



## **Request for Proposal (RFP)**

**Name of Work-‘Consultancy & related Services for the preparation of Detailed Project Report (DPR), inclusive of Preliminary alignment development, optimization of Alignment, Final location survey (FLS) including Geo Technical survey, Geological mapping & Hydrological Survey, preparation of Land Plans on Revenue Maps and also, inclusive of study for 2X25 KV Electrification, study for Signaling catering to ETCS-2, Study for Communication, all discipline [e.g. Civil, Electric & S&T] Quantity and Cost estimation, Environmental and Social impact Study , Maintenance study & Traffic study-FIRR & EIRR, Market demand survey, Cost Benefit analysis, Study regarding intermodal Transport Integration for New Dedicated Freight Corridor (DFC) namely -East-West Sub Corridor comprised of sub Corridors- Bhusaval-Nagpur-Kharagpur- Dankuni (1673 RKM) and sub Corridor -Rajkharswan-Kalipahari-Andal-(195 RKM)’-RFP no-2020/HQ/EN/PWC/FutureCorridor/RFP/DPR/Package-2**

**Issued on 04-05-2020**

**(Participation through E-Tender only)**

**Visit:[www.tenderwizard.com/dfccil](http://www.tenderwizard.com/dfccil)**

**(Tender wizard Help desk:011-49424365)**

### **Client**

**DEDICATED FREIGHT CORRIDOR CORPORATION OF INDIA LIMITED  
[DFCCIL]**

**(A Government of India Enterprise)**

**Ministry of Railways**

**India**

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**TABLE OF CONTENTS**

| <b>Part</b>    | <b>Sections</b> | <b>Description</b>   | <b>Page No.</b> |
|----------------|-----------------|--|-----------------|
|                | -               | Notice inviting Proposal (NIT)   | 8 - 12          |
| <b>PART-I</b>  | Section 1       | Letter of Invitation   | 13 - 16         |
|                | Section 2       | Instructions to Tenderer/Consultants (ITC) and Bid Data Sheet                  | 17 - 49         |
|                | Section 3       | Evaluation and Qualification Criteria  | 50 -77          |
|                | Section 4       | A-Technical Proposal – Standard Forms<br>B-Financial Proposal - Standard Forms | 78 - 106        |
|                | Section 5       | Eligible countries   | 107 - 111       |
|                | Section-6       | Provisions – Corruption & Fraudulent Practices                                 | 112 - 114       |
|                | Section-7       | Terms of Reference (TOR)   | 115 - 197       |
| <b>PART-II</b> | Section 8-1     | Form of Contract   | 199 - 203       |
|                | Section 8-2     | General Conditions of Contract   | 204 - 218       |
|                | Section 8-3     | Special Conditions of Contract   | 219 - 229       |
|                | Section 8-4     | Appendices   | 230 - 251       |





**Disclaimer**

1. This RFP is not an Agreement, neither an offer, nor an invitation from DFCCIL (Client) to the Prospective Consultants.
2. The information, contained, in this RFP is subject to terms & Conditions stipulated therein the RFP document.
3. The assessments, assumptions, statements information contained in this RFP, the earlier done PETS Survey report may not be accurate, complete or accurate. Each consultant shall conduct their own checking /investigation; do their own analysis to ascertain the veracity of the aforesaid assessments, assumptions, statements information contained in this RFP without any additional liability on part of the client.
4. The aforesaid information, provided in this RFP may be based upon an interpretation of applicable Law/Laws. Client accepts no responsibility for the accuracy or otherwise of any such interpretation or opinion on Law.
5. The Client, Client's representative(s)/Employees, hereby, do not make any representation or Warranty and thus, Client shall have no liability to any person, including any Consultant under any Law, Statute, rules or regulations or TORT, Principles of restitution, unjust enrichment or otherwise any loss, damages, cost or expense which may arise from, be incurred on account of anything (including accuracy & adequacy) contained therein this RFP or deemed to form part of this RFP.
6. The Client shall not be liable In case of negligence or otherwise howsoever caused from reliance of any Consultant placed upon any statements contained in this RFP.



# **PART - I**

**Dedicated freight Corridor Corporation of India Ltd.  
Notice inviting Proposal (NIT)(On line)**

**Group General Manager/P/WC, Dedicated Freight Corridor Corporation India Limited, Supreme Court Metro Station Building Complex, Pragati Maidan, New Delhi, India, invites E-Tenders, in single stage Two Packet system on prescribed Forms from firms/companies/Joint ventures, consortiums and meeting requisite experience and financial capacity for execution of the following work.**

| <b>Sn</b> | <b>Fields</b> | <b>Description</b>   |
|-----------|---------------|--|
| 1         | NIT No        | 2020/HQ/EN/PWC/Future Corridor/RFP/DPR dated 16-03-2020  |
| 2         | Name of Work  | <p><b>( Package-1)</b><br/><b>RFP No.-2020/HQ/EN/PWC/Future Corridor/RFP/DPR/Package-1 dated 04-05-2020</b><br/>‘Consultancy &amp; related Services for the preparation of Detailed Project Report(DPR), inclusive of Preliminary alignment development, optimization of Alignment, Final location survey (FLS) including Geo Technical survey, Geological mapping &amp; Hydrological Survey, preparation of Land Plans on Revenue Maps and also, inclusive of study for 2X25 KV Electrification, study for Signaling catering to ETCS-2, Study for Communication, all discipline [e.g. Civil, Electric &amp; S&amp;T] Quantity and Cost estimation, Environmental and Social impact Study , Maintenance study &amp; Traffic study-FIRR &amp; EIRR, Market demand survey, Cost Benefit analysis, Study regarding intermodal Transport Integration for New Dedicated Freight Corridor (DFC) namely -East-Coast Corridor comprised of Section- Kharagpur to Vijayawada (1115 RKM)’</p> <p><b>( Package-2)</b><br/><b>RFP No.-2020/HQ/EN/PWC/Future Corridor/RFP/DPR/Package-2 dated 04-05-2020</b><br/>‘Consultancy &amp; related Services for the preparation of Detailed Project Report(DPR), inclusive of Preliminary alignment development, optimization of Alignment, Final location survey (FLS) including Geo Technical survey, Geological mapping &amp; Hydrological Survey, preparation of Land Plans on Revenue Maps and also, inclusive of study for 2X25 KV Electrification, study for Signaling catering to ETCS-2, Study for Communication, all discipline [e.g. Civil, Electric &amp; S&amp;T] Quantity and Cost estimation, Environmental and Social impact Study , Maintenance study &amp; Traffic study-FIRR &amp; EIRR, Market demand survey, Cost Benefit analysis, Study regarding intermodal Transport Integration for New Dedicated Freight Corridor (DFC) namely -East-West Sub Corridor comprised of sub Corridors-Bhusaval-Nagpur-Kharagpur- Dankuni (1673 RKM) and sub Corridor -Rajkharswan-Kalipahari-Andal-(195 RKM)’.</p> <p><b>( Package-3)</b><br/><b>RFP No.-2020/HQ/EN/PWC/Future Corridor/RFP/DPR/Package-3 dated 04-05-2020</b></p> |

## RFP for preparation FLS and DPR of East West sub Corridor – Section-1 - LOI

|    |  |   |
|----|--|---|
|    |  | <p>‘Consultancy &amp; related Services for the preparation of Detailed Project Report(DPR), inclusive of Preliminary alignment development, optimization of Alignment, Final location survey (FLS) including Geo Technical survey, Geological mapping &amp; Hydrological Survey, preparation of Land Plans on Revenue Maps and also, inclusive of study for 2X25 KV Electrification, study for Signaling catering to ETCS-2, Study for Communication, all discipline [e.g. Civil, Electric &amp; S&amp;T] Quantity and Cost estimation, Environmental and Social impact Study , Maintenance study &amp; Traffic study-FIRR &amp; EIRR, Market demand survey, Cost Benefit analysis, Study regarding intermodal Transport Integration for New Dedicated Freight Corridor (DFC) namely –North-South sub Corridor comprised of Section- Vijayawada- Nagpur - Itarsi (975 RKM)’</p> <p><b>Note: Consultant may participate for any one package, combination of any two package and all the three packages i.e. Package-1 / Package-2 / Package-3/(Package-1 + Package-2)/(Package-1 + Package-3)/ (Package-2 + Package-3) and (Package-1 + Package-2 + Package-3). They have to meet with the Eligibility Criteria as laid down in the RFP/s.</b></p> |
| 3  | Type of Tender                                   | Open E-tender (Single Stage two Packet System)  |
| 4  | Type of Contract                                 | Consultancy Contract  |
| 5  | Duration of the contract                         | <p><b>( Package-1)</b><br/><b>15 Months</b> from Commencement of Services [Ref-SCC sub Clause 13.1]</p> <p><b>( Package-2)</b><br/><b>18 Months</b> from Commencement of Services [Ref-SCC sub Clause 13.1]</p> <p><b>(Package-3)</b><br/><b>15 Months</b> from Commencement of Services [Ref-SCC sub Clause 13.1]</p>  |
| 6  | Proposal Validity                                | 150 Days after Proposal submission deadline date of <b>03-07-2020</b> i.e. <b>up to 30-11-2020</b> .  |
| 7  | Estimated Cost of Work                           | Lump sum Contract   |
| 8  | Cost of tender document (Non Refundable)         | Rs. 11800/- (Indian Rupees Eleven Thousand Eight only) inclusive of all taxes of duties in the form of DD Payable - at Delhi and in favour of ‘Dedicated Freight Corridor Corporation of India Limited, New Delhi’ for each package.  |
| 9  | Bid Security                                     | <b>INR 0.50 Crore for Package-1, INR 1.0 Crore for Package-2 and INR 0.50 Crore for Package-3</b> in the form of a unconditional Bank Guarantee of equivalent amount, issued by an Indian Scheduled Bank. The beneficiary of the Bid security BG shall be <b>Dedicated Freight Corridor Corporation of India Limited</b> . The Bid security shall be valid for 28 days beyond the Bid Validity period, as defined under ITC sub Clause 12.1 Data sheet.   |
| 10 | E-Tendering Website Details                      | <a href="http://www.tenderwizard.com/DFCCIL">www.tenderwizard.com/DFCCIL</a>  |
| 11 | E-Tendering processing fee                       | Rs.3540/- (inclusive all taxes and duties) to be paid through E-payment gateway to ITI Limited for each Package.  |
|    | <b>Date &amp; Time Schedule</b>                  |   |
| 12 | Uploading of NIT                                 | 16.03.2020 at 1700 hrs onwards  |
| 13 | Uploading tender document                        | From <b>04-05-2020 at 1600 hrs</b> , on <a href="http://www.tenderwizard.com/dfccil">www.tenderwizard.com/dfccil</a> for each Package.  |
| 14 | Date of download/ sale of tender document online | From <b>04-05-2020 at 1600 hrs</b> , onwards up to <b>02-07-2020 (during Working Hours)</b> and <b>upto 1200hrs on date 03-07-2020</b> ; on <a href="http://www.tenderwizard.com/dfccil">www.tenderwizard.com/dfccil</a> for each Package.  |
| 15 | Pre – Bid meeting date, Time and Place           | <b>20-05-2020 at 1500 hrs.</b> at Conference Hall, 4 <sup>th</sup> floor, DFCCIL Corporate Office, Supreme Court Metro Station Building Complex, New Delhi-110001   |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-1 - LOI**

|    |  |  |
|----|--|--|
|    | with prospective consultants                                     |  |
| 16 | Last Date and time of Submission of Proposal documents (on line) | <b>Upto 1400 hrs on 03-07-2020</b> on <a href="http://www.tenderwizard.com/dfccil">www.tenderwizard.com/dfccil</a> for each Package.   |
| 17 | Date and time of opening (on line)                               | <b>Upto 1500 hrs on 03-07-2020</b> on <a href="http://www.tenderwizard.com/dfccil">www.tenderwizard.com/dfccil</a> for each Package.   |
| 18 | Date and time of opening of Financial Bid (on line)              | To be communicated later to only those consultant who are found technically qualified after closer of technical evaluation.  |
| 19 | Representative Contact person of DFCCIL                          | <b>Mr. Ajay Srivastava, Manager/P/WC</b><br>Mobile No. 9717636944<br>E-mail: <a href="mailto:akumar1@dfcc.co.in">akumar1@dfcc.co.in</a>  |
| 20 | Address for communication  | Mr. Praveen Kumar<br>Position: GGM/P/WC<br><b>Room No. 505</b><br><b>5th Floor, Supreme Court Metro Station Building,</b><br><b>New Delhi – 110001, INDIA</b><br><b>Tel: +91-11-2337-9815, Fax: +91-11-2345-4701</b><br><b>e-mail: <a href="mailto:praveenkumar@dfcc.co.in">praveenkumar@dfcc.co.in</a></b>  |
| 21 | Help desk for E Tendering  | For any clarification , help and registration for E tendering and for obtaining digital signature, contact at <a href="http://www.tenderwizard.com/dfccil">www.tenderwizard.com/dfccil</a> and on Telephone number -011-49424365 , Cell-9599653865   |
| 22 | Availability of tender documents                                 | The RFP Documents can be downloaded from <a href="http://www.tenderwizard.com/dfccil">www.tenderwizard.com/dfccil</a> , Prospective Consultants, who wish to view free Notification and RFP Document, can visit <a href="http://www.tenderwizard.com/dfccil">www.tenderwizard.com/dfccil</a> , DFCCIL website <a href="http://www.dfccil.com">www.dfccil.com</a> and Central Procurement Portal, <a href="http://www.eprocure.gov.in">www.eprocure.gov.in</a> ;<br>In terms of ITC sub Clause 13.1 Data sheet, DFCCIL may issue addendum to the RFP Document, 10 days prior to Proposal submission deadline of <b>03-07-2020</b> i.e. up to <b>23-06-2020</b> and uploaded on <a href="http://www.tenderwizard.com/dfccil">www.tenderwizard.com/dfccil</a> . |

**1. General Conditions.**

- 1.1 RFP document is non-transferable.
- 1.2 No extension in the Proposal submission deadline shall be considered on account of delay in receipt of Tender document by post. Late/Delayed Tender shall not be considered for evaluation.
- 1.3 The Offer shall be valid for 150 days from the date of opening of the tender, and can be extended further if required from time to time. The Consultant cannot withdraw their offer within the period of validity/extended validity lest liable for forfeiture of Bid security.
- 1.4 It is mandatory for all Prospective Consultants to have Class-III Digital Signature Certified from any of the Licensed Certifying Agencies ('CA') to participate in E-Tendering of DFCCIL, (Consultants can see the list of Licensed CAs from the link [www.cca.gov.in](http://www.cca.gov.in) ), in the name of the person who will submit the Online Proposal and is authorized to do so.
- 1.5 To participate in E-Tender, it is mandatory for the Consultants to get themselves registered with the Tender wizard ([www.tenderwizard.com/DFCCIL](http://www.tenderwizard.com/DFCCIL)) and to have User ID and Password. Consultants have to pay Annual Registration Charges of Rs. 2000/- + GST to M/s ITIL through e-payment. Consultants have to pay Tender-Processing Fee to M/s ITIL through e-payment. Already Registered Consultants need not pay registration charges to M/s ITIL.
- 1.6 [www.tenderwizard.com/DFCCIL](http://www.tenderwizard.com/DFCCIL) is the only website for submission of Proposal. 'Vendor Manual' containing the detailed guidelines for E-Tendering is available on [www.tenderwizard.com/DFCCIL](http://www.tenderwizard.com/DFCCIL).

## **RFP for preparation FLS and DPR of East West sub Corridor – Section-1 - LOI**

- 1.7 Eligibility criteria of tenderer shall be assessed as per Section-2, Instruction to Consultants & Eligibility Criteria laid down in section-3 of the tender document.
- 1.8 The RFP can be downloaded from the website [www.tenderwizard.com/DFCCIL](http://www.tenderwizard.com/DFCCIL). Consultants are advised not to make any corrections, additions or alterations in the downloaded RFP document. In case, any corrections, additions or alterations in the downloaded RFP DOCUMENT are made, such proposal shall be summarily **rejected**.
- 1.9 The intending tenderer(s) must read the terms and conditions of this bid document RFP carefully and should only submit the proposal bid if considers eligible and in possession of all the DOCUMENT required.
- 1.10 Information and Instructions for tenderers posted on website [www.tenderwizard.com/DFCCIL](http://www.tenderwizard.com/DFCCIL) shall form part of RFP document.
- 1.11 Interested consultants who wish to participate should visit ***E-Tender Portal*** on the website [www.tenderwizard.com/DFCCIL](http://www.tenderwizard.com/DFCCIL), which is the only website for bidding their offer. However, the RFP has also been uploaded on DFCCIL website [www.dfccil.gov.in](http://www.dfccil.gov.in) and Central Procurement Portal [www.eprocure.gov.in](http://www.eprocure.gov.in) **for viewing only**.
- 1.12 DFCCIL may issue addendum(s)/corrigendum(s) to the RFP. In such case, the ***addendum(s)/corrigendum(s)*** shall be issued and placed ***only on E-Tender Portal*** [www.tenderwizard.com/DFCCIL](http://www.tenderwizard.com/DFCCIL), at least ten days in advance of last date fixed for submission of proposal. The tenderer must keep themselves updated about the latest developments about the tender and ensure that the addendum(s)/Corrigendum(s), if any are downloaded by them from the E-Tender Portal (*in PDF Format*) and thereafter is/are uploaded on the E-Tender Portal through their digital signature.
- 1.13 The tender DOCUMENT should be submitted through online mode only in website [www.tenderwizard.com/DFCCIL](http://www.tenderwizard.com/DFCCIL). **The offer submitted other than online mode, will not be accepted.**
- 1.14 The intending consultant(s) must have valid ***class-III*** digital signature to submit the bid. Consultant (s) should upload DOCUMENT in the form of JPG and PDF format.
- 1.15 The consultant (s) is/are required to quote strictly as per the terms and conditions, specifications, standards given in the tender DOCUMENT and ***not to stipulate any deviations***, else, the offer may be liable to be rejected.
- 1.16 Notwithstanding anything stated above, DFCCIL reserves the right to assess the capabilities and capacity of the tenderers to perform the contract in the overall interest of DFCCIL.
- 1.17 The consultant(s) if required, may submit questions in writing or e-mail at [praveenkumar@dfcc.co.in](mailto:praveenkumar@dfcc.co.in) to seek clarifications (*on or before the date of pre-bid meeting*) to the Office of the address mentioned at S.N.20 above.
- 1.18 Technical proposal shall be opened online on E-Tender Portal at the address specified in the NIT at the time and date given in NIT. The tenderer or their authorized representatives may attend the opening of technical bid.
- 1.19 Financial bid of only technically qualified tenderers will be opened at a later stage. The date & time of opening of financial bid will be communicated later to tenderers after closure of technical selection procedure only.
- 1.20 Any tender received ***without Bid Security & Bid Document*** Cost in the physical form as specified in tender DOCUMENT shall not be considered and shall be ***summarily rejected***.
- 1.21 DFCCIL reserves the right to cancel the tenders before submission/opening of tenders, postpone the tender submission/opening date and to accept / reject any or all tenders without assigning any reasons thereof. DFCCIL's assessment of suitability as per eligibility criteria shall be final and binding. DFCCIL also reserves the right for asking of any clarification from the tenderers on the submitted bid for evaluation purpose and the tenderer would have to promptly clarify the same.

**RFP for preparation FLS and DPR of East West sub Corridor – Section-1 - LOI**

- 1.22 Consultant(s) may note that, they are liable to be disqualified at any time during tendering process in case any of the information furnished by them is not found to be true. ***Bid Security Money*** of such consultant(s) ***shall be forfeited***. The decision of DFCCIL in this regard shall be final and binding.

We look forward for your active participation.



# **SECTION - 1**

## **Letter of Invitation**

**Section-1: Letter of Invitation**

**No-2020/HQ/EN/PWC/Future Corridor/RFP/DPR/Package-2**

**dated 04-05-2020**

Sub- Consultancy & related Services for the preparation of Detailed Project Report(DPR), inclusive of Preliminary alignment development, optimization of Alignment, Final location survey (FLS) including Geo Technical survey, Geological mapping & Hydrological Survey, preparation of Land Plans on Revenue Maps and also, inclusive of study for 2X25 KV Electrification, study for Signaling catering to ETCS-2, Study for Communication, all discipline [e.g. Civil, Electric & S&T] Quantity and Cost estimation, Environmental and Social impact Study , Maintenance study & Traffic study-FIRR & EIRR, Market demand survey, Cost Benefit analysis, Study regarding intermodal Transport Integration for New Dedicated Freight Corridor (DFC) namely -East-West Sub Corridor comprised of sub Corridors-Bhusaval-Nagpur-Kharagpur- Dankuni (1673 RKM) and sub Corridor -Rajkharswan-Kalipahari-Andal-(195 RKM)'

--X--

Dear Sir/Madam,

1. The Dedicated Freight Corridor Corporation of India Limited (hereafter referred to as '**DFCCIL or Client**'), having its Corporate office at 5th Floor, Supreme Court Metro Station Building Complex, New Delhi – 110001, India, a Public Sector Enterprise set up as a wholly owned Government Company under Companies Act, upon being in receipt of Railway Board's direction for the DFCCIL to undertake the work of preparation of detailed Project report (DPR) along with Railway Board's acceptance to provide Financing for the work, intends to apply such funds for engaging Consultant for the **Works**;

“Consultancy & related Services for the preparation of Detailed Project Report(DPR), inclusive of Preliminary alignment development, optimization of Alignment, Final location survey (FLS) including Geo Technical survey, Geological mapping & Hydrological Survey, preparation of Land Plans on Revenue Maps and also, inclusive of study for 2X25 KV Electrification, study for Signaling catering to ETCS-2, Study for Communication, all discipline [e.g. Civil, Electric & S&T] Quantity and Cost estimation, Environmental and Social impact Study , Maintenance study & Traffic study-FIRR & EIRR, Market demand survey, Cost Benefit analysis, Study regarding intermodal Transport Integration for New Dedicated Freight Corridor (DFC) namely -East West Sub Corridor comprised of sub Corridors-Bhusaval-Nagpur-Kharagpur- Dankuni (1673 RKM) and sub Corridor -Rajkharswan-Kalipahari-Andal-(195RKM)”

2. The Client, now, invites Lump Sum Proposals, from the eligible Consultants, under single stage two packet system for the above cited Works for which this RFP is issued. Prospective consultants may obtain further information from and inspect the RFP at the office of ;

Mr. Praveen Kumar  
Position: GGM/P/WC  
**Room No. 505**  
**5th Floor, Supreme Court Metro Station Building,**  
**New Delhi – 110001, INDIA**  
**Tel: +91-11-2337-9815, Fax: +91-11-2345-4701**  
**e-mail: praveenkumar@dfcc.co.in**

## **RFP for preparation FLS and DPR of East West sub Corridor – Section-1 - LOI**

3. A complete set of RFP Documents shall be uploaded on **04-05-2020 at 1600 hrs**, on [www.tenderwizard.com/dfccil](http://www.tenderwizard.com/dfccil) which can be The RFP Documents can be downloaded from [www.tenderwizard.com/dfccil](http://www.tenderwizard.com/dfccil) , Prospective Consultants, who wish to view free Notification and RFP Document, can visit [www.tenderwizard.com/dfccil](http://www.tenderwizard.com/dfccil), DFCCIL website [www.dfccil.com](http://www.dfccil.com) and Central Procurement Portal, [www.eprocure.gov.in](http://www.eprocure.gov.in) ;
- 3.1 The Cost of the RFP Document is Rs. 11800/- (Indian Rupees Eleven Thousand Eight only) inclusive of all taxes of duties in the form of DD Payable - at Delhi and in favour of 'Dedicated Freight Corridor Corporation of India Limited, New Delhi' for each package. The offer will be summarily rejected if cost of bid documents is not enclosed for bids downloaded from web site.
4. This RFP includes the following Documents ;
  - Part-I**
    - (i) Section 1 - Letter of Invitation
    - (ii) Section 2 - Instructions to Consultants and Data Sheet
    - (iii) Section 3 –Evaluation and Qualification Criteria
    - (iv) Section 4A-Technical Proposal (FTP) - Standard Forms
    - (v) Section 4B - Financial Proposal - Standard Forms
    - (vi) Section 5 - Eligible countries
    - (vii) Section 6 - Provisions – Corruption & Fraudulent Practices
    - (viii) Section 7 – Terms of Reference (TOR)
  - Part-II**
    - (ix) Section 8-1 – General Conditions of Contract
    - (x) Section 8-2 - Special Conditions of Contract
    - (xi) Section 8-3 - Standard Forms of Contract
    - (xii) Section 8-4 - Appendices
- 4.1 The RFP shall be available for downloading from **04-05-2020 at 1600 hrs**, onwards **up to 02-07-2020 (during Working Hours)** and **upto 1200hrs on date 03-07-2020**; on [www.tenderwizard.com/dfccil](http://www.tenderwizard.com/dfccil).
- 4.2 The Client shall be uploading any addendum/Corrigendum to the RFP document on the [www.tenderwizard.com/dfccil](http://www.tenderwizard.com/dfccil). It will be the responsibility of the Prospective Consultant, submitting the Proposal, on the purchased or downloaded RFP Documents, to check the correctness of these documents and also check the [www.tenderwizard.com/dfccil](http://www.tenderwizard.com/dfccil) / DFCC website from time to time till Proposal submission deadline date for any Addendum/Corrigendum issued in regard to this Proposal to ensure submission of Proposal along with all Addendum/Corrigendum.
5. Prospective Consultants & Client shall be required to sign **Pre-Contract Integrity Pact** as Appended as **Appendix-E, at the end of this RFP**.
6. Proposals must be delivered to the above office on or before **14:00 hrs. on 03-07-2020** on [www.tenderwizard.com/dfccil](http://www.tenderwizard.com/dfccil) for each Package and must be accompanied by a **Bid security of the INR 1.0 crores**. Any Proposal without the aforesaid Bid security shall be summarily rejected.
7. Only “Technical Proposal” will be opened **at 1500 hrs on 03-07-2020** on [www.tenderwizard.com/dfccil](http://www.tenderwizard.com/dfccil).
8. The selection of the consultants shall be through **Quality cum cost Based System (QCBS)** with weightages accorded to Technical & Financial proposals bearing a ratio of **80:20**.

**RFP for preparation FLS and DPR of East West sub Corridor – Section-1 - LOI**

9. The Pre-Proposal conference shall be held on the **20-05-2020 (Wednesday)**. Representatives of the prospective Consultants are requested to attend, those who choose to attend. The tentative venue shall be – the conference Hall on the 4<sup>th</sup> floor of DFCCIL Corporate office, Supreme court Metro Station building-New Delhi. Participation in the Pre-Proposal Conference is not Mandatory but Consultants, during the aforesaid Conference, can, if they choose to do so, present their queries on the RFP to the Client, in writing. DFCCIL shall provide necessary clarification as per schedule, appended in the ITC sub Clause 13.1 Data Sheet.

Yours sincerely,

Praveen Kumar  
GGM/PWC

## **SECTION-2**

### **Instructions to Tenderer/Consultants (ITC) and Bid Data Sheet**



| A. GENERAL PROVISIONS |                    |  |
|-----------------------|--------------------|--|
| 1.                    | <b>Definitions</b> | (a) “ <b>Affiliate(s)</b> ” means an individual or an entity that directly or indirectly controls, is controlled by, or is under common control with the Consultant.   |
|                       |                    | (b) “ <b>Applicable Guidelines</b> ” means the policies of the Client governing the selection and Contract award process as set forth in this RFP.   |
|                       |                    | (c) “ <b>Applicable Law</b> ” means the laws and any other instruments having the force of law in the Client’s country, or in such other country as may be specified in the Data Sheet, as they may be issued and in force from time to time.  |
|                       |                    | (d) Not utilized.  |
|                       |                    | (e) Not utilised   |
|                       |                    | (f) “ <b>Client</b> ” means the implementing agency that signs the Contract for the Services with the selected Consultant.   |
|                       |                    | (g) “ <b>Consultant</b> ” means a legally-established professional consulting firm or an entity that may provide or provides the Services to the Client under the Contract.  |
|                       |                    | (h) “ <b>Contract</b> ” means a legally binding written agreement signed between the Client and the Consultant and includes all the attached documents listed in its Clause 1 (the General Conditions of Contract (GCC), the Special Conditions of Contract (SCC), and the Appendices).  |
|                       |                    | (i) “ <b>Data Sheet</b> ” means an integral part of the Instructions to Consultants (ITC) Section 2 that is used to reflect specific country and assignment Conditions to supplement, but not overwrite, the provisions of the ITC.  |
|                       |                    | (j) “ <b>Day</b> ” means a calendar day.   |
|                       |                    | (k) “ <b>Experts</b> ” means, collectively, Key Experts, Non-Key Experts, or any other personnel of the Consultant, Sub-consultant or Joint Venture member(s).   |
|                       |                    | (l) “ <b>Government</b> ” means the government of the Client’s country.  |
|                       |                    | (m) “ <b>Joint Venture (JV)</b> ” means an association with or without a legal personality distinct from that of its members, of more than one Consultant where one member has the authority to conduct all business for and on behalf of any and all the members of the JV, and where the members of the JV are jointly and severally liable to the Client for the performance of the Contract. |
|                       |                    | (n) “ <b>Key Expert(s)</b> ” means an individual professional whose skills, qualifications, knowledge and experience are critical to the performance of the Services under the Contract and whose CV is taken into account in the technical evaluation of the Consultant’s proposal.   |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-2 – ITC & BDS**

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|   |                     | (o) <b>“ITC”</b> (this Section 2 of the RFP) means the Instructions to Consultants that provides the all the Consultants with all information needed to prepare their Proposals.   |
|   |                     | (p) <b>“LOI”</b> (this Section 1 of the RFP) means the Letter of Invitation being sent by the Client to the Consultants.   |
|   |                     | (q) <b>“Non-Key Expert(s)”</b> means an individual professional provided by the Consultant or its Sub-consultant and who is assigned to perform the Services or any part thereof under the Contract and whose CVs are not evaluated individually.  |
|   |                     | (r) <b>“Proposal”</b> means the Technical Proposal and the Financial Proposal of the Consultant.   |
|   |                     | (s) <b>“RFP”</b> means the Request for Proposals to be prepared by the Client for the selection of Consultants.  |
|   |                     | (t) Not utilized.  |
|   |                     | (u) <b>“Services”</b> means the work to be performed by the Consultant pursuant to the Contract.   |
|   |                     | (v) <b>“Sub-consultant”</b> means an entity to whom the Consultant intends to subcontract any part of the Services while remaining responsible to the Client during the performance of the Contract.   |
|   |                     | (w) <b>“TORs”</b> (this Section 7 of the RFP) means the Terms of Reference that explain the objectives, scope of work, activities, and tasks to be performed, respective responsibilities of the Client and the Consultant, and expected results and deliverables of the assignment.   |
|   |                     | (x) <b>“ESHS”</b> means Environmental, social [including sexual exploitation and abuse (SEA) and Gender Based Violence(GBV)], Health and safety  |
| 2 | <b>Introduction</b> | 2.1 The Client named in the Data Sheet intends to select a Consultant from those listed in the Letter of Invitation, in accordance with the method of selection specified in the Data Sheet.   |
|   |                     | 2.2 The Consultants are invited to submit a Technical Proposal and a Financial Proposal, or a Technical Proposal only, as specified in the Data Sheet, for consulting services required for the assignment named in the Data Sheet. The Proposal will be the basis for negotiating and ultimately signing the Contract with the selected Consultant. |
|   |                     | 2.3 The Consultants should familiarize themselves with the local conditions and take them into account in preparing their Proposals, including attending a pre-proposal conference if one is specified in the Data Sheet. Attending any such pre-proposal conference is optional and is at the Consultants’ expense.                                 |
|   |                     | 2.4 The Client will timely provide, at no cost to the Consultants, the inputs, relevant project data, and reports required for the   |



**RFP for preparation FLS and DPR of East West sub Corridor – Section-2 – ITC & BDS**

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|    |                                     | preparation of the Consultant's Proposal as specified in the Data Sheet.  |
| 3  | <b>Conflict of Interest</b>         | <p>3.1 The Consultant is required to provide professional, objective, and impartial advice, at all times holding the Client's interests paramount, strictly avoiding conflicts with other assignments or its own corporate interests, and acting without any consideration for future work.</p> <p>3.2 The Consultant has an obligation to disclose to the Client any situation of actual or potential conflict that impacts its capacity to serve the best interest of its Client. Failure to disclose such situations may lead to the disqualification of the Consultant or the termination of its Contract and/or sanctions by the Client.</p> <p>3.2.1 Without limitation on the generality of the foregoing, and unless stated otherwise in the Data Sheet, the Consultant shall not be hired under the circumstances set forth below:</p> |
| a) | <b>a. Conflicting activities</b>    | (i) Conflict between consulting activities and procurement of goods, works or non-consulting services: a firm that has been engaged by the Client to provide goods, works, or non-consulting services for a project, or any of its Affiliates, shall be disqualified from providing consulting services resulting from or directly related to those goods, works, or non-consulting services. Conversely, a firm hired to provide consulting services for the preparation or implementation of a project, or any of its Affiliates, shall be disqualified from subsequently providing goods or works or non-consulting services resulting from or directly related to the consulting services for such preparation or implementation.   |
|    | <b>b. Conflicting assignments</b>   | (ii) Conflict among consulting assignments: a Consultant (including its Experts and Sub-consultants) or any of its Affiliates shall not be hired for any assignment that, by its nature, may be in conflict with another assignment of the Consultant for the same or for another Client.   |
|    | <b>c. Conflicting relationships</b> | (iii) Relationship with the Client's staff: a Consultant (including its Experts and Sub-consultants) that has a close business or family relationship with a professional staff of the Client- the implementing agency, or who are directly or indirectly involved in any part of (i) the preparation of the Terms of Reference for the assignment, (ii) the selection process for the Contract, or (iii) the supervision of the Contract, may not be awarded a Contract, unless the conflict stemming from this relationship has been resolved in a manner acceptable to the Client throughout the selection process and the execution of the Contract.  |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-2 – ITC & BDS**

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| 4   | <b>Unfair Competitive Advantage</b>     | 4.1 Fairness and transparency in the selection process require that the Consultants or their Affiliates competing for a specific assignment do not derive a competitive advantage from having provided consulting services related to the assignment in question. To that end, the Client shall indicate in the Data Sheet and make available to all the Consultants together with this RFP all information that would in that respect give such Consultant any unfair competitive advantage over competing Consultants.  |
| 5   | <b>Corrupt and Fraudulent Practices</b> | 5.1 The Client requires compliance with the Provisions in regard to corrupt and fraudulent practices as set forth in Section 6.<br><br>5.2 In further pursuance of this policy, Consultant shall permit and shall cause its agents, Experts, Sub-consultants, sub-contractors, services providers, or suppliers to permit the Client to inspect all accounts, records, and other documents relating to the submission of the Proposal and contract performance (in case of an award), and to have them audited by auditors appointed by the Client.                     |
| 6   | <b>Eligibility</b>                      | 6.1 The Client permits consultants (individuals and firms, including Joint Ventures and their individual members) from all countries to offer consulting services for the proposed project.<br><br>6.2 Furthermore, it is the Consultant's responsibility to ensure that its Experts, joint venture members, Sub-consultants, agents (declared or not), sub-contractors, service providers, suppliers and/or their employees meet the eligibility requirements as established by the Client in the Applicable Guidelines.   |
| (a) | <b>Sanctions</b>                        | 6.3 As an exception to the foregoing Clauses 6.1 and 6.2 above:<br><br>6.3.1 A firm or an individual sanctioned by the World Bank or International funding Agencies in accordance with the above Clause 5.1 or in accordance with "Anti-Corruption Guidelines" shall be ineligible to be awarded a contract, financially or otherwise, during such period of time as the Client shall determine. The list of debarred firms and individuals is available at the electronic address specified in the Data Sheet.   |
| (b) | <b>Prohibitions</b>                     | 6.3.2 Firms and individuals of a country or goods manufactured in a country may be ineligible if so indicated in Section 5 (Eligible Countries) and:<br><br>(a) as a matter of law or official regulations, the Client's country prohibits commercial relations with that country, provided that the Client is satisfied that such exclusion does not preclude effective competition for the provision of Services required; or<br><br>(b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-2 – ITC & BDS**

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|  |  | United Nations, the Client's Country prohibits any import of goods from that country or any payments to any country, person, or entity in that country.   |
| (c)                                    | <b>Restrictions for Government-owned Enterprises</b> | <p>6.3.3 Government-owned enterprises or institutions in the Client's country shall be eligible only if they can establish that they (i) are legally and financially autonomous, (ii) operate under commercial law, and (iii) that they are not dependent agencies of the Client</p> <p>To establish eligibility, the government-owned enterprise or institution should provide all relevant documents (including its charter) sufficient to demonstrate that it is a legal entity separate from the government; it does not currently receive any substantial subsidies or budget support; it is not obligated to pass on its surplus to the government; it can acquire rights and liabilities, borrow funds, and can be liable for repayment of debts and be declared bankrupt; and it is not competing for a contract to be awarded by the government department or agency which, under the applicable laws or regulations, is its reporting or supervisory authority or has the ability to exercise influence or control over it.</p>   |
| (d)                                    | <b>Restrictions for public employees</b>             | <p>6.3.4 Government officials and civil servants of the Client's country are not eligible to be included as Experts in the Consultant's Proposal unless such engagement does not conflict with any employment or other laws, regulations, or policies of the Client's country, and they</p> <ul style="list-style-type: none"> <li>(i) are on leave of absence without pay, or have resigned or retired;</li> <li>(ii) are not being hired by the same agency they were working for before going on leave of absence without pay, resigning, or retiring</li> </ul> <p>(in case of resignation or retirement, for a period of at least 6 (six) months, or the period established by statutory provisions applying to civil servants or government employees in the Client's country, whichever is longer. Experts who are employed by the government-owned universities, educational or research institutions are not eligible unless they have been full time employees of their institutions for a year or more prior to being included in Consultant's Proposal.; and</p> <p>(iii) their hiring would not create a conflict of interest.</p> |
| <b>B. Preparation of the Proposals</b> |  |   |
| 7                                      | <b>General Considerations</b>                        | 7.1 In preparing the Proposal, the Consultant is expected to examine the RFP in detail. Material deficiencies in providing the  |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-2 – ITC & BDS**

