the Qualifications of the Applicant** 14.1 To establish its qualifications to perform the contract(s) in accordance with Section III, Qualification Criteria and Requirements, the Applicant shall provide the information requested in the corresponding Information Sheets included in Section IV, Application Forms.
- 14.2 Wherever an Application Form requires an Applicant to state a monetary amount, Applicants should indicate the USD equivalent using the rate of exchange determined as follows:
- For construction turnover or financial data required for each year - Exchange rate prevailing on the last day of the respective calendar year (in which the amounts for that year is to be converted) was originally established.

Value of single contract - Exchange rate prevailing on the date of the contract.

Exchange rates shall be taken from the publicly available source identified in the **PDS**. Any error in determining the exchange rates in the application may be corrected by the Employer.

15. Signing of the Application and Number of Copies

15.1 The Applicant shall prepare one original of the documents comprising the Application as described in ITA 11 and clearly mark it “ORIGINAL”. The original of the Application shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Applicant. In case the Applicant is a JV, the Application shall be signed by an authorized representative of the JV on behalf of the JV and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized signatories.

15.2 The Applicant shall submit copies of the signed original Application, in the number specified in the **PDS**, and clearly mark them “COPY”. In the event of any discrepancy between the original and the copies, the original shall prevail.

D. Submission of Applications

16. Sealing and Identification of Applications

16.1 The Applicant shall enclose the original and the copies of the Application in a sealed envelope that shall:

- (a) bear the name and address of the Applicant;
- (b) be addressed to the Employer, in accordance with ITA 17.1; and
- (c) bear the specific identification of this prequalification process indicated in the PDS 1.1.

16.2 The Employer will accept no responsibility for not processing any envelope that was not identified as required in ITA 16.1 above.

17. Deadline for Submission of Applications

17.1 Applicants may either submit their Applications by mail or by hand. Applications shall be received by the Employer at the address and no later than the deadline indicated in the **PDS**. When so specified in the **PDS**, Applicants have the option of submitting their Applications electronically, in accordance with electronic application submission procedures specified in the PDS.

17.2 The Employer may, at its discretion, extend the deadline for the submission of Applications by amending the Prequalification Document in accordance with ITA 8, in which case all rights and obligations of the Employer and the Applicants subject to the previous deadline shall thereafter be subject to the deadline as extended.

18. Late Applications 18.1 The Employer reserves the right to accept applications received after the deadline for submission of applications, unless otherwise specified in the PDS.

19. Opening of Applications 19.1 The Employer shall open all Applications at the date, time and place specified in the PDS. Late Applications shall be treated in accordance with ITA 18.1.

19.2 Applications submitted electronically (if permitted pursuant to ITA 17.1) shall be opened in accordance with the procedures specified in the PDS.

19.3 The Employer shall prepare a record of the opening of Applications to include, as a minimum, the name of the Applicants. A copy of the record shall be distributed to all Applicants.

E. Procedures for Evaluation of Applications

20. Confidentiality 20.1 Information relating to the Applications, their evaluation and result shall not be disclosed to Applicants or any other persons not officially concerned with the prequalification process until the notification of prequalification results is made to all Applicants in accordance with ITA 28.

20.2 From the deadline for submission of Applications to the time of notification of the results of the prequalification in accordance with ITA 28, any Applicant that wishes to contact the Employer on any matter related to the prequalification process (except as specified in 20.1 above), may do so only in writing.

21. Clarification of Applications 21.1 To assist in the evaluation of Applications, the Employer may, at its discretion, ask an Applicant for a clarification (including missing documents) of its Application, to be submitted within a stated reasonable period of time. Any request for clarification from the Employer and all clarifications from the Applicant shall be in writing.

21.2 If an Applicant does not provide clarifications and/or documents requested by the date and time set in the Employer's request for clarification, its Application shall be evaluated based on the information and documents available at the time of evaluation of the Application.

22. Responsiveness of Applications 22.1 The Employer may reject any Application which is not responsive to the requirements of the Prequalification Document. In case the information furnished by the Applicant is incomplete or otherwise requires clarification as per ITA 21.1, and the Applicant fails to provide satisfactory clarification and/or missing information, it may result in disqualification of the Applicant.

23. Domestic 23.1 Unless otherwise specified in the PDS, a margin of preference

Bidder Price Preference

for domestic bidders³ shall not apply in the bidding process resulting from this prequalification.

24. Sub-contractors

- 24.1 Unless otherwise stated in the **PDS**, the Employer does not intend to execute any specific elements of the Works by sub-contractors selected in advance by the Employer.
- 24.2 The Employer may decide to permit subcontracting for certain specialized works as indicated in Section III 4.2, Experience. The Employer may do so at its own initiative or at the request of the Applicants during the prequalification process (if justified). When subcontracting is permitted by the Employer, the specialized sub-contractors experience shall be considered for evaluation. Section III describes the qualification criteria for sub-contractors.
- 24.3 Applicants may propose subcontracting to the percentage of the total value of the contract or the volume of works mentioned in the **PDS** and as further described in ITA 25.2.

F. Evaluation of Applications and Prequalification of Applicants

25. Evaluation of Applications

- 25.1 The Employer shall use the factors, methods, criteria, and requirements defined in Section III, Qualification Criteria and Requirements, to evaluate the qualifications of the Applicants, and no other methods, criteria, or requirements shall be used. The Employer reserves the right to waive minor deviations from the qualification criteria if they do not materially affect the technical capability and financial resources of an Applicant to perform the contract.
- 25.2 Applicants planning to subcontract more than 10% of total volume of work shall specify, in the Application Submission Form, the activity (ies) or parts of the works to be subcontracted along with complete details of the sub-contractors and their qualification and experience. The sub-contractors proposed shall be fully qualified for their work proposed, and meet the specified criteria in Section III, failing which such sub-contractors will not be permitted to participate. The qualification and experience of sub-contractors proposed by the Applicant under ITA 24.3 will not be considered for evaluation of the Applicant. The Applicant on its own (without taking into account the qualification and experience of the sub-contractor) should meet the prequalification criteria.
- 25.3 In case of multiple contracts, Applicants should indicate in their

³ An individual firm is considered a domestic bidder for purposes of the margin of preference if it is registered in the country of the Employer, has more than 50 percent ownership by nationals of the country of the Employer, and if it does not subcontract more than 10 percent of the contract price, excluding provisional sums, to foreign contractors. JVs are considered as domestic bidders and eligible for domestic preference only if the individual member firms are registered in the country of the Employer, have more than 50 percent ownership by nationals of the country of the Employer, and the JV shall be registered in the country of the Borrower. The JV shall not subcontract more than 10 percent of the contract price, excluding provisional sums, to foreign firms. JVs between foreign and national firms will not be eligible for domestic preference.

Applications the individual contract or combination of contracts in which they are interested. The Employer shall prequalify each Applicant for the maximum combination of contracts for which the Applicant has thereby indicated its interest and for which the Applicant meets the appropriate aggregate requirements. The Qualification Criteria and Requirements are mentioned in Section III. However, with respect to the specific experience under item 4.2 (a) of Section III, the Employer will select any one or more of the options as identified below:

N is the minimum number of contracts

V is the minimum value of a single contract

(a) Prequalification for one Contract:

Option 1: (i) N contracts, each of minimum value V;

Or

Option 2: (i) N contracts, each of minimum value V, Or

(ii) Less than or equal to N contracts, each of minimum value V, but with total value of all contracts equal or more than $N \times V$;

(b) Prequalification for multiple Contracts

Option 1: (i) Minimum requirements for combined contract(s) shall be the aggregate requirements for each contract for which the applicant has applied for as follows, and N1,N2,N3, etc. shall be different contracts:

Lot 1: N1 contracts, each of minimum value V1;

Lot 2: N2 contracts, each of minimum value V2;

Lot 3: N3 contracts, each of minimum value V3;

----etc.

Or

Option 2: (i) Minimum requirements for combined contract(s) shall be the aggregate requirements for each contract for which the applicant has applied for as follows, and N1,N2,N3, etc. shall be different contracts:

Lot 1: N1 contracts, each of minimum value

V1;

Lot 2: N2 contracts, each of minimum value V2;

Lot 3: N3 contracts, each of minimum value V3;

----etc, Or

(ii) Lot 1: N1 contracts, each of minimum value V1; or number of contracts less than or equal to N1, each of minimum value V1, but with total value of all contracts equal or more than $N1 \times V1$

Lot 2: N2 contracts, each of minimum value V2; or number of contracts less than or equal to N2, each of minimum value V2, but with total value of all contracts equal or more than $N2 \times V2$

Lot 3: N3 contracts, each of minimum value V3; or number of contracts less than or equal to N3, each of minimum value V3, but with total value of all contracts equal or more than $N3 \times V3$

----etc.

Or

Option 3: (i) Minimum requirements for combined contract(s) shall be the aggregate requirements for each contract for which the applicant has applied for as follows, and N1,N2,N3, etc. shall be different contracts:

Lot 1: N1 contracts, each of minimum value V1;

Lot 2: N2 contracts, each of minimum value V2;

Lot 3: N3 contracts, each of minimum value V3;

----etc, Or

(ii) Lot 1: N1 contracts, each of minimum value V1; or number of contracts less than or equal to N1, each of minimum value V1, but with total value of all contracts equal or more than $N1 \times V1$

Lot 2: N2 contracts, each of minimum value V2; or number of contracts less than or equal to N2, each of minimum value V2, but with total value of all contracts equal or more than $N2 \times V2$

Lot 3: N3 contracts, each of minimum value V3; or number of contracts less than or equal to N3, each of minimum value V3, but with total value of all contracts equal or more than $N3 \times V3$

----etc, Or

- (iii) Subject to compliance as per (ii) above with respect to minimum value of single contract for each lot, total number of contracts is equal or less than $N1 + N2 + N3$ ---but the total value of all such contracts is equal or more than $N1 \times V1 + N2 \times V2 + N3 \times V3$ ---
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25.4 Only the qualifications of the Applicant shall be considered. In particular, the qualifications of a parent or other affiliated company that is not party to the Applicant under a JV in accordance with ITA 4.2 (or participating as a sub-contractor as per ITA 25.2) shall not be considered.

**26. Employer's
Right to Accept
or Reject
Applications**

26.1 The Employer reserves the right to accept or reject any Application, and to annul the prequalification process and reject all Applications at any time, without thereby incurring any liability to the Applicants.

**27. Prequalification
of Applicants**

27.1 All Applicants who's Applications substantially meet or exceed the specified qualification requirements will be prequalified by the Employer.

27.2 An Applicant may be "conditionally prequalified," that is, qualified subject to the Applicant submitting or correcting certain specified nonmaterial documents or deficiencies to the satisfaction of the Employer.

27.3 Applicants that are conditionally prequalified will be so informed along with the statement of the condition(s) which must be met to the satisfaction of the Employer before or at the time of submitting their bids.

28. Notification of Prequalification

- 28.1 The Employer shall notify all Applicants in writing of the names of those Applicants who have been prequalified or conditionally prequalified. In addition, those Applicants who have been disqualified will be informed separately.
- 28.2 Applicants that have not been prequalified may write to the Employer to request, in writing, the grounds on which they were disqualified.