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|    |  | information requested in the RFP may result in rejection of the Proposal.   |
| 8  | <b>Cost of Preparation of Proposal</b>   | 8.1 The Consultant shall bear all costs associated with the preparation and submission of its Proposal, and the Client shall not be responsible or liable for those costs, regardless of the conduct or outcome of the selection process. The Client is not bound to accept any proposal, and reserves the right to annul the selection process at any time prior to Contract award, without thereby incurring any liability to the Consultant.   |
| 9  | <b>Language</b>                          | 9.1 The Proposal, as well as all correspondence and documents relating to the Proposal exchanged between the Consultant and the Client, shall be written in the language(s) specified in the Data Sheet.  |
| 10 | <b>Documents Comprising the Proposal</b> | <p>10.1 The Proposal shall comprise the documents and forms listed in the Data Sheet.</p> <p>10.2 If specified in the Data Sheet, the Consultant shall include a statement of an undertaking of the Consultant to observe, in competing for and executing a contract, the Client country's laws against fraud and corruption (including bribery).</p> <p>10.3 The Consultant shall furnish information on commissions, gratuities, and fees, if any, paid or to be paid to agents or any other party relating to this Proposal and, if awarded, Contract execution, as requested in the Financial Proposal submission form (Section 4).</p> |
| 11 | <b>Only One Proposal</b>                 | 11.1 The Consultant (including the individual members of any Joint Venture) shall submit only one Proposal, either in its own name or as part of a Joint Venture in another Proposal. If a Consultant, including any Joint Venture Member, submits or participates in more than one proposal, all such proposals shall be disqualified and rejected. This does not, however, preclude a Sub-consultant, or the Consultant's staff from participating as Key Experts and Non-Key Experts in more than one Proposal when circumstances justify and if stated in the Data Sheet.   |
| 12 | <b>Proposal Validity</b>                 | <p>12.1 The Data Sheet indicates the period during which the Consultant's Proposal must remain valid after the Proposal submission deadline.</p> <p>12.2 During this period, the Consultant shall maintain its original Proposal without any change, including the availability of the Key Experts, the proposed rates and the total price.</p> <p>12.3 If it is established that any Key Expert nominated in the Consultant's Proposal was not available at the time of Proposal</p>   |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-2 – ITC & BDS**

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|     |  | submission or was included in the Proposal without his/her confirmation, such Proposal shall be disqualified and rejected for further evaluation, and may be subject to sanctions in accordance with Clause 5 of this ITC.   |
| (a) | <b>Extension of Validity Period</b>                      | <p>12.4 The Client will make its best effort to complete the negotiations within the proposal's validity period. However, should the need arise, the Client may request, in writing, all Consultants who submitted Proposals prior to the submission deadline to extend the Proposals' validity.</p> <p>12.5 If the Consultant agrees to extend the validity of its Proposal, it shall be done without any change in the original Proposal and with the confirmation of the availability of the Key Experts.</p> <p>12.6 The Consultant has the right to refuse to extend the validity of its Proposal in which case such Proposal will not be further evaluated.</p>  |
| (b) | <b>Substitution of Key Experts at Validity Extension</b> | <p>12.7 If any of the Key Experts become unavailable for the extended validity period, the Consultant shall provide a written adequate justification and evidence satisfactory to the Client together with the substitution request. In such case, a replacement Key Expert shall have equal or better qualifications and experience than those of the originally proposed Key Expert. The technical evaluation score, however, will remain to be based on the evaluation of the CV of the original Key Expert.</p> <p>12.8 If the Consultant fails to provide a replacement Key Expert with equal or better qualifications, or if the provided reasons for the replacement or justification are unacceptable to the Client, such Proposal will be rejected.</p> |
| (c) | <b>Sub-Contracting</b>                                   | 12.9 The Consultant shall not subcontract the whole of the Services.   |
| 13  | <b>Clarification and Amendment of RFP</b>                | 13.1 The Consultant may request a clarification of any part of the RFP during the period indicated in the Data Sheet before the Proposals' submission deadline. Any request for clarification must be sent in writing, or by standard electronic means, to the Client's address indicated in the Data Sheet. The Client will respond in writing, or by standard electronic means, and will send written copies of the response (including an explanation of the query but without identifying its source) to all the Consultants. Should the Client deem it necessary to amend the RFP as a result of a clarification, it shall do so following the procedure described below:   |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-2 – ITC & BDS**

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|    |   | <p>13.1.1 At any time before the proposal submission deadline, the Client may amend the RFP by issuing an amendment in writing or by standard electronic means. The amendment shall be sent to all the Consultants and will be binding on them. The Consultants shall acknowledge receipt of all amendments in writing.</p> <p>13.1.2 If the amendment is substantial, the Client may extend the proposal submission deadline to give the Consultants reasonable time to take an amendment into account in their Proposals.</p> <p>13.2 The Consultant may submit a modified Proposal or a modification to any part of it at any time prior to the proposal submission deadline. No modifications to the Technical or Financial Proposal shall be accepted after the deadline.</p>   |
| 14 | <b>Preparation of Proposals – Specific Considerations</b> | <p>14.1 While preparing the Proposal, the Consultant must give particular attention to the following:</p> <p>14.1.1 If a Consultant considers that it may enhance its expertise for the assignment by associating with other consultants in the form of a Joint Venture or as Sub-consultants, it may do so with another Consultant(s), if permitted in the Data Sheet.</p> <p>14.1.2 The Client may indicate in the Data Sheet the estimated Key Experts’ time input (expressed in person-month) or the Client’s estimated total cost of the assignment, but not both. This estimate is indicative and the Proposal shall be based on the Consultant’s own estimates for the same.</p> <p>14.1.3 If stated in the Data Sheet, the Consultant shall include in its Proposal at least the same time input (in the same unit as indicated in the Data Sheet) of Key Experts, failing which the Financial Proposal will be adjusted for the purpose of comparison of proposals and decision for award in accordance with the procedure in the Data Sheet.</p> <p>14.1.4 For assignments under the Fixed-Budget selection method, the estimated Key Experts’ time input is not disclosed. Total available budget, with an indication whether it is inclusive or exclusive of taxes, is given in the Data Sheet, and the Financial Proposal shall not exceed this budget.</p> |
| 15 | <b>Technical Proposal Format and Content</b>              | <p>15.1 The Technical Proposal shall not include any financial information. A Technical Proposal containing material financial information shall be declared non-responsive.</p> <p>15.1.1 Consultant shall not propose alternative Key Experts. Only one CV shall be submitted for each Key Expert position. Failure</p>  |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-2 – ITC & BDS**

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|  |  | <p>to comply with this requirement will make the Proposal non-responsive.</p> <p>15.2 Depending on the nature of the assignment, the Consultant is required to submit a Full Technical Proposal (FTP), or a Simplified Technical Proposal (STP) as indicated in the Data Sheet and using the Standard Forms provided in Section 3 of the RFP.</p>   |
| 16   | <b>Financial Proposal</b>                            | 16.1 The Financial Proposal shall be prepared using the Standard Forms provided in Section 4 of the RFP. It shall list all costs associated with the assignment, including (a) remuneration for Key Experts and Non-Key Experts, (b) reimbursable expenses indicated in the Data Sheet.   |
| (a)  | <b>Price Adjustment</b>                              | 16.2 For assignments with a duration exceeding 18 months, a price adjustment provision for foreign and/or local inflation for remuneration rates applies if so stated in the Data Sheet.  |
| (b)  | <b>Taxes</b>   | 16.3 The Consultant and its Sub-consultants and Experts are responsible for meeting all tax liabilities arising out of the Contract unless stated otherwise in the Data Sheet. Information on taxes in the Client's country is provided in the Data Sheet.  |
| (c)  | <b>Currency of Proposal</b>                          | 16.4 The Consultant may express the price for its Services in the currency or currencies as stated in the Data Sheet. If indicated in the Data Sheet, the portion of the price representing local cost shall be stated in the national currency.  |
| (d)  | <b>Currency of Payment</b>                           | 16.5 Payment under the Contract shall be made in the currency or currencies in which the payment is requested in the Proposal.  |
| <b>C. Submission, Opening and Evaluation</b> |  |   |
| 17   | <b>Submission, Sealing, and Marking of Proposals</b> | <p>17.1 The Consultant shall submit a signed and complete Proposal comprising the documents and forms in accordance with Clause 10 (Documents Comprising Proposal). The submission can be done by mail or by hand. If specified in the Data Sheet, the Consultant has the option of submitting its Proposals electronically.</p> <p>17.2 An authorized representative of the Consultant shall sign the original submission letters in the required format for both the Technical Proposal and, if applicable, the Financial Proposal and shall initial all pages of both. The authorization shall be in the form of a written power of attorney attached to the Technical Proposal.</p> |

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|  | <p>17.2.1 A Proposal submitted by a Joint Venture shall be signed by all members so as to be legally binding on all members, or by an authorized representative who has a written power of attorney signed by each member's authorized representative.</p> <p>17.3 Any modifications, revisions, interlineations, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the Proposal.</p> <p>17.4 The signed Proposal shall be marked "ORIGINAL", and its copies marked "COPY" as appropriate. The number of copies is indicated in the Data Sheet. All copies shall be made from the signed original. If there are discrepancies between the original and the copies, the original shall prevail.</p> <p>17.5 The original and all the copies of the Technical Proposal shall be placed inside of a sealed envelope clearly marked "TECHNICAL PROPOSAL", "[Name of the Assignment]", reference number, name and address of the Consultant, and with a warning "DO NOT OPEN UNTIL [INSERT THE DATE AND THE TIME OF THE TECHNICAL PROPOSAL SUBMISSION DEADLINE].</p> <p>17.6 Similarly, the original Financial Proposal (if required for the applicable selection method) shall be placed inside of a sealed envelope clearly marked "FINANCIAL PROPOSAL" followed by the name of the assignment, reference number, name and address of the Consultant, and with a warning "DO NOT OPEN WITH THE TECHNICAL PROPOSAL."</p> <p>17.7 The sealed envelopes containing the Technical and Financial Proposals shall be placed into one outer envelope and sealed. This outer envelope shall bear the submission address, RFP reference number, the name of the assignment, Consultant's name and the address, and shall be clearly marked "DO NOT OPEN BEFORE [insert the time and date of the submission deadline indicated in the Data Sheet]".</p> <p>17.8 If the envelopes and packages with the Proposal are not sealed and marked as required, the Client will assume no responsibility for the misplacement, loss, or premature opening of the Proposal.</p> <p>17.9 The Proposal or its modifications must be sent to the address indicated in the Data Sheet and received by the Client no later than the deadline indicated in the Data Sheet, or any extension to this deadline. Any Proposal or its modification received by the Client after the deadline shall be declared late and rejected, and promptly returned unopened</p> |
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**RFP for preparation FLS and DPR of East West sub Corridor – Section-2 – ITC & BDS**

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| 18 | <b>Confidentiality</b>               | <p>18.1 From the time the Proposals are opened to the time the Contract is awarded, the Consultant should not contact the Client on any matter related to its Technical and/or Financial Proposal. Information relating to the evaluation of Proposals and award recommendations shall not be disclosed to the Consultants who submitted the Proposals or to any other party not officially concerned with the process, until the publication of the Contract award information.</p> <p>18.2 Any attempt by Consultants or anyone on behalf of the Consultant to influence improperly the Client in the evaluation of the Proposals or Contract award decisions may result in the rejection of its Proposal.</p> <p>18.3 Notwithstanding the above provisions, from the time of the Proposals“ opening to the time of Contract award publication, if a Consultant wishes to contact the Client on any matter related to the selection process, it should do so only in writing.</p>   |
| 19 | <b>Opening of technical proposal</b> | <p>19.1 The Client’s evaluation committee shall conduct the opening of the Technical Proposals in the presence of the Consultants“ authorized representatives who choose to attend (in person, or online if this option is offered in the Data Sheet). The opening date, time and the address are stated in the Data Sheet. The envelopes with the Financial Proposal shall remain sealed and shall be securely stored with a reputable public auditor or independent authority until they are opened in accordance with Clause 23 of the ITC.</p> <p>19.2 At the opening of the Technical Proposals the following shall be read out: (i) the name and the country of the Consultant or, in case of a Joint Venture, the name of the Joint Venture, the name of the lead member and the names and the countries of all members; (ii) the presence or absence of a duly sealed envelope with the Financial Proposal; (iii) any modifications to the Proposal submitted prior to proposal submission deadline; and (iv) any other information deemed appropriate or as indicated in the Data Sheet.</p> |
| 20 | <b>Proposals Evaluation</b>          | <p>20.1 Subject to provision of Clause 15.1 of the ITC, the evaluators of the Technical Proposals shall have no access to the Financial Proposals until the technical evaluation is concluded.</p> <p>20.2 The Consultant is not permitted to alter or modify its Proposal in any way after the proposal submission deadline except as permitted under Clause 12.7 of this ITC. While evaluating the Proposals, the Client will conduct the evaluation solely on the basis of the submitted Technical and Financial Proposals.</p>  |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-2 – ITC & BDS**

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| 21 | <b>Evaluation of Technical Proposals</b>                                      | <p>21.1 The Client's evaluation committee shall evaluate the Technical Proposals on the basis of their responsiveness to the Terms of Reference and the RFP, applying the evaluation criteria, sub-criteria, and point system specified in the Data Sheet. Each responsive Proposal will be given a technical score. A Proposal shall be rejected at this stage if it does not respond to important aspects of the RFP or if it fails to achieve the minimum technical score indicated in the Data Sheet.</p>  |
| 22 | <b>Financial Proposals for QBS</b>  | <p>22.1 Following the ranking of the Technical Proposals, when the selection is based on quality only (QBS), the top-ranked Consultant is invited to negotiate the Contract.</p> <p>22.2 If Financial Proposals were invited together with the Technical Proposals, only the Financial Proposal of the technically top-ranked Consultant is opened by the Client's evaluation committee. All other Financial Proposals are returned unopened after the Contract negotiations are successfully concluded and the Contract is signed.</p>  |
| 23 | <b>Public Opening of Financial Proposals (for QCBS, FBS, and LCS methods)</b> | <p>23.1 After the technical evaluation is completed and the Client has issued its no objection (if applicable), the Client shall notify those Consultants whose Proposals were considered non-responsive to the RFP and TOR or did not meet the minimum qualifying technical score (and shall provide information relating to the Consultant's overall technical score, as well as scores obtained for each criterion and sub-criterion) that their Financial Proposals will be returned unopened after completing the selection process and Contract signing. The Client shall simultaneously notify in writing those Consultants that have achieved the minimum overall technical score and inform them of the date, time and location for the opening of the Financial Proposals. The opening date should allow the Consultants sufficient time to make arrangements for attending the opening. The Consultant's attendance at the opening of the Financial Proposals (in person, or online if such option is indicated in the Data Sheet) is optional and is at the Consultant's choice.</p> <p>23.2 The Financial Proposals shall be opened by the Client's evaluation committee in the presence of the representatives of those Consultants whose proposals have passed the minimum technical score. At the opening, the names of the Consultants, and the overall technical scores, including the break-down by criterion, shall be read aloud. The Financial Proposals will then be inspected to confirm that they have remained sealed and unopened. These Financial Proposals shall be then opened, and the total prices read aloud and recorded. Copies of the record shall be sent to all Consultants who submitted Proposals to the Client.</p> |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-2 – ITC & BDS**

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| 24  | <b>Correction of Errors</b>                     | 24.1 Activities and items described in the Technical Proposal but not priced in the Financial Proposal, shall be assumed to be included in the prices of other activities or items, and no corrections are made to the Financial Proposal.  |
| (a) | <b>Time-Based Contracts</b>                     | 24.1.1 If a Time-Based contract form is included in the RFP, the Client's evaluation committee will (a) correct any computational or arithmetical errors, and (b) adjust the prices if they fail to reflect all inputs included for the respective activities or items in the Technical Proposal. In case of discrepancy between (i) a partial amount (sub-total) and the total amount, or (ii) between the amount derived by multiplication of unit price with quantity and the total price, or (iii) between words and figures, the former will prevail. In case of discrepancy between the Technical and Financial Proposals in indicating quantities of input, the Technical Proposal prevails and the Client's evaluation committee shall correct the quantification indicated in the Financial Proposal so as to make it consistent with that indicated in the Technical Proposal, apply the relevant unit price included in the Financial Proposal to the corrected quantity, and correct the total Proposal cost. |
| (b) | <b>Lump-Sum Contracts</b>                       | 24.2 If a Lump-Sum contract form is included in the RFP, the Consultant is deemed to have included all prices in the Financial Proposal, so neither arithmetical corrections nor price adjustments shall be made. The total price, net of taxes understood as per Clause ITC 25 below, specified in the Financial Proposal (Form FIN-1) shall be considered as the offered price.   |
| 25  | <b>Taxes</b>                                    | 25.1 The Client's evaluation of the Consultant's Financial Proposal shall exclude taxes and duties in the Client's country in accordance with the instructions in the Data Sheet.   |
| 26  | <b>Conversion to Single Currency</b>            | 26.1 For the evaluation purposes, prices shall be converted to a single currency using the selling rates of exchange, source and date indicated in the Data Sheet.  |
| 27  | <b>Combined Quality and Cost Evaluation</b>     |   |
| (a) | <b>Quality- and Cost-Based Selection (QCBS)</b> | 27.1 In the case of QCBS, the total score is calculated by weighting the technical and financial scores and adding them as per the formula and instructions in the Data Sheet. The Consultant achieving the highest combined technical and financial score will be invited for negotiations.  |
| (b) | <b>Fixed-Budget Selection (FBS)</b>             | 27.2 In the case of FBS, those Proposals that exceed the budget indicated in Clause 14.1.4 of the Data Sheet shall be rejected.<br><br>27.3 The Client will select the Consultant that submitted the highest-ranked Technical Proposal that does not exceed the   |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-2 – ITC & BDS**

|                                  |                                    |  |
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|                                  |                                    | budget indicated in the RFP, and invite such Consultant to negotiate the Contract.   |
| (c)                              | <b>Least-Cost Selection</b>        | 27.4 In the case of Least-Cost Selection (LCS), the Client will select the Consultant with the lowest evaluated total price among those consultants that achieved the minimum technical score, and invite such Consultant to negotiate the Contract.   |
| <b>D. Negotiations and Award</b> |                                    |  |
| 28                               | <b>Negotiations</b>                | <p>28.1 The negotiations will be held at the date and address indicated in the Data Sheet with the Consultant’s representative(s) who must have written power of attorney to negotiate and sign a Contract on behalf of the Consultant.</p> <p>28.2 The Client shall prepare minutes of negotiations that are signed by the Client and the Consultant’s authorized representative.</p>   |
| (a)                              | <b>Availability of Key Experts</b> | <p>28.3 The invited Consultant shall confirm the availability of all Key Experts included in the Proposal as a pre-requisite to the negotiations, or, if applicable, a replacement in accordance with Clause 12 of the ITC. Failure to confirm the Key Experts’ availability may result in the rejection of the Consultant’s Proposal and the Client proceeding to negotiate the Contract with the next-ranked Consultant.</p> <p>28.4 Notwithstanding the above, the substitution of Key Experts at the negotiations may be considered if due solely to circumstances outside the reasonable control of and not foreseeable by the Consultant, including but not limited to death or medical incapacity. In such case, the Consultant shall offer a substitute Key Expert within the period of time specified in the letter of invitation to negotiate the Contract, who shall have equivalent or better qualifications and experience than the original candidate.</p> |
| (b)                              | <b>Technical negotiations</b>      | 28.5 The negotiations include discussions of the Terms of Reference (TORs), the proposed methodology, the Client’s inputs, the special conditions of the Contract, and finalizing the “Description of Services” part of the Contract. These discussions shall not substantially alter the original scope of services under the TOR or the terms of the contract, lest the quality of the final product, its price, or the relevance of the initial evaluation be affected.   |
| (c)                              | <b>Financial negotiations</b>      | 28.6 The negotiations include the clarification of the Consultant’s tax liability in the Client’s country and how it should be reflected in the Contract.  |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-2 – ITC & BDS**

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|    |                                   | <p>28.7 If the selection method included cost as a factor in the evaluation, the total price stated in the Financial Proposal for a Lump-Sum contract shall not be negotiated.</p> <p>28.8 In the case of a Time-Based contract, unit rates negotiations shall not take place, except when the offered Key Experts and Non-Key Experts’ remuneration rates are much higher than the typically charged rates by consultants in similar contracts. In such case, the Client may ask for clarifications.</p> <p>The format for (i) providing information on remuneration rates in the case of Quality Based Selection; and (ii) clarifying remuneration rates’ structure under Clause 28.8 above, is provided in Appendix A to the Financial Form FIN-3: Financial Negotiations – Breakdown of Remuneration Rates.</p> |
| 29 | <b>Conclusion of Negotiations</b> | <p>29.1 The negotiations are concluded with a review of the finalized draft Contract, which then shall be initialed by the Client and the Consultant’s authorized representative. 29.2 If the negotiations fail, the Client shall inform the Consultant in writing of all pending issues and disagreements and provide a final opportunity to the Consultant to respond. If disagreement persists, the Client shall terminate the negotiations informing the Consultant of the reasons for doing so. The Client will invite the next-ranked Consultant to negotiate a Contract. Once the Client commences negotiations with the next-ranked Consultant, the Client shall not reopen the earlier negotiations.</p>   |
| 30 | <b>Award of Contract</b>          | <p>30.1 After completing the negotiations the Client shall prepare the negotiated draft Contract; sign the Contract; publish the award information as per the instructions in the Data Sheet; and promptly notify the other Consultants.</p> <p>30.2 The Consultant is expected to commence the assignment on the date and at the location specified in the Data Sheet.</p>   |

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## Instructions to Consultants

## Bid Data Sheet

| A – General           |                         |  |
|-----------------------|-------------------------|--|
| ITC Clause References | Title Of the Sub Clause | Description  |
| 1(c)                  | Applicable Law          | Applicable Law shall mean, all Laws, Bye Laws, Statutes, Rules, regulations, Orders, ordinances, guidelines, Codes, Notices, directions, Judgments, decrees or other Requirements or Official directives and /or any Statutory Authority, in the <b>Republic of India</b> .  |
| 1(m)                  | Joint Venture           | <p>Replace the ITC Sub Clause 1.(m), as under;</p> <p>Joint Venture (JV), Consortium or Association shall mean an association with or without legal Personality distinct from that of Its Constituent Members, of more than One consultant where one Consultant, having the maximum stake &amp; being, designated, hereafter, as the Lead Member, has the authority to conduct all business for and on behalf of the any and all the members of the JV, Consortium or Association, and where the Members of the JV, Consortium or Association shall be jointly and severally liable, as manifestly reflected in the Specific JV /Consortium/Association Agreement , to the Client for the performance of the Contract.</p> <p>All the constituent Members of the JV, Consortium or Association shall be represented by respective Authorized Representative who shall be Authorized, by the designated Authority of the respective Constituent Member, carrying the necessary Authorization for issuing such Authorization to the Authorized Representative of the Constituent Member, by way of issuance of a “Power of Attorney (POA-1)” to the aforesaid Authorized Representative which (the POA) shall be valid for a period equivalent to “Time for Completion” subject to any change/replacement of the Authorized Representative through issuance of a fresh POA.</p> <p>All the constituent Members of the JV, Consortium or Association shall designate the Constituent Member having the maximum stake in the JV/Consortium/Association as Lead Member.</p> <p>All the constituent Members of the JV, Consortium or Association shall , subsequently, nominate the Authorized Representative of the Lead member as the Authorized Representative of the JV/Consortium/Association and issue of Power of Attorney (POA-2), jointly signed by all the Constituent Members of the JV/Consortium/Association, dully authorizing the such nominated (by all the constituent Members of the JV/Consortium/Association) Authorized Representative of the JV/Consortium/Association to carry out all the work or any of the acts/deeds or things, necessary to or incidental to the JV/Consortium/Association Proposal for the Contract, including submission of the proposal, participating in the Conferences, responding to queries, submission of information/document and generally represent the JV/Consortium/Association in all its dealings with the client or any other Government Agency or any Person, in connection with the Contract for the Assignment, until culmination of the process of the Tendering i.e. till Contract Agreement is entered into , by the Parties i.e. the client (DFCCIL) and Consultant () and thereafter till the expiry of the Contract Agreement. All the constituent Members shall, in addition, aver to ratify all acts, deeds and things</p> |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-2 – ITC & BDS**

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|     |                     | <p>lawfully done by the Authorized Representative of the JV/Consortium/Association, pursuant to this Power of Attorney (POA) and all such acts, deeds or things done by aforesaid Attorney shall, always, be deemed to have been done by the Constituent Members of the JV/Consortium/Association.</p> <p>Ministry of Commerce and Industry[Department of Industrial Policy and Promotion-Public Procurement section] <b>Order no-P-45021/2/2017-PP(BR-II) dated 28-05-2018</b> [ forming Annexure-P-1 to this section (Data Sheet)] having “ Public Procurement (Preference to Make in India) Order 2017-Revision regarding Department of Industrial Policy and Promotion, in Partial Modification of Order no-P-45021/2/2017-B.E.-II dated 15-06-2017, hereby issues the revised ‘Public Procurement (Preference to Make in India) Order 2017 with immediate effect” as Subject, <b>shall be applicable</b> and the Consultants are required to mention the Local content , in terms of Para 5 of the Order ( stipulating 50% as the Local content) in their ‘Technical Proposal submission Form”.</p> |
| 2.1 | <b>Introduction</b> | <p>Name of the Client-<b>Dedicated Freight Corridor Corporation of India Ltd.(DFCCIL)</b>,</p> <p>Selection Method-Quality and Cost Based Selection (QCBS)</p> <p>In the second line of ITC sub Clause 2.1, <b>delete the following Text;</b></p> <p><b>“from those listed in the Letter of invitation”</b></p>  |
| 2.2 |                     | <p>Financial Proposal to be submitted along with Technical proposal.</p> <p><b>Name of Assignment-</b> “Consultancy &amp; related Services for the preparation of Detailed Project Report(DPR), inclusive of Preliminary alignment development, optimization of Alignment, Final location survey (FLS) including Geo Technical survey, Geological mapping &amp; Hydrological Survey, preparation of Land Plans on Revenue Maps and also, inclusive of study for 2X25 KV Electrification, study for Signaling catering to ETCS-2, Study for Communication, all discipline [e.g. Civil, Electric &amp; S&amp;T] Quantity and Cost estimation, Environmental and Social impact Study , Maintenance study &amp; Traffic study-FIRR &amp; EIRR, Market demand survey, Cost Benefit analysis, Study regarding intermodal Transport Integration for New Dedicated Freight Corridor (DFC) namely -East West Sub Corridor comprised of sub Corridors-Bhusaval-Nagpur-Kharagpur- Dankuni (1673 RKM) and sub Corridor -Rajkharswan-Kalipahari-Andal-(195 RKM)”</p>  |
| 2.3 |                     | <p>Date of pre Proposal Conference-<b>20-05-2020 (Wednesday)</b></p> <p>Time- 1130 hrs. onwards</p> <p>Venue-Conference hall-, 4<sup>th</sup> floor, DFCCIL Corporate office, Supreme Court Metro Station Building Complex</p> <p>Conference coordinator-Praveen Kumar-GGM/P/WC</p> <p>Phone-011-23379815; Cell phone- 09717636822</p> <p>E Mail ID-praveenkumar@dfcc.co.in</p>  |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-2 – ITC & BDS**

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| 2.4   |   | <p>Client would provide all the Consultants the relevant record available with it in the form of earlier done ‘PETS Survey Report’ for the all the three corridors i.e. East Coast Corridor (Kharagpur-Vijayawada) – 1115 km, East West Sub Corridor [From Palgarh (near Mumbai) to Andal –totaling 1994.98 km and one Branch Line from Rajkharswan to Kamarkundu (near Dankuni)- totaling approx 333.09 km; <b>Total for Corridor -2328.01 kms</b>], and North South Corridor (Delhi - Chennai)- 2328 km, for reference purpose, only.<b>[Ref-Annexure-5 to TOR]</b></p> <p>The Parties [Consultant &amp; Client] agree that Sharing of aforesaid record shall be subject to sub Para 1.4.4 [ Disclaimer regarding earlier Reports]</p>   |
| 3.(b) | <b>Conflicting Assignments</b>            | <p>Supplement the ITC Sub Clause 3.(b) with the following Text,</p> <p>Notwithstanding any mention to the contrary in this RFP, Consultant shall be eligible, subject to satisfactorily fulfilling all the eligibility conditions for the subsequent Consultancy Contract, to submit Proposal for subsequent Consultancy Contracts e.g. Engg Service Consultants and / or Project Management Consultant for the same new DFC.</p>  |
| 4.1   | <b>Unfair Competitive Advantage</b>       | <p>As cited in ITC Sub Clause 2.4 above, Client would provide all the Consultants PETS Survey Report for the East West Sub Corridor [From Palgarh (near Mumbai) to Andal –totaling 1994.98 km and one Branch Line from Rajkharswan to Kamarkundu (near Dankuni)- totaling approx 333.09 km; <b>Total for Corridor -2328.01 kms</b>], for reference purpose, only.</p>  |
| 5.3   | <b>Corrupt &amp; Fraudulent Practices</b> | <p>Insert a <b>new sub Clause 5.3</b>, as under;</p> <p>As mentioned in Para-5 of the ‘Letter of invitation’, Consultant shall sign and submit “ <b>Pre-Contract Integrity Pact</b>” [ the format for “ <b>Pre-Contract Integrity Pact</b>” has been appended as <b>Appendix –E</b>] for the signature of the Client and <b>Consultant shall submit</b> the aforesaid “ <b>Pre-Contract Integrity Pact</b>”, thus <b>duly signed by both the Parties</b> ( Consultant &amp; Client) <b>along with their Technical Proposal</b>.</p>  |
| 6.1   | <b>Eligibility</b>                        | <p>In the second and third line of ITC sub Clause 6.1, add the following text after the text “....from all countries to offer Consulting services for the proposed Project”;</p> <p>“ As the project is of strategic importance and for the purpose of giving rail connectivity to border area, Consultants from neighbouring country having common border with India are not eligible to submit proposal either as a Sole Consultant or as a constituent of a Joint Venture/Consortium. Consultant from neighbouring country shall mean and include:</p> <ul style="list-style-type: none"> <li>(i) An individual who is a national of, or habitually resident in, any neighbouring country; or</li> <li>(ii) A body corporate which is incorporated in any neighbouring country; or</li> <li>(iii) An association or a body of individuals whose central management and control is exercised in any neighbouring country; or</li> <li>(iv) The government of neighbouring country and their instrumentalities; or</li> </ul> |



**RFP for preparation FLS and DPR of East West sub Corridor – Section-2 – ITC & BDS**

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|                                    |  | (v) Anybody corporate, association or body of individuals wherein any one or more of the entities mentioned in (i) to (iv) above have a financial or technical stake.”   |
| 6.3.1                              | <b>Sanctions</b>                                     | <p>In the First line of ITC sub Clause 6.3.1, insert the following text, after the Text “ A firm or an individual” and prior to Text “ Sanctioned by”</p> <p>“banned by Ministry of Railways and / or”</p> <p>Supplement the ITC sub Clause 6.3.1 , with the following text, as under;</p> <p>A list of Firms, banned by Ministry of Railways (MOR), is available at MOR website[<a href="http://www.indianrailways.gov.in/railwayboard/">http://www.indianrailways.gov.in/railwayboard/</a>]. Also, a list of debarred firms and Individuals is available at World BANK’s external website : <a href="http://www.worldBANK.org/debarr">www.worldBANK.org/debarr</a></p>   |
| 6.3.3                              | <b>Restrictions for Government-owned Enterprises</b> | Not Applicable.  |
| 6.3.4                              | <b>Restrictions for public employees</b>             | Not Applicable.  |
| <b>B - Preparation of Proposal</b> |  |  |
| 9.1                                | <b>Language</b>                                      | <p>This RFP has been issued in the English Language.</p> <p>Proposals shall be submitted in the English Language.</p> <p>All Correspondence exchange shall be in the English Language.</p>   |
| 10.1                               | <b>Document comprising the proposal</b>              | <p>The proposal shall comprise the following;</p> <p>For Full Technical Proposal (FTP)</p> <p>1<sup>st</sup> inner Envelope containing Technical Proposal</p> <ol style="list-style-type: none"> <li>(1) Check List-(Filled in by the Consultant)</li> <li>(2) Statement of undertaking(Ref-ITC sub Clause 10.2)</li> <li>(3) Power of Attorney to sign the Proposal</li> <li>(4) TECH-1- If the Proposal is submitted by a Joint venture, Consortium or association, attach a Letter of intent or Copy of the existing Agreement</li> <li>(5) TECH-2 - Consultants Organization and Experience</li> <li>(6) TECH-3- Comments/suggestions on the Terms of Reference</li> <li>(7) TECH-4- Description of the Approach, Methodology and work plan for performing the Assignment.</li> <li>(8) TECH-5- Work Schedule and Planning for Deliverables.</li> <li>(9) TECH-6- Team Composition, Key Experts Inputs and attached Curriculum Vitae (CV)</li> <li>(10) General Eligibility-Form-GEN-1</li> <li>(11) Financial Eligibility-Form-FE-1, FE-2</li> <li>(12) Experience eligibility-Form-EE-1.3.(a), EE-1.3.(b) &amp; EE-1.3.(c )</li> <li>(13) Pre Contract Integrity Pact-Appendix-E</li> </ol> <p>AND</p> |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-2 – ITC & BDS**

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|              |   | <p>2<sup>nd</sup> Inner Envelope with the Financial Proposal;</p> <p>(1) FIN-1 Financial Proposal Submission Form<br/> (2) FIN-2 Summary of costs<br/> (3) FIN-3 Breakdown of Remuneration<br/> (4) FIN-4 Reimbursable expenses.</p>  |
| 10.2         | <b>Documents comprising a Proposal</b>                  | Consultant shall submit a Statement of undertaking to observe, in competing for and executing a contract, the Client country's laws against fraud and corruption (including bribery).   |
| 11.1         | <b>Only one proposal</b>                                | Participation of Sub consultants, Key Experts and non-Key Expert in more than one Proposal is permissible.  |
| 12.1         | <b>Proposal validity</b>                                | The Proposals must remain valid for: <b>150 days</b> after the proposal submission deadline of <b>date 03-07-2020 i.e. up to 30-11-2020 (Monday)</b> .  |
| 12.5<br>12.6 | <b>Extension of Validity period</b>                     | <p>In the first line of ITC sub Clause 12.5, delete the Text "If the".</p> <p>Delete the ITC Sub Clause 12.6.</p>   |
| 13.1         | <b>Clarification and Amendment of RFP</b>               | <p>Consultants may send request for clarifications on RFP provisions which must reach DFCCIL no later than <b>28 days</b> prior to Proposal submission deadline of <b>03-07-2020 i.e. up to 05-06-2020 (Friday)</b>, as mentioned under ITC sub Clause 17.9 Data Sheet.</p> <p>Client shall provide Clarifications to Consultants' aforesaid request for clarification up to <b>10 Days prior to Proposal submission deadline of 03-07-2020</b> as mentioned under ITC sub Clause 17.9 Data Sheet i.e. up to <b>23-06-2020 (Tuesday)</b>. Client shall upload the aforesaid Clarifications on the DFCCIL website.</p> <p>Consultants shall frequently refer the DFCCIL website to download the DFCCIL Clarifications and Addendum/Corrigendum to RFP, if any, uploaded by the Client.</p> |
| 14.1.1       | <b>Preparation of Proposals-Specific considerations</b> | With a view to enhance their expertise for the Assignment, Consultants may associate with other Consultants.  |
| 14.1.2       |   | Estimated Key Experts time input- <b>118 Man months</b>   |
| 14.1.3       |   | Not Applicable  |
| 14.1.4       |   | Not applicable  |
| 15.1.1       | <b>Technical Proposal Forma and content</b>             | <p>Add the following at the end of Clause 15.1.1;</p> <p>"CVs should be signed by the respective Experts proposed for the assignment and countersigned Authorized Representative of the JV/Consortium/Association, in token of formal submission (by the bidding Consultant) of the concerned CV of the said Expert/Professional after due scrutiny at the Consultant's end. Electronic Signature of the expert is permitted provided it has been used with the permission of concerned Expert and his Services are available for the assignment."</p>  |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-2 – ITC & BDS**