29. Invitation for Bids

- 29.1 Promptly after the notification of the results of the prequalification, the Employer shall invite bids from all the Applicants that have been prequalified or conditionally prequalified.
- 29.2 Bidders may be required to provide a Bid Security or a Bid-Securing Declaration acceptable to the Employer in the form and an amount to be specified in the Bidding Documents, and the successful Bidder shall be required to provide a Performance Security as specified in the Bidding Documents.

30. Changes in Qualifications of Applicants

- 30.1 Any change in the structure or formation of an Applicant after being prequalified in accordance with ITA 27 and invited to bid (including, in the case of a JV, any change in the structure or formation of any member thereto) shall be subject to the written approval of the Employer prior to the deadline for submission of bids. Such approval shall be denied if (i) a prequalified applicant proposes to associate with a disqualified applicant or in case of a disqualified joint venture, any of its members; (ii) as a consequence of the change, the Applicant no longer substantially meets the qualification criteria set forth in Section III, Qualification Criteria and Requirements; or (iii) in the opinion of the Employer, the change may result in a substantial reduction in competition. Any such change should be submitted to the Employer not later than fourteen (14) days after the date of the Invitation for Bids.

Section II. Prequalification Data Sheet

A. General	
ITA 1.1	The Employer for the Project is: Dedicated Freight Corridor Corporation of India Limited (A Government of India Enterprise)
ITA 1.1	Applications are invited from interested Applicants for Prequalification of Bidders for System Works Contract 104 : PREQUALIFICATION DOCUMENT FOR DESIGN, CONSTRUCTION, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF 2X25KV ELECTRIFICATION, SIGNALLING AND TELECOMMUNICATION AND ASSOCIATED WORKS OF DOUBLE TRACK RAILWAYS LINES UNDER CONSTRUCTION ON A DESIGN BUILD LUMP SUM BASIS FOR BHAUPUR- KHURJA SECTION OF EASTERN DEDICATED FREIGHT CORRIDOR
ITA 1.1	ICB Name : DESIGN, CONSTRUCTION, SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF 2 X 25 KV ELECTRIFICATION, SIGNALLING AND TELECOMMUNICATION AND ASSOCIATED WORKS OF DOUBLE TRACK RAILWAYS LINES UNDER CONSTRUCTION ON A DESIGN BUILD LUMP SUM BASIS FOR BHAUPUR- KHURJA SECTION OF EASTERN DEDICATED FREIGHT CORRIDOR ICB No.: HQ / SYS / EC / D-B / Bhaupur –Khurja
ITA 2.1	The name of the Borrower is: Government of India
ITA 2.1	The name of the Project is : Eastern Dedicated Freight Corridor Project
ITA 4.2	(i) Maximum number of partners in the JV shall be 5 (Five).
ITA 4.8	The list and addresses of firms debarred by the Bank is given in the following URL: http://www.worldbank.org/debarr
B. Contents of the Prequalification Document	
ITA 7.1	All communication between the Employer and the Applicant shall be in writing. For the purposes of seeking clarification, the Employer's address is: Dedicated Freight Corridor Corporation of India Limited Attention: Mr. V.P. Singh General Manager / Elect (EC) Room # 432; 4th Floor , Pragati Maidan Metro Station Building Complex

	New Delhi - 110001, INDIA Telephone: +91 – 11 – 23454840, Facsimile number: +91-11-23454842 Electronic mail address: vpsingh@dfcc.co.in
ITA 7.1	The official web site of the Employer is www.dfcc.in
ITA 7.2	Pre-Application meeting will be held on the date, time and venue indicated below: Date: 9 th August, 2012 Time: 15:00 Hrs. Venue: Conference Room, Dedicated Freight Corridor Corporation of India Limited, 4th Floor, Pragati Maidan Metro Station Building Complex, New Delhi - 110001 , India.
C. Preparation of Applications	
ITA 8.2	The official web site of the Employer is www.dfcc.in
ITA 10.1	This Pre-qualification document has been issued in the English language. All correspondence exchange shall be in English. The Application as well as all correspondence shall be submitted in English language. Language for translation of supporting documents and printed literature is English.
ITA 14.2	For the purposes of conversion of foreign currency to Indian Rupees (INR) use the Bank Currency (BC) selling exchange rate as published by State Bank of India shall be considered. For few of the currencies where BC selling rates are not published by SBI or Reserve Bank of India, the exchange rate may be obtained from the web site – http://www.oanda.com/currency/historical-rates or http://www.xe.com/ict/
ITA 15.2	In addition to the original, the number of copies to be submitted with the application is : 3 (Three) One copy in digital - Read Only Diskette/CD shall also be submitted.
D. Submission of Applications	
ITA 17.1	Applicants shall not have the option of submitting their applications electronically. For application submission purposes only, the Employer's address is the same as that indicated as per ITA 7.1 above. The deadline for application submission is: Date: 7 th September 2012 Time: 15.00 hrs
ITA 18.1	Applications received late shall not be accepted and will be returned unopened to the Applicants.

ITA 19.1	The applications shall be opened on date , time and venue as mentioned below: Date: 7 th September 2012 Time: 15:30 Hrs. Venue : Conference Room, Dedicated Freight Corridor Corporation of India Limited, 4th Floor, Pragati Maidan Metro Station Building Complex, New Delhi -110001 , India
ITA 24.2	Consent letter from the participating sub-contractor will be required as per Form no. ELI 1.3 in addition to details in the form ELI 1.2.
ITA 24.3	Maximum percentage of sub-contracting permitted is 30(thirty) % of the total value of the contract.
E. Procedures for Evaluation of Applications	
ITA 29.1	Applicants are advised that the following description of the Two-Stage Bidding Process is only a summary for information. Prequalified bidders shall be guided by the detailed provisions of the bidding documents, after they have been made available to them. Technical Specifications and approved Products: Applicants wishing to propose technical alternatives are encouraged to register their new products as early as the invitation for prequalification. Paragraph 12 of section VI provides details about the process of registration of new products and inclusion in the list of approved vendors. Invitation of Bids: Pre-qualified Bidders (Applicants) will be invited to submit their Technical Bids for this Project. The Bids shall be invited for Design Build (Lump Sum) Contracts following the Two Stage Bidding Process as outlined below: First Stage Bid: The bid process will involve asking the Pre-qualified Applicants to submit their First Stage Technical proposals in response to the performance / technical specifications for the project included in the bid document. First Stage Technical proposals are un-priced proposals and shall contain no prices or price schedules or other reference to rates and prices for completing the works. The Employer may ask the Pre-qualified Bidders to update the data submitted at the time of pre-qualification to assess their meeting the pre-qualification criteria during the bidding stage.

	<p>Evaluation of First Stage Bids: The Employer will examine the first stage technical proposals to determine whether they are complete, whether the documents have been properly signed and whether the bids are generally in order and respond adequately to the performance / technical specifications. Any bids found to be non- responsive or not meeting the minimum levels of the performance or other criteria specified in the bidding document will be rejected by the Employer and not included for further consideration. The Employer will then carry out a detailed evaluation of the first stage technical proposals in order to determine whether the technical aspects are in compliance with the Bidding Document.</p> <p>The Employer will also review complete alternative technical proposals, if any, offered by the Bidder, pursuant to the relevant provision of the Bid Documents, to determine whether such alternatives may constitute an acceptable basis for a Second Stage bid to be submitted on its own merits.</p> <p>Clarification Meetings : The Employer may conduct clarification meetings with each or any Bidder to clarify any aspects of its First Stage technical proposal that require explanation and to review any Bidder’s proposed alternative solutions or reservations to the commercial or contractual provisions of the bidding documents. The Employer may bring to the attention of the Bidder any amendments or changes which the Employer may require to be made to the First Stage Technical Proposal; however the Employer may not require amendments or changes at variance from the Employers’ requirements unless the Employer intends to amend the Bidding Document in accordance with the relevant provision of the Bid Documents.</p> <p>The Employer will issue a Memorandum titled “Changes Required Pursuant to First Stage Evaluation,” documenting the clarifications made in writing and/or in a meeting, if any, and including an Annex listing all decisions, and required amendments or changes resulting from the clarification of the First Stage technical proposal. The Memorandum will be communicated to the Bidder as part of the invitation to submit the Second Stage bid.</p>
	<p>Second Stage Bid: The Employer will invite the Bidders to submit a final updated Technical and a Commercial Second Stage bid based on its First Stage Technical Proposal taking into account the Bidding Document, if and as amended, and any other modifications as recorded in the Annex to the Memorandum entitled “Changes Required Pursuant to First Stage Evaluation”. Bidders will be allowed to submit only one Second Stage Bid.</p>
<p>ITA 30.1</p>	<p>After pre-qualification the Bidders are not allowed to form Joint Venture with other Bidders.</p>

Section III. Qualification Criteria and Requirements

This Section contains all the methods, criteria, and requirements that the Employer shall use to evaluate Applications. The information to be provided in relation to each requirement and the definitions of the corresponding terms are included in the respective Application Forms.

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Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
1. Eligibility							
1.1	Nationality	Nationality in accordance with ITA 4.5	Must meet requirement	Must meet requirement	Must meet requirement	NA	Forms ELI – 1.1 and 1.2, with attachments
1.2	Conflict of Interest	No conflicts of interest in accordance with ITA 4.6	Must meet requirement	Must meet requirement	Must meet requirement	NA	Application Submission Form
1.3	Bank Eligibility	Not having been declared ineligible by the Bank, as described in ITA 4.7 and 5.1	Must meet requirement	Must meet requirement	Must meet requirement	NA	Application Submission Form
1.4	Government Owned Entity of the Borrower country	Meet conditions of ITA 4.9	Must meet requirement	Must meet requirement	Must meet requirement	NA	Forms ELI – 1.1 and 1.2, with attachments
1.5	United Nations resolution or Borrower's country law	Not having been excluded as a result of prohibition in the Borrower's country laws or official regulations against commercial relations with the Applicant's country, or by an act of compliance with UN Security Council resolution, both in accordance with ITA 5.1 and Section V.	Must meet requirement	Must meet requirement	Must meet requirement	NA	Forms ELI – 1.1 and 1.2, with attachments

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
2. Historical Contract Non-Performance							
2.1	History of Non-Performing Contracts	Non-performance of a contract ⁴ did not occur as a result of contractor's default since 1st January 2010.	Must meet requirement ²	Must meet requirement	Must meet requirement ⁵	NA	Form CON-2
2.2	Suspension Based on Execution of Bid Securing Declaration by the Employer	Not under suspension based on execution of a Bid Securing Declaration pursuant to ITA 4.10.	Must meet requirement	Must meet requirement	Must meet requirement	NA	Application Submission Form
2.3	Pending Litigation	Applicant's financial position and prospective long term profitability still sound according to criteria established in 3.1 below and assuming that all pending litigation will be resolved against the Applicant	Must meet requirement	NA	Must meet requirement	NA	Form CON – 2

⁴ Non performance, as decided by the Employer, shall include all contracts where (a) non performance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and (b) contracts that were so challenged but fully settled against the contractor. Non performance shall not include contracts where Employers decision was overruled by the dispute resolution mechanism. Non performance must be based on all information on fully settled disputes or litigation, i.e. dispute or litigation that has been resolved in accordance with the dispute resolution mechanism under the respective contract and where all appeal instances available to the applicant have been exhausted.