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| 15.2  | <b>Technical Proposal format</b> | <p>The format of the technical Proposal to be submitted is ‘Full Technical Proposal (FTP)’.</p> <p>Submission of proposal in wrong format may lead to the Consultant’s Proposal being deemed as non-responsive to the RFP requirements.</p>   |
| 15.3  | <b>Bid Security</b>              | <p>Insert a new ITC sub Clause;</p> <p>Consultant shall furnish Bid security as part of its Proposal. The Bid security shall be a single Financial Instrument, in the name of the Consultant [i.e. in the name of the JV/Consortium/Association, submitting the proposal as the Consultant] in the form of a unconditional Bank Guarantee, for the amount of <b>INR 1.0 crores</b>, issued by an Indian Scheduled Bank. The beneficiary of the Bid security BG shall be <b>Dedicated Freight Corridor Corporation of India Limited</b>. The Bid security shall be valid for 28 days beyond the Bid Validity period, as defined under ITC sub Clause 12.1 Data sheet.</p>  |
| 16.1  | <b>Financial Proposal</b>        | <p>Consultant/s shall cover reimbursable items under FIN-4. For guidance some of the expenses are listed below</p> <p>(1) a per diem allowance, including hotel, for experts for every day of absence from the home office for the purposes of the Services;</p> <p>(2) cost of travel by the most appropriate means of transport and the most direct practicable route;</p> <p>(3) cost of office accommodation, including overheads and back-stop support;</p> <p>(4) communications costs;</p> <p>(5) cost of purchase or rent or freight of any equipment required to be provided by the Consultants;</p> <p>(6) cost of reports production (including printing) and delivering to the Client;</p> <p>(7) other allowances where applicable and provisional or fixed sums (if any)]</p> |
| 16.2  | <b>Price adjustment</b>          | Yes   |
| 16.3  | <b>Taxes</b>                     | Information on the Consultant’s tax obligations in the Client’s country can be found from the Government notification issued by respective Authority related with concerning tax [e.g. Income- tax, Goods and Services tax (GST)etc.]   |
| 16.4  | <b>Currency of Proposal</b>      | <p>The Financial Proposal shall be stated in the following currencies:</p> <p>Consultant may express the price for their Services in any fully convertible currency, singly or in combination of up to three foreign currencies.</p> <p>The Financial Proposal should state local costs in the Client’s country currency (local currency): Yes</p>  |
| <b>C - Submission, Opening and Evaluation</b> |                                  |   |

## RFP for preparation FLS and DPR of East West sub Corridor – Section-2 – ITC & BDS

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| 17.1        | <b>Submission, Sealing and Marking of the Proposals</b> | As specified in NIT[On line] and in ‘Letter of Invitation [Section-1], the Consultant shall submit their Proposal, upto 1400 hrs on <b>03-07-2020</b> , on <a href="http://www.tenderwizard.com/dfccil">www.tenderwizard.com/dfccil</a>   |
| 17.4        |   | On <a href="http://www.tenderwizard.com/dfccil">www.tenderwizard.com/dfccil</a> , the consultant shall submit;<br>(a) <b>Technical Proposal:</b> One Original and 01 Copy along with CD containing the complete Technical Proposal ( <b>only</b> ), both, in ‘ <b>read only PDF Format</b> ’ and in ‘ <b>MS Word Format</b> ’.<br><br>(b) <b>Financial Proposal:</b> one original and one Copy.<br><br>(c) Along with their Proposal, the Consultant shall, also, attach scan copy of the <b>RFP, as downloaded by the Consultant, and all the addenda &amp; Corrigenda</b> issued, subsequently; with each page of the aforesaid RFP, Addenda & Corrigenda duly signed (on the Consultant’s round Stamp) by Authorized Representative of the Proposal submitting Consultant. Client believes that Consultant shall keep a copy (both soft and hard) of the RFP, Addenda & Corrigenda, for record and future reference. |
| 17.7 & 17.9 |   | On <a href="http://www.tenderwizard.com/dfccil">www.tenderwizard.com/dfccil</a> , the proposals must be submitted, no later than i.e. <b>Proposal submission deadline</b> shall be, as under;<br><br><b>Date : 03-07-2020</b><br><br>Time:1400 hrs  |
| 17.10       | <b>Clarification of Proposals</b>                       | Insert a new ITC sub Clause 17.10<br><br>To assist in the examination, evaluation, and comparison of the Technical and Financial Proposals, and qualification of the Bidders, the Client may, at its discretion, ask any Consultant for a clarification of its Proposal. Any clarification submitted by a Consultant that is not in response to a request by the Client shall not be considered. The Client’s request for clarification and the Consultant’s response shall be in writing. No change in the substance of the Technical Proposal or prices in the Financial Proposal shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Client in the evaluation of the Financial Proposal  |
| 19.1        | <b>Opening of the Technical proposal</b>                | Consultant’s Proposals shall be opened on <a href="http://www.tenderwizard.com/dfccil">www.tenderwizard.com/dfccil</a> ; Upto <b>1500 hrs on 03-07-2020</b> .   |
| 21.1        | <b>Evaluation of Technical Proposal</b>                 | Criteria, sub Criteria and point system for the Evaluation of the Full <b>Technical proposal</b><br><br><b>A- Specific experience of the Consultant relevant to the Assignment- 30 points[ 10 Marks for LIDAR+10 Marks for FLS+05 Marks for Pre-Rail Electrification Study + 05 Marks for Pre Railway Infrastructure Construction Project -S&amp;T Study]</b><br><br><b>B- Adequacy and Quality of the Proposed methodology and work plan in response to Terms of reference(TOR)- 30 ;</b><br>i. Technical Approach and methodology-10<br>ii. Work plan-10<br>iii. Organization and staffing-10<br><br><b>C- Key Experts Qualification<sup>1</sup> and Competence<sup>1</sup> for the assignment- 40</b>  |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-2 – ITC & BDS**

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|              |   | <p>The number of points to be assigned to each of the 18 Key Experts positions (as listed under <b>Annexure-A-KE</b>) shall be determined considering the following three Sub criteria and relevant percentage weights</p> <p><b>General Qualifications (General Education, Training and experience) – 20%</b></p> <p><b>Adequacy for the assignment (relevant education, training, experience in the sector, similar assignments)-70%</b></p> <p><b>Relevant experience in the Region (working level fluency in local language(s), knowledge of local culture and administrative system &amp; Government organization etc. – 10%</b></p> <p><b>Total points for the above three Criteria – 100</b></p> <p><b>Minimum technical Score to Pass -70%</b></p> <p>1-Key Experts, their Qualification and experience is appended in ‘<b>Annexure [A-KE]</b>’ .</p> |
| 22           | <b>Financial Proposal for QBS</b>   | Not applicable  |
| 23.1         | <b>Public opening of Financial proposals (For QCBS, FBS and LCS method)</b> | <p>Financial Proposal opening date &amp; Time- To be conveyed, by the Client, after completion of Technical Proposal evaluation</p> <p>The opening of the Financial Proposals shall be on <a href="http://www.tenderwizard.com/dfccil">www.tenderwizard.com/dfccil</a></p>  |
| 24.1.1       | <b>Correction of errors ‘Time based Contracts</b>                           | Not applicable  |
| 25.1         | <b>Taxes</b>  | <p>For the purpose of the evaluation, the Client will exclude:(a)all applicable Local identifiable Taxes levied on the Contract invoices and (b) all additional Indirect local Taxes on the remuneration of the Services rendered by the non-resident Experts in the Client’s Country.</p> <p>If Contract is awarded, at Contract negotiations, all such taxes will be discussed, finalized (using the itemized list as a guidance but not limiting to it)and added to the Contract amount as a separate line, also indicating which taxes shall be paid by the Consultant and which taxes are withheld and paid by the Client on behalf of the Consultant.</p>   |
| 26.1         | <b>Conversion to single currency</b>  | <p>The single currency for the conversion of all prices expressed in various currencies into a single one is: INR.</p> <p>The official source of the selling (exchange) rate is: Financial Bench Marks India Pvt. Ltd [FIBL] Reference Rates</p> <p>The date of the exchange rate is: 28 days prior to deadline for Proposal submission deadline (Called Base Date).</p>  |
| 27.1<br>QCBS |   | The lowest evaluated Financial Proposal (Fm) is given the maximum financial score (Sf) of 100.  |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-2 – ITC & BDS**

|                                   |  |  |
|-----------------------------------|--|--|
|                                   | <b>Combined Quality and cost Evaluation</b>  | <p>The formula for determining the financial scores (Sf) of all other Proposals is calculated as following:</p> <p><math>Sf = 100 \times Fm / F</math>, in which “Sf” is the financial score, “Fm” is the lowest price, and “F” the price of the proposal under consideration.</p> <p>The weights given to the Technical (T) and Financial (P) Proposals are:</p> <p>T = 80%, and</p> <p>P = 20%</p> <p>Proposals are ranked according to their combined Technical (St) and financial (Sf) scores using the weights (T = the weight given to the Technical Proposal; P = the weight given to the Financial Proposal; T + P = 1) as following: <math>S = St \times T\% + Sf \times P\%</math>.</p> <p>The consultant, securing the maximum score i.e. highest Ranked Consultant (hereafter called highest ranked Consultant) shall be invited for Negotiations.</p> |
| 27.2 & 27.4                       | <b>Fixed Budget Selection (FBS)</b><br><br><b>And</b><br><b>Least-Cost selection</b> | Not Applicable   |
| <b>D - Negotiations and Award</b> |  |  |
| 28.1                              | <b>Negotiations</b>  | <p>After successful Evaluation of Technical &amp; Financial Proposals &amp; based upon the combined scores, in terms of ITC sub Clause 27.1 Data Sheet, Ranking of consultants shall be finalized to assess the highest ranked Consultant. Client shall invite the highest ranked consultant for Technical &amp; Financial Negotiation.</p> <p>Expected date for Contract Negotiations [Technical (28.5) &amp; Financial(28.6)] with highest ranked Consultant- <b>15-09-2020 [Tuesday]</b></p> <p>and;</p> <p>Address for the negotiations-</p> <p>Praveen Kumar,<br/>Room no-505,Fifth Floor,<br/>DFCCIL Corporate office<br/>Supreme Court Metro Station building complex<br/>Phone-011-23379815; Cell phone- 09717636822<br/>E MailID-praveenkumar@dfcc.co.in</p>  |
| 28.5 & 28.6                       | <b>Technical Negotiations &amp; Financial negotiations</b>                           | Technical & Financial Negotiations shall be held on the Agenda , containing specific issues, to be communicated by the Client to the Consultant, while extending the invitation to attend the Negotiation.   |
| 30.1                              | <b>Award of Contract</b>   | After successful Negotiation with highest ranked Consultant, Client shall issue “Letter of Acceptance”[LOA], clearly conveying Client’s acceptance of, revised Terms & conditions of this Consultancy Contract and Consultant’s  |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-2 – ITC & BDS**

|      |  |  |
|------|--|--|
|      | <p><b>Notification of Award</b></p> <p><b>Performance security</b></p> <p><b>Signing of the Contract Agreement</b></p> | <p>revised offer [if applicable]. The LOA shall be a binding contract between the Client and Consultant till a formal Contract is signed by the Parties. Consultant shall, promptly, acknowledge the receipt of LOA, in writing.</p> <p>Within &amp; upto 28 Days after receiving the LOA, Consultant shall furnish The <b>Performance security</b> which shall be a single Financial Instrument, in the name of the Consultant [i.e. in the name of the JV/Consortium/Association, submitting the proposal as the Consultant] in the form of a unconditional Bank Guarantee, for an amount , equivalent to <b>5.0%</b> of the accepted Contract Amount [in respective Contract Currencies, both Local &amp; Foreign currencies], as stated in the LOA, issued by an Indian Scheduled Bank. The beneficiary of the Performance Security BG shall be <b>Dedicated Freight Corridor Corporation of India Limited</b>. The Performance Security shall be valid for a period of 28 days more than the Completion period, as stated in the Payment Schedule -Annxure-1 to Terms of Reference (TOR-Appendix-A) of the RFP and subject to further extensions, as required and so requested by the Client. In Case, Consultant does not extend the validity of the Performance security BG, it shall form a ground for Client opting to encash the Bank Guarantee.</p> <p>The Publication of Contract Award information following the completion of the Contract Negotiations and contract signing will be done as following ;</p> <p>The publication will be done on on <a href="http://www.tenderwizard.com/dfccil">www.tenderwizard.com/dfccil</a> and on DFCCIL website <a href="http://www.dfccil.com">www.dfccil.com</a> within 15 days after Contract Signing.</p> <p>After signing of Contract by the Parties, Bid security of successful and non successful Consultant shall be returned.</p> |
| 30.2 | <b>Commencement of Services</b>  | Expected date for the commencement of the services- <b>23-11-2020</b> [Monday]   |

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Annexure-P-1

No. P-45021/2/2017-PP (BE-II)  
Government of India  
Ministry of Commerce and Industry  
Department of Industrial Policy and Promotion  
(Public Procurement Section)  
\*\*\*\*

Dated 28<sup>th</sup> May, 2018  
Udyog Bhawan, New Delhi

To  
All Central Ministries/Departments/CPSUs/All concerned

**ORDER**

**Subject:** Public Procurement (Preference to Make in India), Order 2017 – Revision; regarding.

Department of Industrial Policy and Promotion, in partial modification of Order No.P-45021/2/2017-B.E.-II dated 15.6.2017, hereby issues the revised 'Public Procurement (Preference to Make in India), Order 2017' with immediate effect:-

Whereas it is the policy of the Government of India to encourage 'Make in India' and promote manufacturing and production of goods and services in India with a view to enhancing income and employment, and

Whereas procurement by the Government is substantial in amount and can contribute towards this policy objective, and

Whereas local content can be increased through partnerships, cooperation with local companies, establishing production units in India or Joint Ventures (JV) with Indian suppliers, increasing the participation of local employees in services and training them,

**Now therefore the following Order is issued :**

1. This Order is issued pursuant to Rule, 153 (iii) of the General Financial Rules 2017.

2. **Definitions:** For the purposes of this Order:

'Local content' means the amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value, in percent.

'Local supplier' means a supplier or service provider whose product or service offered for procurement meets the minimum local content as prescribed under this Order or by the competent Ministries / Departments in pursuance of this order.

'L1' means the lowest tender or lowest bid or the lowest quotation received in a tender, bidding process or other procurement solicitation as adjudged in the evaluation process as per the tender or other procurement solicitation.

'margin of purchase preference' means the maximum extent to which the price quoted by a local supplier may be above the L1 for the purpose of purchase preference.

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-2-

'Procuring entity' means a Ministry or department or attached or subordinate office of, or autonomous body controlled by, the Government of India and includes Government companies as defined in the Companies Act.

3. **Requirement of Purchase Preference:** Subject to the provisions of this Order and to any specific instructions issued by the Nodal Ministry or in pursuance of this Order, purchase preference shall be given to local suppliers in all procurements undertaken by procuring entities in the manner specified hereunder:
- a. In procurement of goods in respect of which the Nodal Ministry has communicated that there is sufficient local capacity and local competition, and where the estimated value of procurement is Rs. 50 lakhs or less, only local suppliers shall be eligible. If the estimated value of procurement of such goods is more than Rs. 50 lakhs, the provisions of sub-paragraph b or c, as the case may be, shall apply.
  - b. In the procurements of goods which are not covered by paragraph 3a and which are divisible in nature, the following procedure shall be followed:
    - i. Among all qualified bids, the lowest bid will be termed as L1. If L1 is from a local supplier, the contract for full quantity will be awarded to L1.
    - ii. If L1 bid is not from a local supplier, 50% of the order quantity shall be awarded to L1. Thereafter, the lowest bidder among the local suppliers, will be invited to match the L1 price for the remaining 50% quantity subject to the local supplier's quoted price falling within the margin of purchase preference, and contract for that quantity shall be awarded to such local supplier subject to matching the L1 price. In case such lowest eligible local supplier fails to match the L1 price or accepts less than the offered quantity, the next higher local supplier within the margin of purchase preference shall be invited to match the L1 price for remaining quantity and so on, and contract shall be awarded accordingly. In case some quantity is still left uncovered on local suppliers, then such balance quantity may also be ordered on the L1 bidder.
  - c. In procurements of goods not covered by sub-paragraph 3a and which are not divisible, and in procurement of services where the bid is evaluated on price alone, the following procedure shall be followed:
    - i. Among all qualified bids, the lowest bid will be termed as L1. If L1 is from a local supplier, the contract will be awarded to L1.
    - ii. If L1 is not from a local supplier, the lowest bidder among the local suppliers, will be invited to match the L1 price subject to local supplier's quoted price falling within the margin of purchase preference, and the contract shall be awarded to such local supplier subject to matching the L1 price.
    - iii. In case such lowest eligible local supplier fails to match the L1 price, the local supplier with the next higher bid within the margin of purchase preference shall be invited to match the L1 price and so on and contract shall be awarded accordingly. In case none of the local suppliers within the margin of purchase preference matches the L1 price, then the contract may be awarded to the L1 bidder.

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4. **Exemption of small purchases:** Notwithstanding anything contained in paragraph 3, procurements where the estimated value to be procured is less than Rs. 5 lakhs shall be exempt from this Order. However, it shall be ensured by procuring entities that procurement is not split for the purpose of avoiding the provisions of this Order.
5. **Minimum local content:** The minimum local content shall ordinarily be 50%. The Nodal Ministry may prescribe a higher or lower percentage in respect of any particular item and may also prescribe the manner of calculation of local content.
6. **Margin of Purchase Preference:** The margin of purchase preference shall be 20%.
7. **Requirement for specification in advance:** The minimum local content, the margin of purchase preference and the procedure for preference to Make in India shall be specified in the notice inviting tenders or other form of procurement solicitation and shall not be varied during a particular procurement transaction.
8. **Government E-marketplace:** In respect of procurement through the Government E-marketplace (GeM) shall, as far as possible, specifically mark the items which meet the minimum local content while registering the item for display, and shall, wherever feasible, make provision for automated comparison with purchase preference and without purchase preference and for obtaining consent of the local supplier in those cases where purchase preference is to be exercised.
9. **Verification of local content:**
  - a. The local supplier at the time of tender, bidding or solicitation shall be required to provide self-certification that the item offered meets the minimum local content and shall give details of the location(s) at which the local value addition is made.
  - b. In cases of procurement for a value in excess of Rs. 10 crores, the local supplier shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.
  - c. Decisions on complaints relating to implementation of this Order shall be taken by the competent authority which is empowered to look into procurement-related complaints relating to the procuring entity.
  - d. Nodal Ministries may constitute committees with internal and external experts for independent verification of self-declarations and auditor's/ accountant's certificates on random basis and in the case of complaints.
  - e. Nodal Ministries and procuring entities may prescribe fees for such complaints.
  - f. False declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.
  - g. A supplier who has been debarred by any procuring entity for violation of this Order shall not be eligible for preference under this Order for procurement by any other procuring entity for the

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-4-

duration of the debarment. The debarment for such other procuring entities shall take effect prospectively from the date on which it comes to the notice of other procurement entities, in the manner prescribed under paragraph 9h below.

- h. The Department of Expenditure shall issue suitable instructions for the effective and smooth operation of this process, so that:
  - i. The fact and duration of debarment for violation of this Order by any procuring entity are promptly brought to the notice of the Member-Convenor of the Standing Committee and the Department of Expenditure through the concerned Ministry /Department or in some other manner;
  - ii. on a periodical basis such cases are consolidated and a centralized list or decentralized lists of such suppliers with the period of debarment is maintained and displayed on website(s);
  - iii. in respect of procuring entities other than the one which has carried out the debarment, the debarment takes effect prospectively from the date of uploading on the website(s) in the such a manner that ongoing procurements are not disrupted.

**10. Specifications in Tenders and other procurement solicitations:**

- a. Every procuring entity shall ensure that the eligibility conditions in respect of previous experience fixed in any tender or solicitation do not require proof of supply in other countries or proof of exports.
- b. Procuring entities shall endeavour to see that eligibility conditions, including on matters like turnover, production capability and financial strength do not result in unreasonable exclusion of local suppliers who would otherwise be eligible, beyond what is essential for ensuring quality or creditworthiness of the supplier.
- c. Procuring entities shall, within 2 months of the issue of this Order review all existing eligibility norms and conditions with reference to sub-paragraphs 'a' and 'b' above.
- d. If a Nodal Ministry is satisfied that Indian suppliers of an item are not allowed to participate and/ or compete in procurement by any foreign government, it may, if it deems appropriate, restrict or exclude bidders from that country from eligibility for procurement of that item and/ or other items relating to that Nodal Ministry. A copy of every instruction or decision taken in this regard shall be sent to the Chairman of the Standing Committee.
- e. For the purpose of sub-paragraph 10 d above, a supplier or bidder shall be considered to be from a country if (i) the entity is incorporated in that country, or ii) a majority of its shareholding or effective control of the entity is exercised from that country; or (iii) more than 50% of the value of the item being supplied has been added in that country. Indian suppliers shall mean those entities which meet any of these tests with respect to India."

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
-5-

11. **Assessment of supply base by Nodal Ministries:** The Nodal Ministry shall keep in view the domestic manufacturing / supply base and assess the available capacity and the extent of local competition while identifying items and prescribing minimum local content or the manner of its calculation, with a view to avoiding cost increase from the operation of this Order.
12. **Increase in minimum local content:** The Nodal Ministry may annually review the local content requirements with a view to increasing them, subject to availability of sufficient local competition with adequate quality.
13. **Manufacture under license/ technology collaboration agreements with phased indigenization:** While notifying the minimum local content, Nodal Ministries may make special provisions for exempting suppliers from meeting the stipulated local content if the product is being manufactured in India under a license from a foreign manufacturer who holds intellectual property rights and where there is a technology collaboration agreement / transfer of technology agreement for indigenous manufacture of a product developed abroad with clear phasing of increase in local content.
14. **Powers to grant exemption and to reduce minimum local content:** Ministries /Departments of Government of India and the Boards of Directors of Government companies or autonomous bodies may, by written order,
  - a. reduce the minimum local content below the prescribed level;
  - b. reduce the margin of purchase preference below 20% ;
  - c. exempt any particular item or procuring or supplying entities or class or classes of items or procuring or supplying entities from the operation of this Order or any part of the Order.A copy of every such order shall be marked to the Member-Convenor of the Standing Committee constituted under this Order.
15. **Directions to Government companies:** In respect of Government companies and other procuring entities not governed by the General Financial Rules, the administrative Ministry or Department shall issue policy directions requiring compliance with this Order.
16. **Standing Committee:** A standing committee is hereby constituted with the following membership:
  - Secretary, Department of Industrial Policy and Promotion—Chairman
  - Secretary, Commerce—Member
  - Secretary, Ministry of Electronics and Information Technology—Member
  - Joint Secretary (Public Procurement), Department of Expenditure—Member
  - Joint Secretary (DIPP)—Member-ConvenorThe Secretary of the Department concerned with a particular item shall be a member in respect of issues relating to such item. The Chairman of the Committee may co-opt technical experts as relevant to any issue or class of issues under its consideration.

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-6-

17. **Functions of the Standing Committee:** The Standing Committee shall meet as often as necessary but not less than once in six months. The Committee
- shall oversee the implementation of this order and issues arising therefrom, and make recommendations to Nodal Ministries and procuring entities.
  - shall annually assess and periodically monitor compliance with this Order
  - shall identify Nodal Ministries and the allocation of items among them for issue of notifications on minimum local content
  - may require furnishing of details or returns regarding compliance with this Order and related matters
  - may, during the annual review or otherwise, assess issues, if any, where it is felt that the manner of implementation of the order results in any restrictive practices, cartelization or increase in public expenditure and suggest remedial measures
  - may examine cases covered by paragraph 13 above relating to manufacture under license/ technology transfer agreements with a view to satisfying itself that adequate mechanisms exist for enforcement of such agreements and for attaining the underlying objective of progressive indigenization
  - may consider any other issue relating to this Order which may arise.
18. **Removal of difficulties:** Ministries /Departments and the Boards of Directors of Government companies may issue such clarifications and instructions as may be necessary for the removal of any difficulties arising in the implementation of this Order.
19. **Ministries having existing policies:** Where any Ministry or Department has its own policy for preference to local content approved by the Cabinet after 1<sup>st</sup> January 2015, such policies will prevail over the provisions of this Order. All other existing orders on preference to local content shall be reviewed by the Nodal Ministries and revised as needed to conform to this Order, within two months of the issue of this Order.
20. **Transitional provision:** This Order shall not apply to any tender or procurement for which notice inviting tender or other form of procurement solicitation has been issued before the issue of this Order.

  
(B. S. Nayak)  
Under Secretary to Government of India  
Ph. 23061257

## **SECTION-3**

### **Evaluation and Qualification Criteria**



## **Eligibility & Evaluation**

|   |  |
|---|--|
| 1 | <p>As conveyed vide Para-8 of section- Letter of invitation, It is reiterated that the selection of the consultants shall be through <b>Quality cum cost Based System (QCBS)</b> with weightages accorded to Technical &amp; Financial proposals bearing a ratio of 80:20. Overall ranking of the consultants shall be done on the basis of overall score worked out after applying the aforesaid weightages of 80: 20 to the Technical and Financial Scores achieved by the Consultants.</p> <p><b>Evaluation Sequence</b></p> <p>Proposal shall be evaluated through following stages;</p> <ol style="list-style-type: none"> <li>1. Stage-1- Technical Proposal Evaluation</li> <li>2. Stage-2-Financial Proposal Evaluation</li> <li>3. Stage-3-Negotiation &amp;</li> <li>4. Award</li> </ol>   |
|   | <b>General Provisions regarding Evaluation</b>   |
| 2 | <p><b>Clarification of Proposal</b></p> <p>As mentioned in ITC sub Clause 17.10 Data Sheet &amp; If clarification is required, the Client will send written requests to the concerned Consultant, for clarification, specifying the deadline for receipt of reply. Replies will generally be required within a maximum of seven (7) days.</p>  |
| 3 | <p><b>Client 's Rights</b></p> <ol style="list-style-type: none"> <li>(i) The Client reserves the right to accept or reject any variation or deviation from the requirements, stipulated in the RFP.</li> <li>(ii) The Employer, also, reserves the right to waive minor deviations if, in the opinion of the Employer they do not materially affect the capability of a Consultant to perform the Contract satisfactorily.</li> </ol>   |
| 4 | <p><b>Proposal Forms</b></p> <ol style="list-style-type: none"> <li>(i) Consultants should note that the information required to be inserted into the Given Proposal Forms shall be comprehensive and detailed.</li> <li>(ii) Consultant would be responsible for ensuring that all the Proposal Forms, stipulated in this RFP, are filled, strictly, in accordance with the format given in this RFP, and submitting the same along with necessary documentation /Documentary evidence, as required therein, on <a href="http://www.tenderwizard.com/dfccil">www.tenderwizard.com/dfccil</a>.</li> <li>(iii) Any Consultant who is found to have intentionally submitted false or inaccurate statements/information shall be disqualified from the Tendering process, and may also be disqualified from future projects of the Employer.</li> </ol>               |
|   | <p><b>Stage-1-Technical Proposal Evaluation</b></p> <ol style="list-style-type: none"> <li>1. On the date stipulated in the RFP (ITC sub Clause 19.1 Data Sheet), the Consultants proposals shall be opened, on <a href="http://www.tenderwizard.com/dfccil">www.tenderwizard.com/dfccil</a>, in the presence of Tender Evaluation committee (TEC) at the stipulated time. The envelopes/Packets containing the financial Proposals shall be kept unopened in a fresh separate envelope which shall be sealed by the TEC, in presence of those entire Consultants' representatives who choose to attend.</li> <li>2. During the Evaluation of Technical proposal ; <ol style="list-style-type: none"> <li>2.1 Completion submission of requisite Forms and Documentation shall be checked in terms of Check list , attached as Attachment-1</li> </ol> </li> </ol> |



**RFP for preparation FLS and DPR of East West sub Corridor – Section-3- EQC**

|  |   |
|--|---|
|  | <p>2.2 Consultant Technical proposal shall be evaluated by assigning marks on various Parameters, mentioned therein the ITC sub Clause 21.1, to arrive at the ‘ overall Technical Score’ as cited under ITC sub Clause 21.1 Data sheet.</p> <p>2.3 As mentioned therein the ITC sub Clause 21.1, Consultants, whose Technical Proposals were adjudged to be responsive to the requirements of the RFP; i.e. Consultant has scored the qualifying Minimum overall Technical Score-70% shall be invited by informing the consultant of the Date , time and location for the opening of the ‘Financial Proposal’, in terms of the ITC sub Clause 23.1 Data sheet.</p>  |
|  | <p><b>Stage-2-Financial Evaluation Proposal</b></p> <ol style="list-style-type: none"><li>1. On the Date &amp; Time , as conveyed to the Consultant for the opening of the Financial Proposal, the Financial Proposals of those Consultants , whose Technical Proposals were adjudged to be responsive to the requirements of the RFP, shall be opened on <a href="http://www.tenderwizard.com/dfccil">www.tenderwizard.com/dfccil</a>, in the presence of the TEC.</li><li>2. Evaluation of Financial Proposal shall be done by the TEC by assigning marks, as mentioned therein the ITC sub Clause 27.1, to arrive at the ‘ overall Financial Score’ as cited under ITC sub Clause 27.1(QCBS) Data sheet.</li></ol>   |
|  | <p><b>Ranking of Consultants</b></p> <ol style="list-style-type: none"><li>1. After successful Completion of Technical &amp; Financial Evaluations, the Consultants are ranked as per Formula, appended in ITC sub Clause 27.1.</li><li>2. In terms of ITC sub Clause 27.1, the consultant, securing the maximum score i.e. highest Ranked Consultant (hereafter called highest ranked Consultant) shall be invited for Negotiations</li></ol>  |
|  | <p><b>Stage-3-Negotiation &amp; Award</b></p> <ol style="list-style-type: none"><li>1. <b>Negotiation (both Technical &amp; Financial)</b> shall, only, be held with the highest Ranked Consultant (hereafter called highest ranked Consultant) on the various issues , captured, under, ‘Agenda for negotiation’ as prepared by the TEC and so conveyed to the highest Ranked Consultant, on the Date and time, as conveyed to the highest Ranked Consultant, in advance, by the TEC.</li><li>2. After successful completion of the Negotiation, Client shall issue Letter of Acceptance, in terms of ITC sub Clause 30.1 to the highest Ranked Consultant.</li><li>3. In terms of ITC sub Clause 30.1 and within &amp; upto 28 Days after receiving the LOA, Consultant shall furnish the <b>Performance security</b>.</li><li>4. In terms of ITC sub Clause 30.1, the Contract shall be signed by the Parties (both Client and Consultant). After signing of the Contract, as conveyed in ITC sub Clause 30.1, Bid security of all the non successful Consultants and successful Consultants, shall be returned.</li></ol> |

# RFP for preparation FLS and DPR of East West sub Corridor – Section-3- EQC

Attachment-1

For RFP no & Date-2020/HQ/EN/PWC/Future Corridor/RFP/DPR/Package-2, dated 04-05-2020

Consultant's Name-

## Check list

| Sl.no.                      | Requirement of the technical Proposal   | Reference RFP Clause           | Consultant -1 |                  |
|-----------------------------|---|--------------------------------|---------------|------------------|
|                             |   |                                | Yes/No        | Ref <sup>1</sup> |
| 01                          | Letter of Technical Proposal<br><i>[If the Proposal is submitted by a joint venture, attach a letter of intent or a copy of an existing agreement].</i>   | Form-TECH-1                    |               |                  |
| 02                          | One Technical Proposal downloaded from <a href="http://www.tenderwizard.com/dfccil">www.tenderwizard.com/dfccil</a>   | ITC sub Clause 17.4 Data sheet |               |                  |
| 03                          | All Pages of Technical Proposal serially & uniquely numbered and cross referenced duly reflected in an Index  | Note-1, below                  |               |                  |
| 04                          | All Pages of Technical Proposal signed by Authorized Representative of the Consultant [ of the Consortium/JV/Association, in case Consultant is a JV/Consortium/Association],<br><br>And/or<br><br>By the Authorized Representatives of each of the Constituent Members [In case Consultant is a JV/Consortium/Association], as per requirement stated therein. | Note-1, below                  |               |                  |
| 05                          | Validity of the Proposal-150 days after the Proposal submission deadline  | ITC sub Clause 12.1 Data sheet |               |                  |
| 06                          | Financial instrument, in submission of the <b>Bid Security</b>  | ITC sub Clause 15.3 Data sheet |               |                  |
| 07                          | Power of attorney (on Stamp Paper, duly Notarized) in respect of authorized Representative of each Constituent member of the JV/Consortium/Association  | Form-POA-1                     |               |                  |
| 08                          | Power of attorney (on Stamp Paper, duly Notarized) in respect of authorized Representative of Lead Partner, as Authorized Representative of the JV/Consortium/Association, duly signed by each Constituent member of the JV/Consortium/Association  | Form-POA-2                     |               |                  |
| <b>Eligibility Criteria</b> |   |                                |               |                  |
| 09                          | 1-General Eligibility   |                                |               |                  |
| 9.1                         | Form-GEN-1  |                                |               |                  |
| 10                          | 2-Financial Eligibility   |                                |               |                  |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-3- EQC**

|  |  |            |  |  |
|--|--|------------|--|--|
| 10.1   | Form-FE-1  |            |  |  |
| 10.2   | Form-FE-2  |            |  |  |
| 11   | 3-Experience eligibility   |            |  |  |
| 11.1   | Form-EE-1-3.(a)  |            |  |  |
| 11.2   | Form-EE-1-3.(b)  |            |  |  |
| 11.3   | Form-EE-1-3.(c)  |            |  |  |
| 11.4   | Form-EE-1-3.(d)  |            |  |  |
| <b>Evaluation Criteria-Technical Proposal [ Ref- ITC sub Clause 15.1, 15.2 with ITC sub Clause 10.1 Data Sheet] as submitted on <a href="http://www.tenderwizard.com/dfccil">www.tenderwizard.com/dfccil</a></b>                                   |  |            |  |  |
| 12   | Consultant's Organization and Experience.  | TECH-2     |  |  |
| 13   | Consultant's Organization  | TECH-2A    |  |  |
| 14   | Consultant's total Experience  | TECH-2B    |  |  |
| 15   | Comments or Suggestions on the;<br>TECH-3A-Terms of Reference;<br><br>TECH-3B-on Counterpart Staff and Facilities to be provided by the Client and ;<br><br>TECH-3C-Deviation Statement from Consultant to show clause wise deviation of their Proposal from RFP and Addenda | TECH-3     |  |  |
| 16   | A. On the Terms of Reference   | TECH-3A    |  |  |
| 17   | B. On the Counterpart Staff and Facilities   | TECH-3B    |  |  |
| 18   | Description of the Approach, Methodology, and Work Plan for Performing the Assignment  | TECH-4     |  |  |
| 19   | Work Schedule and Planning for Deliverables  | TECH-5     |  |  |
| 20   | Team Composition, Key Experts Inputs, and attached Curriculum Vitae (CV)   | TECH-6     |  |  |
| <b>Evaluation Criteria-Financial Proposal [ Ref- ITC sub Clause 16.1(Data sheet), 16.2, 16.3,16.4 &amp; 16.5 with ITC sub Clause 10.1 Data Sheet] as submitted on <a href="http://www.tenderwizard.com/dfccil">www.tenderwizard.com/dfccil</a></b> |  |            |  |  |
| 21   | Financial Proposal Submission form   | Form-FIN-1 |  |  |
| 22   | Summary of Costs   | Form-FIN-2 |  |  |
| 23   | Break Down of remuneration   | Form-FIN-3 |  |  |
| 24   | Break Down of reimbursable Expenses  | Form-FIN-4 |  |  |
| <b>Provision regarding Corrupt &amp; Fraudulent Practices-[Ref- Para-5 of the Letter of invitation &amp; ITC sub Clause 5.1 Data Sheet] as submitted on <a href="http://www.tenderwizard.com/dfccil">www.tenderwizard.com/dfccil</a></b>           |  |            |  |  |
| 25   | Pre-Contract Integrity Pact  | Appendix-E |  |  |

### **RFP for preparation FLS and DPR of East West sub Corridor – Section-3- EQC**

1. *Specific Reference Page of the Technical & Financial Proposal' as submitted on and downloaded from [www.tenderwizard.com/dfccil](http://www.tenderwizard.com/dfccil) i.e.*

*It is an absolute requirement that all the Pages i.e. each Page of the original Technical and Financial Proposal shall be uniquely numbered and self explanatorily, cross referenced. The cross Referencing of all the pages shall be visibly reflected in a suitably designed Index, to facilitate the Client in ready referral.*

*All the Pages i.e. each Page of the original Technical and Financial Proposal shall be initialed, on the round stamp of the Consultant, by the same authorized representative of the Consultant who signs the Proposal, also clearly mentioning the Name, Designation & the Firm of the aforesaid Authorized Representative in a signature block on each page ; except stated otherwise on a particular Document e.g. (i) Form-TECH-1-Technical Proposal submission Form and (ii) Form-FIN-1-Financial Proposal submission Form which are required to be signed by each of the constituent Members, if the Consultant is a JV/Consortium/Association, as specifically stated therein;.*

#### **Certificate by the Consultant**

- (i) Undersigned, certifies that Consultant's proposal is in full compliance with all the requirements , stipulated in the RFP and all the subsequently issued addenda,
- (ii) Further, Consultant certifies that the information regarding complete submission of the all the above cited Documents, placed at Reference given above, is correct without any deviation.

|  |  |
|--|--|
| Consultant's Authorized representative Signature on Consultant's round Stamp |  |
| Name   |  |
| Designation  |  |
| Lead Partner-Firm  |  |
| E Mail ID  |  |

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**RFP for preparation FLS and DPR of East West sub Corridor – Section-3- EQC****Eligibility**

For RFP no &amp; Date-2020/HQ/EN/PWC/Future Corridor/RFP/DPR/Package-2, dated 04-05-2020

Bidding consultant's / Lead Partner &amp; Each Partner's Name-

| sn                    | Criteria  | Single entity             | JV/Consortium/Association |                           |                           | Document   |
|-----------------------|---|---------------------------|---------------------------|---------------------------|---------------------------|--|
|                       |   |                           | All partners combined     | Each partner              | Lead Partner              | Submission requirement   |
|                       |   |                           |                           |                           |                           |  |
| 1.General Eligibility |   |                           |                           |                           |                           |  |
| 1                     | Conflict of interest  | Must meet the requirement | Must meet the requirement | Must meet the requirement | Must meet the requirement | Letter of Technical bid Containing an undertaking  |
|                       | No Conflict of interest in terms of ITC sub Clause -3   |                           |                           |                           |                           |  |
| 2                     | Corrupt Practices<br>Not having been declared ineligible by the Employer as described in ITC Sub- Clause 5.3  | Must meet the requirement | Must meet the requirement | Must meet the requirement | Must meet the requirement | Consultant to sign Integrity Pact with DFCCIL (Client) as issued by Ministry of heavy industries (DPE) vide office memorandum no-DPE/13(12)/11-FIN dated 09-09-2011, as a necessary precondition to Bid for the contract |
| 3                     | Banning of Business<br>Consultant or any of its constituents, Sub Contractor not banned by Ministry of Railways or any Indian Govt of India Agency or any International Funding Agency e.g. World Bank etc.           | Must meet the requirement | Must meet the requirement | Must meet the requirement | Must meet the requirement | Letter of Technical bid Containing an undertaking  |
| 4                     | Pending litigation(including Arbitration) shall not ,in total, represent more than 50% of the Bidding Consultant's net worth for FY 2018-19   | Must meet the requirement | Must meet the requirement | Must meet the requirement | Must meet the requirement | Consultant to give information , lead Partner and each partner wise in a format given under GEN-1  |
| 5                     | Positive net worth<br>Calculated as the difference of Total assets and total liability should be positive for the Last five Years<br>Year- 2018-19<br>Year-2017-18<br>Year -2016-17<br>Year -2015-16<br>Year -2014-15 | Must meet the requirement | Must meet the requirement | Must meet the requirement | Must meet the requirement | Consultant to give information , lead Partner and each partner wise in a format given under FE-1   |

## RFP for preparation FLS and DPR of East West sub Corridor – Section-3- EQC

| 2.Financial eligibility criteria   |                      |  |                                       |                           |                           |              |              |   |
|--|----------------------|--|---------------------------------------|---------------------------|---------------------------|--------------|--------------|---|
| Package #  | New DFC              | Criteria   |                                       | Single entity             | Compliance requirement    |              |              | Documents   |
|  |                      | Requirement for one Package# [Ref Table , below] | Requirement For One or more Packages# |                           | JV/Consortium/Association | Each Partner | Lead Partner |   |
|  |                      |  |                                       |                           | All Partners combined     |              |              | Submission requirement  |
| <b>Total Contractual Receipts in crores of INR, in previous five years [Year-2014-15,2015-16,2016-17,2017-18 &amp; 2018-19] and the current financial Year[2019-2020]- Form-FE-2</b>         |                      |  |                                       |                           |                           |              |              |   |
| Package-1  | East-Coast – 1115 km | 150  | 150 – Package-1                       | Must meet the requirement | Must meet the requirement | 25%          | Minimum 40%  | attested Certificate from the concerned department / client and/or Audited Balance Sheet duly certified by Chartered Accountant |
| Package-2  | East-West- 1868 kms  | 250  | 300-Package-1+Package-2               | Must meet the requirement | Must meet the requirement | 25%          | Minimum 40%  | attested Certificate from the concerned department / client and/or Audited Balance Sheet duly certified by Chartered Accountant |
| Package-3  | North South- 975 km  | 125  | 400-Package-1+Package-2+Package-3     | Must meet the requirement | Must meet the requirement | 25%          | Minimum 40%  | attested Certificate from the concerned department / client and/or Audited Balance Sheet duly certified by Chartered Accountant |
| -  | -                    | -  | 250-Package-1+Package-3               | Must meet the requirement | Must meet the requirement | 25%          | Minimum 40%  | attested Certificate from the concerned department / client and/or Audited Balance Sheet duly certified by Chartered Accountant |
| -  | -                    | -  | 300-Package-2+Package-3               | Must meet the requirement | Must meet the requirement | 25%          | Minimum 40%  | attested Certificate from the concerned department / client and/or Audited Balance Sheet duly certified by Chartered Accountant |
| <b>3.Technical Eligibility Criteria – Refer Form EE-1</b>  |                      |  |                                       |                           |                           |              |              |   |
| <b>3.(a) Having completed<sup>1</sup> or substantially completed<sup>2</sup> during the last seven years [ i.e. period under consideration from 30-01-2013 up to 29-01-2020], involving;</b> |                      |  |                                       |                           |                           |              |              |   |
| <b>One single contract showing execution of following Works in quantum prescribed below or Two Contracts showing execution of following Works in half the quantum, prescribed below;</b>     |                      |  |                                       |                           |                           |              |              |   |

### RFP for preparation FLS and DPR of East West sub Corridor – Section-3- EQC

|  |                      |         |  |   |   |     |             |  |
|--|----------------------|---------|--|---|---|-----|-------------|--|
| “Aerial LIDAR survey work including data processing for any linear project in India carried out for Railways, NHAI, CPWD, MES, State PWD or any other Central / State for at least --km                                    |                      |         |  |   |   |     |             |  |
| Package-1  | East-Coast – 1115 km | 100 kms | 100Km – Package-1                      | Must meet the requirement<br>-Can be a Sub Consultant <sup>\$</sup> | Must meet the requirement<br>-Can be a Sub Consultant | -   | -           | Copies of completion certificates issued by Railways/ Highways, any Central/State Government Department/PS U of India or Autonomous Body of Central/State Government of India.<br><br>The bidder is also required to submit a copy of DGCA/MoD Approval for Aerial Survey of the similar works earlier carried out by him. |
| Package-2  | East-West- 1868 kms  | 200     | 250 km- Package-1+Package-2            | Must meet the requirement<br>-Can be a Sub Consultant               | Must meet the requirement<br>-Can be a Sub Consultant | -   | -           |  |
| Package-3  | North South- 975 km  | 100     | 350 kms- Package-1+Package-2+Package-3 | Must meet the requirement<br>-Can be a Sub Consultant               | Must meet the requirement<br>-Can be a Sub Consultant | -   | -           |  |
| -  | -                    | -       | 150 kms- Package-1+Package-3           | Must meet the requirement   | Must meet the requirement                             | 25% | Minimum 40% |  |
| -  | -                    | -       | 250 Kms- Package-2+Package-3           | Must meet the requirement   | Must meet the requirement                             | 25% | Minimum 40% |  |
| 3.(b) Having completed <sup>1</sup> or substantially completed <sup>2</sup> during the last seven years [ i.e. period under consideration from 30-01-2013 up to 29-01-2020], involving;                                    |                      |         |  |   |   |     |             |  |
| One single contract showing execution of following Works in quantum prescribed below or Two Contracts showing execution of following Works in half the quantum, prescribed below;  |                      |         |  |   |   |     |             |  |
| Work of Final Location Survey(FLS)/DPR for Railway/ Metro project in India carried out for Railways or any other Central / State Government Undertaking” for at least -- km , with adopted /Finalized Alignment involving; |                      |         |  |   |   |     |             |  |
| (ii).At least 5 RKM (aggregate of Tunnels handled) of tunneling and;   |                      |         |  |   |   |     |             |  |
| (iii). at least 01 important, 05 Major Bridges and Viaduct/ Rail Fly over in minimum Length of 01 RKM.   |                      |         |  |   |   |     |             |  |
| Package-1  | East-Coast – 1115 km | 100 kms | 100Km – Package-1                      | Must meet the requirement   | Must meet the requirement                             | -   | -           | Copies of completion certificates issued by Railways or any Central/State Government Department/PS U of India or Autonomous Body of Central/State Government of India.   |
| Package-2  | East-West- 1868 kms  | 200 kms | 250 km- Package-1+Package-2            | Must meet the requirement   | Must meet the requirement                             | -   | -           |  |
| Package-3  | North South- 975 km  | 100 kms | 350 kms- Package-1+Package-2+Package-3 | Must meet the requirement   | Must meet the requirement                             | -   | -           |  |
| -  | -                    | -       | 150 Kms- Package-1+Package-3           | Must meet the requirement   | Must meet the requirement                             | -   | -           |  |
| -  | -                    | -       | 250 Kms- Package-2+Package-3           | Must meet the requirement   | Must meet the requirement                             | -   | -           |  |
| 3.(c ). Having completed <sup>1</sup> or substantially completed <sup>2</sup> during the last seven years [ i.e. period under consideration from 30-01-2013 up to 29-01-2020], involving;                                  |                      |         |  |   |   |     |             |  |
| One single contract showing execution of following Works in quantum prescribed below or Two Contracts showing execution of following Works in half the quantum, prescribed below;  |                      |         |  |   |   |     |             |  |
| Pre Rail Electrification Study or Rail-Electrification System design, for at least ---kms  |                      |         |  |   |   |     |             |  |

### RFP for preparation FLS and DPR of East West sub Corridor – Section-3- EQC

|   |                      |        |  |   |   |   |   |   |
|---|----------------------|--------|--|---|---|---|---|---|
| Package-1   | East-Coast – 1115 km | 25 RKM | 25 RKM – Package-1                     | Must meet the requirement<br>-Can be a Sub Consultant | Must meet the requirement<br>-Can be a Sub Consultant | - | - | Copies of completion certificates issued by Railways or any Central/State Government/PS U of India or Autonomous Body of Central/State Government of India. |
| Package-2   | East-West- 1868 kms  | 50 RKM | 75 RKM- Package-1+Package-2            | Must meet the requirement<br>-Can be a Sub Consultant | Must meet the requirement<br>-Can be a Sub Consultant | - | - |   |
| Package-3   | North South- 975 km  | 25 RKM | 100 Rms- Package-1+Package-2+Package-3 | Must meet the requirement<br>-Can be a Sub Consultant | Must meet the requirement<br>-Can be a Sub Consultant | - | - |   |
| -   | -                    | -      | 50-Package-1+Package-3                 | Must meet the requirement                             | Must meet the requirement                             | - | - |   |
| -   | -                    | -      | 75-Package-2+Package-3                 | Must meet the requirement                             | Must meet the requirement                             | - | - |   |
| 3.(d ). Having completed <sup>1</sup> or substantially completed <sup>2</sup> during the last seven years [ i.e. period under consideration from 30-01-2013 up to 29-01-2020], involving; |                      |        |  |   |   |   |   |   |
| One single contract showing execution of following Works in quantum prescribed below or Two Contracts showing execution of following Works in half the quantum, prescribed below;         |                      |        |  |   |   |   |   |   |
| Pre- Railway Infrastructure Construction Project -Signaling & Telecommunication (S&T) study or S&T System design, for at least ---kms   |                      |        |  |   |   |   |   |   |
| Package-1   | East-Coast – 1115 km | 25 RKM | 25 RKM – Package-1                     | Must meet the requirement<br>-Can be a Sub Consultant | Must meet the requirement<br>-Can be a Sub Consultant | - | - | Copies of completion certificates issued by Railways or any Central/State Government/PS U of India or Autonomous Body of Central/State Government of India. |
| Package-2   | East-West- 1868 kms  | 50 RKM | 75 RKM- Package-1+Package-2            | Must meet the requirement<br>-Can be a Sub Consultant | Must meet the requirement<br>-Can be a Sub Consultant | - | - |   |
| Package-3   | North South- 975 km  | 25 RKM | 100 RKM- Package-1+Package-2+Package-3 | Must meet the requirement<br>-Can be a Sub Consultant | Must meet the requirement<br>-Can be a Sub Consultant | - | - |   |
| -   | -                    | -      | 50-Package-1+Package-3                 | Must meet the requirement                             | Must meet the requirement                             | - | - |   |
| -   | -                    | -      | 75-Package-2+Package-3                 | Must meet the requirement                             | Must meet the requirement                             | - | - |   |

Note-

1- Completed – shall mean release of 100% Contractual payments to the Bidding Consultant.

2- Substantially completed – shall mean release of 80% contractual payment to the Bidding Consultant

Accreditation of experience of having implemented above cited Consultancy Works related with e.g. LIDAR Aerial survey, Final Location Survey, Pre Electrification Study ,Pre Railway Infrastructure Construction Study-S&T, in case of Bidding Consultant, being a part of JV/Consortium/Association [which implemented the concerned aforesaid Consultancy Works ,cited as an experience by the bidding Consultant & in which case, the bidding Consultant shall submit the concerned JV/Consortium/Association Agreement, clearly bringing out the respective Constituent Member's participation (expressed in % terms of the total contract amount) & its specifically assigned role/Function], shall be only to the extent of bidding



### **RFP for preparation FLS and DPR of East West sub Corridor – Section-3- EQC**

Consultant's % participation in that JV/Consortium/Association [which implemented the concerned aforesaid Consultancy Works ,cited as experience by the bidding Consultant]

#- the Packages referred above are described below;

| <b>Package Number</b>                       | <b>Description of New DFCs Corridor</b>   | <b>linear/ (Route) Length in Kms</b> |
|---|---|--------------------------------------|
| 1   | East Coast Corridor- Kharagpur to Vijaywada   | 1115                                 |
| 2   | East-West sub Corridor(i)-Bhusawal-Wardha-Nagpur-Rajkharswan-Kharagpur-Uluberia-Dankuni plus East-West sub Corridor (ii) -Rajkharswan-Kalipahari-Andal. | 1673+195=1868                        |
| 3   | North South Sub Corridor-Vijaywada-Nagpur-Itarasi   | 975                                  |
| <b>Total approx. linear/ (Route) length</b> |   | <b>3958</b>                          |

\$-Sub Consultant means –a Firm, having specialist capability, experience & expertise in the relevant discipline-e.g. LIDAR Survey, Electrical Study or design and, S&T Study or design which , adequately, meets the above cited required eligibility criteria. In case, Consultant, engages Sub Consultant, the Consultant shall be under obligation to produce the following documents, in addition to Documentation, referred above or at other places in this RFP;

- (i) Sub Consultant Firm unqualified willingness to associate with the Consultant to execute the assigned specialist work for this project.
- (ii) Sub Consultant's clear averment of not being banned by any international Funding Agency and Ministry of Railways.
- (iii) Sub Consultant's Financials like Annual Turn- over, Net-worth for the Last five Year (It should be positive), duly certified by an independent Chartered Accountant in Forms, given in this RFP.
- (iv) Sub Consultant's experience of having executed the Works to meet the minimum eligibility criteria, along with Documentation in substantiation like Client's Certificates, in Forms, given in this RFP.
- (v) The Consultant agrees that engagement of Sub Consultant shall not relieve the consultant from any liability or obligation under this Contract.
- (vi) After award of this Consultancy Contract, the Consultant shall be under obligation to submit the Contract Agreement executed between the (successful) Consultant and the Sub Consultant for review and approval by Client to verify whether it is in conformity with the provisions of this RFP.

|  |  |
|--|--|
| Consultant's Authorized representative Signature on Consultant's round Stamp |  |
| Name   |  |
| Designation  |  |
| Lead Partner-Firm  |  |
| E Mail ID  |  |

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## **FORMS related with ELIGIBILITY CRITERIA**





**FORM-GEN-1**

Ref-Serial no-4(General Eligibility-Section-3)

## Pending Litigation / Arbitration

For RFP no &amp; Date-2020/HQ/EN/PWC/Future Corridor/RFP/DPR/Package-2, dated 04-05-2020

| Pending Litigation / Arbitration   |                                    |   |                       |
|--|------------------------------------|---|-----------------------|
| <input type="checkbox"/> No pending litigation/Arbitration in accordance with serial no-4 of Para-1 (General Eligibility- Section-3 EQC) |                                    |   |                       |
| <input type="checkbox"/> Pending litigation/Arbitration in accordance with serial no-4 of Para-1 (General Eligibility- Section-3 EQC)    |                                    |   |                       |
| Year   | Outcome as Percentage of Net Worth | Contract Identification   | Total Contract Amount |
| [insert year]  | [insert percentage]                | Contract Identification: [indicate complete contract name, number, and any other identification]<br>Name of Employer: [insert full name]<br>Address of Employer: [insert street/city/country]<br>Matter in dispute: [indicate main issues in dispute] | [insert amount]       |
|  |                                    |   |                       |

|  |  |
|--|--|
| Consultant's Authorized representative Signature on Consultant's round Stamp |  |
| Name   |  |
| Designation  |  |
| Lead Partner-Firm  |  |
| E Mail ID  |  |

## Form-FE-1

## Financial Situation

## [General Eligibility Criteria-1.(5)]

For RFP no &amp; Date-2020/HQ/EN/PWC/Future Corridor/RFP/DPR/Package-2, dated 04-05-2020

Bidding consultant's / Lead Partner &amp; Each Partner's Name-

| Financial Data                                   | FY-1<br>(2018-19) | FY-2<br>(2017-18) | FY-3<br>(2016-17) | FY-4<br>(2015-16) | FY-5<br>(2014-15) |
|--|-------------------|-------------------|-------------------|-------------------|-------------------|
| <b>Information from Audited Balance sheet</b>    |                   |                   |                   |                   |                   |
| Total Assets (TA)                                |                   |                   |                   |                   |                   |
| Total liabilities                                |                   |                   |                   |                   |                   |
| Net Worth (NW)                                   |                   |                   |                   |                   |                   |
| Current Assets(CA)                               |                   |                   |                   |                   |                   |
| Current liability (CL)                           |                   |                   |                   |                   |                   |
| <b>Information from audited Income Statement</b> |                   |                   |                   |                   |                   |
| Total revenue (TR)                               |                   |                   |                   |                   |                   |
| Profits before Taxes (PBT)                       |                   |                   |                   |                   |                   |
| Profits after Taxes(PAT)                         |                   |                   |                   |                   |                   |

**Notes**

1. With this Form, the Consultant shall attach copies of the audited balance sheets, including all related notes, and income statements for the last five years, as indicated above, complying with the following conditions.

- All such documents, reflecting the financial situation of the Consultant or partner to a JV, and not sister or parent companies.
- Historic financial statements must be complete, including all notes to the financial statements.
- Historic financial statements must correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted).

1. The data in the above Form shall be certified by the Independent Chartered Accountant. The Respective and specific Reference of Audited Balance sheet to be clearly mentioned [below the amounts for each FY] to Compare the Financial data given in FE-1 and the Data given in the Balance sheet.

2. The Applicant shall also attach the backup calculations in respect of each of the above figures duly referenced to the figures of Audited Financial Statements/Balance Sheets and certified by Independent Chartered Accountant.

Verified by Chartered Accountant (CA)

Signature on Stamp-  
Date of CA's signature-  
CA's Name-  
CA's UDIN-  
CA's Firm-  
CA/CA's Firm Address-

|   |  |
|---|--|
| Signature on Claiming entity/ Firm's round Stamp  |  |
| Name  |  |
| Designation   |  |
| Partner-Firm  |  |
| E Mail ID   |  |
| Countersigned by Authorized Representative of the JV/Consortium/Association, on the Consultant's round stamp. |  |

## Financial Eligibility

## [Financial Eligibility Criteria-2]

[Total Contractual Receipts in crores of INR, in previous Five years (Year-2014-15,2015-16,2016-17,2017-18 & 2018-19) and the current financial Year(2019-2020)]

For RFP no & Date-**2020/HQ/EN/PWC/Future Corridor/RFP/DPR/Package-2, dated 04-05-2020**

Bidding consultant's / Lead Partner & Each Partner's Name-

| Sn | Name of Work with Contract Agreement number & Date | Name of Employer Or the authority awarding the work | Role of consultant Prime Consultant, Partner in JV/Consortium or Sub Consultant | % Participation in the Executing JV/Consortium/Association for the work | Period <sup>1</sup> of Contract Implementation From (Commencement date) to Completion date | Total Contractual Payment received- Cr of INR | Reference of Documentary Evidence <sup>2</sup> in support |             |
|----|--|---|---|---|--|---|---|-------------|
|    |  |   |   |   |  |   | Document  | At Page no. |
|    |  |   |   |   |  |   |   |             |

1-Period- previous Five years (Year-2014-15,2015-16,2016-17,2017-18 & 2018-19) and the current financial Year(2019-2020)]

2-Document required- Attested Certificate from the concerned department / client and/or Audited Balance Sheet duly certified by Chartered Accountant.

Verified by Chartered Accountant (CA)

Signature on Stamp-  
Date of signature-  
CA's Name-  
CA's UDIN  
CA's Firm  
CA/CA's Firm Address-

|   |  |
|---|--|
| Signature on Claiming entity/ Firm's round Stamp  |  |
| Name  |  |
| Designation   |  |
| Partner-Firm  |  |
| E Mail ID   |  |
| Countersigned by Authorized Representative of the JV/Consortium/Association, on the Consultant's round stamp. |  |

Form-EE-1[3.(a), 3.(b) , 3.(c) &amp; 3.(d) ]

**Experience Eligibility****[Experience Eligibility Criteria-Separate for -3.(a), 3.(b) , 3.(c) & 3.(d) ]**

For RFP no &amp; Date-2020/HQ/EN/PWC/Future Corridor/RFP/DPR/Package-2, dated 04-05-2020

Bidding consultant's / Lead Partner &amp; Each Partner's Name-

| s<br>n | Description of Project* – completion/ Substantial completion of which claimed by Claiming entity<br>*mention involved Route km clearly | Project Description -Contract Agreement number & Date | Commencement Date &; Completion date | Role on the Assignment ; As Prime Contractor JV/Consortium Partner*<br>* [if Yes)- Mention % Participation & Role in JV/Consortium] | Accepted Contract Amount and ; Contractual Payment received by the Claiming entity | Physical Completion* (claimed by the claiming entity) Status- expressed in % terms<br>*also mention involved Route km clearly | Document submitted in substantiation | Documents placed at Page no – Of proposal |
|--------|--|---|--------------------------------------|---|--|---|--------------------------------------|---|
|        |  |   |                                      |   |  |   |                                      |   |

|   |  |
|---|--|
| Signature on Claiming entity/<br>Firm's round Stamp   |  |
| Name  |  |
| Designation   |  |
| Partner-Firm  |  |
| E Mail ID   |  |
| Countersigned by Authorized Representative of the JV/Consortium/Association, on the Consultant's round stamp. |  |

**Supplementary Requirement**

The Consultant or the sub Consultant (in case Consultant engages Sub Consultant), must show, adequate evidence of owning or having leased (as indicated against each item) the following instrument/machine/software, **as a minimum**, to be eligible to submit proposal:

| S. No. | Item  | Minimum quantity | Ownership/ Lease | Documents to be submitted  |
|--------|---|------------------|------------------|--|
| 1.     | <b>For Aerial LiDAR Survey</b>  |                  |                  |  |
| a.     | Aerial LiDAR scanner with a range of 1000 m or above and a Pulse Repetition Rate (PRR) of 300 kHz or better along with Inertial Measurement Unit (IMU), Aerial GPS and other associated control units | 1                | Own /Lease       | i) Invoice Copy,<br>ii) Lease Agreement, showing affirmed availability of the equipment for the successful and complete implementation of the Project alongwith invoice copy of the owner.<br>iii) Copy of Import Documentation or similar ownership documents AND<br>iv) Data Sheet of equipment mentioning these |



**RFP for preparation FLS and DPR of East West sub Corridor – Section-3- EQC**

| S. No. | Item  | Minimum quantity | Ownership/ Lease | Documents to be submitted   |
|--------|---|------------------|------------------|---|
|        |   |                  |                  | technical specifications along with equipment manufacturer web page printout  |
| b.     | Aircraft/Helicopter (excluding Drones & Unmanned Aerial Vehicles)     | 1                | Own / Lease      | Adequate evidence of the Consultant's Capacity to lease serviceable Aircraft / Helicopter (fully capable of Aerial LIDAR survey scoped in this Project), on ready accessibility & uninterrupted availability basis, for regular use over prolonged period [sufficient for this Project]; like some existing or freshly made Agreements with Owners of Aircraft / helicopter |
| c.     | DGPS (dual frequency, at least 200 channels)                          | 8                | Own              | Invoice Copy  |
| d.     | Aerial Medium Format Camera (above 50 Megapixel)                      | 1                | Own              | i) Invoice Copy,<br>ii) Copy of Import Documentation or similar ownership documents AND<br>iii) Data Sheet of equipment mentioning these technical specifications along with equipment manufacturer web page printout   |
| e.     | LiDAR Trajectory Pre-processing software                              | 1                | Own              | Invoice Copy  |
| f.     | Terrascan/ Terrasolid/ Point Tool or similar Post-processing software | 1                | Own              | Invoice Copy  |

| S. No. | Item   | Pkg *-1   | Pkg-2 | Pkg-3 | Pkg-1+2 | Pkg-1+3 | Pkg-2+3 | Pkg-1+2+3 | Ownership/ Lease   | Documents to be submitted  |
|--------|--|---|-------|-------|---------|---------|---------|-----------|--|--|
| 2      |  | <b>For Design of alignment, preliminary design of bridges/tunnel for preparation of GAD, design of station yard with design software.</b> |       |       |         |         |         |           |  |  |
| a.     | Bentley Power Rail Track/Civil 3D or similar software for alignment design | 6   | 9     | 5     | 15      | 11      | 14      | 20        | <b>For the eligibility requirement</b><br>Consultant shall submit Documentary evidence of having purchased at least three Software [mentioned at 2.(a) & 2.(b)] Licenses.<br>-x-<br>Consultant, after award of the Work, shall be required to purchase the software [Ref-2.(a) & (b)] Licenses, in minimum quantity [mentioned here in Column no-[3] to [9] of this Table] for | <b>For the eligibility requirement</b><br>Invoice Copy showing purchase of three software licenses during the last seven years [ i.e. period under consideration from 30-01-2013 up to 29-01-2020] |
| b.     | STAAD/MIDAS or similar software for preliminary design of bridges          | 2   | 4     | 2     | 6       | 4       | 6       | 8         |  |  |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-3- EQC**

|           |   |                                    |   |   |   |   |   |   |  |   |
|-----------|---|------------------------------------|---|---|---|---|---|---|--|---|
|           |   |                                    |   |   |   |   |   |   | the exclusive use on this project and shall be treated as Client's Property. |   |
| <b>3.</b> |   | <b>Geotechnical Investigations</b> |   |   |   |   |   |   |  |   |
| a.        | Hydraulic Drilling machines capable of drilling in soil, rock or any other strata upto a depth of 75m | 1                                  | 1 | 1 | 2 | 2 | 2 | 3 | Own/Lease  | Invoice Copy or Documentation in substantiation of owning or Leasing the required equipment for Geo-Tech Investigations to ensure availability of the equipment for successful and complete implementation of this project. |
| b         | 48 channel Digital Seismograph with data processing software  | 1                                  |   |   |   |   |   |   | Own/Lease  | Invoice Copy or Documentation in substantiation of Owning or Leasing the equipment to ensure availability of the equipment for successful and complete implementation of this project.                                      |

**Notes**

\* -Pkg means Packages , as cited and elaborated upon, in the Notes given below; in the Eligibility Format.

- Ownership/Lease may be in the name of Consultant or in the name of one of the constitution member of JV/Consortium/Association or in the name of the sub Consultant, engaged by the Consultant.
- In case of Ownership / lease, copy of Invoice ( in substantiation of ownership) / lease agreement, containing equipment model no. and serial number must be submitted along with the bid document.
- The requirement of Equipment, Transport and software, as specified above, is minimum only and prescribed for Evaluation purpose, only. Under no circumstances, Consultant shall be relieved of their Obligations [as stipulated in this RFP at various appropriate places] to complete the Assignment within stipulated Time for Completion, irrespective of the fact whether Consultant is awarded one or more Packages.

## Annexure-A-KE (Ref-ITC Sub Clause 21.1 Data Sheet)

**Key Experts, their required Qualification and experience [Evaluated Positions]**

In addition to allied assisting staff e.g. Field Engineers/Supervisors, Clerical Staff, Data entry staff and Subordinate staff [Non-Evaluated Positions, to be quoted by the Consultant in their offer to ensure successful and complete Project implementation], Consultant shall, also, have, in their Proposed Organization, following minimum positions, for the following minimum stipulated Man months;

| Sn | Key Expert ID | Key Expert Position     | PKG -1 | PKG -2 | PKG -3 | PKG-1+2 | PKG 1+3 | PKG -2+3 | PKG -1+2+3 | Minimum ManMonth |        |        | Qualification                 | Minimum Experience   | Max. Marks Allocation |
|----|---------------|-------------------------|--------|--------|--------|---------|---------|----------|------------|------------------|--------|--------|-------------------------------|--|-----------------------|
|    |               |                         |        |        |        |         |         |          |            | PKG -1           | PKG -2 | PKG -3 |                               |  |                       |
| 01 | A01           | Project Director        | 1      | 1      | 1      | 2       | 2       | 2        | 3          | 15               | 18     | 15     | Graduate in Civil Engineering | 20 years professional experience in the field of Railway infrastructure studies such as Feasibility Study, Preliminary and Detailed Engineering Studies, Front-end Engineering and Design etc., out of which at least 10 years' experience, preferably, as Team Leader | 04                    |
| 02 | A02           | Alignment Design Expert | 1      | 2      | 1      | 3       | 2       | 3        | 4          | 4                | 8      | 4      | Graduate in Civil Engineering | 10 years professional experience in the field of alignment design of Railway/ Metro projects, also using & conversant with Autodesk 3D   | 03                    |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-3- EQC**

| Sn | Key Exp ert ID | Key Expert Position |        |        |        |          |         |          |              | Minimum ManMonth |        |        | Qualification  | Minimum Experience  | Max. Mark s Alloc ation |
|----|----------------|---------------------|--------|--------|--------|----------|---------|----------|--------------|------------------|--------|--------|--|---|-------------------------|
|    |                |                     | PKG -1 | PKG -2 | PKG -3 | PKG- 1+2 | PKG 1+3 | PKG -2+3 | PKG - 1+2+ 3 | PKG -1           | PKG -2 | PKG -3 |  |   |                         |
|    |                |                     |        |        |        |          |         |          |              |                  |        |        |  | Civil/ Bentley Rail Track or Similar software   |                         |
| 03 | A02 A          | Bridge expert       | 1      | 2      | 1      | 3        | 2       | 3        | 4            | 3                | 6      | 3      | Graduate in Civil Engineering                                | 10 years professional experience in the field of design of bridges for Railway/Highway/Metro projects                           | 03                      |
| 04 | A03            | Hydrolog y Expert   | 1      | 2      | 1      | 3        | 2       | 3        | 4            | 3                | 6      | 3      | Graduate in Civil Engineering                                | 10 years professional experience in the field of hydrological studies for Railway/Highway infrastructure projects               | 01                      |
| 05 | A04            | Geo-Tech Expert.    | 1      | 2      | 1      | 3        | 2       | 3        | 4            | 4                | 8      | 4      | Graduate in Civil Engineering/MSc. In Engineering Geology    | 10 years professional experience in the field of Geotechnical Investigations for Railway/Metro/Highway infrastructure projects. | 04                      |
| 06 | A05            | Sr. LIDAR Expert    | 1      |        |        |          |         |          |              | 3                | 6      | 3      | Graduate in Civil Engineering/ Geo-informatics /MSc Geology/ | 10 years experience in Surveying Works for Railway/Highway infrastructure projects using LiDAR.                                 | 04                      |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-3- EQC**

|    |                         |                                     |           |           |           |             |            |             |                       | Minimum ManMonth |           |           | Qualification   | Minimum Experience  | Max. Mark<br>s<br>Alloc<br>ation |
|----|-------------------------|-------------------------------------|-----------|-----------|-----------|-------------|------------|-------------|-----------------------|------------------|-----------|-----------|---|---|----------------------------------|
| Sn | Key<br>Exp<br>ert<br>ID | Key<br>Expert<br>Position           | PKG<br>-1 | PKG<br>-2 | PKG<br>-3 | PKG-<br>1+2 | PKG<br>1+3 | PKG<br>-2+3 | PKG<br>-<br>1+2+<br>3 | PKG<br>-1        | PKG<br>-2 | PKG<br>-3 |   |   |                                  |
|    |                         |                                     |           |           |           |             |            |             |                       |                  |           |           | Surveying &<br>Mapping.   |   |                                  |
| 07 | A05<br>A                | A-05A:<br>LIDAR<br>Expert           | 1         | 1         | 1         | 2           | 2          | 2           | 3                     | 3                | 6         | 3         | Graduate in Civil<br>Engineering/ Geo-<br>informatics /MSc<br>Geology/<br>Surveying &<br>Mapping. | 05 years experience in<br>Surveying Works for<br>Railway/Highway<br>infrastructure projects using<br>LiDAR.   | 02                               |
| 08 | A06                     | A-06-<br>Data<br>Analysis<br>Expert | 1         | 1         | 1         | 2           | 2          | 2           | 3                     | 2                | 4         | 2         | Graduate in<br>Computer<br>sciences/BCA/Gr<br>aduate in Software<br>Engg./Geo-<br>informatics     | 05 Years experience in Lidar<br>Data analysis for<br>Railway/Highway<br>infrastructure projects using<br>LiDAR Trajectory Pre-<br>processing software and<br>Terrascan/ Terrasolid/ Point<br>Tool or similar Post-<br>processing software | 02                               |
| 09 | A07                     | A-07-<br>Geophys<br>ical<br>Expert  | -         | 1         |           |             |            |             |                       | 02               | 4         | 2         | M.Tech./MSc. in<br>Exploration<br>Geophysics or<br>Applied<br>Geophysics                          | 10 years professional<br>experience in the field of<br>Geophysical investigations for<br>Railway/Metro/Highway<br>infrastructure projects.  | 02                               |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-3- EQC**

| Sn | Key Exp ert ID | Key Expert Position           |        |        |        |          |         |          |              | Minimum ManMonth |        |        | Qualification                              | Minimum Experience   | Max. Mark s Alloc ation |
|----|----------------|-------------------------------|--------|--------|--------|----------|---------|----------|--------------|------------------|--------|--------|--|--|-------------------------|
|    |                |                               | PKG -1 | PKG -2 | PKG -3 | PKG- 1+2 | PKG 1+3 | PKG -2+3 | PKG - 1+2+ 3 | PKG -1           | PKG -2 | PKG -3 |  |  |                         |
| 10 | A08            | A-08: Tunnel Experts          | -      | 1      | 1      | 1        | 1       | 2        | 2            | 02               | 4      | 2      | Graduate in Civil Engineering              | 10 years professional experience in the field of design of Tunnel for Railway/Highway/Metro/Road project | 03                      |
| 11 | A09            | A-09- Electrical Espert       | 1      | 1      | 1      | 2        | 2       | 2        | 2            | 3                | 6      | 3      | Graduate in Elect Engg                     | 10 Years Professional experience as design expert for Railway /Metro Electrification Projects            | 02                      |
| 12 | A10            | A-10- Signal & Telecom Expert | 1      | 1      | 1      | 2        | 2       | 2        | 2            | 3                | 6      | 3      | Graduate in Signaling & Telecommunicati on | 10 Years Professional experience as design expert for Railway /Metro Electrification Projects            | 02                      |
| 13 | A11            | A-11- Environ mental Expert   | 1      | 1      | 1      | 2        | 2       | 2        | 2            | 3                | 6      | 3      | Masters in Environment sciences            | 10 Years Professional experience for Environment impact studies for Railway/Highways Projects            | 01                      |
| 14 | A11 A          | A-11A- Social Study Expert    | 1      |        |        |          |         |          |              | 3                | 6      | 3      | Masters in Social Studies                  | 10 Years Professional experience for Social impact Sudies for Railway/Highways Projects                  | 01                      |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-3- EQC**

|    |               |  |        |        |        |         |         |          |            | Minimum ManMonth |        |        | Qualification   | Minimum Experience  | Max. Marks Allocation |
|----|---------------|--|--------|--------|--------|---------|---------|----------|------------|------------------|--------|--------|---|---|-----------------------|
| Sn | Key Expert ID | Key Expert Position                    | PKG -1 | PKG -2 | PKG -3 | PKG-1+2 | PKG 1+3 | PKG -2+3 | PKG -1+2+3 | PKG -1           | PKG -2 | PKG -3 |   |   |                       |
| 15 | A12           | A-12-Traffic Survey expert             | 1      | 1      | 1      | 2       | 2       | 2        | 3          | 2                | 4      | 2      | Master in Transportation Planning/ Transport Management/ Transport Economics/ Master in Economics | 10-years professional experience in the field of Traffic studies  | 01                    |
| 16 | A14           | A-14-Quality Control Expert            | 1      |        |        |         |         |          |            | 3                | 6      | 3      | Graduate in Engineering/ Post Graduate in Quality Management/Quality Assurance                    | 10-years professional experience in the field of Quality Management / Quality Assurance for Large infrastructure Projects-Railways/Highways/Metro | 01                    |
| 17 | A15           | A-15-Quantity & Cost Estimation Expert | 1      |        |        |         |         |          |            | 4                | 8      | 4      | Graduate in Civil Engg/Quantity Surveying.  | 10-years professional experience in the field of Quantity and Cost Estimation for Large infrastructure Projects-Railways/Highways/Metro           | 02                    |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-3- EQC**

| Sn | Key Exp ert ID | Key Expert Position          |                         |        |        |          |         |          |              | Minimum ManMonth |            |           | Qualification   | Minimum Experience   | Max. Mark s Alloc ation |
|----|----------------|------------------------------|-------------------------|--------|--------|----------|---------|----------|--------------|------------------|------------|-----------|---|--|-------------------------|
|    |                |                              | PKG -1                  | PKG -2 | PKG -3 | PKG- 1+2 | PKG 1+3 | PKG -2+3 | PKG - 1+2+ 3 | PKG -1           | PKG -2     | PKG -3    |   |  |                         |
| 18 | A-16           | A-16- Project Finance Expert | 1                       |        |        |          |         |          |              | 3                | 6          | 3         | Post Graduate Degree in Finance/Economics/Statistics/Grad uate in civil Engg with PG diploma in Finance/Financial Management. | 10 Years Professional experience in Project Financing/Project Viability studies for Infrastructure projects. | 02                      |
|    |                |                              | <b>Total Man Months</b> |        |        |          |         |          |              | <b>65</b>        | <b>118</b> | <b>65</b> | <b>Maximum Marks</b>  |  | <b>40</b>               |

**Note:** In case of submitting Proposal for more than One Package (PKG), Consultant shall be under obligation to, simultaneously, deploy separate team for each package. Therefore, accordingly, each Consultant has to furnish the CVs for each package separately.