⁵ This requirement also applies to contracts executed by the Applicant as JV member.

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
2.4	Litigation History	No consistent history of court/ arbitral award decisions against the Applicant ⁶ since 1 st January 2007	Must meet requirement	Must meet requirement	Must meet requirement	NA	Form CON – 2
3. Financial Situation and Performance							
3.1	Financial Capabilities	(i) The Applicant shall demonstrate that it has access to, or has available, liquid assets, unencumbered real assets, lines of credit, and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow requirements estimated as US \$ 30 (thirty) million for the subject contract net of the Applicants other commitments.	Must meet requirement	Must meet requirement	Must meet 20 (twenty) % of the requirement	Must meet 40 (forty) % of the requirement	Form FIN – 3.1, with attachments
		(ii) The Applicant shall also demonstrate, to the satisfaction of the Employer, that it has adequate sources of finance to meet the	Must meet requirement	Must Meet requirement	NA	NA	

⁶ The Applicant shall provide accurate information on the related Application Form about any litigation or arbitration resulting from contracts completed or ongoing under its execution over the last five years. A consistent history of awards against the Applicant or any member of a joint venture may result in failure of the application.

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
		cash flow requirements on works currently in progress and for future contract commitments.					
		(iii) The audited balance sheets, profit and loss account and cash flow statement or, if not required by the laws of the Applicant's country, other financial statements acceptable to the Employer, for the last five financial years shall be submitted and must demonstrate the current soundness of the Applicant's financial position and indicate its prospective long-term profitability.	Must meet requirement	NA	Must meet requirement	NA	
3.2	Average Annual Construction Turnover	Minimum average annual construction turnover of US \$135 (one hundred thirty five) million, calculated as total certified payments received for contracts in progress and / or completed within the last 5 (five) years, divided by five.	Must meet requirement	Must meet requirement	Must meet 20 (twenty) % of the requirement	Must meet 40 (forty) % of the requirement	Form FIN – 3.2

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
4. Experience							
4.1 (a)	General Construction Experience	Experience under construction contracts in the role of prime contractor, JV member, sub-contractor, or management contractor for at least the last 5 (five) years, starting 1 st January 2007.	Must meet requirement	NA	Must meet requirement	NA	Form EXP – 4.1
4.2 (a) (i)	Specific Construction & Contract Management Experience	Satisfactorily and substantially ⁷ completed works as a prime contractor, joint venture member ⁸ , management contractor or sub-contractor between 1st January 2005 and application submission deadline:	Must meet requirement	Must meet requirement ⁹	NA	NA	Form EXP 4.2(a)

⁷ For the purpose of this PQ Document, a work shall be assumed to be substantially completed if 80% or more of the Accepted Contract Amount's, payment has been received under the contract

⁸ For Contracts under which the Applicant participated as a joint venture member or sub contractor, only the Applicant's share, by value, shall be considered to meet this requirement.

⁹ In the case of JV, the value of contracts completed by its members shall not be aggregated to determine whether the requirement of the minimum value of a single contract has been met. Instead, each contract performed by each member shall satisfy the minimum value of a single contract as required for single entity. In determining whether the JV meets the requirement of total number of contracts, only the number of contracts completed by all members each of value equal or more than the minimum value required shall be aggregated.

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	
No	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
		(a) Less than or equal to 5 contracts totalling to value equal to or more than US\$200 million for works similar to present scope of work as given in Section-VII (b) Above contract(s) should include: (i) Signalling work on Railway/Metro/Suburban rail transit system for a minimum value of US\$ 20 million in a single contract. (ii) Overhead Equipment (25 kV / 2x25 kV) work on Railway/Metro/Suburban rail transit system for a minimum value of US\$ 20 million in a single contract. (iii) Traction Sub-station/Grid Sub-					

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	
No	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
		station (110 kV or above) work for a minimum value of US\$ 20 million in a single contract.					
(ii)		For the following specialized works, the Employer permits specialized sub-contractors who between 1st January 2005 and application submission deadline have successfully completed the work as under in one contract:-					Form EXP 4.2(a)
		(i) Design, supply, installation, testing & commissioning of SCADA for traction application / power utilities including one Operational Control Centre (OCC) or Remote Control Centre (RCC) having covered at least 24 (twenty four) Remote Terminal Utilities (RTUs) or switching posts.	Must meet requirement for one contract (Requirement can be met through a specialized sub-contractor)	Must meet requirement for one contract (Requirement can be met through a specialized sub-contractor)	NA	NA	

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	
No	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
		(ii) Design, supply, installation, testing and commissioning of train management system or centralized traffic control system, or automatic train supervision system on railway/ metro railway/ suburban railway transit system.	-do-	-do-	NA	-do-	
		(iii) Design, supply, installation, testing & commissioning of optical fibre backbone system consisting of drop/ insert SDH nodes along with network management system on Railway/ Metro Railway/ Suburban Railway Transit system.	-do-	-do-	NA	-do-	
	Design Experience	(iv) Successful completion of following key design activities in the completed works as Prime Design consultant or sub-design consultant or in-house designer between 1st January 2005 and application submission deadline:-.					Form EXP-4.2(a)

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	
No	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
		(a) Designing* of 25 kV /2x25 kV overhead equipment on Railway/Metro Railways / Suburban rail transit system for a minimum length of 50(fifty) Tkm (b) Designing* of at least one TSS of 2x25 kV for Railway/ Metro Railway / Suburban rail transit system (c) Designing of signalling scheme, interlocking plans and signalling circuits with electronic interlocking and automatic block signalling for a minimum of seven crossing stations and/ or 100 route km on Railway/ Metro Railway / Suburban rail transit system. *Design includes System design and detailed design.	Must meet requirement (can be met through a specialized sub-contractor)	Must meet requirement (can be met through a specialized sub-contractor)	NA	NA	

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
4.2 (b)		For the above and any other contracts completed and under implementation as prime contractor, joint venture member, management contractor or sub-contractor between 1 st Jan 2005 and application submission deadline, a minimum construction experience in any one year in the following key activities successfully completed ¹⁰ :					Form EXP – 4.2 (b)
		(i) Construction, testing & commissioning of 25 kV or 2x25 kV overhead equipment for a minimum of 150 (One hundred Fifty) Track km	Must meet requirement	Must meet requirement	NA	Must meet requirement	

¹⁰ Volume, number or rate of production of any key activity can be demonstrated in one or more contracts combined if executed during same time period. The rate of production shall be the annual production rate for the key construction activity(ies) . For the rate of production, the average of any one year during the period should be specified.

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	
No	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
		(ii) Construction , testing and commissioning of Electrical sub-station(110 kV or above) / Traction Sub-station (25kV or 2x25kV) – 2 nos.	Must meet requirement	Must meet requirement	NA	Must meet requirement	
		(iii) Supply, installation, testing, commissioning and system integration of indoor and outdoor signalling works with electronic interlocking, DAC/ AFTC based track vacancy detection, power supply arrangement, electrical point operation and track side signals for minimum of seven crossing stations on Railway / Metro Railway / suburban rail transit system.	Must meet requirement	Must meet requirement	NA	Must meet requirement	
		(iv) Design, supply, installation, testing & commissioning of optical fibre backbone system consisting of a minimum of 26 drop/ insert SDH nodes along with NMS on Railway / Metro Railway /	Must meet requirement (can be met through a specialized sub-	Must meet requirement (can be met through a specialized sub-	NA	NA	

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	
No	Subject	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
		Suburban Rail Transit system.	contractor)	contractor)			

Section IV. Application Forms

Table of Forms

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Application Submission Form

Date: *[insert day, month, and year]*

ICB No. and title: *[insert ICB number and title]*

To: *[insert full name of Employer]*

We, the undersigned, apply to be prequalified for the referenced ICB and declare that:

- (a) We have examined and have no reservations to the Prequalification Document, including Addendum(s) No(s), issued in accordance with Instructions to Applicants (ITA) 8: *[insert the number and issuing date of each addendum]*.
- (b) We have no conflict of interest in accordance with ITA 4.6;
- (c) We meet the eligibility requirements as stated ITA 4.1, we have not been suspended by the Employer based on execution of a Bid Securing Declaration in accordance with ITA 4.10;
- (d) We, in accordance with ITA 24.2, plan to subcontract the following key activities and/or parts of the works:

[Insert any of the key activities identified in Section III- 4.2(a) or (b) which the Employer has permitted under the Prequalification document and which the Applicant intends to subcontract along with complete details of the sub-contractors, their qualification and experience]

- (e) We declare that the following commissions, gratuities, or fees have been paid or are to be paid with respect to the prequalification process, the corresponding bidding process or execution of the Contract:

<u>Name of Recipient</u>	<u>Address</u>	<u>Reason</u>	<u>Amount</u>
<i>[insert full name for each occurrence]</i>	<i>[insert street/ number/city/country]</i>	<i>[indicate reason]</i>	<i>[specify amount currency, value, exchange rate and US\$ equivalent]</i>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

[If no payments are made or promised, add the following statement: “No commissions or gratuities have been or are to be paid by us to agents or any third party relating to this Application]

- (f) We understand that you may cancel the prequalification process at any time and that you are neither bound to accept any Application that you may receive nor to invite the

prequalified Applicants to bid for the contract subject of this prequalification process, without incurring any liability to the Applicants, in accordance with ITA 26.1.

- (g) All information, statements and description contained in the Application are in all respect true, correct and complete to the best of our knowledge and belief.

Signed *[insert signature(s) of an authorized representative(s) of the Applicant]*

Name *[insert full name of person signing the Application]*

In the capacity of *[insert capacity of person signing the Application]*

Duly authorized to sign the Application for and on behalf of:

Applicant's Name *[insert full name of Applicant or the name of the*

JV]

Address *[insert street number/town or city/country address]*

Dated on *[insert day number]* day of *[insert month]*, *[insert year]*

[For an a joint venture, either all members shall sign or only the authorized representative, in which case the power of attorney to sign on behalf of all members shall be attached]

Form ELI -1.1
Applicant Information Form

Date: *[insert day, month, year]*

ICB No. and title: *[insert ICB number and title]*

Page *[insert page number]* of *[insert total number]* pages

Applicant's name <i>[insert full name]</i>
In case of Joint Venture (JV), name of each member: <i>[insert full name of each member in JV]</i>
Applicant's actual or intended country of registration: <i>[indicate country of Constitution]</i>
Applicant's actual or intended year of incorporation: <i>[indicate year of Constitution]</i>
Applicant's legal address [in country of registration]: <i>[insert street/ number/ town or city/ country]</i>
Applicant's authorized representative information Name: <i>[insert full name]</i> Address: <i>[insert street/ number/ town or city/ country]</i> Telephone/Fax numbers: <i>[insert telephone/fax numbers, including country and city codes]</i> E-mail address: <i>[indicate e-mail address]</i>
1. Attached are copies of original documents of <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITA 4.5. <input type="checkbox"/> In case of JV, letter of intent to form JV or JV agreement, in accordance with ITA 4.2. <input type="checkbox"/> In case of Government-owned enterprise or institution, in accordance with ITA 4.9 documents establishing: <ul style="list-style-type: none">• Legal and financial autonomy• Operation under commercial law• Establishing that the Applicant is not dependent agency of the Employer
2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