‘PKG’, referred above, means the Packages ,as described below;

| Package( PKG) Number                        | Description of New DFCs Corridor   | linear/ (Route) Length in Kms |
|---|--|-------------------------------|
| 1   | East Coast Corridor- Kharapur to Vijaywada   | 1115                          |
| 2   | East-West sub Corridor(i)-Bhusawal-Wardha-Nagpur-Rajkharswan-Kharapur-Uluberia-Dankuni plus East-West sub Corridor (ii) -Rajkharswan-Kalipahari-Andal. | 1673+195=1868                 |
| 3   | North South Sub Corridor-Vijaywada-Nagpur-Itarasi  | 975                           |
| <b>Total approx. linear/ (Route) length</b> |  | <b>3958</b>                   |



**Form-EE-2[For Evaluation purpose]**

**Consultant Experience**

**[Experience -TECH-2B]**

For RFP no & Date-**2020/HQ/EN/PWC/Future Corridor/RFP/DPR/Package-2, dated 04-05-2020**

Bidding consultant's / Lead Partner & Each Partner's Name-

| s<br>n | Duration                     | Assignment/Name<br>& Brief<br>Description of the<br>main<br>deliverables/Output | Name of the Client<br>& Country of the<br>assignment | Approx.<br>Contract Value<br>9in INR) amount<br>Paid to the<br>claiming entity | Role on the Assignment  |
|--------|------------------------------|---|--|--|---|
|        | [e.g. Jan-2009-<br>Apr-2010] |   |  |  | Lead Partner in a<br>JV/Consortium/Associatio<br>n namely--- with % Share<br>in that<br>JV/Consortium/Associatio<br>n |

|   |  |
|---|--|
| Signature on Claiming<br>entity/ Firm's round Stamp   |  |
| Name  |  |
| Designation   |  |
| Partner-Firm  |  |
| E Mail ID   |  |
| Countersigned by<br>Authorized Representative<br>of the<br>JV/Consortium/Association,<br>on the Consultant's round<br>stamp |  |

---X--

# **SECTION-4**

- A- Technical Proposal – Standard Forms**
- B- Financial Proposal - Standard Forms**



**Section 4      A- Technical Proposal – Standard Forms**  
**Checklist for Required Forms**

| <b>Required for FTP</b> | <b>FORM</b>       | <b>DESCRIPTION</b>   | <b>Reference<br/><br/>From<br/>Page –<br/>To-Page</b> |
|-------------------------|-------------------|--|---|
| FTP                     |                   |  |   |
| √                       | TECH-1            | Technical Proposal Submission Form.  |   |
| “√ “ If applicable      | TECH-1 Attachment | If the Proposal is submitted by a joint venture, attach a letter of intent or a copy of an existing agreement.   |   |
| “√” If applicable       | Power of Attorney | No pre-set format/form. In the case of a Joint Venture, several are required: a power of attorney for the authorized representative of each JV/Consortium/Association member, and a power of attorney for the representative of the lead member to represent all JV/Consortium/Association members |   |
| √                       | TECH-2            | Consultant’s Organization and Experience.  |   |
| √                       | TECH-2A           | A. Consultant’s Organization   |   |
| √                       | TECH-2B           | B. Consultant’s Experience   |   |
| √                       | TECH-3            | Comments or Suggestions on the Terms of Reference, on Counterpart Staff and Facilities to be provided by the Client and Deviation Statement from Consultant to show clause wise deviation of their Proposal from RFP and Addenda   |   |
| √                       | TECH-3A           | A. On the Terms of Reference   |   |
| √                       | TECH-3B           | B. On the Counterpart Staff and Facilities   |   |
| √                       | TECH-3C           | C. Deviation Statement   |   |
| √                       | TECH-4            | Description of the Approach, Methodology, and Work Plan for Performing the Assignment  |   |
| √                       | TECH-5            | Work Schedule and Planning for Deliverables  |   |
| √                       | TECH-6            | Team Composition, Key Experts Inputs, and attached Curriculum Vitae (CV)   |   |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-4- Standard Forms**

- All the Pages i.e. each Page of the Technical and Financial Proposal shall be uniquely numbered and self explanatorily, cross referenced. The cross Referencing of all the pages shall be visibly reflected in a suitably designed Index, to facilitate the Client in ready referral.
- All the Pages i.e. each Page of the Technical and Financial Proposal shall be initialed, on the round stamp of the Consultant, by the same authorized representative of the Consultant who signs the Proposal; also clearly mentioning the Name, Designation & the Firm of the aforesaid Authorized Representative.

**RFP for preparation FLS and DPR of East West sub Corridor – Section-4- Standard Forms****FORM TECH-1****TECHNICAL PROPOSAL SUBMISSION FORM [ as submitted on [www.tenderwizard.com/dfccil](http://www.tenderwizard.com/dfccil) ]**

-----{Location, Date}

To:

**Dedicated Freight Corridor Corporation of India Limited (DFCCIL)**  
**Room no-505, DFCCIL Corporate office**  
**V<sup>th</sup> floor, Supreme Court Metro Station Building,**  
**Pragati Maidan-New delhi-110001**

Dear Sirs:

1. We, the Consultant, in full cognizance of and in complete agreement with the RFP [ **RFP no-2020/HQ/EN/PWC/Future Corridor/RFP/DPR/Package-2 dated 04-05-2020**] and all subsequently issued Addenda, except as reflected specifically, clause wise under a separate Consultant's Statement titled "Statement of Deviation with the RFP and all subsequently issued Addenda [Part-C of TECH-3]", are, hereby, submitting our lump sum Proposal, which includes this Technical Proposal and a Financial Proposal sealed in a separate envelope for the Works;

“Consultancy & related Services for the preparation of Detailed Project Report(DPR), inclusive of Preliminary alignment development, optimization of Alignment, Final location survey (FLS) including Geo Technical survey, Geological mapping & Hydrological Survey, preparation of Land Plans on Revenue Maps and also, inclusive of study for 2X25 KV Electrification, study for Signaling catering to ETCS-2, Study for Communication, all discipline [e.g. Civil, Electric & S&T] Quantity and Cost estimation, Environmental and Social impact Study, Maintenance study & Traffic study-FIRR & EIRR, Market demand survey, Cost Benefit analysis, Study regarding intermodal Transport Integration for New Dedicated Freight Corridor (DFC) namely -East West Sub Corridor comprised of sub Corridors-Bhusaval-Nagpur-Kharagpur- Dankuni (1673 RKM) and sub Corridor -Rajkharswan-Kalipahari-Andal- (195 RKM)’.”

In addition, Consultant Shall inform the Client about the number of Packages, the Consultant has submitted Proposals for, by Placing a check Mark, in the fourth column, as indicted below;

| <b>Package Number</b>                       | <b>Description of New DFCs Corridor</b>   | <b>linear/ (Route) Length in Kms</b> | <b>Proposal submitted for Pacakges</b> |
|---|---|--------------------------------------|--|
| 1   | East Coast Corridor- Kharagpur to Vijaywada   | 1115                                 |  |
| 2   | East-West sub Corridor(i)-Bhusawal-Wardha-Nagpur-Rajkharswan-Kharagpur-Uluberia-Dankuni plus East-West sub Corridor (ii) -Rajkharswan-Kalipahari-Andal. | 1673+195=1868                        | ✓                                      |
| 3   | North South Sub Corridor-Vijaywada-Nagpur-Itarsi  | 975                                  |  |
| <b>Total approx. linear/ (Route) length</b> |   | <b>3958</b>                          |  |

*[if the Consultant is a joint venture/Consortium/Association; Insert a list with full name and the legal address of each member, and indicate the lead member].*

*OR, [If the Consultant's Proposal includes Sub-consultants, insert the following: We are submitting our Proposal with the following firms as Sub-consultants: {Insert a list with full name and address of each Sub-consultant.}]*

**In terms of Para 5 of the Ministry of Commerce and Industry[Department of Industrial Policy and Promotion-Public Procurement section] Order no-P-45021/2/2017-PP(BR-II) dated 28-05-2018 [ forming Annexure-P-1 to this section (Data Sheet)], We, the Consultant, certify that the “Local Content” is ---- %**

**RFP for preparation FLS and DPR of East West sub Corridor – Section-4- Standard Forms**

2. We have attached a copy of the MOU showing our letter of intent to form a joint venture/Consortium/Association, signed by every participating member, which details the likely legal structure of and the confirmation of joint and severable liability of all the Constituent Members of the said joint venture.
3. Consultant, in case of being awarded the Work, shall submit JV /Consortium /Association Agreement, executed by each constituent member, prior to signing of the Consultancy Contract. Consultant is fully cognizant of the fact that such JV /Consortium /Association Agreement, executed by each constituent member of the Consultant, shall be a part of Consultancy Contract Agreement.
- 4.1 We, the consultant, unequivocally, convey that our proposal, in terms of ITC sub Clause 12.1 Data sheet, shall remain valid for a period of 150 Days from the Proposal submission deadline.
- 4.2 In competing for (and, if the award is made to us, in executing) the Contract, we, in terms of ITC sub Clause 10.2 Data Sheet, undertake to observe the laws against fraud and corruption, including bribery, in force in the country of the Client.
- 5.3 We, the consultant, unequivocally, convey that We (All the constituent members of the JV/Consortium/Association comprising the consultant), including any sub Consultants (if any), fully meet the eligibility requirement, as referred under ITC sub Clause 6.2.
- 5.4 We, the consultant, unequivocally, convey that We (All the constituent members of the JV/Consortium/Association comprising the consultant), including any sub Consultants (if any), do not have any conflict of interest, as stipulated under , in terms of ITC sub Clause 3.
- 5.5 We, the consultant, unequivocally, convey that We (All the constituent members of the JV/Consortium/Association comprising the consultant), including any sub Consultants (if any), have not been sanctioned/debarred by Ministry of Railways, World Bank , or any other funding agency. Further, We, the consultant, including any sub Consultants (if any) and /or any Service providers /Suppliers are not ineligible under the Client's country Laws or official regulations or pursuant to a decisions of the United Nations Security Council.
6. Except as stated in the Data Sheet, Clause 12.1, we undertake to negotiate a Contract on the basis of the proposed Key Experts. We accept that the substitution of Key Experts for reasons other than those stated in ITC Clause 12 and ITC Clause 28.4 may lead to the termination of Contract negotiations.
7. Our Proposal is binding upon us and subject to any modifications resulting from the Contract negotiations.
8. We undertake, if our Proposal is accepted and the Contract is signed, to initiate the Services related to the assignment no later than the date indicated in Clause 30.2 of the Data Sheet.
9. We understand that the Client is not bound to accept any Proposal that the Client receives.
10. We hereby declare that: (a) All the information and statements made in this Proposal are true and we accept that any misinterpretation or misrepresentation contained in this Proposal may lead to our disqualification by the Client.

We remain,

Yours sincerely,

**RFP for preparation FLS and DPR of East West sub Corridor – Section-4- Standard Forms**

|  |   |  |   |
|--|---|--|---|
|  | Authorized Representative of the Lead Member and thereby Authorized Representative of the JV/Consortium/Association i.e. <b>Authorized Representative of the Consultant</b> | <b>Authorized Representative of the Constituent Member-1</b> | <b>Authorized Representative of the Constituent Member-2.....</b> |
| Authorized Signature {In full and initials}: | (Consultant Round Stamp)  | (Member's Round Stamp)                                       | (Member's Round Stamp)  |
| Name and Title of Authorized Signatory:      |   |  |   |
| Official Mailing Address                     |   |  |   |
| E Mail ID                                    |   |  |   |
| Telephone number                             |   |  |   |

*[If the Consultant is a Joint venture/Consortium/Association, each of the Constituent Members shall sign the Document]*



**FORM TECH-2 (FOR FULL TECHNICAL PROPOSAL ONLY)**

**CONSULTANT’S ORGANIZATION AND EXPERIENCE**

-----

**Form TECH-2:** a brief description of the Consultant's organization and an outline of the recent experience of the Consultant that is most relevant to the assignment. In the case of a joint venture, information on similar assignments shall be provided for each partner. For each assignment, the outline should indicate the names of the Consultant's Key Experts and Sub-consultants who participated, the duration of the assignment, the contract amount (total and, if it was done in a form of a joint venture or a sub-consultancy, the amount paid to the Consultant), and the Consultant's role/involvement.

**A - Consultant’s Organization**

1. Provide here a brief description of the background and organization of your company, and – in case of a joint venture – of each member for this assignment.

2. Include organizational chart, a list of Board of Directors, and beneficial ownership

**B - Consultant’s Experience**

-----

1.Consultant shall submit Information, duly captured in given formats (Proposal forms, as appended in Section-3:Evaluation and Qualification criteria), to establish the Consultant’s complete fulfillment of the (i) General Eligibility requirements (ii) Financial Eligibility requirements & (iii) Technical Eligibility Requirements. The aforesaid information is required to be substantiated by the Documentary evidence, as & where required.

List only previous similar assignments successfully completed in the last **Seven years**.

2. List only those assignments for which the Consultant was legally contracted by the Client as a company or was one of the joint venture partners. Assignments completed by the Consultant's individual experts working privately or through other consulting firms cannot be claimed as the relevant experience of the Consultant, or that of the Consultant's partners or sub-consultants, but can be claimed by the Experts themselves in their CVs. The Consultant shall substantiate the claimed experience by presenting copies of relevant documents and references.

3. Similar Assignment means Consultancy Services towards;

3.1 Successful implementation of Contract involving LIDAR survey Work, in lengths as stipulated in Section-3, including processing of LIDAR & other relevant Data for Govt. Authorities e.g. Railways, NHAI, CPWD or any other central, State Govt. undertaking and successful implementation of Contract involving Final location survey / Preparation and submission of Detailed Project report (DPR), in lengths and Successful implementation of Contract involving Preparation & submission of FLS of DPR of Railway or Highway Project completed successfully may be considered.

4. Only those assignments should be included which have been carried out by the Consultant. The Assignments carried out by the Parent/Sister/Fully owned subsidiary (ies), should not be included.

**FORM TECH-3 (FOR FULL TECHNICAL PROPOSAL)**

**DEVIATION STATEMENT, COMMENTS AND SUGGESTIONS ON THE TERMS OF REFERENCE, COUNTERPART STAFF, AND FACILITIES TO BE PROVIDED BY THE CLIENT**

---

Form TECH-3: comments and suggestions on the Terms of Reference that could improve the quality/effectiveness of the assignment; and on requirements for counterpart staff and facilities, which are provided by the Client, including: administrative support, office space, local transportation, equipment, data, etc.

**A-On the Terms of Reference**

{improvements to the Terms of Reference, if any }

**B-On Counterpart Staff and Facilities**

{comments on counterpart staff and facilities to be provided by the Client. For example, administrative support, office space, local transportation, equipment, data, background reports, etc., if any }

**C-Deviation Statement**

Consultant shall specify, clause/section wise, any deviation/any disagreement from / with RFP and its (RFP's) all the subsequently issued Addenda that Consultant's entire Proposal incorporates/carries. In Case, Consultant does not mention any deviation / disagreement here, The Consultant's Proposal shall be deemed to be in absolute/strict agreement / compliance with the RFP and its (RFP's) all the subsequently issued Addenda, i.e. as if , there was no deviation or disagreement, whatsoever, from the RFP and all its subsequently issued Addenda.

**FORM TECH-4 (FOR FULL TECHNICAL PROPOSAL ONLY)**

**DESCRIPTION OF APPROACH, METHODOLOGY, AND WORK PLAN IN  
RESPONDING TO THE TERMS OF REFERENCE**

-----

**Form TECH-4:** a description of the approach, methodology and work plan for performing the assignment, including a detailed description of the proposed methodology and staffing covering, following, but not exhaustive fields of interest;

- a) Technical Approach and Methodology
- b) Work Plan
- c) Organization and Staffing }

**a) Technical Approach and Methodology.**

{ Please explain your understanding of the objectives of the assignment as outlined in the Terms of Reference (TORs), the technical approach, and the methodology you would adopt for implementing the tasks to deliver the expected output(s) within the stipulated time frame, and the degree of detail of such output. Please do not repeat/copy the TORs in here. }

**b) Work Plan.**

{ Please outline the plan for the implementation of the main activities/tasks of the assignment, their content and duration, phasing and interrelations, milestones (including interim approvals by the Client), and tentative delivery dates of the reports. The proposed work plan should be consistent with the technical approach and methodology, showing your understanding of the TOR and ability to translate them into a feasible working plan. A list of the final documents (including reports) to be delivered as final output(s) should be included here. The work plan should be consistent with the Work Schedule Form. }

**c) Organization and Staffing.**

{ Please describe the structure and composition of your team, including the list of the Key Experts, Non-Key Experts and relevant technical and administrative support staff. }

## FORM TECH-5 (FOR FTP )

## WORK SCHEDULE AND PLANNING FOR DELIVERABLES

| SN | Deliverables  | Months |   |   |   |   |   |   |   |   |       |   |       |
|----|---|--------|---|---|---|---|---|---|---|---|-------|---|-------|
|    |   | 1      | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | ..... | n | TOTAL |
| 1  | <b>Commencement of services</b> , in terms of SCC sub Clause 13.1- (D) [ List specific Date]  |        |   |   |   |   |   |   |   |   |       |   |       |
| 2  | On submission of Inception Report (D <sub>1</sub> )   |        |   |   |   |   |   |   |   |   |       |   |       |
| 3  | On submission of Alignment Report-Stage-1(Desk study)(D <sub>2</sub> )  |        |   |   |   |   |   |   |   |   |       |   |       |
| 4  | On submission of Alignment Report-Stage-2(study on Stereo-Satellite imagery) D <sub>3</sub>   |        |   |   |   |   |   |   |   |   |       |   |       |
| 5  | On completion of Traffic Surveys D <sub>4</sub>   |        |   |   |   |   |   |   |   |   |       |   |       |
| 6  | On submission of Horizontal and Vertical Ground Control Points.(D <sub>5</sub> )  |        |   |   |   |   |   |   |   |   |       |   |       |
| 7  | On completion of LiDAR Survey, progressively <sup>3</sup> (D <sub>6</sub> )   |        |   |   |   |   |   |   |   |   |       |   |       |
| 8  | On completion of Alignment Design, progressively <sup>3</sup> (D <sub>7</sub> )   |        |   |   |   |   |   |   |   |   |       |   |       |
| 9  | On submission of Geotechnical Report, progressively <sup>3</sup> (D <sub>8</sub> )  |        |   |   |   |   |   |   |   |   |       |   |       |
| 10 | On submission of Hydrological Report, progressively <sup>3</sup> (D <sub>9</sub> )  |        |   |   |   |   |   |   |   |   |       |   |       |
| 11 | Submission of Interim Abstract Estimate Report to facilitate Sanction from Railway Board. (D <sub>10</sub> )  |        |   |   |   |   |   |   |   |   |       |   |       |
| 12 | On completion of GADs and Preliminary design of structures (D <sub>11</sub> )   |        |   |   |   |   |   |   |   |   |       |   |       |
| 13 | On submission of Signaling & Telecom. and Electrical Engg. including System Plans (S&T and OHE), cost estimation and BOQ along with train operation plan (D <sub>12</sub> ) |        |   |   |   |   |   |   |   |   |       |   |       |
| 14 | On submission of Environmental and Social Study Report (D <sub>13</sub> )   |        |   |   |   |   |   |   |   |   |       |   |       |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-4- Standard Forms**

|    |   |  |  |  |  |  |  |  |  |  |  |  |  |
|----|---|--|--|--|--|--|--|--|--|--|--|--|--|
| 15 | Submission of Draft DPR including Detailed Cost Estimate, Financial and Economical Appraisal (D <sub>14</sub> ) |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 | On submission of Final Report incorporating comments of Client (D <sub>15</sub> )                               |  |  |  |  |  |  |  |  |  |  |  |  |

1. List the deliverables with the breakdown for activities required to produce them and other benchmarks such as the Client's approvals. For phased assignments, indicate the activities, delivery of reports, and benchmarks separately for each phase.
2. Duration of activities shall be indicated in a form of a bar chart.
3. Include a legend, if necessary, to help read the chart.

| Authorized representative of the Consultant |  |
|---|--|
| Signature<br>on Consultant Round Stamp      |  |
| Name  |  |
| Designation & Firm                          |  |
| Date  |  |

## FORM TECH-6 (FOR FTP)

## TEAM COMPOSITION, ASSIGNMENT, AND KEY EXPERTS' INPUTS

| N°                     | Name              | Expert's input (in person/month) per each Deliverable (listed in TECH-5) |                   |                     |  |                |  |              |       |       |          | Total time input (in person/month) |      |       |       |
|------------------------|-------------------|--|-------------------|---------------------|--|----------------|--|--------------|-------|-------|----------|------------------------------------|------|-------|-------|
|                        |                   | Position   |                   | D-1                 |  | D-2            |  | D-3          | ..... | D-... |          |                                    | Home | Field | Total |
| <b>KEY EXPERTS</b>     |                   |  |                   |                     |  |                |  |              |       |       |          |                                    |      |       |       |
| K-1                    | {e.g., Mr. Abbbb} | [Team Leader]  | [Home]<br>[Field] | [2 month]<br>[0.5m] |  | [1.0]<br>[2.5] |  | [1.0]<br>[0] |       |       |          |                                    |      |       |       |
| K-2                    |                   |  |                   |                     |  |                |  |              |       |       |          |                                    |      |       |       |
| K-3                    |                   |  |                   |                     |  |                |  |              |       |       |          |                                    |      |       |       |
|                        |                   |  |                   |                     |  |                |  |              |       |       |          |                                    |      |       |       |
| n                      |                   |  |                   |                     |  |                |  |              |       |       |          |                                    |      |       |       |
|                        |                   |  |                   |                     |  |                |  |              |       |       | Subtotal |                                    |      |       |       |
| <b>NON-KEY EXPERTS</b> |                   |  |                   |                     |  |                |  |              |       |       |          |                                    |      |       |       |
| N-1                    |                   |  | [Home]<br>[Field] |                     |  |                |  |              |       |       |          |                                    |      |       |       |
| N-2                    |                   |  |                   |                     |  |                |  |              |       |       |          |                                    |      |       |       |
|                        |                   |  |                   |                     |  |                |  |              |       |       |          |                                    |      |       |       |
| n                      |                   |  |                   |                     |  |                |  |              |       |       |          |                                    |      |       |       |
|                        |                   |  |                   |                     |  |                |  |              |       |       | Subtotal |                                    |      |       |       |
|                        |                   |  |                   |                     |  |                |  |              |       |       | Total    |                                    |      |       |       |

- For Key Experts, the input should be indicated individually for the same positions as required under the Data Sheet ITC 21.1.
- "Home" means work in the office in the expert's country of residence. "Field" work means work carried out in the Client's country or any other country outside the expert's country of residence.



Full time input



Part time input

| Authorized representative of the Consultant |  |
|---|--|
| Signature on Consultant Round Stamp         |  |
| Name  |  |
| Designation & Firm                          |  |
| Date  |  |

**FORM TECH-6****(CONTINUED)****CURRICULUM VITAE (CV)**

|   |                       |
|---|-----------------------|
| <b>Position Title and No.</b>           | {e.g.,K-1,TEAMLEADER} |
| <b>Name of Expert:</b>                  | {Insert full name}    |
| <b>Date of Birth:</b>                   | {day/month/year}      |
| <b>Country of Citizenship/Residence</b> |                       |

**Education:** {List college/university or other specialized education, giving names of educational institutions, dates attended, degree(s)/diploma(s) obtained}

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**Employment record relevant to the assignment:** {Starting with present position, list in reverse order. Please provide dates, name of employing organization, titles of positions held, types of activities performed and location of the assignment, and contact information of previous clients and employing organization(s) who can be contacted for references. Past employment that is not relevant to the assignment does not need to be included.}

| <b>Period</b>                          | <b>Employing organization and your title/position. Contact information for references</b>           | <b>Country</b> | <b>Summary of activities performed relevant to the Assignment</b> |
|--|---|----------------|---|
| [e.g.,<br>May2005<br>-<br><br>present] | [e.g., Ministry<br>of.....,advisor/consultant<br><br>references:<br>Tel...../e-mail.....;Mr. -----] |                |   |
|  |   |                |   |
|  |   |                |   |

**Membership in Professional Associations and Publications:**

\_\_\_\_\_

**Language Skills (indicate only languages in which you can work):** \_\_\_\_\_

\_\_\_\_\_

**Adequacy for the Assignment:**

Consultancy & related Services for the preparation of Detailed Project Report(DPR), inclusive of Preliminary alignment development, optimization of Alignment, Final location survey (FLS) including Geo Technical survey, Geological mapping & Hydrological Survey, preparation of Land Plans on Revenue Maps and also, inclusive of study for 2X25 KV Electrification, study for Signaling catering to ETCS-2, Study for Communication, all

**RFP for preparation FLS and DPR of East West sub Corridor – Section-4- Standard Forms**

discipline [e.g. Civil, Electric & S&T] Quantity and Cost estimation, Environmental and Social impact Study , Maintenance study & Traffic study-FIRR & EIRR, Market demand survey, Cost Benefit analysis, Study regarding intermodal Transport Integration for New Dedicated Freight Corridor (DFC) namely -East West Sub Corridor comprised of sub Corridors-Bhusaval-Nagpur-Kharagpur- Dankuni (1673 RKM) and sub Corridor - Rajkharswan-Kalipahari-Andal-(195 RKM)'. [ RFP no-2020/HQ/EN/PWC/Future Corridor/RFP/DPR/Package-2 dated 04-05-2020]

| Detailed Tasks Assigned on Consultant's Team of Experts:                        | Reference to Prior Work/Assignments that Best Illustrates Capability to Handle the Assigned Tasks |
|---|---|
| {List all deliverables/tasks as in TECH-5 in which the Expert will be involved} |   |
|   |   |
|   |   |

**Expert's contact information:** (e-mail ....., phone.....)

**Certification:**

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience, and I am available to undertake the assignment in case of an award. I understand that any misstatement or misrepresentation described herein may lead to my disqualification or dismissal by the Client.

{ day/ month/ year}

---

Name of Expert

Signature  
Date

{ day/ month/ year}

---

Name of  
authorized  
ate (Authorized Representative of the Consultant

Signature

D

(the same who signs the Proposal)

Electronic Signatures of the Expert is also permitted provided It has been used with the permission of the concerned Experts and his services are available for the Assignment.



## **RFP for preparation FLS and DPR of East West sub Corridor – Section-4- Standard Forms**

### **Power of Attorney for Authorized Signatory of Constituent Members of Joint Venture (JV)/ Consortium Members forming Consultant (POA-1)**

(For Consultants in India to be executed on non-judicial Stamp paper of appropriate value. For Consultants from outside India, submission of this form on Non Judicial Stamp Paper is not mandatory. If an equivalent form is submitted by Consultants from outside India, it is to be executed according to the applicable law in the Consultant's country and by taking into account the Notes shown below.)

Know all men by these presents, we \_\_\_\_\_ do hereby constitute, appoint and authorize Mr/Ms \_\_\_\_\_ who is presently employed with us and holding the position of \_\_\_\_\_ as our attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to our Proposal for the following Consultancy Services;

Consultancy & related Services for the preparation of Detailed Project Report(DPR), inclusive of Preliminary alignment development, optimization of Alignment, Final location survey (FLS) including Geo Technical survey, Geological mapping & Hydrological Survey, preparation of Land Plans on Revenue Maps and also, inclusive of study for 2X25 KV Electrification, study for Signaling catering to ETCS-2, Study for Communication, all discipline [e.g. Civil, Electric & S&T] Quantity and Cost estimation, Environmental and Social impact Study , Maintenance study & Traffic study-FIRR & EIRR, Market demand survey, Cost Benefit analysis, Study regarding intermodal Transport Integration for New Dedicated Freight Corridor (DFC) namely -East West Sub Corridor comprised of sub Corridors-Bhusaval-Nagpur-Kharagpur- Dankuni (1673 RKM) and sub Corridor - Rajkharswan-Kalipahari-Andal-(195 RKM)'. [ **RFP no-2020/HQ/EN/PWC/Future Corridor/RFP/DPR/Package-2 dated 04-05-2020**];

Contract including signing and submission of all documents and providing information/responses to Dedicated Freight Corridor Corporation of India Limited, representing us in all matters, dealing with Dedicated Freight Corridor Corporation of India Limited in all matters in connection with our Proposal for the Consultancy services.

We hereby agree to ratify all acts, deeds and things lawfully done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall and shall always be deemed to have been done by us.

Dated this the \_\_\_\_\_ day of \_\_\_\_\_, 200\_\_\_\_\_.

(Signature of Authorized Signatory)

\_\_\_\_\_  
(Signature and Name in Block letters of Signatory)

Seal of Company

Witness

Witness 1:

Name:

Address:

Occupation:

Witness 2:

Name:

Address:

Occupation:

#### **Notes:**

- 1. In case of existing Joint Venture (JV)/ Consortium, the certified copy of JV/ Consortium Agreement may be furnished.*
- 2. The mode of execution should be in accordance with the procedure, if any, laid down by the applicable law in the Consultant's country and the charter documents of the executants(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure.*
- 3. Whenever required, the Consultant should submit for verification the extract of the charter documents and the shareholder resolution in favour of the person executing this document on behalf of the Consultant.*

**RFP for preparation FLS and DPR of East West sub Corridor – Section-4- Standard Forms**

4. *For a required document executed and issued overseas, the document will also have to be legalised by the Indian Embassy in the Consultant's country and notarized in the jurisdiction where it is being issued. However, documents provided by Consultant from countries that have signed the Hague Legislation Convention 1961 are not required to be legalized by the Indian Embassy, if they carry a conforming Appostille certificate.*

## **RFP for preparation FLS and DPR of East West sub Corridor – Section-4- Standard Forms**

### **Power of Attorney to Authorized Representative of Joint Venture (JV)/ Consortium-Authorized Representative of Consultant (POA-2)**

*(For Consultant in India to be executed on non-judicial Stamp paper of appropriate value. For Consultants from outside India, submission of this form is not mandatory. If an equivalent form is submitted by Consultant from outside India, it is to be executed according to the applicable law in the Consultant's country and by taking into account the Notes shown below.)*

#### **POWER OF ATTORNEY<sup>1</sup>**

Whereas Dedicated Freight Corridor Corporation of India Limited has invited Proposal for the work of ---- Consultancy Services [Insert name of work], and

Whereas, the members of the Joint Venture/Consortium comprising of M/s. \_\_\_\_\_ (lead Member) \_\_\_\_\_, M/s. \_\_\_\_\_, M/s. \_\_\_\_\_, .... and M/s.----- are interested in submission of Proposal for the following Consultancy Services;

Consultancy & related Services for the preparation of Detailed Project Report(DPR), inclusive of Preliminary alignment development, optimization of Alignment, Final location survey (FLS) including Geo Technical survey, Geological mapping & Hydrological Survey, preparation of Land Plans on Revenue Maps and also, inclusive of study for 2X25 KV Electrification, study for Signaling catering to ETCS-2, Study for Communication, all discipline [e.g. Civil, Electric & S&T] Quantity and Cost estimation, Environmental and Social impact Study , Maintenance study & Traffic study-FIRR & EIRR, Market demand survey, Cost Benefit analysis, Study regarding intermodal Transport Integration for New Dedicated Freight Corridor (DFC) namely -East West Sub Corridor comprised of sub Corridors-Bhusaval-Nagpur-Kharagpur- Dankuni (1673 RKM) and sub Corridor - Rajkharswan-Kalipahari-Andal-(195 RKM)'. [ **RFP no-2020/HQ/EN/PWC/Future Corridor/RFP/DPR/Package-2 dated 04-05-2020**];

in accordance with the terms and conditions contained in the RFP documents.

Whereas, it is necessary for the members of the Joint Venture/Consortium to designate representative of the lead partner as the authorized representative of the Consultant, with all necessary power and authority to do, for and on behalf of the Consultant (Joint Venture/ Consortium), all acts, deeds and things as may be necessary in connection with the Consultant (Joint Venture's/ Consortium's)'s Proposal for the Consultancy Services t.

NOW THIS POWER OF ATTORNEY WITNESSETH THAT:

We, M/s. \_\_\_\_\_ (Lead Member) \_\_\_\_\_, M/s. \_\_\_\_\_, M/s. \_\_\_\_\_, .... and M/s.----- hereby designate Mr/Ms. \_\_\_\_\_, being representative of the lead member of the Joint Venture/ Consortium as the authorized representative of the Joint Venture/ Consortium constituting the Consultant, to do on behalf of the Consultant (Joint Venture/ Consortium), all or any of the acts, deeds or things necessary or incidental to the Consultant (Joint Venture/ Consortium)'s Proposal for the Consultancy Services Contract, including submission of Proposal participating in conferences, responding to queries, submission of information/documents and generally to represent the Consultant (Joint Venture/ Consortium) in all its dealings with the Client or any other Government Agency or any person, in connection with the contract for the said Consultancy Services until culmination of the

## **RFP for preparation FLS and DPR of East West sub Corridor – Section-4- Standard Forms**

process of Tendering till the contract agreement is entered into with the Dedicated Freight Corridor Corporation of India Limited and thereafter till the expiry of the Contract Agreement.

We hereby agree to ratify all acts, deeds and things lawfully done by Aauthorized Representative, our said attorney, pursuant to this power of attorney and that all acts deeds and things done by our aforesaid attorney shall and shall always be deemed to have been done by the Consultant (Joint Venture/ Consortium).

Dated this the \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

(Signature)

(Name in Block letters of Executants)<sup>1</sup>

Seal of Company

Witness 1:

Name:

Address:

Occupation:

Witness 2:

Name:

Address:

Occupation:

<sup>1</sup> To be executed by all the members of the Joint Venture/ Consortium except the authorized representative.

### ***Notes:***

- 1. In case of existing Joint Venture (JV)/ Consortium, the certified copy of JV/ Consortium Agreement may be furnished.*
- 2. The mode of execution should be in accordance with the procedure, if any, laid down by the applicable law in the Consultant's country and the charter documents of the executants(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure.*
- 3. Whenever required, the Consultant should submit for verification the extract of the charter documents and the shareholder resolution in favour of the person executing this document on behalf of the Consultant.*
- 4. For a required document executed and issued overseas, the document will also have to be legalised by the Indian Embassy in the Consultant's country and notarized in the jurisdiction where it is being issued. However, documents provided by Consultants from countries that have signed the Hague Legislation Convention 1961 are not required to be legalized by the Indian Embassy, if they carry a conforming Appostille certificate.*

**RFP for preparation FLS and DPR of East West sub Corridor – Section-4- Standard Forms**

**Form of Bid Security**

**(Bank Guarantee-Ref-ITC 15.3 Data Sheet)**

*[insert Indian Scheduled Bank's Name, and Address of Issuing Branch or Office]*

**Beneficiary:** *Dedicated Freight Corridor Corporation of India Ltd., 5th Floor, Supreme Court Metro Station Building Complex, New Delhi, India-110001*

**Date:** \_\_\_\_\_

**BID GUARANTEE No.:** \_\_\_\_\_

We have been informed that \_\_\_\_\_ (hereinafter called "the Consultant") has submitted to you its Proposal dated \_\_\_\_\_ (hereinafter called "the Proposal") for the execution of following Consultancy Contract

Consultancy & related Services for the preparation of Detailed Project Report(DPR), inclusive of Preliminary alignment development, optimization of Alignment, Final location survey (FLS) including Geo Technical survey, Geological mapping & Hydrological Survey, preparation of Land Plans on Revenue Maps and also, inclusive of study for 2X25 KV Electrification, study for Signaling catering to ETCS-2, Study for Communication, all discipline [e.g. Civil, Electric & S&T] Quantity and Cost estimation, Environmental and Social impact Study , Maintenance study & Traffic study-FIRR & EIRR, Market demand survey, Cost Benefit analysis, Study regarding intermodal Transport Integration for New Dedicated Freight Corridor (DFC) namely -East West Sub Corridor comprised of sub Corridors-Bhusaval-Nagpur-Kharagpur- Dankuni (1673 RKM) and sub Corridor - Rajkharswan-Kalipahari-Andal-(195 RKM)'. [ **RFP no-2020/HQ/EN/PWC/Future Corridor/RFP/DPR/Package-2 dated 04-05-2020**];

Furthermore, we understand that, according to your conditions, Proposals must be supported by a bid guarantee.