Form ELI -1.2
Applicant's Party Information Form

[The following form is additional to Form ELI – 1.1., and shall be completed to provide information relating to each JV member (in case the Applicant is a JV) as well as any Specialized Sub-contractor proposed to be used by the Applicant for any part of the Contract resulting from this prequalification]

Date: *[insert day, month, year]*
ICB No. and title: *[insert ICB number and title]*
Page *[insert page number]* of *[insert total number]* pages

Applicant name: <i>[insert full name]</i>
Applicant's Party name: <i>[insert full name of Applicant's Party]</i> Applicant's Party country of registration: <i>[indicate country of registration]</i>
Applicant Party's year of constitution: <i>[indicate year of constitution]</i>
Applicant Party's legal address in country of constitution: <i>[insert street/ number/ town or city/ country]</i>
Applicant Party's authorized representative information Name: <i>[insert full name]</i> Address: <i>[insert street/ number/ town or city/ country]</i> Telephone/Fax numbers: <i>[insert telephone/fax numbers, including country and city codes]</i> E-mail address: <i>[indicate e-mail address]</i>
1. Attached are copies of original documents of <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITA 4.5. <input type="checkbox"/> In case of a Government-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and absence of dependent status, in accordance with ITA 4.9. 2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

Form ELI -1.3
Letter of Consent
(To be filled up by each Sub-contractor)

Sub-contractor's Name: *[insert full name]*
Applicant's Name: *[insert full name]*
Date: *[insert day, month, year]*
ICB No. and title: *[insert ICB number and title]*

Dear Sir,

The invitation for pre-qualification for *[insert name of work]* has been called for by *[insert name of employer]*.

In this regard, this is an undertaking that *[insert name of Sub-contracting firm]* having its office at *[insert address of the Sub-contracting firm]* is willing to participate as sub-contractor for *[insert brief work details for which sub-contractor will provide services]* with *[insert name of applicant]* for this project.

*[insert name, signature and seal of
authorized representative of the
Sub-contractor]*

Form CON – 2
Historical Contract Non-Performance, Pending Litigation and Litigation History

[The following table shall be filled in for the Applicant and for each member of a Joint Venture]

Applicant's Name: *[insert full name]*
 Date: *[insert day, month, year]*
 Joint Venture Party Name: *[insert full name]*
 ICB No. and title: *[insert ICB number and title]*
 Page *[insert page number]* of *[insert total number]* pages

Non-Performed Contracts in accordance with Section III, Qualification Criteria and Requirements			
<input type="checkbox"/> Contract non-performance did not occur since 1 st January <i>[insert year]</i> specified in Section III, Qualification Criteria and Requirements, Sub-Factor 2.1.			
<input type="checkbox"/> Contract(s) not performed since 1 st January <i>[insert year]</i> specified in Section III, Qualification Criteria and Requirements, requirement 2.1			
Year	Non-performed portion of contract	Contract Identification	Total Contract Amount (current value, currency, exchange rate and US\$ equivalent)
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for non performance: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>
Pending Litigation, in accordance with Section III, Qualification Criteria and Requirements			
<input type="checkbox"/> No pending litigation in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.2.			
<input type="checkbox"/> Pending litigation in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.2 as indicated below.			

Year of dispute	Amount in dispute (currency)	Contract Identification	Total Contract Amount (currency), USD Equivalent (exchange rate)
<i>[insert year]</i>	<i>[insert amount]</i>	Contract Identification: [indicate complete contract name, number, and any other identification] Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Matter in dispute: <i>[indicate main issues in dispute]</i> Party who initiated the dispute: <i>[indicate "Employer" or "Contractor"]</i> Status of dispute: <i>[Indicate if it is being treated by the Adjudicator, under Arbitration or being dealt with by the Judiciary]</i>	<i>[insert amount]</i>
<input type="checkbox"/> No pending litigation in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.2. <input type="checkbox"/> Pending litigation in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.2 as indicated below.			
Year of award	Outcome as percentage of Net Worth	Contract Identification	Total Contract Amount (currency), USD Equivalent (exchange rate)
<i>[insert year]</i>	<i>[insert percentage]</i>	Contract Identification: [indicate complete contract name, number, and any other identification] Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Matter in dispute: <i>[indicate main issues in dispute]</i> Party who initiated the dispute: <i>[indicate "Employer" or "Contractor"]</i> Status of dispute: <i>[Indicate if it is being treated by the Adjudicator, under Arbitration or being dealt with by the Judiciary]</i>	<i>[insert amount]</i>

**Form FIN – 3.1
 Financial Situation and Performance**

[The following table shall be filled in for the Applicant and for each member of a Joint Venture]

Applicant's Name: *[insert full name]*

Date: *[insert day, month, and year]*

Applicant's Party Name: *[insert full name]*

ICB No. and title: *[insert ICB number and title]*

Page *[insert page number]* of *[insert total number]* pages

1. Financial data

Type of Financial information in (currency)	Historic information for previous <i>[insert number]</i> years, <i>[insert in words]</i> (amount in currency, currency, exchange rate*, USD equivalent)				
	Year 1	Year 2	Year 3	Year4	Year 5
Statement of Financial Position (Information from Balance Sheet)					
Total Assets (TA)					
Total Liabilities (TL)					
Total Equity/Net Worth (NW)					
Current Assets (CA)					
Current Liabilities (CL)					
Working Capital (WC)					
Information from Income Statement					
Total Revenue (TR)					
Profits Before Taxes (PBT)					
Cash Flow Information					
Cash Flow from Operating Activities					

* Refer ITA 14 for the exchange rate

2. Sources of Finance

[The following table shall be filled in for the Applicant and all parties combined in case of a Joint Venture]

Specify sources of finance to meet the cash flow requirements on works currently in progress and for future contract commitments.

No.	Source of finance	Amount (US\$ equivalent)
1		
2		
3		

3. Financial documents

The Applicant and its parties shall provide copies of financial statements for *[number]* years pursuant Section III, Qualifications Criteria and Requirements, Sub-factor 3.1. The financial statements shall:

- (a) reflect the financial situation of the Applicant or in case of JV member , and not an affiliated entity (such as parent company or group member).
- (b) be independently audited or certified in accordance with local legislation.
- (c) be complete, including all notes to the financial statements.
- (d) correspond to accounting periods already completed and audited.

Attached are copies of financial statements¹¹ for the *[number]* years required above; and complying with the requirements

¹¹ If the most recent set of financial statements is for a period earlier than 12 months from the date of application, the reason for this should be justified.

**Form FIN - 3.2
 Average Annual Construction Turnover**

[The following table shall be filled in for the Applicant and for each member of a Joint Venture]

Applicant's/Joint Venture Member's Name: *[insert full name]*
 Date: *[insert day, month, year]*
 Applicant's Party Name: *[insert full name]*
 ICB No. and title: *[insert ICB number and title]*
 Page *[insert page number]* of *[insert total number]* pages

Annual turnover data (construction only)			
Year	Amount Currency	Exchange rate*	USD equivalent
<i>[indicate calendar year]</i>	<i>[insert amount and indicate currency]</i>		
		Average Annual Construction Turnover **	

* Refer ITA 14 for date and source of exchange rate.

** Total USD equivalent for all years divided by the total number of years. See Section III, Qualification Criteria and Requirements, Clause 3.2.

Form EXP - 4.1

General Construction Experience

[The following table shall be filled in for the Applicant and in the case of a JV Applicant, each Member]

Applicant's/Joint Venture Member's Name: *[insert full name]*
 Date: *[insert day, month, year]*
 Applicant JV Party Name: *[insert full name]*
 ICB No. and title: *[insert ICB number]*
 Page *[insert page number]* of *[insert total number]* pages

[Identify contracts that demonstrate continuous construction work over the past [number] years pursuant to Section III, Qualification Criteria and Requirements, Sub-Factor 4.1. List contracts chronologically, according to their commencement (starting) dates.]

Starting Year	Ending Year	Contract Identification	Role of Applicant
<i>[indicate year]</i>	<i>[indicate year]</i>	Contract name: <i>[insert full name]</i> Brief Description of the Works performed by the Applicant: <i>[describe works performed briefly]</i> Amount of contract: <i>[insert amount in currency, mention currency used, exchange rate and US\$ equivalent*]</i> Name of Employer: <i>[indicate full name]</i> Address: <i>[indicate street/number/town or city/country]</i>	<i>[insert "Prime Contractor" or "JV Member" or "Sub-contractor" or "Management Contractor"]</i>
		Contract name: <i>[insert full name]</i> Brief Description of the Works performed by the Applicant: <i>[describe works performed briefly]</i> Amount of contract: <i>[insert amount in currency, mention currency used, exchange rate and US\$ equivalent*]</i> Name of Employer: <i>[indicate full name]</i> Address: <i>[indicate street/number/town or city/country]</i>	<i>[insert "Prime Contractor" or "JV Member" or "Sub-contractor" or "Management Contractor"]</i>
		Contract name: <i>[insert full name]</i> Brief Description of the Works performed by the Applicant: <i>[describe works performed briefly]</i> Amount of contract: <i>[insert amount in currency, mention currency used, exchange rate and US\$ equivalent*]</i> Name of Employer: <i>[indicate full name]</i> Address: <i>[indicate street/number/town or city/country]</i>	<i>[insert "Prime Contractor" or "JV Member" or "Sub-contractor" or "Management Contractor"]</i>

* Refer ITA 14 for date and source of exchange rate.

Form EXP - 4.2(a)
Specific Construction and Contract Management Experience

[The following table shall be filled in for contracts performed by the Applicant, each member of a Joint Venture, and Specialized Sub-contractors]

Applicant's/Joint Venture Member's Name: *[insert full name]*
Date: *[insert day, month, year]*
JV Party Name: *[insert full name]*
ICB No. and title: *[insert ICB number and title]*
Page *[insert page number]* of *[insert total number]* pages

Similar Contract No. <i>[insert number] of [insert number of similar contracts required]</i>	Information			
Contract Identification	<i>[insert contract name and number, if applicable]</i>			
Award date	<i>[insert day, month, year, i.e., 15 June, 2015]</i>			
Completion date	<i>[insert day, month, year, i.e., 03 October, 2017]</i>			
Role in Contract <i>[check the appropriate box]</i>	Prime Contractor <input type="checkbox"/>	Member in JV <input type="checkbox"/>	Management Contractor <input type="checkbox"/>	Sub-contractor <input type="checkbox"/>
Total Contract Amount	<i>[insert total contract amount in local currency]</i>		US\$ <i>[insert Exchange rate and total contract amount in US\$ equivalent]*</i>	
If member in a JV or sub-contractor, specify participation in total Contract amount	<i>[insert a percentage amount]</i>	<i>[insert total contract amount in local currency]</i>	<i>[insert exchange rate and total contract amount in US\$ equivalent]*</i>	
Employer's Name:	<i>[insert full name]</i>			
Address:	<i>[indicate street / number / town or city / country]</i>			
Telephone/fax number	<i>[insert telephone/fax numbers, including country and city area codes]</i>			
E-mail:	<i>[insert e-mail address, if available]</i>			

* Refer ITA 14 for date and source of exchange rate.