At the request of the Consultant, we \_\_\_\_\_ hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of \_\_\_\_\_ (\_\_\_\_\_) upon receipt by us of your first demand in writing accompanied by a written statement stating that the Consultant is in breach of its obligation(s) under the RFP conditions, because the Consultant:

- (a) has withdrawn its Proposal during the period of Proposal validity specified by the Consultant in the Form of Proposal [ITC sub Clause 12.1 Data Sheet]; or
- (b) having been notified of the acceptance of its Proposal by the Client during the period of Proposal validity[Ref-ITC sub Clause 12.1 Data Sheet], (i) fails or refuses to execute the Contract Agreement or (ii) fails or refuses to furnish the performance security, in accordance with the ITC 30.1 Data Sheet or SCC sub Clause 1.1.(x).

This guarantee will expire: (a) if the Consultant is the successful Consultant , upon our receipt of copies of the contract signed by the Consultant and the performance security issued to you upon the instruction of the Consultant; and (b) if the Consultant is not the successful Consultant, upon the earlier of (i) our receipt of a copy your notification to the Consultant of the name of the successful Consultant; or (ii) twenty-eight days after the expiration of the Consultant's Proposal i.e. up to ***[date to be inserted by the bank]***.

Consequently, any demand for payment under this guarantee must be received by us at the office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 758.

## **SECTION -4**

### **B – Financial Proposal –Standard Forms**



## **Section 4. Financial Proposal-Standard Forms**

Financial Proposal Standard Forms shall be used for the preparation of the Financial Proposal according to the instructions provided in Section 2.

FIN-1      Financial Proposal Submission Form

FIN-2      Summary of Costs

FIN-3      Breakdown of Remuneration

FIN-4      Reimbursable expenses



**FORM FIN-1**  
**FINANCIAL PROPOSAL SUBMISSION FORM**  
**FORM FIN-1**  
**FINANCIAL PROPOSAL SUBMISSION FORM**

{Location, Date}

To: Dedicated Freight Corporation of India Ltd.(DFCCIL),  
Room no-505, DFCCIL Corporate office  
Fifth Floor, Supreme court Metro Station Building  
New delhi-110001.

Dear Sirs:

We, the undersigned, offer to provide the ‘Consultancy & related Services for the preparation of Detailed Project Report(DPR), inclusive of Preliminary alignment development, optimization of Alignment, Final location survey (FLS) including Geo Technical survey, Geological mapping & Hydrological Survey, preparation of Land Plans on Revenue Maps and also, inclusive of study for 2X25 KV Electrification, study for Signaling catering to ETCS-2, Study for Communication, all discipline [e.g. Civil, Electric & S&T] Quantity and Cost estimation, Environmental and Social impact Study , Maintenance study & Traffic study-FIRR & EIRR, Market demand survey, Cost Benefit analysis, Study regarding intermodal Transport Integration for New Dedicated Freight Corridor (DFC) namely -East West Sub Corridor comprised of sub Corridors-Bhusaval-Nagpur-Kharagpur- Dankuni (1673 RKM) and sub Corridor -Rajkharswan-Kalipahari-Andal-(195 RKM);’ in accordance with your Request for Proposal- **RFP no-2020/HQ/EN/PWC/Future Corridor/RFP/DPR/Package-2 dated 04-05-2020** and our Technical Proposal.

Our attached Lump sum Financial Proposal is for the amount of ;

| s.n. | Lump Sum Financial Proposal  | Amount<br>in Figures | Amount<br>in Words |
|------|--|----------------------|--------------------|
| 1    | Local currency (INR) Portion   |                      |                    |
| 2    | Foreign Currency Portion   |                      |                    |
| 3    | Tradable currency-1  |                      |                    |
| 4    | Tradable currency-2  |                      |                    |
| 5    | Tradable Currency-3  |                      |                    |
| 5    | Total Tax component (Ref-ITC sub Clause 25.1 Data Sheet)<br>(as assessed, in the Proposal, by the Consultants to be<br>applicable as on the Date 28 Days prior to the Proposal<br>submission deadline-Base Date); expressed in INR |                      |                    |
| 6    | Total Contract Amount (Inclusive of Tax Component)<br>(Expressed in INR equivalent)*   |                      |                    |
| 7    | Total Contract Amount (Exclusive of Tax Component)<br>(Expressed in INR equivalent)*<br>(To be considered by the Client for the Financial Proposal<br>Evaluation)  |                      |                    |
| 8    | Discount offered (if any) <sup>1</sup>   |                      |                    |

\* Express Exchange Rate -RBI Reference Rate for the Base date.

**RFP for preparation FLS and DPR of East West sub Corridor – Section-4- Standard Forms**

*1-In Case of Consultant, opting to submit Proposals for more than one Package and decides to offer discount for each Package separately as well as separate Discounts in case of Packages in various combinations, Consultant agrees that Client shall adopt minimum ( of the various combinations offered) Contract Amount, worked out after applying various Discounts, for the purpose Financial Proposal Evaluation of a Package.*

The estimated amount of Tax component (Ref- Row no-5 , above) shall be confirmed or adjusted, if needed, during negotiations. {Please note that all amounts shall be the same as in Form FIN-2}.

We understand that Our above quoted lump sum Price is for the successful implementation of the Contract which shall include complete implementation of the Works. as defined under ITC Sub Clause 2.2, within the ‘Time for Completion’, as stipulated in this RFP for successful and complete implementation of the Contract.

Our above quoted lump sum Price , fully, includes all costs of all types e.g. (i) Total Remuneration (ii) Total Reimbursable, is inclusive of all the incidental, Contingent, Working expenses, Training expenses, Consultant Profit & other Fees such as Inspection Fees of all kinds and risks of every kind for the successful and complete implementation of the Assignment’ as defined under ITC Sub Clause 2.2, above, within the ‘Time for Completion’ as stipulated in this RFP.

Our Financial Proposal shall be binding upon us subject to the modifications resulting from Contract negotiations, up to expiration of the validity period of the Proposal [Ref-ITC sub Clause 12.1 Data Sheet], i.e. before the date indicated in Clause 12.1 of the Data Sheet.

Commissions and gratuities paid or to be paid by us to an agent or any third party relating to preparation or submission of this Proposal and Contract execution, paid if we are awarded the Contract, are listed below:

| sn | Name and Address of Agents | Amount of Currency | Purpose of Commission or gratuity |
|----|----------------------------|--------------------|-----------------------------------|
|    |                            |                    |                                   |

{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 Proposal and Contract execution.”}

-----  
We understand you are not bound to accept any Proposal you receive.

We remain,

Yours sincerely,

|  |   |   |  |
|--|---|---|--|
|  | Authorized Representative of the Lead Member and thereby Authorized Representative of the JV/Consortium/Association i.e. <b>Authorized Representative of the Consultant</b> | Authorized Representative of the Constituent Member-1 | Authorized Representative of the Constituent Member-2..... |
| Authorized Signature {In full and initials}: | (Consultant Round Stamp)  | (Member's Round Stamp)                                | (Member's Round Stamp)                                     |
| Name and Title of Authorized Signatory:      |   |   |  |

**RFP for preparation FLS and DPR of East West sub Corridor – Section-4- Standard Forms**

|                  |  |  |  |
|------------------|--|--|--|
|                  |  |  |  |
| Address          |  |  |  |
| E Mail           |  |  |  |
| Telephone number |  |  |  |

**FORM FIN-2****SUMMARY OF COSTS**

-----

-----

| Item  | Cost  |                           |                           |                      |                           |
|---|---|---------------------------|---------------------------|----------------------|---------------------------|
|   | Consultant must state the proposed Cost in accordance with <b>Clause 16.4</b> of the Data Sheet ; Delete Columns which are not used |                           |                           |                      |                           |
|   | Insert Foreign Currency-1   | Insert Foreign Currency-2 | Insert Foreign Currency-3 | Local Currency (INR) | Total (Equivalent in INR) |
| Cost of the Financial Proposal  |   |                           |                           |                      |                           |
| Including   |   |                           |                           |                      |                           |
| Remuneration  |   |                           |                           |                      |                           |
| Reimbursable  |   |                           |                           |                      |                           |
| Total Cost of the Financial Proposal (INR)<br>(Should match the amount in FIN-1)    |   |                           |                           |                      |                           |
| Indirect Local Tax estimates- to be discussed and finalized during the Negotiations |   |                           |                           |                      |                           |
| [Insert GST on Services]  |   |                           |                           |                      |                           |
| [Insert type of Tax(es) e.g. Income Tax on Non-Resident Experts]                    |   |                           |                           |                      |                           |
| [Insert type of Tax]  |   |                           |                           |                      |                           |
| Total Tax component   |   |                           |                           |                      |                           |

**Footnote: Payments will be made in the currency(ies) expressed above (Reference to ITC 16.4).**



**FORM FIN-3 BREAKDOWN OF REMUNERATION**

When used for Lump-Sum contract assignment, information to be provided in this Form shall only be used to demonstrate the basis for the calculation of the Contract's ceiling amount; to calculate applicable taxes at contract negotiations; and, if needed, to establish payments to the Consultant for possible additional services requested by the Client. This Form shall not be used as a basis for payments under Lump-Sum contracts.

| A. Remuneration----- |      |                         |                                |  |                           |                           |                           |                              |
|----------------------|------|-------------------------|--------------------------------|--|---------------------------|---------------------------|---------------------------|------------------------------|
| No.                  | Name | Position (as in TECH-6) | Person-month Remuneration Rate | Time Input in Person/Month (from TECH-6) | {Currency #1-as in FIN-2} | {Currency #2-as in FIN-2} | {Currency #3-as in FIN-2} | {Local Currency-as in FIN-2} |
| Key Experts          |      |                         |                                |  |                           |                           |                           |                              |
| K-1                  |      |                         | [Home]                         |  |                           |                           |                           |                              |
|                      |      |                         | [Field]                        |  |                           |                           |                           |                              |
| K-2                  |      |                         |                                |  |                           |                           |                           |                              |
|                      |      |                         |                                |  |                           |                           |                           |                              |
|                      |      |                         |                                |  |                           |                           |                           |                              |
|                      |      |                         |                                |  |                           |                           |                           |                              |
|                      |      |                         |                                |  |                           |                           |                           |                              |
| Non Key Experts      |      |                         |                                |  |                           |                           |                           |                              |
| N-1                  |      |                         | [Home]                         |  |                           |                           |                           |                              |
| N-2                  |      |                         | [Field]                        |  |                           |                           |                           |                              |
|                      |      |                         |                                |  |                           |                           |                           |                              |
|                      |      |                         |                                |  |                           |                           |                           |                              |
|                      |      |                         |                                |  |                           |                           |                           |                              |
| Total Costs          |      |                         |                                |  |                           |                           |                           |                              |

**FORM FIN-4 BREAKDOWN OF REIMBURSABLE EXPENSES**

When used for Lump-Sum contract assignment, information to be provided in this Form shall only be used to demonstrate the basis for calculation of the Contract ceiling amount, to calculate applicable taxes at contract negotiations and, if needed, to establish payments to the Consultant for possible additional services requested by the Client. This form shall not be used as a basis for payments under Lump-Sum contracts

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| B- Reimbursable Expenses----- |   |          |           |             |                              |                            |                            |                              |                           |
|-------------------------------|---|----------|-----------|-------------|------------------------------|----------------------------|----------------------------|------------------------------|---------------------------|
| sn                            | Type of Reimbursable Expense                                      | Unit     | Unit Cost | Quantity    | {Currency # 1 - as in FIN-2} | {Currency # 2-as in FIN-2} | {Currency # 3-as in FIN-2} | {Local Currency-as in FIN-2} | Total (equivalent in INR) |
|                               | {e.g., Per diem allowances**}                                     | {Day}    |           |             |                              |                            |                            |                              |                           |
|                               | {e.g., International flights}                                     | {Ticket} |           |             |                              |                            |                            |                              |                           |
|                               | {e.g., In/out airport transportation}                             | {Trip}   |           |             |                              |                            |                            |                              |                           |
|                               | {e.g., Communication costs between Insert place and Insert place} |          |           |             |                              |                            |                            |                              |                           |
|                               | {e.g., reproduction of reports}                                   |          |           |             |                              |                            |                            |                              |                           |
|                               | {e.g., Office rent}   |          |           |             |                              |                            |                            |                              |                           |
|                               | .....   |          |           |             |                              |                            |                            |                              |                           |
|                               | {Training of the Client's personnel-if required in TOR}           |          |           |             |                              |                            |                            |                              |                           |
|                               |   |          |           | Total Costs |                              |                            |                            |                              |                           |

# **SECTION-5**

# **ELIGIBLE COUNTRIES**





## **RFP for preparation FLS and DPR of East West sub Corridor – Section-5- Eligible Countries**

### **Section-5: Eligible Countries**

In terms of ITC 6.3.1-A Firm or an entity, banned by Ministry of Railways or sanctioned by World Bank or any other International Funding agencies shall not be eligible to submit proposal for this Project.

**In reference to ITC 6.3.2**, for the information of Consultants, at the present time firms, goods and services from the following countries are excluded from this selection:

In terms of ITC sub Clause 6.3.2.(a) & 6.3.2.(b)- [List Country/Countries, to apply the restriction or state –None], further,

As conveyed under the **ITC 6.1 Data sheet**:

As the project is of strategic importance and for the purpose of giving rail connectivity to border area, Consultants from neighbouring country having common border with India are not eligible to submit proposal either as a Sole Consultant or as a constituent of a Joint Venture/Consortium. Consultant from neighbouring country shall mean and include:

- (i) An individual who is a national of, or habitually resident in, any neighbouring country; or
- (ii) A body corporate which is incorporated in any neighbouring country; or
- (iii) An association or a body of individuals whose central management and control is exercised in any neighbouring country; or
- (iv) The government of neighbouring country and their instrumentalities; or
- (v) Anybody corporate, association or body of individuals wherein any one or more of the entities mentioned in (i) to (iv) above have a financial or technical stake.

--X--

## **RFP for preparation FLS and DPR of East West sub Corridor – Section-5- Eligible Countries**

### **Performance Security**

*[insert Indian Scheduled Bank's Name, and Address of Issuing Branch or Office]*

#### **Beneficiary:**

**Dedicated Freight Corridor Corporation of India Limited,**

5<sup>th</sup> Floor, Supreme Court, Metro Station Building Complex,

New Delhi, India-110001

**Date:** \_\_\_\_\_

**PERFORMANCE GUARANTEE No.:** \_\_\_\_\_

We have been informed that *[insert name of Consultant]* (hereinafter called "the Consultant") has entered into Contract awarded vide Letter of Acceptance No. *[insert reference number of the LOA]* dated *[insert date of the LOA]* with you, for the execution of ;

Consultancy & related Services for the preparation of Detailed Project Report(DPR), inclusive of Preliminary alignment development, optimization of Alignment, Final location survey (FLS) including Geo Technical survey, Geological mapping & Hydrological Survey, preparation of Land Plans on Revenue Maps and also, inclusive of study for 2X25 KV Electrification, study for Signaling catering to ETCS-2, Study for Communication, all discipline [e.g. Civil, Electric & S&T] Quantity and Cost estimation, Environmental and Social impact Study , Maintenance study & Traffic study-FIRR & EIRR, Market demand survey, Cost Benefit analysis, Study regarding intermodal Transport Integration for New Dedicated Freight Corridor (DFC) namely -East West Sub Corridor comprised of sub Corridors-Bhusaval-Nagpur-Kharagpur- Dankuni (1673 RKM) and sub Corridor - Rajkharswan-Kalipahari-Andal-(195 RKM)'. [ **RFP no-2020/HQ/EN/PWC/Future Corridor/RFP/DPR/Package-2 dated 04-05-2020**];

Furthermore, we understand that, according to the conditions of the Contract, a Performance Guarantee is required.

At the request of the Consultant, we *[insert name of Bank]* hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *[insert amount in figures]* (*[amount in words]*),<sup>1</sup> such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of your first demand in writing accompanied by a written statement stating that the Consultant is in breach of its obligation(s) under the Contract, without your needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the .... Day of ....., 2...<sup>2</sup>, and any demand for payment under it must be received by us at this office on or before that date.

The Guarantor agrees to extension(s) of this guarantee for a period not to exceed [six months]/[one year] at a time, in response to the Client's written request(s) for such extension(s), such request(s) to be presented to the Guarantor before the expiry of the guarantee.

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<sup>1</sup> The Guarantor shall insert an amount representing the percentage of the Contract Price specified in the Contract and denominated in the currency(ies) of the Contract.

<sup>2</sup> Insert the date twenty-eight days after the expected date of Project Completion. The Client should note that in the event of an extension of the Time for Completion, the Client would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee.

**RFP for preparation FLS and DPR of East West sub Corridor – Section-5- Eligible Countries**

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 758, except that subparagraph (ii) of Sub-article 20(a) is hereby excluded.

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*[signature(s)]*

*[Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.]*

## **SECTION-6**

### **Provisions – Corruption & Fraudulent Practices**



**Section-6: Corruption and Fraudulent Practices**

In terms of **ITC 5.3 Data sheet**;

As mentioned in **Para-5 of the ‘Letter of invitation’**, Consultant shall sign and submit “**Pre-Contract Integrity Pact**” [ the format for “**Pre-Contract Integrity Pact**” has been appended as ‘**Appendix –E**’] for the signature of the Client and **Consultant shall submit** the aforesaid “**Pre-Contract Integrity Pact**”, thus **duly signed by both the Parties** ( Consultant & Client) **along with their Technical Proposal**.

--X--

# **Section-7**

## **Terms of Reference (TOR)**





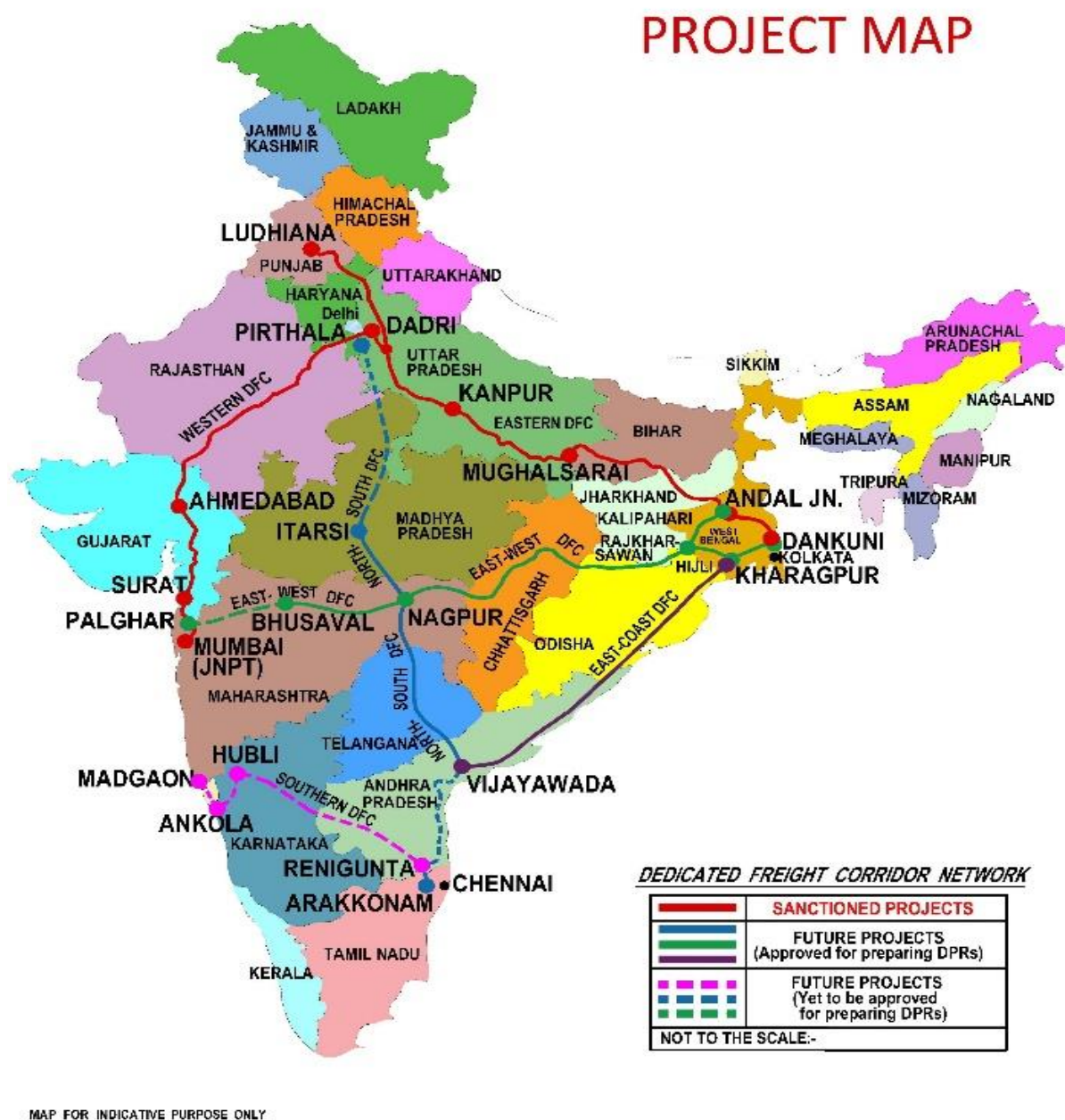


Figure 1: Dedicated Freight Corridor

**Terms of Reference****1. Introduction**

- 1.1 The rapid growth of Indian economy has created demand for additional capacity of rail freight transportation, and this is likely to grow further in the future. This burgeoning demand led to the conception of the dedicated freight corridors along the Eastern and Western Routes.

"Dedicated Freight Corridor Corporation of India Limited (DFCCIL)", was established in 2006 to undertake planning & development, mobilization of financial resources and construction, maintenance and operation of the dedicated freight corridors.

- 1.2 DFCCIL is in the process of construction and operationalization of the Eastern and Western Corridors. Now, in accordance with the mandate, DFCCIL has been entrusted with the task of undertaking and preparation of DPR of the following new DFC Corridors:

| SN | Name of Corridor<br>(New DFCs) | Section<br>(Indicative)  | Length of Corridor<br>(Indicative) |
|----|--------------------------------|--|------------------------------------|
| 1  | East Coast Corridor            | Kharagpur to Vijayawada  | 1115 RKM                           |
| 2  | East-West Sub-Corridor - I     | Bhusavala-Wardha-Nagpur-Rajkharswan-Kharagpur-Uluberia-Dankumi | 1673 RKM                           |
|    | East-West Sub-Corridor - II    | Rajkharswan-Kaliphadi-Andal                                    | 195 RKM                            |
| 3. | North-South Sub-Corridor       | Vijayawada-Nagpur-Itarsi                                       | 975 RKM                            |

Out of above cited New DFCs, this RFP limits its scope to East-West sub corridor mentioned at S.No.-2 above.

**1.3 Brief Description of Alignment- (Indicative)**

The existing Howrah-Mumbai rail route is one of the diagonals of the Golden Quadrilateral of Indian Railways and can be stated to consist of two Sub Corridor namely;

|                             |  |          |
|-----------------------------|--|----------|
| East-West Sub-Corridor - I  | Bhusavala-Wardha-Nagpur-Rajkharswan-Kharagpur-Uluberia-Dankumi | 1673 RKM |
| East-West Sub-Corridor - II | Rajkharswan-Kaliphadi-Andal                                    | 195 RKM  |
| Total Route km              |  | 1868 RKM |

## **RFP for preparation FLS and DPR of East West Sub Corridor – Section-7 - TOR**

- (i) This route is richly endowed with coal, iron ore and other mineral resources and are industrially developed, catering to a number of steel (including sponge iron), cement and power plants. Also, the East West Sub Corridor provides rail connectivity to Kolkata and Haldia Ports on the East Coast and to Bombay Port and JNPT on the West Coast (in future). As an important part of the Indian Railway network, this route also carries food grains, fertilizers and other general goods, including containers. Thus, straddling the core, heavy mineral and industrial belts and connecting two major metropolitan cities of the country, the route contributes substantially to the revenue freight traffic, as well as passenger traffic on Indian Railways.
- (ii). The New DFC broadly may pass through the following Railways; (Indicative)
- Eastern Railway-** Andal and New Kamarkundu Andal and New Kamarkundu, which connect with Eastern DFC.
- South Eastern Railway-** New Madhukunda, New Anara, New Purulia, New Chandil,
- Howrah-Kharagpur-Tata Nagar- Jharsuguda Section:
- South Eastern Railway-**New Dakshinbari, New Panskura, New Hijli; New Govindpur, New Adityapur, New Rajkharswan, New Barabamboo, New Manoharpur, New Bondamunda, New Kalunga, New Bagdehi and New Jharsuguda. New Dakshinbari for interchange of traffic to Kolkata area and Sealdah Division, New Panskura West for the traffic to and from Haldia Port and New Hijli connects with East-Coast DFC.
- Jharsuguda-Bilaspur-Raipur-Nagpur Section:**
- South East Central Railway-New Belpahar, New Kotarlia, New Bhupdeopur, New Champa, New Bilaspur (E), New Dagoni, New Mandhar, New Bhilai West(F), New Paramalkasa, New Kachewani, New Chacher and New Kalumna.
- Central Railway-** New Nagpur (South), New Sindi, New Sindi (West).

### **1.4 Planning of Final Location Survey (FLS)**

- 1.4.1 Techno-Economy Survey;** prior to the planning for Final Location Survey, Consultant is advised to conduct a Techno-Economy Survey on the proposed DFC project of New Corridor. Pre investment decision investigations may also involve the examination of various alternatives including optimization of the existing facilities to decide the best alternative from financial and operating point of view to make an ideal investment decision. Such investigation related to the new DFC Corridors involving preliminary Engineering cum Traffic Surveys are known as Techno-Economy Survey.

In this direction, the alignment of future corridors may be finalized with an objective to achieve optimization of route based on Origination-Destination (OD) flow of traffic envisaged for the future DFCs. The new route to be developed should keep in view the points of traffic generation. Junction station should be planned keeping in mind connectivity to traffic generation nodes and important industries, ports etc.

- 1.4.2** The Final Location Survey and Detailed Project Report (DPR) shall be prepared as per the following stages:

**Stage-1:** Collection & Desktop Study of publicly available maps and existing studies/data for preliminary route Development based on broad parameters such as, Traffic Demand Survey, Obligatory points, available existing infrastructure, land acquisition parameters, environmental parameters, constructability parameters etc. along with ensuring broad adherence to design parameters related to horizontal and vertical alignment as per Indian Railways manuals. After study of multiple routes and

## **RFP for preparation FLS and DPR of East West Sub Corridor – Section-7 - TOR**

finalization of the same along with Area of Investigation (AOI) in discussion with client, submission of all deliverables as per TOR.

**1.4.3 Stage-2:** This stage shall involve procurement of Satellite Stereo Imagery, creation of Ortho-photo, DEM & DSM referenced to Survey of India Benchmarks, feature extraction from the satellite ortho-photos to generate topographic maps, site reconnaissance so as to verify obligatory points, station yards etc, development and evaluation of horizontal and vertical alignment with three alternatives and finalization of the final alignment in consultation with the client.

**1.4.4 Stage-3:** After finalization of the alignment in Stage 2, the consultant shall undertake a final location survey with Aerial LiDAR technology along with other detailed studies such as Geological, Geotechnical etc studies as per the detailed specifications are provided in Section 3.6.8 below. The consultant shall also prepare the final alignment design, Hydrological studies, flood planes, demarcation and the final land acquisition plan as per the detailed specifications in Section 3.6.16 below

**1.4.5 Disclaimer regarding the earlier reports:**

Any supplied earlier study reports by the Client are for guidance only. The final alignment has to be freshly designed based on field studies related to stability considerations, geology, constructability consideration, Geotechnical issue, Habitation, accessibility, safety, maintainability, environmental considerations, optimum lifecycle cost of the project etc. The final alignment is to be developed and staked by following the codal provisions, guidelines, international standards & best practices.

2. DFCCIL through this tender intends to appoint a Consultant for undertaking Final Location Survey of above given corridors by first undertaking desktop study of alignments, then finalizing alignment using satellite based Digital Terrain Model and ortho-photo imagery and then undertaking the review and refinement of one finalized alignment based on detailed engineering grade survey using Aerial LiDAR & Imagery, stability considerations, geological consideration, construction consideration, accessibility, safety maintainability, environmental considerations, etc, fixing of permanent control points using GPS survey, levelling survey from Survey of India GTS benchmarks, geo-referencing of revenue maps etc as per detailed scope given below in Section 3.

2.1 At all times, during the Project implementation, the Consultants shall ensure:

- a) Due diligence and excellent standards in the performance of the assignment.
- b) Compliance of all rules of DFCCIL related to the contract of the project.
- c) Safety of the works being carried out by the Consultants.
- d) Highest standards of quality assurance in the execution of the contract.
- e) Deployment of high Quality equipment machinery and related infrastructure and adequately qualified personnel
- f) Completion of work in the prescribed time schedule.
- g) That the Consultant assists the DFCCIL for the required coordination with the local administration, infrastructure stake holders, Revenue Authorities and any other stake holders, until the approval are given by the concerned authorities.

**RFP for preparation FLS and DPR of East West Sub Corridor – Section-7 - TOR**

- h) Quick response on queries and clarifications sought by DFCCIL

**3. Technical Parameters & Scope of Consultancy Services:****3.1 Technical Parameters:**

Development of alignment will be based on following parameters but not limited to these:

| S. No. | Descriptions                         | Provisions  |
|--------|--------------------------------------|---|
| I.     | Standard of Construction             | Track substructure, Formation, Bridge Sub Structure to be designed for 32.5 MT Axle load.<br><br>Track super structure to be planned for 25 MT Axle load<br><br>Consultant should incorporate clear specifications for Heavy Haul infrastructure like Track structure, OHE Structure & Signaling System |
| II.    | Gauge                                | 1676 mm BG  |
| III.   | Track structure                      | <b>60 Kg / 1175 HT Grade Rails</b> in mainline and 60 Kg/90 UTS rails in loop lines and sidings.  |
| IV.    | Sleeper                              | <b>Wider PSC Sleeper RT 8527</b>  |
| V.     | Sleeper density                      | 1660 sleepers per km in main line and 1540 nos. in loop line.   |
| VI.    | Ballast cushion                      | Mainline – 350mm.<br><br>Loop lines – 300 mm.<br><br>In terms of ACS 16 to LWR Manual, Ballast side slope shall be 1.5:1  |
| VII.   | Welding of rails                     | CWR/LWR to be provided.   |
| VIII.  | Points & Crossings                   | Canted turnouts with Thick web Curved switches and weldable CMS crossing.   |
| IX.    | Formation                            | 1. Blanket of adequate depth to be provided depending on the sub-grade proposed.<br><br>2. Protective measures, as required ensuring safety in cutting must be incorporated.  |
| X.     | Degree / Radius of Horizontal Curves | Normally not to be sharper than 2.5 degree (700m radius)<br><br>In isolated & exceptional cases, subject to prior approval of DFCCIL (Client) – Not exceed 6 Degree (292 Meter radius)  |
| XI.    | Ruling gradient                      | 1 in 200 compensated gradient.  |

**RFP for preparation FLS and DPR of East West Sub Corridor – Section-7 - TOR**

| S. No. | Descriptions                                    | Provisions  |
|--------|---|---|
| XII.   | Gradient in yard                                | Consistent with the prevailing gradient in existing yards, however, gradient shall be not steeper than 1in400   |
| XIII.  | Length of loop                                  | Minimum 1500 meter CSR.   |
| XIV.   | Track centres                                   | Between DFC Tracks-7.0 M (Minimum)<br><br>Between IR Track and DFC Track-8.0 (Minimum)<br><br>Note-In Alignment Plan, provision shall be kept for service Road for easy access.   |
| XV.    | Maximum grade on approach to main river bridges | As flat as possible, consistent with site conditions and not steeper than 1in 200 compensated.  |
| XVI.   | Level crossing                                  | I) Present and proposed tracks at same level :<br><br>a) Existing level crossing shall be extended.<br><br>b) Existing RUB shall be extended.<br><br>II) Present and proposed tracks are at different level: ROB / RUBs should be provided<br><br><b>Note:</b> Possibility of diverting existing L-xing and merging into adjoining road must be explored to reduce number of L-xings                                |
| XVII.  | Width of formation:                             | <b>Embankment &amp; Cutting</b><br><br><b>Single Track</b><br><br>Top width of embankment 7.86 m, Side Scope 2:1<br><br>Formation top cross slope shall be 1:30<br><br><b>Double track</b><br><br>Top width of embankment <b>13.86 m+1(14.86 m)</b> ,<br><br>Side Scope 2:1<br><br>Formation top cross slope shall be 1:30<br><br>Note-In Alignment Plan, provision shall be kept for service Road for easy access. |
| XVIII. | Speed   | 100 Kmph for Goods Trains   |
| XIX.   | Type of loading                                 | Freight loading – All type of commodities including containers (Double stack container)<br><br>Track substructure, Formation, Bridge Sub Structure to be designed for 32.5 MT Axle load.  |

**RFP for preparation FLS and DPR of East West Sub Corridor – Section-7 - TOR**

| S. No. | Descriptions | Provisions  |
|--------|--------------|---|
|        |              | Track super structure to be planned for 25 MT Axle load |

**3.2 Scope of Consultancy Works - General**

- 3.2.1** It includes but is not limited to development of a suitable alignment along the given broad obligatory points using Digital Elevation Model (DEM) and Orthophotos developed from Stereo Satellite Images and using Autodesk 3Dcivil/Bentley Rail Track or similar Software; final location survey and detailed project report comprising Aerial LiDAR Survey, Geotechnical Investigations Report, Hydrology Reports, Alignment Design Report, Bridge and Tunnel Report, Electrical and S&T Report, Traffic survey Report, Environmental and Social study Report, Detailed Estimate preparation and Detailed Design Engineering etc of the Project.
- 3.2.2** The services to be rendered by the Consultant include all the work described in these technical requirements. Details not specifically described in these instructions are nevertheless a firm requirement if they can be identified as an item, or items, commonly apart of professional grade work of a comparative nature.
- 3.2.3** DFCCIL may get the outputs and deliverables reviewed/accepted/approved from Independent agencies.
- 3.2.4** The Consultant shall submit relevant documents for approval wherever required and will interact with the Railway/State Government/other Govt departments.
- 3.2.5** The work shall be executed in a phased manner as per Project's requirement or as decided by DFCCIL so that subsequent tasks can also be initiated in a phased manner for early completion of the Project.
- 3.2.6** The scope of work shall be carried out as per Indian Railway Codes, manuals, guidelines etc; IS codes and as per International accepted norms. The latest modern techniques and software shall be used for this work.

**3.3 Safety & Security**

- 3.3.1** The works included in this contract are to be carried out close to the running tracks and public utilities, therefore, safety of running trains and the public is paramount. Therefore, all activities undertaken by the Consultant /his Sub-Consultant s shall ensure safety at all times. The Consultant shall comply with the instructions issued by the Railway/Employer from time to time to ensure safe running of trains while carrying out works. The rates quoted by the Consultant shall be deemed to include all expenditure incurred in compliance with the same.
- 3.3.2** In case during inspection by DFCCIL/Railway officials the Consultant or their personnel are found to be adopting unsafe practices, penalty of Rs. 10,000 per occasion shall be imposed.

### **3.4 Scope for Stage 1 - Desktop Studies**

- 3.4.1** The work shall include Collection & Desktop Study of publicly available maps and existing studies/PETS/data for preliminary route development based on broad parameters such as City Connectivity, Obligatory points, available existing infrastructure, land acquisition parameters, environmental parameters, constructability parameters etc. along with ensuring broad adherence to design parameters related to horizontal and vertical alignment as per Indian Railways manuals. After study of multiple routes and finalization of the same along with Area of Investigation (AOI) in discussion with client, submission of all deliverables.

The alignment of New DFCs requires to be planned, adopting the Alignment

- (i) Alignment is to be planned as green Field Project with option to go for Parallel to existing track to be used sparingly.
- (ii) Provision is to be kept for 3.5 M wide Service Roads on both Sides of Alignment.
- (iii) Consultant would be required to maintain close coordination/interface with the Railway (Zone or division as applicable) to ensure that Final alignment is not in infringement with any of the Railway's current or future Projects of route expansion like 3rd or 4th Line.
- (iv) Consultant would be advised to adopt Track on Viaduct in densely populated areas to avoid Land acquisition problems.
- (v) Consultant shall submit Cost Estimates for Railway Envelope covering for Single Stack and Double Stack container dominant Traffic, separately.
- (vi) **Greening of corridor**

Consultant shall ensure that Provision is kept for Plantation on both sides of track to the extent possible, along the alignment with a view to make it a green corridor.

- 3.4.2** Consultant is required to identify possible options for the proposed rail project and evaluate these in terms of technical, financial and economic, environmental, social and strategic terms. Contractor should keep the following points indicated below for guidance and development of route.

#### **3.4.2.1 Existing topographic and other specialized mapping**

The following parameters are to be taken into consideration:

- Rough, mountainous, flat surfaces including Ghat Sections where alignment may be proposed considering tunneling / viaducts from constructability point of view.
- Agricultural areas
- City/Urban settlement
- River and water resources
- Existing and planned Roads / Railways and their crossing with the alignment to be developed.

#### **3.4.2.2 City Connectivity**

Main cities that will be connected to each other and the other cities on the route shall be evaluated together while selecting the preferred route.

#### **3.4.2.3 Obligatory points**



- River / Road crossings square to the River / Road to the extent possible.
- Locations through which alignment is to pass, as advised by Employer.
- Locations through which the alignment should not pass like heavy built-up areas, locations / industry, Eco-sensitive zones etc.

**3.4.2.4 Traffic**

Major capacity enhancement works by the way of provision of 3<sup>rd</sup>. line and quadrupling have been sanctioned on some of the routes identified for future DFCs, which may also be factored in while preparing the DPRs for future DFCs. The alignment of future corridors may be finalized with an objective to achieve optimization of route based on Origination-Destination (OD) flow of traffic envisaged for the future DFCs. The new route to be developed should keep in view the points of traffic generation. Junction station should be planned keeping in mind connectivity to traffic generation nodes and important industries, ports etc.

**3.4.2.5 Available existing infrastructure**

**3.4.2.6 Possibility of Land Acquisition & considerations of Land Ownership**

**3.4.2.7 Local information to the extent available**

**3.4.2.8 Environmental parameters**

- Eco-sensitive zones
- Climatic Data and Flood Plains
- Flora (Vegetation)
- Fauna (Animals)
- Terrain Analysis

**3.4.2.9 Constructability parameters**

The developed route should be constructible considering broad DFCCIL requirements.

**3.4.2.10 Government and regional development plans**

**3.5 Scope Stage – 2: Alignment option generation and finalization of most suitable alignment from Satellite Imagery Studies**

Preliminary alignment is to be worked out with different technical & economical viable alignment options, (generally up to three) keeping in view the terms of reference, clearly bringing out advantages/ disadvantages of each option. For doing this, the consultant shall undertake the following:

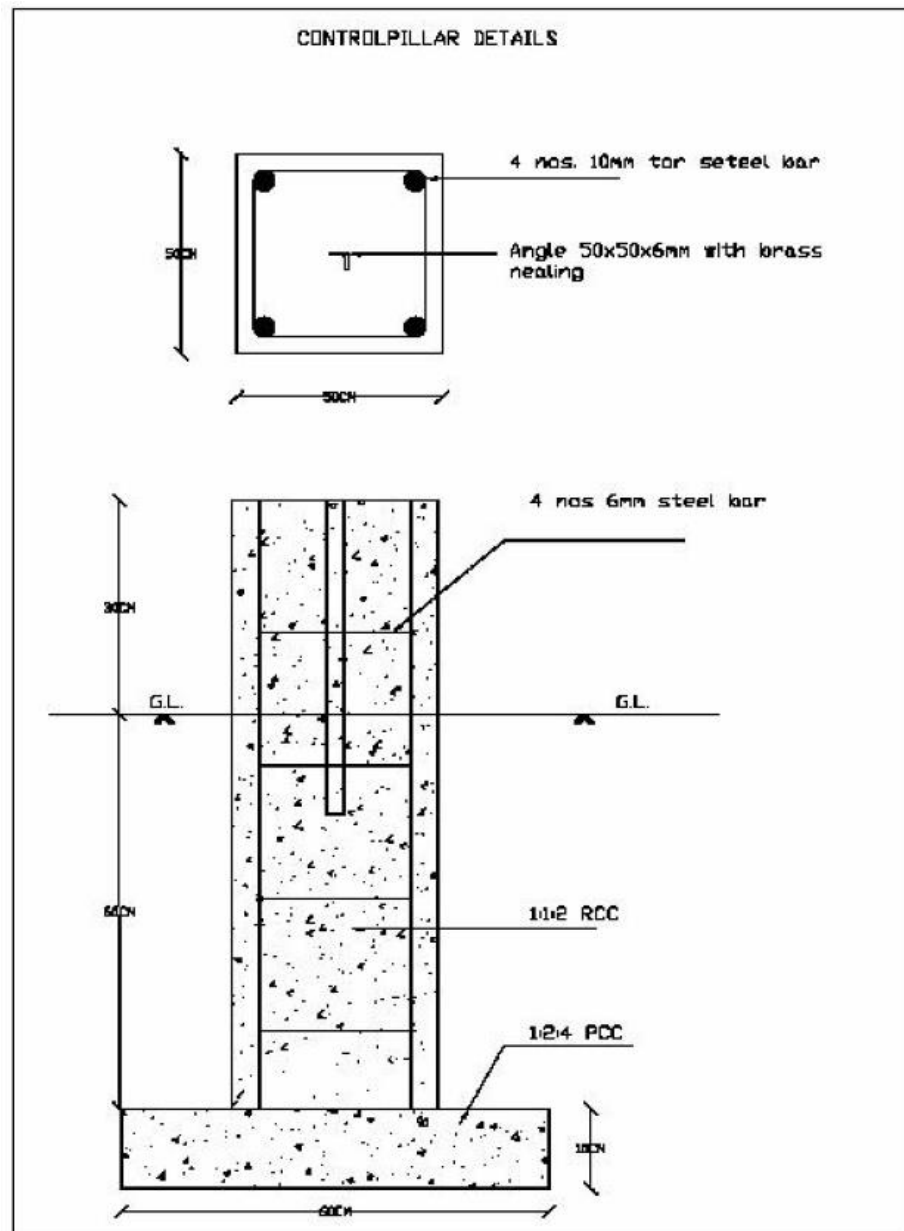
- 3.5.1** Collection and desk study of Terms of Reference (TOR), previous reports, reports of adjacent projects (if available), data, drawings and documents related to the project prior to fieldwork.
- 3.5.2** Procurement of Stereo Satellite imagery data, creation of Orthophoto, DEM & DSM. The required satellite data from NRSC Hyderabad shall be freshly captured Stereo Imagery of 50 cm resolution.
- 3.5.3 Ground Control Survey:** The consultant shall geo-reference satellite imagery to MSL through Survey of India Benchmarks. Broadly, this work will consist of:
  - 3.5.3.1** Carrying out reconnaissance survey of the project area for identifying the Control Points for carrying out DGPS survey and preparing a plan of a grid network of Control Points on SOI topo-sheets/satellite imagery.

- 3.5.3.2 Survey of India Benchmarks to be located during the above reconnaissance survey. These benchmarks shall be tested for stability and the same shall be reported to the client. The entire horizontal and vertical control shall be linked to the approved stable Benchmarks for conversion of LiDAR data to MSL.
- 3.5.3.3 Master Control Network comprising of interconnected triangles (with baseline of about 25km) to be established for overall horizontal control with approx. 25 km baseline length throughout the alignment. Secondary Control Network comprising of interconnected triangles weaved with Master control network (with base line of 3-5 KM ) to be established with a baseline length of approx. 3-5 km throughout the alignment. Target LiDAR points to be established at an interval of approx. 5 km within the final alignment. To densify Horizontal Control Network, the GNSS triangulation method should be adopted and processing of data for network adjustment should be done to achieve an accuracy of 1:100,000 in horizontal.
- 3.5.3.4 Minimum one ground control point shall be established in an area of up to 50 sq km for Satellite DEM creation.
- 3.5.3.5 Establishment of vertical control referenced to SoI MSL Permanent Benchmarks to be undertaken by double tertiary leveling along the entire route by connecting target points. The threshold limit for levelling loop closure accuracy should be  $12\sqrt{K}$  mm, where K is in km.
- 3.5.3.6 Monumentation of Master and Secondary Control Points shall be undertaken if required in consultation with client.
- 3.5.3.7 Extra Check GCPs (not less than 20 no.) shall be established as per the direction of Employer for checking the accuracy of DEM developed.

#### **3.5.4 Establishment of Permanent Control Points**

Construction of cast in-situ Permanent Control Point pillars of size 500mm x 500mm x 1000mm of RCC (Nominal Mix 1:1:2) with provision of 700 mm long M.S. angle of size 50 x 50 x 6 mm with brass nailing on the MS angle for marking the Control Points and embossing the CP pillar number on the MS plate of size 125mm x 125mm x 5mm embedded in concrete by four 6 mm dia rods 150 mm long as per approved drawing. The PCC mix should be 1:2:4. The pillar should have the following reinforcement: 4nos-10mm dia longitudinal and 8mm dia rings @ 150mm c/c. The Foundation size of the pillar should be :800mm x 800mm x 150mm with a PCC base.

The permanent control point as far as possible permanent control point should be marked on permanent structure and wherever not possible erected on permanent pillar.



*Figure 2: Control Pillar Details*

**3.5.5** The consultant shall create Orthophotos of 50 cm resolution from the Stereo Imagery through:

- a. Histogram matching
- b. Haze reduction
- c. Geo-referencing
- d. Ortho-rectification
- e. Image fusion (pan sharpening/resolution merging)
- f. Image mosaicking and tile generation
- g. Feature extraction from satellite images

- 3.5.6** Consultant shall undertake Stereo image processing and create DEM of 3 m resolution and generate contours at interval of 3m. The generated DEM shall be referenced to MSL through above established Ground Control. The generated DEM shall be randomly verified at the ground to check vertical accuracy by establishing minimum 20 check points by DGPS survey and levelling survey as mentioned above.
- 3.5.7** Consultant shall undertake feature extraction from Orthophotos to generate Topographic Map with layers such as Forest, Flood plains, Roads and railways, Rivers, Nallahs, Powerlines, Habitats etc along with identifying important features in corridor such as ROB's, existing structures and other features as required for alignment development.
- 3.5.8** Consultant shall prepare a topographic map from the satellite imageries and information in scale of 1:5000 with layers of:
- a. Contours
  - b. Forest/Revenue maps as per available/provided data
  - c. Roads and Railway
  - d. Power lines,
  - e. Rivers, Nallas, Flood Plains, Water features etc
  - f. Habitat area etc
  - g. Existing structures such as ROB's
- 3.5.9** The updated maps developed from the digital satellite imagery shall be used by the consultant for alignment studies so as to study:
- a. The pattern of urbanization and its area extent to select the possible routes of alignment;
  - b. The extent of forest covers so that the alignment does not pass through the forested area to the extent possible;
  - c. Cross-checking of streams and the width of rivers where the alignments cross the rivers;
  - d. Location of possible sites for Railway Stations connecting the proposed alignments with existing and under construction transport network;
- 3.5.10** Consultant shall further undertake site reconnaissance along the feasible alignment(s) for field verification of obligatory points, stations, yards, depots etc identified above and modify proposed alignments/locations if required from feasibility point of view including local connectivity.

- 3.5.11** Field visit to obligatory points and locations of important structures, bridges, viaducts, earth structures, road crossings, tunnels, stations, shafts, environmentally sensitive areas etc, of the various designed alignment by Consultant's team comprising experts in the field of Alignment design, Surveying, etc. along with representatives of DFCCIL (as required) for field verification.
- 3.5.12** The Expert Team members shall give the feasibility report of the proposed alternate alignments with their observations and recommendations.
- 3.5.13** The Consultant shall be responsible for planning field visits to tunnels, bridges, yards locations etc. along the alignment for DFCCIL representatives (if required) as well as for its own expert team members.
- 3.5.14** Broad geological constraints should be considered. Geological maps of Geological survey of India scale 1:50000 to be used for Stage-2 route selection parameter analysis, wherever required in case of hilly terrain or where tunneling is likely involved and incorporate the geological aspects, stability, constructability, accessibility considerations etc. of the structures in the final recommended alignment.
- 3.5.15** Based on the above data, field visits and studies, the consultant shall work out at least three viable options for preliminary alignment by evaluating the technical & economical parameters of the study area and keeping in view the terms of reference. The consultant shall clearly bring out advantages/ disadvantages of each option.
- 3.5.16** Discussion with the DFCCIL/Railway/Local Authorities and justification on optimum alignment chosen by the Consultant and incorporation of views, thereon.
- 3.5.17** In determining these alignments, the consultant will do the following:
- a. Incorporate all findings of Satellite Imagery orthophotos, DEM/DSM, desk-top studies and reconnaissance survey
  - b. Consider environmental issues; including hydrology.
  - c. Broad geological constraints should be considered. Geological maps of Geological survey of India scale 1:50000 to be used for Stage-2 route selection parameter analysis, wherever required in case of hilly terrain or where tunnelling is likely involved.
  - d. Consider community and stakeholder issues; including social issues, threatened & endangered species, historic resources, wetlands & streams, and archaeological resources;

- e. Consider social, landowner and urban development constraints to minimize relocation impact on communities
- f. Consider flood plain and stream crossings;
- g. Consider disaster hazards such as earthquakes, flooding and landslides etc;
- h. Determine the most cost-effective options that meet the defined constraints and demonstrates project viability;
- i. Meet geometric constraints in accordance with the design standards for DFC in the different topographic areas;
- j. Demonstrate comprehensive consideration of alternatives that provide the community with confidence that all available options have been investigated;
- k. Undertake comprehensive sensitivity analyses (Multi-criteria analysis) of the alignment and construction cost impact of changes to the constraints and/or design standards;
- l. Prepare Index plan and profile including marking of tentative Row boundary on the Plan based on the data provided by the Client.
- m. The design of preliminary alignments shall be done by using appropriate software such as Bentley Rail or similar software.
- n. Prepare preliminary land acquisition plan by Digitizing the Revenue Maps (to be given by DFCCIL) after mosaicking and Georeferencing, transfer of final alignment approved for LIDAR study on the maps and calculation of area of the land to be acquired along with the details of the plot and its owners and preparation of preliminary land acquisition plan.

**3.5.18** Based on the above studies, the consultant shall prepare and submit a detailed draft preliminary alignment study report with the three considered options and the final recommended alignment option for Stage 1 to the client. The composition of the report shall be as per Section - 3.5.19 below.

**3.5.19** After detailed discussion on technical and economical parameters of the alignment options with the client, including State Authorities, etc, the consultant shall incorporate all the recommended changes and prepare the Final Preliminary Alignment Study report for final approval.

**3.5.20** The finalized alignment shall be taken up for further refinement based on detailed site survey and studies as per Section 3.6 below.

**3.6 Scope Stage – 3: Detailed Final Location Survey including Aerial LiDAR Studies and other detailed studies**

After finalization of the preliminary alignment, the consultant shall further refine the alignment in the selected alignment corridor by undertaking detailed Final Location Survey using Aerial LiDAR technology along with establishment of additional Ground Control Network (if required), Pillar fixing, Hydrological Survey (wherever required), geological mapping, geotechnical investigation and final design. For doing this, the consultant shall undertake the following:

**3.6.1 Aerial LiDAR & Imagery Survey**

The consultant will undertake Aerial LiDAR Survey complemented by Aerial Imagery in a corridor width of 300 m (150 m on either side) around the proposed alignment. Detailed Specifications are provided in TOR Annexure -6 and Broadly the work will involve the following:

- 3.6.1.1 Collection & paper study of existing alignment reports, data, drawing, documents, ground control points etc;
- 3.6.1.2 Ground Control Survey undertaken above for Satellite Imagery processing shall be further densified if required for accuracy in consultation with the client.
- 3.6.1.3 Applying to DGCA/Ministry of Defence for flying permissions as per DGCA CAR Section 3 Air Transport Series F Part I Issue I, 12th October 2010 (Refer Section 6 – Aerial Photography/Geophysical Surveys and Annexure E) along with adherence to all security stipulations issued by Ministry of Defence in the issue of the permit. DFCCIL will provide the necessary support documentation.
- 3.6.1.4 The consultant will mobilize an aircraft/helicopter (Unmanned aerial vehicles are not allowed) to site fitted with state of art Aerial LiDAR and Imagery sensors (equipment as per minimum specification mentioned in Annexure -6) after due security inspection as per MoD stipulations.
- 3.6.1.5 Preparation of flight plan for the Area of Interest.
- 3.6.1.6 Acquiring and pre-processing LiDAR data and digital imagery with LiDAR collected at a point density of 10 points per sq m with FHA (Fundamental Horizontal Accuracy) of 10 cm and FVA (Fundamental Vertical Accuracy) of 10 cm both at 95% confidence interval level. Imagery is to be taken at a resolution of 10 cm GSD.
- 3.6.1.7 Pre-processing data to be referenced to MSL with SoI permanent benchmarks
- 3.6.1.8 Ground survey/Hydrological survey using traditional methods such as Echo Sounders etc along areas such as river crossings etc where Aerial LiDAR data needs to be complemented, including the following:
  - a. 2 KM (1 KM on each side of centerline) along all river crossings with river cross-sections soundings (or alternate acceptable method) taken at centerline and then at every 200 m distance along upstream and downstream of the river and upto 50 m beyond high bank

- b. The DEM generated from this data shall be suitably merged with the LiDAR DEM in consultation with the client.

3.6.1.9 Post-processing of LiDAR data to produce the following:

- a. Classified Point Cloud in LAS (.las) format (Soft Copy format)
- b. Three-Dimensional Topographical map of 50 m corridor on either side of the finalised alignment on a scale of 1:2500
- c. Contours of 50 cm interval for the 50 m corridor
- d. Digital Orthophotos of 10 cm GSD resolution (in tiles and seamlessly mosaicked over the survey area)
- e. DSM of 1 m grid
- f. DEM/DTM of 1 m grid
- g. 3 sets of all deliverables to be provided in Hard Copy.
- h. Soft copy of all deliverables to be provided.

**Note:** The final output should be compatible with AutoCAD Civil 3D Software. Appropriate QA/QC to be undertaken for the data to ensure adherence to accuracy requirements as per this TOR.

- 3.6.1.10 All topographical information including natural & man-made features to be captured such as but not limited to streams, river, buildings, wall, fences, roads (Paved, unpaved, dirt), power-pole, power line, light poles, trees, slope top & slope bottom etc
- 3.6.1.11 Conducting Quality Control/Quality Assurance (QC/QA) to establish correctness of flight operations
- 3.6.1.12 Validating horizontal and vertical accuracy through independent means
- 3.6.1.13 Compliance with other product requirements such as file naming, datum and projection, units, etc.
- 3.6.1.14 Delivery of raw data, other products and supporting reports
- 3.6.1.15 Consultant may have to process additional data beyond 50 m on either side of alignment, which will be done from Aerial LiDAR data captured within the 150m corridor on either side of alignment. All outputs for additional area also to be provided.

**Note:**

- a. DFCCIL will render assistance to the consultant, if deemed necessary, in obtaining the relevant permissions from various Government agencies like DGCA, MoD, CWC, GSI, SOI etc. as per the request of the Consultant, by way of forwarding request letters etc.
- b. Consultant has to abide by all security stipulations specified by Ministry of Defence/Survey of India including clearance of the personnel working on this data by MHA/IB.



**3.6.2 Listing of Structures/Transmission Lines/ Distribution Lines**

3.6.2.1 Consultant will list out the no. of trees within the DFCCIL corridor.

3.6.2.2 Consultant will make a list of buildings/structures for all districts along the corridor which are infringing and lie based on LIDAR data within the DFCCIL corridors.

3.6.2.3 Consultant will make a List of Transmission lines / distribution lines/ Microwave Towers/ High Mast Towers for districts which are parallel and lie within the following corridors room proposed center line of DFCCIL alignment with elevation & span length based on LIDAR data

**3.6.3 Topographic Survey of utilities & verification of specified points on DFCCIL corridor which need to be shifted before construction:**

3.6.3.1 Topographic survey of different Utility services of Railway or other Central/State Govt./Private authorities as given below:

- a. OHE Structures and installations, Transmission & Distribution lines, S& T Structures and installations.
- b. (ii) Open/Tube well, pump house, telephone/electric poles, high tension lines, trees etc above ground.
- c. (iii) Wires/cables, pipelines (water, gas, petrol, OFC etc) underground which needs to be shifted before construction.

**3.6.4** Topographic survey of existing Govt/Private structures coming within proposed alignment and land boundary like buildings etc. Assessment, valuation and submission of details of above utility services and existing Govt/Private structures

**3.6.5** Survey of Underground Utilities Services of DFCCIL alignment at various critical / important locations by using GPR (Ground Penetrating Radar) and existing drawings of utilities services of Railways/other sources / existing large structures

**3.6.6** Provision of land boundary wall wherever necessary should also be worked out to protect the ROW.

**3.6.7 Hydrological Investigation:**

- (i) In this directions, Consultant may refer ‘Appendix-I(Para-4.1) titled “ Hydrological Investigations” of the IRS Code for Sub-structure and Foundation.
- (ii) Consultant shall collect the details of Hydrological parameters required for FAD. Wherever data is not available Consultant will perform Hydrological studies of

rivers/nallas/khads crossings based on the Hydrological and Topographical survey. The Hydrological studies shall include:

- a. Calculation & finalization of hydraulic design parameters such as design discharge, design HFL, linear waterway etc.
- b. Study of drainage patterns for a feasibility study of tunnels, bridges, slopes, deep cuttings, high embankment, landslide area etc.
- c. Finalization of span configuration and preparation of preliminary GADs of bridges based on linear waterway calculated on the basis of design discharge and other hydraulic design parameters, slope stability, geology, topography, etc. will be performed by the consultant.
- d. Finalization of span configuration and preparation of GADs of other crossing structures based on clearance requirement, geology/ Geotech conditions, site feasibility, etc.
- e. Study of rivers etc. Cross sections on upstream and downstream side of the major and important bridges, collection of hydrological data and undertaking hydrological calculations to finalize waterway, High Flood Level (HFL) and Low Water Level (LWL) of bridges.

**Note:**

- (i) Centre to Centre distance at the locations of Major Bridges and important bridges in the parallel portion will be decided on the basis of foundation details of existing bridges. The bridge location, length, & span configuration based on compiled data/details of existing bridges in existing parallel track alignment shall be finalized.
- (ii) The bridge location, length, & span configuration for important bridges/ road crossings location on detoured routes shall be finalized based on hydrological investigation reports of the bridges.
- (iii) Site visit and field verification of sites of important bridges, Expressways, NH road crossings etc., only on detoured route by a team of experts from Alignment, GT, Geology, Bridges disciplines to examine the feasibility of proposed bridges.

**3.6.8 Geotechnical, Geological and Geophysical Survey**

- 3.6.8.1 Collection of Geotechnical Investigation report, Hydrological Survey report from various State Government and Central Government departments, Undertakings along the alignment.

**3.6.8.2 Geotechnical Investigation:**

- 3.6.8.2.1 Consultant shall carry out the Geotechnical Investigation, in adequately detailed manner, for Structures at various Locations e.g. Important Bridges, Major Bridges, Minor Bridges, Viaducts, RFOs, RUBs, ROBs or other Structures, as required for subsequent Construction of Railway Infrastructure laid to DFCCIL Standards [New DFC]. The Geo Tech Investigation shall be comprehensive & in line with all the stipulated Codal and Manual Provisions e.g. IRS Code of Practice for Design of Sub Structure and Foundation, IS Code No-1892, IS Code-4464, IS 6935, IS 2720 & IRC:78, to cite a few.
- 3.6.8.2.2 The Consultant agrees to the envisaged purpose of the aforesaid Geo -Tech Investigation by way of fully enabling the Client, without any additional input, in future, from Client side like any additional Survey, to List Complete Employer Data relevant to Geo-Tech, in the subsequent Tender Documents for Construction of New DFCs.
- 3.6.8.2.3 Consultant is required to ensure that Design of Track sub Structure, Bridge and Formation shall be **for 32.5 MT Axle Load**. In this direction & for design of formation of New DFC , Consultant may refer the RDSO Guidelines and Specification for Design of Formation for Heavy Axle Load [ Report no- RDSO/2007/GE: 0014.

In addition to above positive obligations, following procedural Steps are appended for direction, purpose.

- 3.6.8.2.4 Exploratory drilling of 150mm diameter boreholes In all types of soil including conducting standard penetration test at specified depth, collection of disturbed, undisturbed samples from boreholes and Drilling of Nx size boreholes (65mm diameter) in all type of rock (boulders, weathered and fresh rock) and collection of rock core samples. Depths of boring and number of boreholes shall be decided in consultation between Consultant and Client, ensuring, at all times, strict adherence with all the relevant Codal and Manual provisions, as specified above in sub Para 3.6.8.2.1.

- 3.6.8.2.5 Drilling of 150 mm diameter boreholes through soil overburden material along alignment normally at 200m to 300m apart in case of uniform type of soil and closely spaced in critical zones and at each pier and abutment locations or as per the instructions of the Client, in line with all the relevant Codal and Manual provisions, as specified above.
- 3.6.8.2.6 Drilling of 'Nx' size boreholes as per IS: 6926 at each pier and abutment in rock upto a maximum depth of 5m at each location. The depth of drilling is tentative and may vary from borehole to borehole depending on the geological conditions. Observation during drilling to be recorded in a Performa as given in IS:5313 Appendix A.
- 3.6.8.2.7 Conducting standard penetration tests in all types of soil deposits met within a bore hole, at intervals of 1.5m and every change of strata as per directions of Client. The starting depth of performing SPT shall be between 1.0 m and 2.0m depth below ground level in alternate boreholes.
- 3.6.8.2.8 Collection of undisturbed soil samples of 100mm dia and 450mm length in standard UD tubes at every change of strata and at regular intervals of 3.0m and as directed by the Client. Sampling shall confirm to IS: 1892, 2132 & 8763.
- 3.6.8.2.9 Collection of disturbed samples at regular intervals to provide description of soil profile and its variation. Samples be collected in boreholes at 1.5m intervals starting from G.L. and at every change of strata.
- 3.6.8.2.10 Method of sampling shall confirm to IS:2132 and classification of samples shall confirm to IS:1498.
- 3.6.8.2.11 Conducting various laboratory tests as per IS: 2720 from approved laboratory (accredited by 'National Accreditation Board for Testing and Calibration Laboratories'-NABL) by using approved apparatus complying with the requirements and specifications or Indian standards or other approved standards for this class of work.
- 3.6.8.2.12 Tests on disturbed Samples
- a. Visual and Engineering Classification
  - b. Sieve Analysis and Hydrometer Analysis
  - c. Liquid, Plastic and Shrinkage limits
  - d. Specific Gravity
  - e. California Bearing Ratio (CBR)
- Test on Undisturbed Samples
- a. Density and Moisture Content
  - b. Unconfined Compression Test

- c. Box Shear Test (in case of sand)
- d. Triaxial Shear Tests

- 3.6.8.2.13 Establishment of ground water table if encountered.
- 3.6.8.2.14 Areas of prospective borrow soil and blanket material should also be surveyed and tested for IS Classifications and CBR value to give idea of quality as per RDSO Guidelines and Specifications for Design of Formation for Heavy Axle Loads- 32.5T and quantity of materials to be used for construction of Railway embankment
- 3.6.8.2.15 Analysis of field and laboratory test results and preparation of report giving recommendation for bearing capacity and type of foundation. Bearing capacity and founding strata for major and minor bridges is also to be given. Visual soil investigation by way of examining the existing cuttings and banks materials and mentioning against each chainage type of soil.

The data and information collected during survey/investigations should be presented in suitable format such as graphs, bar chart or in tabular or statement form.

**3.6.8.3 Geotechnical Investigation for Tunnels;** The work broadly includes:

- (i) Drilling in tunnels
  - (ii) Survey for GP Lines
  - (iii) Seismic Refraction Survey including data acquisition, processing and integration for all along the proposed tunnel alignment & submission of report.
- 3.6.8.3.1 Tunnel team shall be involved in the project after the transfer of digital alignment has been done on the Topomaps/satellite imageries and digital terrain model is developed. The outcome in the form of digital model/maps/paper alignment along with initial interpretation provided by the Geologist shall be made available to tunnel team and accordingly, refinement if any, in the alignment, as deemed necessary from tunneling angle, shall be suggested for required modification in the alignment.
  - 3.6.8.3.2 The joint reconnaissance visit to tunnel locations shall be carried out by tunnel expert jointly with alignment expert and engineering geologist. It is envisaged that during this visit, joint decision regarding major shifting of alignment shall be taken in case necessitated due to geological features identification on the ground. Also, necessary site information/data shall be collected to further refine the tunnel alignment and to finalize the portal location.
  - 3.6.8.3.3 The feasible portal positions shall be finalized and the refinements in the alignment, if any, shall be suggested for modification in the alignment.

Subsequently, the schedule of tunnels shall be finalized. Necessary information/data for preparation of abstract cost estimate shall be collected. Required working shall be done to make a preliminary idea for tunnel structure and construction approach under these site conditions/geological set up. In view of these, the abstract cost estimate shall be prepared based on actual site conditions to the extent possible. Thereafter, a brief report on features of the proposed tunnel alignments and portals shall be prepared and submitted

- 3.6.8.4 Detailed Geological mapping consisting (Only of Tunnel areas) of structural(Faults/ thrusts, Shear zones, Fold, joints etc), litho-logical, geomorphological and tectonic mapping on the proposed alignment for a corridor width of 100m on either side of alignment in scale 1:5000 and submission of geological plan, L-section along the design alignment in scale 1:5000H & 1:500V as well as in scale 1:5000H & 1:5000V. It includes collection of geological data beyond the corridor width on either side of alignment required for developing the geological model and along with study of derivatives generated from the Aerial LiDAR and Aerial Imagery (DEM, Orthophoto) of the corridor to identify all possible geo-hazards such as Land-Slides and Faults. The geological model shall also include the geological setting, mechanical classification, geological & geo-mechanical hazards as well as representation of data through stereo-nets. The outcome of detailed geological mapping report will be used to refine the recommended alignment further.
- 3.6.8.5 **2-D Resistivity image mapping** including data acquisition, data processing and interpretation for refining alignment at portals of tunnels, formations with deep cuttings and high filling sand major bridge locations. The submission should clearly demarcate the location of alignment vis-à-vis the profile.
- 3.6.8.6 **Seismic Refraction Survey** including data acquisition, data processing and interpretation for refining alignment at portals of tunnels, formations with deep cuttings and high fillings and major bridge locations. The submission should clearly demarcate the location of project alignment vis-à-vis the profile.

In Geophysical Investigations, Seismic Refraction Survey shall be carried out to supplement borehole and outcrop information and to aid in geological interpretation/inferences.

Geophysical investigation by Seismic Refraction Survey shall be undertaken using 48 channels Digital Signal enhancement seismograph at selected locations along the proposed locations.

The seismic refraction survey will be carried out by digital signal enhancement technique with variable profile lengths with geophone spacing of 5m to 10m covering spread length of 235m to 470m. Profile shall be planned in such a way that seven numbers of shots shall be taken considering 1 in the center, 1 in each extremity, 2 shots in between center and each extremity and 1 far offset in each side. Figure shows the theory of seismic refraction measurements across different horizons in the subsurface. Seismic waves generated by a hammer blow or shot travels through material medium and is recorded by an array of sensors spread along the profile line.

- 3.6.8.7 Study of Shear Wave Velocity profile (Vs30) through Multi-Channel Analysis of Surface Waves (MASW) technique using at least 24 channel digital engineering seismograph with 4.5 Hz geophones, including data acquisition, data processing and interpretation in connection with Earthquake design parameter study at various bridge locations. The submission should clearly demarcate the location of project alignment vis-à-vis the profile.
- 3.6.8.8 The requirement, if required, and not in the scope of work shall be identified by Consultant in consultation with DFCCIL. Additional such work, proposed by Consultant and accepted by DFCCIL, shall be got done by DFCCIL at its own cost.
- 3.6.8.9 The geological report shall be given in accordance with Annexure-3 and as per the direction of the Client.

### **3.6.9 Final Alignment Design including refinement of alignment**

The consultant shall undertake refinement of proposed alignments after the detailed studies undertaken above and prepare the final recommended alignment along with Final Alignment design. In this the consultant shall do the following:

- 3.6.9.1 Incorporate the results of the Aerial LiDAR/Aerial Imagery studies, detailed ground control survey, geological studies, hydrological studies etc and modify the alignment accordingly
- 3.6.9.2 Incorporate the geological aspects, stability, constructability, accessibility considerations etc. in the final recommended alignment. Geological Mapping on the scale of 1:25000 using Geological Survey of India maps and including field visits and studying LiDAR and Imagery Data derivatives. Wherever required Remote sensing studies along the alignment corridor with limited ground checks consisting of interpreting Satellite and field data for preparation of Thematic maps.

3.6.9.3 Development of detailed plans, L-sections, Cross Section etc. of Final Alignment and GADs of bridges/ structures as per Engineering Code.

3.6.9.4 After finalization of horizontal and vertical alignment of final alignment including the design of proposed yards for the Engineering Department shall be prepared and submitted:

- a. General Map of the country traversed by the project scale of 25 km to 1 cm.
- b. Index map on a scale of 2.5 km to 1 cm.
- c. Detail Plan and sections map in in scale 1:2500 horizontal 1:250 vertical (generated from Aerial LiDAR and Imagery) with Datum: WGS-84, Projection: UTM, Vertical Datum: Mean Sea Level. Contour Interval of 0.5 meters for 1:2000 and 10 meter for 1:25000. Map template including index, symbology etc. shall be generally as per Survey of India topo maps.
- d. List of gradient, curves (horizontal and vertical), crossing (like Railway, Highways, etc), details of sanctioned projects, stations.

**3.6.10 General Arrangement of Drawings (GADs)-** Consultant shall prepare the GADs of Bridges, yard plans, Design of Stations etc. and other structures including staff quarters, Depots, Maintenance Depots etc.

- 3.6.10.1 All the drawings given below which are required to be prepared by consultant and if any additional drawings considered necessary for execution shall also have to be prepared by the Consultant as per directions of Client.
- 3.6.10.2 Confirmation/Modification of L Section, alignment plan of FLS and approval thereof from Railways.
- 3.6.10.3 Typical Earthwork cross section for cutting and banking as per RDSO guidelines.
- 3.6.10.4 Conceptual Drawings of Protection work of Bank & bridges and preparation of plans thereof.
- 3.6.10.5 Preparation of Engineering Scale Plans (ESP) of yard modifications as necessary and approval thereof from Railways.
- 3.6.10.6 Preparation on GADs of Major Bridges (drawings) and approval thereof from Railways.
- 3.6.10.7 Preparation of GADs of Minor Bridge (drawings) based on details supplied and approval thereof from Railways. Generally the minor bridges will be RCC BOX culverts based on the RDSO's standard design.
- 3.6.10.8 Station buildings including other buildings – layout plan and approval etc. thereof from DFCCIL.
- 3.6.10.9 Residential quarters including services – Layout plan and approval thereof from DFCCIL.



**3.6.11 Yard plans** – Consultant shall explore possibility of connectivity with existing railway Track at carefully selected locations with Commercial / Business importance.

**3.6.12 Station Yards:** The bidder shall collect all relevant data of existing/proposed station yards in the sections proposed for new line like lengths of various lines, type of turn outs, sand humps, derailing switches, platforms, crossovers, their chainages, sizes and locations of various service buildings etc., by conducting a traverse and physical measurement at site and prepare existing yard plans based on this data.

**3.6.13 Interconnection of Corridors;** Efforts are to made to inter-connect these corridors for seamless transfer of traffic from one to the other and also with the two corridors under implementation (Western & Eastern DFC); thereby, networking all the corridors. Accordingly, connection of East-West DFC with North-South DFC at Sindi near Nagpur; with Eastern DFC at Andal and markundu near Dankuni and with East-Coast DFC at Hijli near Kharagpur need to be planned. Similarly, connection of North-South DFC with East-Coast DFC at Vijayawada. In this way, these three DFCs are to be interconnected with each other as well as with two DFCs under construction.

Appropriate points for seamless connection to IR are to be identified along the new DFC alignment with detailed plan of connection to be incorporated in the DPR.

**3.6.14 Filling materials for embankment:** Borrow area is to be selected for use of filling material as per RDSO Guidelines and Specifications for Design and Formation for Heavy Axle Load (32.5 T) in embankment all along the alignment with in 5km areal lead. The borrow area should be selected in such a manner that the depth of blanketing is kept minimum.

**3.6.15 Supplying village maps, 7/12 documents in original from concerned Revenue Dept. of all the villages falling within the final alignment**

**3.6.16 Final Land Acquisition Plans**

Consultant shall digitize refine the preliminary Land Acquisition Plans after the Aerial LiDAR survey and the subsequent refinement in alignment.

In course of deciding the final alignment if land acquisition is involved then the scheme for the same is to be prepared by the Consultant. The scheme will contain the following:

## **RFP for preparation FLS and DPR of East West Sub Corridor – Section-7 - TOR**

- 3.6.16.1 The centerline of proposed alignment and also the corridor of land acquisition shall be marked on the ground at each 100 M interval or as directed by Client.
- 3.6.16.2 Revenue village map of the entire area shall be collected by the Consultant.
- 3.6.16.3 The center line of proposed Railway alignment & also the corridor of land acquisition shall be marked on revenue village map.
- 3.6.16.4 Record of Rights of all plots which are falling in the proposed land acquisition corridor shall be collected from Revenue department. Details of Govt & forest land should also be collected.
- 3.6.16.5 Plot wise area of land acquisition (Private/Govt /Forest) shall be calculated.
- 3.6.16.6 Ratio of area of plot proposed to be acquired to the total plot shall also be calculated. Details of buildings, water sources etc coming in way of proposed alignment shall also be submitted separately.
- 3.6.16.7 Collection of sale data of land transactions of last three years required for land acquisition (Private Land).
- 3.6.16.8 Collection of all relevant details of government & forest lands separately to facilitate preparation of papers for their acquisition.
- 3.6.16.9 The entire work of land acquisition shall be carried out as per the latest Land Acquisition Policy and as per provisions of Indian Railways Code for the Engineering Department (Third Reprint, Year 1999 with up to date correction slips) in general and in particular as per Chapter No II and IV. And relevant instructions that will be issued by Railway Board

### **3.6.17 Staking of Final Alignment**

- 3.6.17.1 Fixing of alignment on ground using already established DGPS Permanent Control Points above by Casting and Fixing in place of Pre-cast/Cast-in-situ RCC (nominal mix 1:2:4) pillars of size 150 mm Dia x 900 mm length on center line of the approved alignment which includes painting as per approved colour scheme, numbering and engraving of DFCCIL logo on the pillars. The pillars shall be fixed at every 100 m (or as feasible and as decided by DFCCIL) in straight alignment, at every 20m (or as feasible post approval of Client's Representative in charge) in curves or as feasible and as decided by Client's Representative in charge), abutments and piers of bridges, start, center & end of stations, at tunnels portals, ROBs, RUBs, LC set c. and at proposed Railway land boundary.
- 3.6.17.2 Reference pillars are not required on the alignment stretches above the tunnels, however, portal areas and areas with low overburden upto 50 m depth shall be demarcated.