Form EXP - 4.2(a) (cont.)
Specific Construction and Contract Management Experience (cont.)

Similar Contract No. <i>[insert number] of [insert number of similar contracts required]</i>	Information
Description of the similarity in accordance with Sub-Factor 4.2(a) of Section III:	
1. Amount	<i>[insert amount in local currency, exchange rate, US\$ in words and in Figures]</i>
2. Physical size of required works items	<i>[insert physical size of items]</i>
3. Complexity	<i>[insert description of complexity]</i>
4. Methods / Technology	<i>[insert specific aspects of the methods/technology involved in the contract]</i>
5. Construction rate for key activities	<i>[insert rates and items]</i>
6. Other Characteristics	<i>[insert other characteristics as described in Section VII, Scope of Works]</i>

Form EXP - 4.2(b)
Construction Experience in Key Activities

Applicant's Name: *[insert full name]*

Date: *[insert day, month, year]*

Applicant's Party Name: *[insert full name]*

Sub-contractor's Name¹² (as per ITA 24.2 and 24.3): *[insert full name]*

ICB No. and title: *[insert ICB number and title]*

Page *[insert page number]* of *[insert total number]*
 pages

All Sub-contractors for key activities must complete the information in this form as per ITA 24.2 and 24.3 and Section III, Qualification Criteria and Requirements, Clause 4.2.

1. Key Activity No. One: *[insert brief description of the Activity, emphasizing its specificity]*

Total Quantity of Activity under the contract:

Information				
Contract Identification	<i>[insert contract name and number, if applicable]</i>			
Award date	<i>[insert day, month, year, i.e., 15 June, 2015]</i>			
Completion date	<i>[insert day, month, year, i.e., 03 October, 2017]</i>			
Role in Contract <i>[check the appropriate box]</i>	Prime Contractor <input type="checkbox"/>	Member in JV <input type="checkbox"/>	Management Contractor <input type="checkbox"/>	Sub-contractor <input type="checkbox"/>
Total Contract Amount	<i>[insert total contract amount in contract currency(ies)]</i>		US\$ <i>[insert exchange rate and total contract amount in US\$ equivalent]</i>	
Quantity (Volume, number or rate of production, as applicable) performed under the contract per year or part of the year <i>[Insert extent of participation indicating actual quantity of key activity successfully completed in the role performed]</i>	Total quantity in the contract (i)	Percentage participation (ii)	Actual Quantity Performed (i) x (ii)	
Year 1				
Year 2				
Year 3				
Year 4				

¹² If applicable

Employer's Name:	<i>[insert full name]</i>
Address:	<i>[indicate street / number / town or city / country]</i>
Telephone/fax number	<i>[insert telephone / fax numbers, including country and city area codes]</i>
E-mail:	<i>[insert e-mail address, if available]</i>

2. Activity No. Two

3.

	Information
Description of the key activities in accordance with Sub-Factor 4.2(b) of Section III:	
	<i>[insert response to inquiry indicated in left column]</i>

Section V. Eligible Countries

Eligibility for the Provision of Goods, Works and Services in Bank-Financed Procurement

In reference to ITA 5.1, for the information of the Applicants, at the present time firms and individuals, supply of goods, or contracting of works or services, from the following countries are excluded from this prequalification process:

Under ITA 5.1 (a) *[insert a list of the countries following approval by the Bank to apply the restriction or state "none"]*

Under ITA 5.1 (b) *[list the countries or state "none"]*

Section VI. Bank Policy - Corrupt and Fraudulent Practices

Guidelines for Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, dated January 2011

“Fraud and Corruption

1.16 It is the Bank’s policy to require that Borrowers (including beneficiaries of Bank loans), bidders, suppliers, contractors and their agents (whether declared or not), sub-contractors, sub-consultants, service providers or suppliers, and any personnel thereof, observe the highest standard of ethics during the procurement and execution of Bank-financed contracts.¹³ In pursuance of this policy, the Bank:

(a) defines, for the purposes of this provision, the terms set forth below as follows:

- (i) “corrupt practice” is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;¹⁴
- (ii) “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;¹⁵
- (iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;¹⁶
- (iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;¹⁷
- (v) "obstructive practice" is
 - (aa) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the

¹³ In this context, any action to influence the procurement process or contract execution for undue advantage is improper.

¹⁴ For the purpose of this sub-paragraph, “another party” refers to a public official acting in relation to the procurement process or contract execution. In this context, “public official” includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

¹⁵ For the purpose of this sub-paragraph, “party” refers to a public official; the terms “benefit” and “obligation” relate to the procurement process or contract execution; and the “act or omission” is intended to influence the procurement process or contract execution.

¹⁶ For the purpose of this sub-paragraph, “parties” refers to participants in the procurement process (including public officials) attempting either themselves, or through another person or entity not participating in the procurement or selection process, to simulate competition or to establish bid prices at artificial, non-competitive levels, or are privy to each other’s bid prices or other conditions.

¹⁷ For the purpose of this sub-paragraph, “party” refers to a participant in the procurement process or contract execution.

investigation, or

- (bb) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 1.16(e) below.
- (b) will reject a proposal for award if it determines that the bidder recommended for award, or any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- (c) will declare mis-procurement and cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement or the implementation of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- (d) will sanction a firm or individual, at any time, in accordance with the prevailing Bank's sanctions procedures,¹⁸ including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded a Bank-financed contract; and (ii) to be a nominated¹⁹
- (e) will require that a clause be included in bidding documents and in contracts financed by a Bank loan, requiring bidders, suppliers and contractors, and their sub-contractors, agents, personnel, consultants, service providers, or suppliers, to permit the Bank to inspect all accounts, records, and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed by the Bank;"

¹⁸ A firm or individual may be declared ineligible to be awarded a Bank financed contract upon: (i) completion of the Bank's sanctions proceedings as per its sanctions procedures, including, inter alia, cross-debarment as agreed with other International Financial Institutions, including Multilateral Development Banks, and through the application the World Bank Group corporate administrative procurement sanctions procedures for fraud and corruption; and (ii) as a result of temporary suspension or early temporary suspension in connection with an ongoing sanctions proceeding. See footnote 14 and paragraph 8 of Appendix 1 of these Guidelines.

¹⁹ A nominated sub-contractor, consultant, manufacturer or supplier, or service provider (different names are used depending on the particular bidding document) is one which has either been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

PART 2 – Works Requirements

Section VII. Scope of Works

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A. PROJECT INFORMATION AND SCOPE OF WORK

1.0 General

- 1.1 Dedicated Freight Corridor Corporation of India Ltd. (DFCC), a public sector undertaking has been set up under the Indian Companies Act 1956 for implementation of Dedicated Freight Corridor Project. Government of India is the sole shareholder of the DFCC.
- 1.2 Ministry of Railways (MOR), Government of India has planned to construct a High Axle Load Dedicated Freight Corridor (DFC) covering about 3330 route kilometers on Eastern and Western Corridors. The coverage of Eastern Corridor is from Ludhiana to Dankuni and Western Corridor is planned from Jawaharlal Nehru Port, Mumbai to Rewari / Tughlakabad / Dadri near Delhi. There will be a linkage between two corridors at Khurja. The map showing the geographical extent of Freight Corridors is attached as Annexure-I.
- 1.3 The project entails construction of mostly double-track electrified railway lines. The bridges and formation will be designed to allow movement of 32.5 ton axle load while the track structure will be designed for 25 ton axle load operating at train speed of up to 100 Kmph. The Eastern Corridor will handle single stack containers whereas Western Corridor is planned to cater to double stack containers. Up gradation of transportation technology, increase in productivity and reduction in unit transportation costs have been taken as guiding principles for formulating the project. Various operating systems, motive powers, signaling and work processes are required to conform to these broad perspectives.

2.0 Eastern Dedicated Freight Corridor

- 2.1 Eastern DFC Route will be approximately 1839 Km long from Dankuni to Ludhiana via Dankuni – Asansole – Dhanbad – Gaya – Sonnagar - Mughalsarai-Allahabad-Kanpur-Tundla-Aligarh-Khurja - Bulandshahr – Meerut – Saharanpur – Ambala - Ludhiana. Proposed alignment of DFC has been generally kept parallel to existing Indian Railway line except provision of detours at Mughalsarai, Allahabad, Kanpur, Etawah, Tundla, Hathras, Aligarh, Hapur, Meerut, Saharanpur, Ambala, Rajpura, Sirhind, Doraha & Sanehwal.
- 2.2 The Eastern Dedicated Freight Corridor (EDFC) alignment passes through six states viz. West Bengal, Jharkhand, Bihar, Uttar Pradesh, Haryana and Punjab. It traverses Howrah, Hoogly, Bardhaman, Asansol districts in West Bengal and Dhanbad, Hazaribagh, Kodarma in Jharkhand, Gaya, Aurangabad, Rohtas (Sasaram) and Kaimur (Bhabua) districts in Bihar, Chandauli, Varanasi, Mirzapur, Allahabad, Kausambi, Fatehpur, Kanpur (Urban), Kanpur (Rural), Auraiya, Etawah, Ferozabad, Agra, Hathras, Aligarh, Bulandshahr, Ghaziabad, Gautambudhnagar, Meerut, Muzaffar Nagar, Saharanpur districts in Uttar Pradesh, Yamuna Nagar, Ambala districts in Haryana and Patiala, Fatehgarh Sahib, Ludhiana districts in Punjab.

3.0 Funding for the Project

- 3.1 1183 Kms out of 1839 Km of Eastern Dedicated Freight Corridor (EDFC) from Mughalsarai to Ludhiana is being financed by the World Bank. The route alignment of EDFC indicating the corridor length being funded by World Bank is attached

as Annexure–II.

4.0 Project Phasing

4.1 The implementation of EDFC in the World Bank funded portion of the project is planned in a phased manner. In the first phase 343 Kms long stretch between Bhaupur and Khurja Section shall be constructed (**Phase I**). Loan for Phase 1 has been sanctioned vide loan no. 8066 – IN on 01.06.2011. Under Phase 2 and 3 stretches of 393 Kms between Bhaupur and Mughalsarai and 447 Kms from Khurja to Ludhiana will be constructed.

5.0 Project Information of Phase I (Bhaupur-Khurja Section) - Contract Strategy

5.1 As a result of the detailed evaluation of various contracting options to carry out the work of constructing the double line electrified track - complete with signaling, communication and other systems and their evaluation against International and Indian circumstances in today's construction market, it has been decided to implement Phase I of EDFC by slicing the whole length into three Design & Build Contracts incorporating Civil, Structures and Track (CST) works contracts and one separate single Project Wide Rail Systems Contract. CST contracts are planned to commence about a year ahead of Rail Systems contract and completion date for the CST and System contracts is planned to be the same so as to facilitate integrated testing and commissioning of the entire section. PQ for CST Contract was invited on 14.07.10 and Evaluation Report under approval with World Bank. Bid document for CST Contract is also under finalization in consultation with World Bank.

5.2 The current Prequalification exercise is to identify suitable Bidders for the single Project wide rail Systems Contract designated as **Contract 104**.

6.0 Pre-qualification of Bidders – Phase I

6.1 This Prequalification Document is issued for Systems Work Contract designated as “**Contract No.-104**” for: “Design, , Construction, Supply, Installation, Testing and Commissioning of Double Track Electrified Railways Lines with Signalling and Telecommunication System on a Design Build Lump Sum basis for Bhaupur- Khurja of the Eastern Dedicated Freight Corridor”.

7.0 Alignment of Bhaupur – Khurja Section

Bhaupur – Khurja section, part of EDFC, is located along Kanpur-Ghaziabad-Delhi section of North-Central-Railway. The proposed alignment of Dedicated Freight Corridor (DFC) is located on South side of existing IR network except at Etawah, where it is on North side of IR network. The proposed alignment of DFC is passing generally parallel to the existing IR network. The alignment of DFC is taking detour to avoid city congestion at Achalda, Bharthana, Etawah, Ferozabad, Tundla, Barhan, Hathras and Aligarh. By the time the contract for this work is awarded the alignment for this work shall be in place by the CST contractor.

8.0 Section Limits of System Works Contract

8.1 Bhaupur – Khurja section has Single Contract for Systems Works as given under:

Contract No	IR Km From	IR Km To	Approx. Route Length with Detours of DFC
104	1040	1367.5	343 Kms

8.2 For information of the applicants CST contract has been divided into different lots as under:-

- Lot No. 101 from Rly km 1040.0 to 1170.0
- Lot No.102 from Rly km 1170.0 to 1266.0
- Lot No.103 from Rly km 1266.0 to 1367.5

9.0 Scope of System Works of Phase I: Bhaupur-Khurja Section

9.1 Abbreviations Used

- i) CST – Civil, Structure and Track
- ii) DFCC – Dedicated Freight Corridor Corporation
- iii) EI – Electronic Interlocking
- iv) ER – Employer’s Requirement
- v) E&M – Electrical and Mechanical
- vi) EMC – Electro Magnetic Compatibility
- vii) EMI – Electro Magnetic Interference
- viii) GSS – Grid Sub Station
- ix) GSM-R – Global System for Mobile Communication for Railways
- x) ICB – International Competitive Bidding
- xi) IR – Indian Railways
- xii) JV – Joint Venture
- xiii) kV – Kilo Volt
- xiv) LAN – Local Area Network
- xv) LC – Level Crossing
- xvi) MOU – Memorandum of Understanding
- xvii) OCC – Operations Control Center
- xviii) OFC – Optical Fibre Communication
- xix) OHE –Over Head Electrical Equipment
- xx) RDSO – Research Design and Standardization Organization
- xxi) RFO – Rail Flyover
- xxii) Rkm – Route kilometers
- xxiii) RTU – Remote Terminal Unit
- xxiv) RUB – Road Under Bridge
- xxv) SCADA – Supervisor Control and Data Acquisition
- xxvi) SDH – Synchronous Digital Hierarchy
- xxvii) SP – Sectioning Post
- xxviii) SSP – Sub - Sectioning Post
- xxix) Tkm – Track kilometers
- xxx) TMS – Train Management System
- xxxi) TPS - Traction Power Supply
- xxxii) TPSS - Traction Power Supply System

- xxxiii) TSS – Traction Sub Station
- xxxiv) UPS - Uninterrupted Power Supply
- xxxv) VHF – Very High Frequency
- xxxvi) WAN – Wide Area Network

9.2 **First phase - General**

- 9.2.1 The first phase of the eastern section of the Dedicated Freight Corridor, between Bhaupur (near Kanpur) and Khurja is to be constructed as double line electrified track with 2x25 kV AC, 50 Hz, over head catenary system capable of operating at a maximum train speed of 100 km/h with an initial axle load of 25.0 tonnes. Formation and bridge structure are to be provided for DFCC 32.5 tonnes loading and track structure for 25 tonnes axle load.
- 9.2.2 Systems contractor shall undertake design, construction, manufacture, supply, installation, testing and commissioning of the Systems works including and without limitation, electrification of the line, new signaling and control systems, new telecommunication system, SCADA control system and construction of station buildings, allied service buildings, OCC, Integrated maintenance depots (IMDs), Staff quarters, removal of any Temporary Works and diversions of utility services of IR and other impacted authorities etc. as indicated in the ER.
- 9.2.3 The design of all the work will be operationally compatible with the other Indian Railways (IR) sections connecting to DFC as per the operation plan of DFCC included as a part of bidding document.
- 9.2.4 The Contractor shall be responsible for addressing design and construction interfaces with all other applicable railway systems of DFCC and Indian Railways (Civil, Structures and Track, Signaling, Telecommunications, SCADA, OHE, and Traction Rolling Stock) and systems of public services, utilities and third parties, etc. which are located adjacent or parallel to the DFC Phase 1 system. The detailed shall be indicated in the Bid Document.
- 9.2.5 In addition, the Contractor shall undertake the rectification of defects and deficiencies appearing in the Permanent Works of this Contract during defect liability period, which shall commence from commissioning / opening of a portion of section and shall be upto twenty four months from the date of operational acceptance of complete section , in the manner and to the standards as stipulated by the contract. A separate maintenance contract for post commissioning maintenance for three years is also envisaged for which detail shall be provided in the Bid Document.
- 9.2.6 The Contractor shall also be responsible for:
- (a) Safety relating to all items designed for the construction, construction process and the development of a system safety plan;
 - (b) Quality management, quality assurance accreditation, quality control methodology identified within a quality manual, which shall include methods of traceability, certification relating to testing and storage systems for retrieval and protection. The quality assurance programme shall be complied to ISO 9001:2008.
 - (c) The production of construction, maintenance and operation manuals, and various documentation as indicated in ER.

- (d) Supply of spares, Machinery & Plants for mechanized maintenance, maintenance tools and test for equipments as indicated in ER.
- (e) Supply & installation of condition monitoring tools and equipment for predictive maintenance for Traction and Signaling systems.
- (f) Training of DFCC personnel, to enable them to perform all necessary tasks, related to design, assembly, equipment erection, operation and maintenance.

9.2.7 In full recognition of these objectives and with full acceptance of the obligations, the Contractor shall execute the Works taking into account all liabilities and risks that may be involved.

9.3.1 **Electrification Works:-** Total scope of work can be broadly classified as under

(i) Traction / Power Sub-stations (TPSS)

Specifically the TPSS shall comprise the following elements:

- a) Construction, testing and commissioning of traction substations (TSS) including their buildings etc along with interface with the 132 kV transmission lines originating from Uttar Pradesh Power Corporation Limited (UPPCL's) high-voltage Grid substations, which will feed DFC Phase 1 railway line.
- b) Construction, testing and commissioning of Sectioning and paralleling posts (SP) and Sub-sectioning and paralleling posts (SSP) including their buildings to segregate traction power supplies from adjacent traction substations and to enable sectioning and reconfiguration of the OHE;
- c) Construction of Outgoing feeders and traction return connections, generally in the form of cables or bare conductors, between TPSS and the OHE and between SP/SSP and the OHE;

(ii) Overhead Equipment system (OHE)

These works shall comprise design, construction, testing and commissioning of OHE system and shall include, but not be limited to, the following:

- a) The design of OHE electrified at 2x25kV, AC, 50Hz including the traction return and earthing system;
- b) The OHE shall be designed to be compatible with the existing electrified system of Indian Railways when merging / interfacing with the latter.
- c) The Contractor shall be responsible for the provision of all services and the supply, installation, testing & commissioning of all equipment necessary for the full implementation and operation of the OHE system.

(iii) SCADA Works

These works shall comprise design, manufacture, supply, installation, testing and commissioning of the SCADA Systems and shall include, but not be limited to the following:

- a) Monitor and identify from the OCC in real-time, all operating conditions and events

occurring at all points within the OHE system (25kV substations, basic sectioning points, station by-pass points and other strategic locations);

- b) Alert operators immediately of hazardous or incorrect operating conditions at any point on the system that require warnings, changes of operations, or other measures and assist in decision making giving various options during normal and abnormal conditions;
- c) Intervene and take any corrective actions needed to ensure safe and efficient operations;
- d) Accurately measure, collect data, analyze and store permanently continuous records about system operating conditions at all times;
- e) Provide redundancy features in the design, equipment and operations of the system to ensure uninterrupted operations and fail-safe devices and procedures.
- f) Provide most efficient energy management.
- g) Ergonomic design study and implementation for display and operation panel for higher operator efficiency.
- h) SCADA system shall be required to interface with SCADA system of adjacent section.

(iv) Building and E&M Works

These works shall comprise design, construction, supply, installation, testing and commissioning of:

- a) Buildings for stations, OCC, IMD, staff quarters including structure, external and internal finishes lighting, air-conditioning, drinking water supply, sanitary services, signage, lighting, E&M works including fire detection and suppression systems;
- b) Platforms, as indicated in the bidding documents drainage, stairs, signage, lighting;
- c) Yard complexes including buildings, drainage, sewerage, lighting, E&M, craneage, hard-standing, services, and safety equipment as indicated in the bidding document;
- d) On-duty points for maintenance staff including fencing, buildings, drainage, sewerage, offices, craneage, lighting, E&M services, car parking, toilets, safety equipment etc.
- e) Building services including the provision of non-traction power supplies;
- f) Pre-fabricated structure (Porta Huts) for signaling interlocking in the block section as indicated in the bidding document.
- g) Non traction power supply and distribution including sub stations internal and external electrifications of all the buildings (quarters/offices, platform, yards, sidings, depots at each stations areas, level crossings at stations and on open route etc. including surrounding compound and including arranging HT/LT supply from the power supply from the nearest sources.
- h) DG sets for emergency supply at stations and locations as indicated in the bidding document.

- i) All necessary earthing (including lightning protection system) and stray current control provisions, coordination, liaising /pursuing with State Electricity Authorities for availing new Electric connections/augmentation of load, applying for load, collection of estimates for load, release of load and other related works (all the payments/deposits to State Electricity Authorities shall be made by Employer.

(v) Design Studies

The scope of work shall include, but is not limited to, conducting the following studies as part of the TPSS System Design Report:

- a) Traction power load flow study, based on the use of a computer programme capable of simulating multi-train performance on a 2x25 kV autotransformer feed system while taking into consideration the electrical characteristics of the utility system and the effect of variations of OHE traction voltage on train performance.
- b) Utility system impact study to determine current and voltage imbalance, harmonic distortion, and power factor at the point of common coupling with the utility high voltage system.
- c) Short-circuit study.
- d) Protection coordination study
- e) Insulation coordination study.
- f)EMI / EMC study of the railway environment.
- g) Earthing and bonding safety study.
- h) Catenary –Pantograph dynamic interaction study
- i)Wind study
- j)Pollution mapping of the section
- k) Unified Power quality correction study

(vi) Others

- (a) The Electrification Works shall comprise of design development from preliminary stage to detailed design including obtaining No Objection Certificates (NOCs) and approvals from relevant authorities, construction, testing and commissioning, including provision of all associated and necessary training, documentation and spares, special tools, testing equipment and maintenance support during the Defect Liability Period for the traction power supply systems, overhead equipment system, SCADA system, E&M works and all its constituent sub-systems, equipment and components for the DFCC Bhaupur to Khurja phase of the overall project.
- (b) In respect of the design the Contractor shall be responsible for all phases and elements of design relating to the Traction Power Supply System. This shall include the ‘System Design’, the design of any ‘Sub-Systems’ (e.g. a traction power substation), ‘Equipment and Component’ design, and all other detailed design aspects.
- (c) In respect of system design the Contractor is also responsible for the electrical aspects of the OHE and the Traction Return and Earthing systems which form a part of the OHE. Specifically, this shall comprise the

determination of the configuration, sizing and rating of these systems and their constituent components from an electrical (including electromagnetic) perspective in order to meet the specified requirements for these systems.

- (d) The Contractor shall also be responsible for the testing and commissioning of these installed systems and their interactions with other systems from an electrical (including electromagnetic) perspective.

9.3.2 Rolling Stock Monitoring system

Wheel Impact Load Detectors (WILD), Hot Axle Box Detectors (HABD) and Weigh In Motion Detectors (WIM) are the devices planned for installation on DFCC System as per the details included in the bidding documents.

9.3.3 Signaling and Telecommunication

- (i) Design Studies: The scope of work shall include, but is not limited to conducting the following studies as part of the Signaling and Telecom System Design Report:

a) EMC / EMI studies to determine induced voltages from IR and DFC traction systems. Lightning & Surge Protection, Earthing of Signaling System / equipments.

- (ii) The permanent Signaling and Telecommunication works shall comprise of but not limited to the design development from preliminary stage to detailed design including obtaining No Objection Certificates (NOC) and approval from relevant authorities supply, installation, testing and commissioning including provision of all associated and necessary training, documentation and spares, special tools, testing equipment rectification and removal of defects during the Defect Liability Period and Post commissioning maintenance for Signaling and Telecommunication systems and all its constituent sub-systems, equipment and components for the DFCC Bhaupur to Khurja phase of the overall project.

- (iii) **Signaling System:-** The Signaling System includes but not be limiting to the following components/subsystems:-

a) Electronic interlocking comprising of Station Interlocking, LC Gate Interlocking and Automatic Signal Interlocking with a robust OFC telecom network for signaling requirements with full Network protection against Node failure, Fibre failure and Optical Cable failure. Electronic interlocking shall be equipped with interface for local operation and shall be upgradable to Centralized Traffic Control at a future date.

b) Electronic interlocking with hot standby mode for all the signaling interlocking. Electronic interlocking shall have in built features of data logging of internal processes and external I/O.

c) Train Management System (TMS) upgradable to Centralized Traffic Control in future. TMS shall be required to interface with TMS/EI installations of adjacent section.

d) Digital Axle Counters for train detection at stations.

- e) Digital Axle Counters for train detection in the block sections.
- f) Power operated interlocked Level crossing (LC) gates with approach warning and approach locking. Presently unified LC gate working is envisaged for IR and DFCC tracks.
- g) All track side signaling equipments including Multiple Aspect Colour Light Signals, point machines, signaling & telecom Cables etc.
- h) Points and crossings capable of 25 Ton axle load is envisaged. The design of interlocking arrangements on points and crossings shall be based on IRS/RDSO specification. In case of deviation from IRS/RDSO specification, if any, to suit to 25 T on points and crossings, the cross acceptance shall be done by RDSO or any other agency deemed fit by DFCC.
- i) IPS/ UPS with battery backup.
- J) Remote diagnostics and condition monitoring system for predictive maintenance. Signaling systems / subsystems to be equipped with sensors/interface arrangement for centralized remote condition monitoring & diagnostic through Ethernet.
- k) Protection against EMC/EMI, lighting and surge protection of Signaling system.

(iv) Communication System

- a) Fibre optic ring Data Transmission Network (DTN) comprising of Add Drop nodes of SDH equipments to cater for Operational Telecommunication, SCADA and Telecom requirement for Signaling. All optical fibre nodes shall support Ethernet over SDH.
- b) Digital Telephone Exchanges.
- c) WAN/LAN based IT Network at stations and Operations Control Centre (OCC).
- d) Universal Time Coordinated Master Clock System.
- e) Centralized Digital Recording systems (CDRS).
- f) VHF sets for yard communication and driver, guard communication.
- g) Network Management System.
- h) Protection systems against EMI/EMC and lightning & surge protection of telecommunication system.
- i) Operation Control Centre (OCC) is envisaged at Allahabad or NOIDA. Presently, it is planned that all the control circuits will be extended from Bhaupur/Khurja to OCC at Allahabad/NOIDA on leased channels from M/s Railtel.
- j) Provision of GSM-R is not within the Scope of Work. However, Fibre Optic Data Transmission Network shall be capable to support GSM-R for future augmentation of Mobile Train Radio Communication.

10.0 Salient Features / Performance Specifications (Indicative)

SN	Description	Details
1	Route length	343 Rkms
2	Gauge	1676 mm
3	Axle load	25 tonne
4	Ruling Gradient	1:200 (compensated)
5	Steepest Gradient in yards	1:1200, (1:400 in exceptional cases with approval of DFCC)
6	No. of junction stations	5 (five)
7	No. of crossing stations	6(six)
8	Formation	
	Bank width for Double line	13.5 metres
	Slope embankment	2:1 (H:V) (minimum)
9	Maximum degree of curvature	2.5 Degree (700 metres Radius)
10	Rails	UIC 60 – 90 UTS – IRS T12-2009
11	Sleepers	Mono-block Concrete, rail seat for 60 Kg/m rails
12	Rail Length	Rolled section as per IRST – 12 – 2009
13	Yards	4 to 6 Running Lines . Details as per the yard plans with CST contractor
14	Other Components	SEJ – IRS/New Design Glued Insulating Joints- IRS/New Design
15	Maximum track super elevation	167 mm
16	Moving Dimensions- Maximum Vertical Moving Dimension (MMD)	5.1 metres
17	Vertical Schedule Of Dimensions (i) For Light Overhead Structure like FOBs (ii) For Heavy Overhead Structure like ROBs	6.53 metres 6.60 metres
18	Track Centre	
	Between two tracks of DFC	6 metres (minimum)
	Between existing IR track and DFC	10-13 m in general & 6-7 m in yards
19	Bridges	
	Minor bridges	244
	Major bridges	8

	RFO	7
	RUB	118
20	Maximum Operating Speed	100 kmh
21	Trailing Load	6500 - 13000 tonnes
22	Train length	750/1500 meter
25	Nominal supply voltage	25 kV , 50 Hz, Single Phase, AC
28	No. of traction Power sub-stations (TPS)	6 (six) spaced 60 km
29	No. of sectioning posts	6 (six)
30	No. of sub- sectioning posts	12 (twelve)
31	Integrated Maintenance Depots (IMD)	3 (three)
32	EI at Junction Stations	5 stations
33	EI at Wayside (Crossing) Stations	6 stations
34	Automatic Block Signaling	Block length 2 kms (typical).
35	Track vacancy Detection system at station.	Digital Axle Counters.
36	Track vacancy Detection system in block section.	Digital Axle Counters.
37	Interlocking of Level Crossing gates	80 LC gates (Approximate).
38	Train Management System (TMS) for Train Monitoring& Diagnostic System	1 System
39	Networked Data Loggers, Remote Diagnostics and Condition Monitoring System	at Stations + OCC
40	Dispatching Telephone System	at stations + 1 OCC (details will be indicated in the ER).
41	Emergency Communication System	Emergency sockets along the tracks details will be indicated in ER).
42	IP based Digital Electronic Exchange System	10 stations + OCC + Lot (details will be indicated in ER).
43	VHF Communication System	Lot . (details will be indicated in ER)
44	Centralized Digital Recording System	1 System
45	Network Management System	1 System

11.0 Technical Specifications and approved vendors/suppliers

- 11.1 Research Design and Standards Organization (RDSO), Lucknow, India, an organization of Ministry of Railways, Government of India has standardized the technical specifications for various components of railway systems in India as Indian Railway Standard (IRS) Specifications, which are generally based on International Specifications and adopted to Indian conditions. The list of IRS/RDSO Specifications issued by RDSO is available at the website of RDSO (www.rdsso.gov.in). The IRS/RDSO Specifications can be purchased from RDSO.
- 11.2 The Employer's requirements to be included as part of the bidding document for this work will generally conform to the IRS/RDSO Specifications. However, the bidders shall be permitted to propose proven technical alternatives for selected items with their first stage technical proposals in addition to or in lieu of the requirements specified in the bidding documents, provided they can document that the proposed technical alternatives are proven in other rail systems elsewhere and are to the benefit of the Employer, that they fulfill the principal objectives of the Contract, and that they meet the basic performance and technical criteria specified in the bidding documents.

The main items for which, the bidders are encouraged to propose technical alternatives, are listed below:

11.2.1 ELECTRICAL

- a) Improved OHE design for 2X25 kV system
 - Based upon trailing loads to be hauled by 9000/12000 HP electric locomotives without present limitation of 600 amperes current in the catenary on IR.
 - Suitable for power density of about 1 MVA/km
 - Superior composition and profile of contact and catenary wire with improved regulation of tension
 - Modular OHE requiring least maintenance
- b) Traction transformers for 2X25 kV system
 - Latest design with State of the Art protection of and sub-system monitoring.
- c) SCADA
 - TC/IP based communication system between remote Control Centre and Remote Terminal Unit
 - Accurate fault location system
 - Energy metering communication as per IEC 62026 protocol and online data acquisition systems for traction load.
- d) Protection system
 - Advanced numerical relays compatible with IEC 61850 sub-station automation protocol or other standard equivalent open protocols
 - Design development of suitable shunt and series reactive compensation system and harmonic suppression devices.

11.2.2 SIGNALLING

- a) Electronic interlocking with interface for Local Operation, Automatic Block Signal Interlocking and CTC working (TMS) , including a robust OFC telecom network
- b) Protection system against EMI/EMC and Lighting and Surge protection for all Signaling and Telecom System.
- c) Audio Frequency Track Circuit with direct interface to interlocking and Diagnostic System.
- d) Multi-section and single section digital axle counter for train detection at stations and in block section along with interfaces to interlocking and diagnostic system

11.2.3 TELECOMMUNICATION

- a) OFC network equipment -
 - Synchronous Digital Hierarchy (SDH) equipment – STM1, STM4 & STM-16
 - Primary Drop-Insert (PD) multiplexer equipment
- b) Voice over internet protocol based digital telephone exchange
- c) Mobile Train Radio Communication (GSM-R) Global System for Mobile Communication for Railways.
- d) On line train tracking system configured using sub-systems designed based on good engineering practices.

11.3 While no assurance can be given here that alternative technical proposals will be approved, prospective bidders are encouraged to propose cost-effective technical alternatives in the areas listed. Such alternative technical proposals with necessary documentation for review by the employer should be submitted by bidders as part of their first stage technical proposal that will be the subject of clarification with the Bidder. The Employer will review complete alternative technical proposals if any, offered by the bidders to determine that such alternative technical proposal may constitute an acceptable basis for that bidder's second stage bid. Such alternative technical proposals shall be got approved as per their cross acceptance procedures. For this purpose cross acceptance shall be arranged by the Employer (DFCC) either through RDSO or any other agency deemed fit.

11.4 RDSO maintains approved list of suppliers / vendors for various equipments/ items / components to be used on railway systems in India. Bidders shall be free to obtain equipments / items from the suppliers / vendors on approved list of RDSO or any other sources, provided the equipment / item meets the technical requirements / acceptance criteria of RDSO which will be indicated in the Bidding document. For alternative equipment / item from sources other than RDSO, cross acceptance shall be required by RDSO or any other agency deemed fit by DFCC.

11.5 The list of suppliers/vendors approved for various items are available at the website of RDSO (www.rdso.gov.in). Procedures for registration of the new suppliers / vendors for railway equipments / items are also available at the website of RDSO. The bidders are advised to visit the website of RDSO for further information about the registration of new products.

11.6 For new technology items / proven technical alternatives for Electrical, Signaling and Telecom items / equipments, an undertaking or MOU from OEM on legally acceptable instrument will be required which shall broadly cover the following requirements:

- (i) Certification of designs
- (ii) Supervision of installation and commissioning by OEM including certification of pre-commissioning check list.
- (iii) Cross acceptance approvals alongwith required Test certifications/verifications & validations.
- (iv) Localization of servicing facility in India including supply of spares for entire service life of the equipment.
- (v) Technical support during defect liability period and period of maintenance contract.
- (vi) All software upgrades free of cost upto defect liability period and period of maintenance contract.
- (vii) Training of DFCC staff to reach qualified levels for maintenance purpose.

Details of such undertaking or MOU between the bidder and the OEM on above aspects shall be included in the bid document.

11.7 The terms and conditions for submission of alternate technical proposals shall be included in the bidding documents.

12.0 Project Implementation

12.1 The Project involves Design and construction of double line electrified track with 2 x 25kV AC, 50 Hz, overhead catenary system, capable of operating at a maximum train speed of 100km/h with an initial axle load of 25.0 tonnes including Signaling and telecommunication, SCADA etc. and integration with existing IR System along with Integrated Testing and Commissioning of the Project as a whole.

12.2 The Construction Period shall be 3 (three) years (including Design Period) from the date of award of the contract(s). The System Contractor shall be required to plan the various components of work in such a sequence that the complete work is commissioned in 3 (three) years from the date of award of contract. This will be followed by the Defect Liability Period , which may be up to twenty four months, after commissioning and operational acceptance of complete section.

12.3 General Consultants appointed by DFCCIL will be the Engineer for the Project and will perform the role as specified in Clause 3 Condition of Contract – Plant & Design Build FIDIC Yellow Book 1999 and as supplemented or amended through Particular Conditions of Contract.

12.4 As a part of the Bid Documents, the Pre-qualified applicants will be provided with Employers Requirements, Performance Specifications, Reference Documents and other indicative field data available with DFCC and CST contractor.

The field data provided as a part of the Bid Documents by the Employer is based on the investigation carried out by the Employer and other agencies and is for reference purposes only. The Bidder will have to satisfy himself with the field data furnished and make his own investigations, if required, for submitting his offer. The Bidder shall be deemed to have obtained all necessary information as to risks, contingencies and all other circumstances which may influence or affect his Bid. Costs associated with any change in design or construction methodology later during execution on account of any change will be borne by the Contractor.

- 12.5 The Employer's Requirements / Performance Specifications provided as a part of the Bid Documents, specify the procedural requirements for the preparation of the design of the Permanent and Temporary Works.
- 12.6 The Contractor's Designer will undertake and prepare the Design of the Permanent and Temporary Works. The principal requirements of the Design Phase are the production of the Preliminary Design, the Definitive Design and Good for Construction Drawings.
- 12.7 The Preliminary Design shall incorporate the Contractor's tender design developed to sufficiently define the System components as detailed in the scope of works for Systems portion of the project in para 10.0 above and other structures. After the consent of the Engineer, the System Contractor shall, proceed to prepare the definitive Designs.
- 12.8 The Definitive Design shall incorporate the Contractor's Technical Proposals and shall be the design developed to the stage at which all elements of System components are fully defined and specified. During the preparation of the Definitive Design, the Contractor shall complete all surveys, investigations and testing necessary to complete the design of the Permanent Works.
- 12.9 Upon issuance of the no objection, or a deficiencies list, by the Engineer in respect of the Definitive Design Submission, normally within thirty days (30 days), the Contractor shall complete the design in all respects and produce the Good for Construction Drawings, the purpose of which is to illustrate all the Permanent Works and to be the drawings governing construction.

13.0 Utilities

- 13.1 The utilities have generally been identified as part of the field data collection by the Employer and all these will be removed by DFCC either through the existing CST contract or other means. However, there is always a possibility of some of the unidentified utilities being detected by the Systems Contractor during the course of work. These utilities shall be relocated by the Systems Contractor and shall be paid for by the DFCC.

14.0 Interfacing with Civil, Structure and Track works Contractor

- 14.1 Bhaupur -Khurja section shall be electrified with 2x25 kV Systems and provided with Automatic Signaling. The System Contractor appointed through this PQ exercise following the Two Stage Bidding process shall be required to interface, coordinate and cooperate with the CST Contractors in such a way that complete project is commissioned successfully in a time bound manner. The CST Contractor(s) is required to provide the Systems Contractor the necessary access on the temporary roads

and services constructed by them to enable the Systems Contractor to undertake their component of work. Any other costs involved other than the access road and track, the parties will negotiate cost sharing arrangements amongst themselves. Detailed Interfacing Requirements shall be provided in the Bid Documents.

B. CONSTRUCTION PERIOD

15.1 **Completion period** for the complete envisaged construction work shall be within 36 months from the date of award of the contract.

C. SITE AND OTHER DATA

16.1 **Project Area:** The Works will be carried out between Bhaupur and Khurja in the state of Uttar Pradesh. The proposed alignment will pass across the almost flat Indo Gangetic plain and will mostly be parallel to the Delhi- Kanpur- Ghaziabad section of North Central Railway. There will be some deviations/detours from this route to avoid stations and some urban areas. A sketch showing the alignment is attached as Annexure 1.

16.2 Access to Site:

Access to the Site areas is available through various roads as described below.

- Transportation by road is well developed in Western U.P. area of the project.
- Railway transportation is also well developed in this area.
- Cargos can be transported from Mumbai seaport.
- Airport is located at New Delhi, Kanpur, Lucknow
- Public telephone facilities are well developed whole stretch of EDFC alignment.
- Mobile phones are also well developed whole stretch of EDFC alignment.
- Internet access is available in the whole country of India with wire or wireless. Connection speed is depending on service providers.

16.3 Medical Facilities

- General hospitals are available in major cities, such as Kanpur Agra , Aligarh.
- Other hospitals are also available in every city area.
- Clinics are also available in villages along with EDFC alignment.
- Injections are all disposal type in order to prevent from transfer of any type of diseases.

16.4 Hydrology

The project area is generally flat and is prone to flooding during the monsoon. Flooding is generally attributed to the high ground water table and silting of water courses coupled with rainfall intensity and low hydraulic gradients.

16.5 Environment Conditions:

The system is expected to be used in varying atmospheric and climatic conditions.

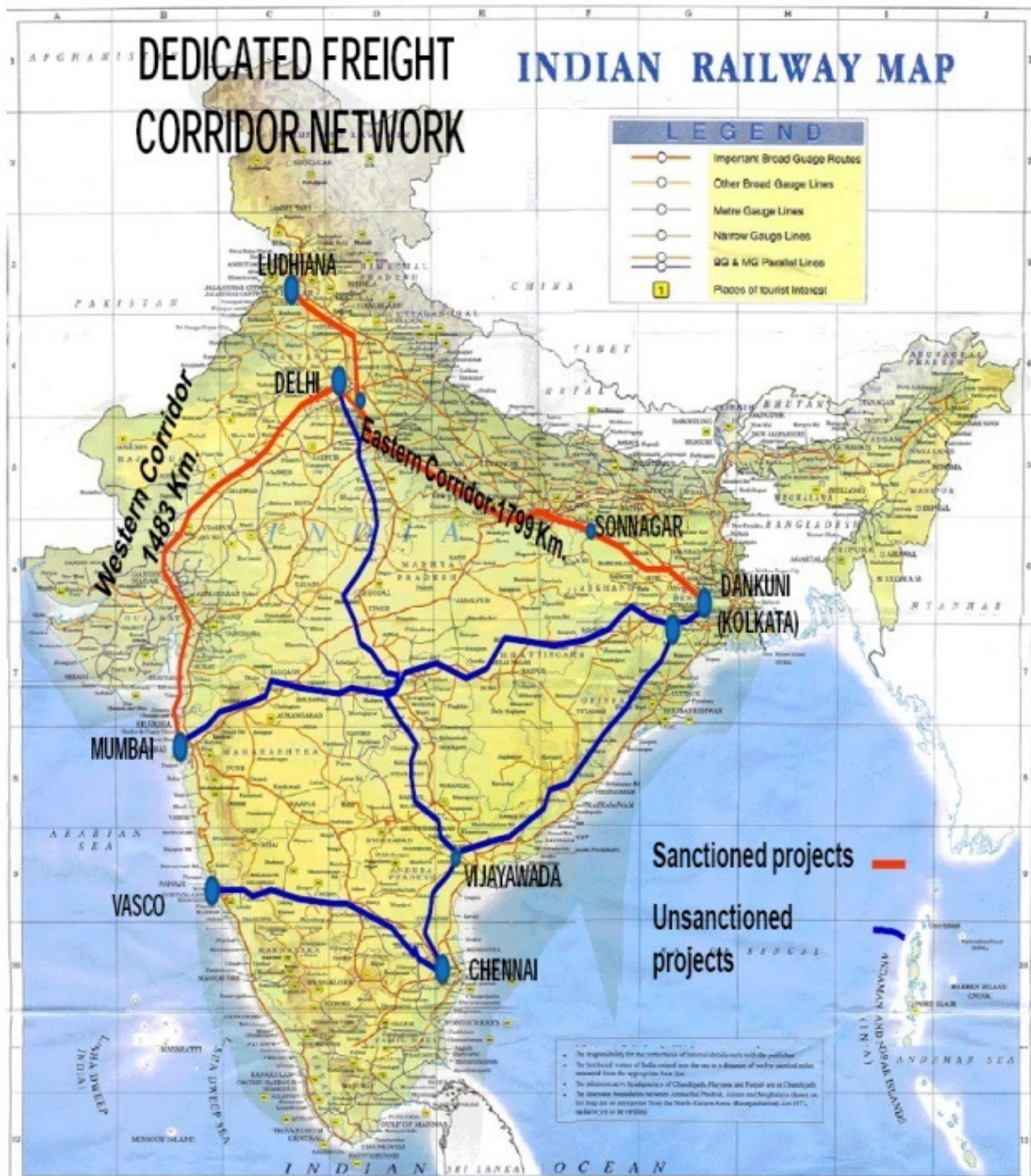
Climate: The climate of the project is a Tropical Monsoon Climate Marked by three distinct seasons:

Summer (March-June): Hot & dry with average temperatures of 45°C sometimes reaching 47-48°C with low relative humidity (20%) and dust laden winds.

Monsoon (June-September): 85% of the average annual rainfall of 990 mm precipitates during this period and temperatures range from 40-45 °C on rainy days.

Winter (October-February): Cold with temperatures in the range of 3-4°C sometimes dropping below freezing in elevated areas. Foggy conditions can occur in some tracts.

ANNEXURE - I



ANNEXURE - II