### **3.6.18 Access Roads and Muck Dumping Sites**

- 3.6.18.1 The access roads shall be as per IRC roads specifications suitable for movement of heavy vehicles and machinery. The scope of work includes:
- 3.6.18.2 Design of viable and feasible alignment for Access Roads to various proposed major work sites on the approved Railway alignment and muck dumping areas wherever required, from the existing roads. The work will include submission of Plan and L-section as per Indian Railway Engineering Code and Preliminary design, estimate of quantities, analysis of rates/ updating of LARs for preparation of detailed Estimate and BOQ as per DFCCIL specifications for tendering purpose. The alignment design will be based on DEM generated earlier and with the use of Auto Desk 3D Civil/Bentley Rail Track or similar software.
- 3.6.18.3 Staking (with 100mmx100mm x750mm RCC pillars of 1.5:3 as per approved drawing) of the centerline of final road alignment as well as proposed road boundary.
- 3.6.18.4 Preparation and submission of GAD for bridges, culverts, standard drains, standard retaining walls and protection works.

**3.6.19 Environmental Assessment and Mitigation**

The Railway line will pass through Forest areas and may also pass through/adjacent to National Parks/Wildlife Sanctuary in the project area. The diversion of forestland for non-forest purpose requires clearance from the Ministry of Environment & Forest, Government of India. It may also require clearance from National Board of Wildlife and Supreme Court Empowered Committee for any activity in the protected areas as per latest forest guidelines. These clearances require an Environmental Impact Assessment (EIA) study and Mitigation Plans which will be done by the Consultant based on field surveys as detailed in Annexure- 7.

Detailed Environmental Impact Assessment Study of the proposed DFC corridor including the Environmental Baseline Data Collection for all Environmental attributes for one season (non- monsoon months) at the judicially selected locations along the project corridor. Preparation of Environmental Management Plan, Formulation of Environmental Monitoring Programme (Construction & Operational phase), Occupational Health & Safety, Risk Assessment & Disaster Management Plan, Biodiversity Conservation Plan (in case of appearance of Threatened & Endangered Species).

**Components:**

Ambient Air Quality, Water (Surface & Ground) Quality, Ambient Noise, Ground Borne Vibration, Geology, Hydrology, Soil, Ecology & Biodiversity (Terrestrial & Aquatic), Odour, Ground Subsidence, Waste Dumpsite, Social, Accidents etc. The Environment study includes:

- a. Environmental Screening
- b. Environmental study for analysis of alternative alignments
- c. Analysis of environmental and social national and state laws and all applicable court orders
- d. Development of Environmental Baseline

- e. Environment Impact Assessment and mitigation measures
- f. Development of Environmental Baseline
- g. Impact Assessment
- h. Environmental Management Plan
- i. Disaster Management Plan
- j. Environmental Monitoring Plan
- k. Environmental Costs
- l. Detailed study on Wild Life Sanctuaries, National Parks, Eco-Sensitive zones, different type of forest areas coastal regulation zone, mangrove study, biosphere reserve etc. if the alignment is affecting the same. Alignment should be planned in such a manner so as to avoid such type of natural habitat completely
- m. Wild life crossings should be planned in a seamless manner so as to merge with the natural habitat on the same lines as being provided on various advanced railways of the world
- n. Study on Noise Pollution and vibration impact
- o. Trees census study and survey (Tree census study and survey will be based on Aerial LIDAR survey data, which will be validated for some sample stretches by actual field visits)
- p. Suggest advanced methods of construction so as to reduce the requirement of land
- q. Suggest environmental sustainable construction technology like use of Geo-Synthetics
- r. Suggest on the plantation and vegetation management on the RoW and DFC establishment for mitigating noise pollution, air pollution, curbing soil erosion, reducing Carbon foot print etc.
- s. Suggest green building factors in station building OCC etc.
- t. Conduct two stage (draft and final) environmental public consultation meeting
- u. Information disclosure and dissemination draft and final EIA report by the client
- v. Study on climate change resilience factors in DFC alignment.

Suggest energy conservation practices in DFC project.

### **3.6.20 Social Impact Assessment**

Carrying out necessary survey consultation & prepare SIA / RAP report along with Submission of SIA/RAP report including IPP or any other sub-report (If any) and submission to any nominated committee/authority such as State SIA

committee/R&R Committee/National Coordination Committee etc. as per the state rules/procedures and obtaining its approval if required. The social study includes:

- a. Social Screening
- b. Social Impact Assessment special attention to be given to tribal and other vulnerable groups.
- c. Base line and Socio-economic survey of sample affected families.
- d. Study on ASI structure and other monuments.
- e. Two stage (draft and final) project level public consultation meeting and focus group discussions finalizing entitlement matrix in accordance with approved R&R policy
- f. Preparation of Social Impact Assessment report including:
- g. Resettlement policy framework,
- h. Draft entitlement matrix
- i. Implementation schedule/ Plan
- j. Institutional arrangement and capacity building
- k. Indigenous people development plan,
- l. Grievance redress mechanism,
- m. Cost estimate and
- n. Pre and post resettlement Monitoring & Evaluation (M&E) mechanism of implementation of RRP
- o. Information disclosure and dissemination draft and final RRP report by the client.

### **3.6.21 Miscellaneous Works**

- 3.6.21.1 Defining the detailed scope of work along with explanatory notes for conducting detailed Geotechnical and other investigations at various locations required for Detailed Design of structures and successful execution of the project.
- 3.6.21.2 If any work is required which is not in the present scope of work but required essentially for completing the present work then if it is executed through separate agency fixed by DFCCIL, the Consultant will provide technical supervision for that work at no extra cost.
- 3.6.21.3 Identification of muck disposal areas with co-ordinated drawings.
- 3.6.21.4 Documenting (in digital as well as in print) and reporting on various items of assignment as executed by the consultant.

### 3.7 Scope for Electrical Design Works

#### 3.7.1 Terms of Reference (Electrical & OHE)

| SN  | Descriptions                                | Provisions  |
|-----|---|---|
| 1.  | System of electrification                   | 25 kV, 50 Hz AC, AT Feeding System  |
| 2.  | Type of OHE                                 | High Rise OHE suitable for running 7100mm high stock.   |
| a   | Main Line                                   | 2x25 kV 50 Hz AC, Regulated Polygonal OHE   |
| B   | Loop Line/yards                             | 25 kV, Single Phase 50 Hz AC, Regulated Polygonal OHE   |
| 3   | Maximum Design Speed                        | 120 kmph  |
| 4.  | Maximum Service Speed                       | 100 kmph  |
| 5.  | Gauge                                       | 1676 mm BG  |
| 6.  | Contact Wire height                         | 7.54 m at support   |
| 7.  | Encumbrance                                 | 1400 mm   |
| 8.  | Pantograph                                  | 2032 mm collector width   |
| 9.  | Wind zone as per IS 875 (Part-3)-1987       | 150-200 kgf/m <sup>2</sup>  |
| 10. | Maximum half tension length                 | 750 mtr.  |
| 11. | Tension in Contact Wire                     | 1200kgf   |
| 12. | Tension on Catenary                         | 1200kgf   |
| 13. | Size of Contact Wire                        | 150 sqmm cuAg/cu-sn   |
| 14. | Type of Contact Wire                        | Grooved Contact wire  |
| 15. | Type of catenary                            | 125/120 Sqmm Cu-mg  |
| 16. | Type of masts                               | Galvanized Rolled / Fabricated  |
| 17. | Type of portal                              | Galvanized Fabricated   |
| 18. | Type of DA                                  | Galvanized Rolled   |
| 19. | Normal setting distance                     | 3.0 mtr on tangent track for individual and 3.5 mtr for portals, structures with multiple cantilevers |
| 20. | Normal setting distance in front of signals | Offset  |
| 21. | Electrical clearance                        |   |
| A   | Normal long time                            | 250 mm  |
| B   | Normal short time                           | 200 mm  |
| C   | Reduced on long time                        | 250 mm  |
| D   | Reduced short time                          | 200 mm  |
| 22. | Type of OHE over ML turn outs               | Overlap type  |
| 23. | Type of OHE over yard turn outs             | Overlap type  |
| 24. | Maximum fault current on 25 kV side         | 12kA for 3 sec  |
| 25. | 3 phase fault level                         | 10000 MVA for 1 sec at 132kV, 20000MVA for 1 sec at 220kV   |
| 26. | BIL   | 95 KVp / 250 KVp for 25kV<br>230-275KVp/ 550-650 KVp for 132kV<br>395-460 KVp/950-1050 KVp for 220kV  |
| 27. | Nominal voltage                             | 25 KV   |

## RFP for preparation FLS and DPR of East West Sub Corridor – Section-7 - TOR

| SN  | Descriptions          | Provisions                 |
|-----|-----------------------|----------------------------|
| 28. | Permissible variation | 19KV -27.5 KV              |
| 29. | Type of Locomotive    | Conventional/ regenerative |
| 30. | Inter spacing of TSS  | 60-70km                    |
| 31. | Size of TSS plot      | 140m x85 m                 |
| 32. | Plot size SP          | 55mx30m                    |
| 33. | Plot size SSP         | 55mx25m                    |

|              |  |
|--------------|--|
| <b>3.7.2</b> | <b>Scope of Electrical Engineering Study</b>   |
| 3.7.2.1      | Study of track alignment plans of entire route for preparation of OHE plans & drawings atc   |
| 3.7.2.2      | Survey of entire route including IR connecting lines for preparation of pre-pegging, pegging plans, wiring plans, sectioning diagrams and other requisite drawings etc. Consultant shall submit the plans in Auto CAD as well as PDF format.   |
| 3.7.2.3      | <p><b>Survey &amp; identification of overhead, over ground &amp; underground utilities along the proposed alignment.</b></p> <p>Large number of overhead, surface &amp; sub-surface utility services viz. electrical transmission lines, electrical distribution lines/poles, traffic signals, telephone cables, sewers, water mains, storm water drains, gas/oil pipelines etc. are anticipated to be existing along the proposed alignment.</p> <p>The scope covers survey, identification of infringements like</p> <ol style="list-style-type: none"> <li>electrical lines of different voltage class namely LT, HT, EHT etc. belonging to Central/State Govt. authorities or their undertakings, private entities, including electrical connections for bore well/tube well for agriculture purposes or otherwise</li> <li>Railway OHE installations,</li> <li>telecom Towers/Lines, telephone Poles, S&amp;T Installations etc. This survey would be both for above such utilities on the ground or above ground, either crossing or running parallel to the proposed corridor width defined in the following paras:</li> </ol> <p><b>Utility service on the Ground or above Ground:</b> The details of existing utility services on the ground or above ground shall be picked up through total station/DGPS &amp; visual inspections. All identified utilities shall be surveyed for accuracy by DGPS/DGPS control points to be fixed by the agency. All identified utilities shall be marked on proper UTM co-ordinates.</p> <p>Details would include voltage class, ground clearance, span length. Coordinates of tower/pole at entry &amp; exit of RoW, crossing (feeder/line) particulars, village/tehsil/district in which the electrical line/crossing falls, Utility owner particulars amongst others.</p> <p>For underground utility the details inter alia would include type of utility, depth, material, co-ordinates at entry &amp; exit of RoW, crossing particulars, village/tehsil/district in which the crossing falls, Utility owner particulars amongst the others.</p> <p>Above details should be supported by good quality photographs of identified infringing utility services properly indexed (along with soft copies). Consultant to select the critical crossings requiring modifications/shifting considering DFCCIL SSOD/Ministry of Railway guidelines (with latest revisions) and estimated cost therein utility wise. All crossings upto 66kV shall be underground.</p> |
| 3.7.2.4      | <p><b>Survey of locations, loads &amp; number of TSS, switching post for the section</b></p> <p>The tentative number of TSS, &amp; switching posts are indicated in the PETS report. The objective of the survey is to recommend the most suitable, reliable &amp; economic solution for power sourcing based on interaction with utilities &amp; preliminary survey of route for transmission line/cable. The preferred voltage level for TSS shall be 132 kV or above.</p> <p>Assessment of traction power supply requirement of the corridor to feed traction load based on traffic projection, plan &amp; terrain of the section indicated in the PETS report along with supporting calculation &amp; methodology. The power requirement shall be detailed State wise considering number of TSS falling in the State. The initial load for each TSS shall be decided in consultation with the client. Study of optimal configuration &amp; capacity of Traction Power Supply (TSS) sizing which is essential to arrive at the most economical project cost will be carried out.</p> <p>Similar assessment for non-traction load at stations, service buildings, commercial buildings, OCC, yard lighting purpose etc.</p>  |

## **RFP for preparation FLS and DPR of East West Sub Corridor – Section-7 - TOR**

|          |   |
|----------|---|
|          | <p>Survey of the alignment for location of TSS &amp; other switching posts as indicated in PETS report &amp; finalize the locations after assessing their suitability for the purpose, connectivity with road network, feasibility of connectivity with CTU/State power supply network for reliable power supply.</p> <p>All TSS are proposed to get power through open access connectivity (considering Indian Railways is a deemed licensee as per Electricity Act-2003). Consultant shall carry out techno-economic analysis of power supply connectivity considering following scenario:</p> <ol style="list-style-type: none"><li>As embedded customer of DISCOM.</li><li>As Open Access Consumer through DISCOM connectivity.</li><li>Integrated Transmission Line network connecting various TSSs in the section having CTU connectivity.</li></ol> <p>Consultant shall carry out feasibility of constructing a transmission line network (132/220 kV) for connecting all the TSS falling in the alignment with CTU connectivity at strategic location duly considering feasibility of constructing the transmission line &amp; procuring cheap &amp; reliable power through open access. RoR of the investment should be submitted.</p> |
| 3.7.2.5  | Electrification plan of stations, service buildings, commercial buildings, yards & sidings considering energy efficiency by use of BEE star rating equipment, LED lighting, GRIHA, TERI guidelines.   |
| 3.7.2.6  | General power supply diagram of the section shall be developed based on the location of traction sub-station and switching stations (SPs, SSPs & AT). This includes the tentative location (chainage) of TSSs & switching posts.  |
| 3.7.2.7  | Based on the proposed location of TSS, SPs, SSPs & AT and operation control center (OCC), development of maintenance facility chart depicting the maintenance depots both for OHE & Power Supply Installation (PSI) and location of tower wagon (TW) sheds & other maintenance vehicles considering mechanized maintenance approach of DFCCIL.  |
| 3.7.2.8  | Survey of the alignment to identify IR connecting lines, present & upcoming sidings for mapping of electrification requirements. Finalizing their ESP/wiring plan, estimation of cost of electrification.   |
| 3.7.2.9  | Survey of existing & upcoming ROBs & FOBs for their sufficient headroom (min 8430 mm) for high rise OHE. Structures requiring modification should be listed state wise & owner wise.  |
| 3.7.2.10 | DFCCIL plans to meet at least 10% of the energy needs through renewables. The Consultant shall survey the alignment and submit a scheme for solarisation of the spare land, service buildings detailing capacity, connectivity & evacuation methodology. The 50% requirement of non traction energy at stations and other service buildings shall be planned to be met through renewable energy sources.  |
| 3.7.2.11 | BoQ and Cost Estimates covering all sub-heads including modifications/relocations of infringing electric installations, cost of power supply connection, construction of transmission line etc.   |
| 3.7.2.12 | Report of soil investigation upto a depth of min. 3 meter for the purpose of OHE foundation designs at every 5 km distance or change of strata based on Geotechnical investigation.   |

### **3.8 Scope of Signaling and Telecommunication**

#### **3.8.1 Signalling.**

- 4-aspect Automatic Block Signalling system using Multi-Section Digital Axle Counter (MSDAC) with dual detection arrangement for Track vacancy detection. Inter-Signal distance should be decided based on headway between the trains and braking distance envisaged.
- Electronic Interlocking
- Multi-Section Digital Axle Counter (MSDAC) with dual detection arrangement for track vacancy detection in Station Yards.
- Colour light LED Signals
- Single Section Digital Axle Counter (SSDAC) using Universal Fail-Safe Block Interface (UFSBI) on lines connecting IR Stations
- High Thrust Electric Point Machine



## **RFP for preparation FLS and DPR of East West Sub Corridor – Section-7 - TOR**

- (vii) IPS based Power supply system (230V AC Mains supply through ATs to be provided by Electrical Dept)
- (viii) On-board Train Protection & Control System equivalent to ETCS Level 2 with Line side Signals (as fall back arrangement)
- (ix) Centralised Traffic Control (CTC) system with Operation & Control Centre(s) (OCC).
- (x) Remote Condition Monitoring, Data logging & diagnostics with built-in capability of Predictive maintenance of all Signalling equipment both indoor & outdoor and its networking and Centralised monitoring at OCC.
- (xi) Protection Systems against EMI/EMC, Lighting & Surge Protection including Maintenance free Earthing for all Signalling and Telecom System.
- (xii) Air-Conditioning of all Signal Equipment Room (SER) for improving reliability of equipments.
- (xiii) Fire Detection and Suppression system for all SER.
- (xiv) All Equipments to have redundancy so that failure of one sub-system/module should not lead to shutdown of Signalling system as a whole.
- (xv) Line wise Signalling Cables to be planned alongwith Route diversity.

### **3.8.2 Telecommunication –**

- (i) SDH based OFC network with min 48 fibre connecting Stations to Stations and 24 fibre connecting other activity centres with route diversity.
- (ii) Optical Fibre Communication (OFC) Network Equipment:
  - a) Synchronous Digital Hierarchy (SDH) Equipment – STM-1, STM-4 & STM-16.
  - b) Primary Drop-Insert (PD) Multiplex Equipment at every activity centre i.e. Station, Maintenance depot, TSS, SSP/SP, ALH, LC gate etc.
- (iii) Mobile Train Radio Communication based on LTE/LTE-R.
- (iv) PBX based Administrative Telephone Network and Direct Line Telephone Network
- (v) Control Communication System to meet Omnibus voice communication requirement of Traffic Control between OCC and Stations.
- (vi) Suitable Emergency Communication System to provide an Omnibus communication channel between OCC and all Automatic Signals.
- (vii) Data Networking system of minimum 10GB capacity to support IP based Communication Network suitable for Voice, Data & Video.
- (viii) Voice & Video Mail and Recording System.
- (ix) GPS based Master Clock System.
- (x) Wi-Fi at every activity centre i.e. Station, Maintenance depot, TSS, SSP/SP, ALH, LC gate etc.
- (xi) Video surveillance & recording system through network of CCTVs provided at every activity centre i.e. Station, Maintenance depot, TSS, SSP/SP, ALH, LC gate, Warehouse etc.
- (xii) Air-Conditioning of all Telecom Equipment Room (TER) for improving reliability of equipments.
- (xiii) Fire Detection and Suppression system for all TER.

### **3.8.3 Integration with IR System –**

- (i) Integration with IR/FOIS, IR/Crew Management System (CMS) and any other CRIS Managed Systems (COA, RBS etc.) as required.
- (ii) Integration with TMS of other sections of DFC.

### **3.8.4 General requirements from S&T-**

- (i) Location survey for installation of Signalling and Telecom gears for working in all terrains including tunnels.
- (ii) Minimum distance between Track centres should be adequate such that Signals Posts with Direction type Route Indicators can be placed in between tracks at the Eye level of Loco Pilots without infringement of SOD.
- (iii) For Cable route diversity, sufficient space should be made available for laying cable on both sides of DFCC tracks considering Water drains etc.
- (iv) Provision of RCC structures with fencing arrangement for all Signal & Telecom huts (ALH,TH etc) at Rail Formation level for Security of safety critical S&T equipments.
- (v) Cable laying through Culverts/Bridges should be through concrete ducts/channels provided by Civil Dept.
- (vi) No Level Crossings is envisaged. However, if LC is planned, then Operation of LC gates alongwith provision of Gate lodge and AT supply to be catered for.

### **3.9 Traffic Study**

#### **3.9.1 Terms of References (Traffic Study)**

- (i) Demarcation of the hinterland (primary, secondary and tertiary) of the proposed rail corridor.
- (ii) Study of the economy of the region focusing on mining and industry, trade and commerce and infrastructure supporting such activities
- (iii) Review of the transport network and the freight market of the project region bringing out the role of surface transport (rail, road, inland shipping, coastal shipping)
- (iv) Identification of main trade/cargo generating centres in terms of commodities and origin-destination (O-D) of traffic streams
- (v) Identification of main trade/cargo generating centres in terms of commodities and origin-destination (O-D) of traffic streams
- (vi) Estimation of base-year freight traffic flows
- (vii) Projection of bulk, non-bulk and container traffic likely to move on the proposed rail link and beyond, over the next 20 years
- (viii) Assessment of number of trains in various sections of the proposed corridor
- (ix) Study of potential of major industries upcoming industries in the alignment, mines.
- (x) Study of traffic expected to be transferred to ports.
- (xi) Base year should be taken 2017-18 and not 2011-12
- (xii) Planning of these corridors should be such so as to accommodate the running of double stack container
- (xiii) Identification of candidate locations for terminals and stations to be developed on the proposed rail corridor
- (xiv) Identification of Feeder routes
- (xv) Examination of the feasibility of providing rail connectivity to selected traffic generating locations through new routes or by upgradation of existing IR feeder routes with a view to capturing freight traffic from the primary hinterland defined earlier

## **RFP for preparation FLS and DPR of East West Sub Corridor – Section-7 - TOR**

- (xvi) Identification of candidate locations for Multi Modal Logistics Parks (MMLPs)/Freight Terminals
- (xvii) Feasibility of connectivity of MMLPs to the proposed DFC
- (xviii) Development of conceptual layout of stations en route and of the terminals, compatible with traffic and distribution requirements
- (xix) Formulation of train operations plan for movement of traffic on the proposed rail link
- (xx) Estimation of rolling stock requirements (wagons and locomotives) to carry the projected volume of freight traffic
- (xxi) Cost estimates for Operations and Maintenance
- (xxii) As the coal demand estimated in PETS study was on higher side, the estimation of coal demand in planning of new DFCs needs to be realistic because there is an emerging trend of Thermal Power Plants migrating to Pit Heads (mining locations to save on transportation cause)
- (xxiii) There is need to plan for significant increase in iron-ore transportation and linkages to associated networks. It is learnt that the annual iron-ore production is expected to increase from existing 140 MT to 300 MT.
- (xxiv) The DPR must be based on the detailed stakeholder consultations particularly for assessment of market demand and also take into account the other big infrastructure initiatives of Govt. of India. In this direction, DFCCIL may facilitate to have quick consultation with the concerned departments under Ministries of Power, Coal & Steel and accordingly prioritize the preparation of DPR of the identified sections of future Dedicated Freight Corridors

### **3.9.2 Maintenance Strategy of the Infrastructure**

#### **3.9.2.1 Terms of References (Maintenance Strategy of the Infrastructure)**

- 3.9.2.1.1 Maintenance Strategy of the Infrastructure includes:
- 3.9.2.1.2 Requirement of State-of-the-Art mechanized Inspection, Maintenance and Monitoring Machines for upkeep of the entire infrastructure
- 3.9.2.1.3 Requirement of Infrastructure facilities for stabling and upkeep of the above machines
- 3.9.2.1.4 Man Power requirement
- 3.9.2.1.5 Suggest creation of Infrastructure and methodology for training in operation and maintenance for various assets.

### **4.0 Project Cost Estimate**

- 4.1 Preliminary design of main & escape tunnels, cross passages portals, adits, shafts, bridges, slopes, deep cuttings, protection works, buildings works, yards, track works,

electrical & OHE works and installations, signalling and telecom works, and all related & enabling works for the purpose of preparing the Cost Estimate of the project.

- 4.2 The preliminary designs should provide quantities as realistic as possible based on codal provisions, international best practices, thumb rules, empirical formula and based on past practices adopted in similar Indian Railway projects and considering actual geological and geophysical survey information in consultation with Employer.
- 4.3 Preparation of Project Cost Estimate of the complete Project as per quantities worked out in the preliminary design above and as per formats of Detailed Estimates of such projects given in Indian Railway Code for the Engineering Dept. This includes analysis of rates/updating of LARs and working out cost of various components such as survey, investigations, studies, land and forest cost, roads, earthwork, protection works, bridges, buildings & structures, tunnels, signaling and telecom, tunnel ventilation, electrical & OHE works, Diesel traction works, workshops, E&M and illumination, surveillance system, environmental cost, track works, other related and enabling works etc. as a complete job as per provisions in Indian Railway Engineering Code. Part cost estimate of Civil, S&T, Electric works, Diesel traction and electric traction (OHE) works shall be brought out separately.
- 4.4 DFCCIL BOQ to be used for estimation purpose as far as possible. Quantities should be furnished separately for each type/category of work/sub-work in accordance with Indian Railway Engineering Code. The rates should be Last Accepted Rates for similar type of works or rates supported by rate analysis and quotations from market in consultation with DFCCIL.
- 4.5 Typical cross section of tunnel for guidance purpose is given in Annexure – 8.

**4.6 Project Appraisal: Economic and financial appraisal of the project to assess the viability of the proposed investment**

**4.6.1 Economic Evaluation**

- 4.6.1.1 The underlying rationale for Economic Evaluation is to take into account the developmental benefits that would accrue to the economy by undertaking the project. Accordingly, the economic analysis would be based on cost minimization approach within the framework of ‘with and ‘without’ the project situation. Under this framework the total cost of haulage both fixed and variable for the projected level of traffic under ‘with’ the project and ‘without’ the project situations will be worked out.
- 4.6.1.2 The cost under ‘with’ the project situation would broadly comprise construction cost of new rail line, rolling stock cost and operating & maintenance cost. The costs under ‘without’ the project situation where the projected traffic would move on the next best alternative available for transportation would comprise capital costs to the incurred on the augmentation of other than the rail modes of transportation and their, rolling stock, operation and maintenance costs.

- 4.6.1.3 In addition to the above costs the user costs and social costs like accident costs and environment costs by traditional method would also be considered.
- 4.6.1.4 The total cost of movement of traffic under both the situations would be assessed over the project life and the Economic Internal Rate of Return (EIRR) would be arrived at using the DCF technique.

#### **4.6.2 Financial Analysis**

- 4.6.2.1 As against the economic analysis, which evaluates benefit to the economy as a whole, the financial analysis reflects the profitability of the project to the implementing organization. The working expenses and the freight earning would be calculated over the project life for hauling the projected level of traffic. The freight earnings would be based on the Track Access Charges (TAC) provided by DFCCIL for the proposed DFC corridor. However, if the same are not made available, then the earnings would be estimated by adopting the Indian Railway Methodology of apportionment. The net earnings thus arrived at would be compared with the capital costs comprising construction and rolling stock to arrive at the Financial Internal Rate of Return (FIRR). The DCF technique would be used to work out the FIRR.

#### **4.6.3 Sensitivity Analysis**

- 4.6.3.1 To adjudge the viability of the project under adverse conditions in terms of increase in capital cost, decrease in traffic levels etc., an in depth sensitivity analysis will be carried out to see the impact of the critical parameters on the project FIRR.

#### **4.6.4 Financial Model**

- 4.6.4.1 Since availability of upfront capital for infrastructure projects particularly for BOT projects is presently constraint, faster mode of upfront financing may be devised, with subsequent monetization. An appropriate financing model needs to be incorporated at the DPR stage itself.
- 4.6.4.2 To ensure the projects to be realized within the intended time frame, an appropriate financing models are required to be incorporated at the DPR stage itself.
- 4.6.4.3 Based on FIRR, the financial structuring of the project would be undertaken by considering an appropriate Debt Equity Ratio to access the key financing parameters like:
  - Post Tax Financial Internal Rate of Return
  - Debt Service Coverage Ration
  - Return of Equity

### **5. Data to be provided by DFCCIL:**

## **RFP for preparation FLS and DPR of East West Sub Corridor – Section-7 - TOR**

In terms of Annexure-5 to TOR , DFCCIL shall provide the Data available with the Client, to all the Consultants who depute some responsible Personnel, carrying the necessary Authorization from the Consultant with a request for the Data in writing and also submitting a specific 'Non Disclosure Certificate'[NDC] carrying averment from the Consultant about being under positive obligation of not disclosing the aforesaid Data , so collected from the Client to any one, not specifically connected with/entrusted with preparation of the Consultant's Offer.

### **6. Deliverables:**

For every corridor the following reports, data and designs shall be submitted:

#### **9.1 Inception Report**

The Inception Report shall be submitted within 60 days from date of commencement of work (Refer clause 13.1 of Particular Condition of Contract) for the corridor and shall comprise of:

- a. Collection and study of data/information from all concerned and verifying it for accuracy and usage.
- b. Finalization of technical parameters for alignment design.
- c. The approach and methodology to meet the requirement of Scope, Deliverables, and Services for the complete DPR
- d. Submission of time frame viz. targeted dates of achievement of Key dates and assignment of responsible key personnel for various activities i.e. "Consultancy Programme".
- e. The identification of design codes, standards and best international practices.

6.1 Application to DGCA/MoD for Aerial LiDAR and Imagery permissions will be submitted within 75 days of commencement of work (or within 15 days of finalization of Area of Investigation (AOI) of the corridor) for the corridor and a copy of the same shall be provided to the client for reference and follow-up (if required).

### **6.2 Quality Control and Quality Assurance Plans:**

The Quality Assurance Plan (QAP) shall be submitted by the Consultant to the Employer/ for approval before any submission by the Consultant for approval by the Employer. As an example, before submission of Aerial LiDAR data outputs, the QAP for Aerial LiDAR Data Capture and Processing shall be submitted. The QAP shall identify the personnel, procedures, instructions, records, and forms necessary to implement the plan.

The Consultant is responsible for performing all Quality Control (QC) activities associated with their work. The Independent agency will do Quality Assurance (QA) review of the Consultants QC actions. Quality Audits and monitoring of the Consultant's QAP will be conducted by the Client at Intervals commensurate with the Consultant's activities.

The work may be got reviewed/ accepted /approved from the Independent agency to be fixed by DFCCIL. Notwithstanding acceptance by the Employer, the Consultant shall remain responsible for the quality of the deliverables.

### **6.3 Alignment Report Stage – 1**

## **RFP for preparation FLS and DPR of East West Sub Corridor – Section-7 - TOR**

- a. Submitting Alignment Route Files in AutoCAD & \*.kmz format.
- b. Preparation of Draft Report – Level 1 to near 80 % accuracy level along with presentation.
- c. Getting the Draft Report reviewed and Approved by DFCCIL In-house team
- d. Completing the Draft Report – Level 2 to 90% accuracy level with addition of missing items as suggested and found during review.
- e. Submitting the Final Report – Level 3 to nearly 100 % accuracy as per contractor's best effort and based on furnished inputs by DFCCIL.
- f. List of all Major & Minor rivers falling in the ROW of proposed route.
- g. 3 sets of all deliverables in hard and soft copy of the same, are to be provided as per the schedule laid down in following clauses 5.5 and 5.6.
- h. Note: The final output should be compatible with AutoCAD Civil 3D Software.

### **6.4 Preliminary Alignment Report Stage – 2**

All deliverables corresponding to each BoQ item shall be submitted. These include:

1. Report on Ground Control undertaken for referencing supplied satellite DEM/DTM to MSL based on SOI benchmarks.
2. Orthophoto generated from satellite imagery
3. Topographical Map on the scale 1:5000 with required GIS layers. The map may be superimposed on the generated Ortho-Imagery.
4. Report on Site Reconnaissance Survey
5. Preliminary Land Acquisition Plans
6. Plan and Profile of alignment options including marking of tentative IR RoW/ DFC RoW boundary. Input/output data files of alignment design in soft copy used in Autodesk 3D Civil/Bentley Rail Track or similar software for designing of the alignment for the future use of DFCCIL.
7. Draft Alignment Report Stage I:

The Draft Alignment Report Stage I shall be submitted within 60 days from date of commencement of work for the corridor (or date of supplying of Imagery/DEM/DSM by client whichever is later). DFCCIL will give its comments on the draft Preliminary Alignment report within 15 days after which the consultant shall incorporate the comments and submit the Final Preliminary Alignment Report Stage – I. The same shall be accepted within 15 days by the client in case there are no further modifications required. This report shall consist of but not limited to the following:

- a. Comments on alignment corridor such as –
  - (i) Take off point, the location of Stations.
  - (ii) Identification of critical areas /sections such as Bridges/ Viaduct/ RE Walls, deep cuttings, high embankments, Location of Railway Stations etc.
  - (iii) Likelihood of difficult conditions which may have major impact on cost and construction based on available maps and literature.

- b. Finalization of basic parameters for the project from Construction and Operational view-point.
- c. Development of different viable alignment options from various individual block options for the project (at least three). The options should clearly bring advantages and disadvantages on issues related to technical, financial, operational, timeline etc. with comparative study in tabular form with their recommendations. All the important points shall be discussed in detail for each alignment option.
- d. Report on the visit of Experts/Surveyors to various important sites at proposed alignments.
- e. Refinement of proposed alignments based on onsite visits.
- f. Comparative study of alignment options by Multi-Criteria analysis by assigning weights to various criteria and sub-criteria in consultation with DFCCIL and recommendation of most preferred alignment.
- g. Identifying the location of bridges/ other crossing structures.
- h. The report shall be in sufficient detail for DFCCIL to arrive at a final decision without major back referencing with the consultant.

### **6.5 Final Alignment Report Stage – 3**

All deliverables corresponding to each BoQ item shall be submitted. These include;

#### **6.5.1 Final Alignment Report Stage II:**

The draft Final Alignment Report Stage II shall be submitted within 180 days from date of commencement of work on the corridor. DFCCIL will give its comments within 15 days of the submission of the report. The consultant shall incorporate these comments and submit the Final Alignment Report Stage II within another 15 days post which DFCCIL will give final acceptance of the Stage-II Report within 30 days of submission. DFCCIL will interact with State Authorities/ Railway and other agency for approval of final alignment, however, the Consultant shall attend the meetings in this regard and provide required clarifications/presentations.

#### **6.5.2 Report on densification of Ground Control Survey undertaken including identification of SoI benchmarks, DGPS network plan for master control, secondary control and target points. Report on levelling. Report on pillars.**

#### **6.5.3 Report on Aerial LiDAR Survey**

- a. Raw Point Cloud and Images
- b. Classified Point Cloud
- c. Three dimensional Topographic survey drawing of 50 m corridor on either side of the railway centerline on a scale of 1:2500.
- d. Contour map at 0.5 m interval for 50 m corridor width
- e. Digital Elevation Model (DEM)/ Digital Terrain Model from topographic survey data
- f. Longitudinal and Cross Sections at 20 m interval



**RFP for preparation FLS and DPR of East West Sub Corridor – Section-7 - TOR**

- g. Digital Orthophotos of 10 cm GSD resolution (in tiles and seamlessly mosaicked over the survey area)
  - h. Report on Data Quality along with verification
  - i. Report on traditional survey uses to complement Aerial LIDAR Survey
  - j. 3 sets of all deliverables to be provided in Hard Copy.
  - k. Soft copy of all deliverables to be provided.
- 6.5.4 Report on Hydrological Survey
- 6.5.5 Report on list of Transmission Lines, Towers falling in RoW as required in TOR
- 6.5.6 Report on list of Trees falling in RoW as required in TOR
- 6.5.7 Report on list of structures etc falling in RoW as required in TOR
- 6.5.8 Report on Final Land Acquisition Plans
- 6.5.9 Final Alignment Design outputs include soft copy of design files in the used software along with the alignment design outputs such as Index map, Index Plan & L-section, detailed Plan & Profile drawings including crossing details, station and yard locations and GAD's
- 6.5.10 Index map, Index Plan & L-section, Detailed Plan & section, detailed yard plans and other plans of Final alignment as per Indian Railway Engineering Code. The locations of Permanent Control Points, Reference pillars, and GTS benchmarks shall be shown with X,Y,Z co-ordinates various maps, plans etc.
- 6.5.11 Feasibility field Report of Expert Team of various bridges, deep cuttings, high embankments, tunnel portals, adits, access roads and other structures.
- 6.5.12 Description of alignment including Statements of Curves, Gradients, Stations, Tunnels, Major/Minor bridges, ROBs/RUs etc as per Indian Railway Engineering Code.
- 6.5.13 Engineering Scale Yard plans
- 6.5.14 Hydrology, Bridge and Tunnel Report
- 6.5.15 Input/output Data files of alignment design in soft copy used Autodesk 3D Civil/Bentley Rail Track or similar software for the future use of DFCCIL.

Note: The consultant is required to use the 3D Civil/ Bentley Power Rail Track (PRT) or similar software for designing the alignment, development of longitudinal section, cross section, plan & profile drawings and related details. The consultant is required to submit all drawings in DWG/DGN/TIF format (inWGS84 datum and UTM Projection system). The 3D model (inWGS84 datum and UTM Projection system) of the design also to be shared by the consultant along with relevant 3D Civil Power Rail Track files like alignment (.alg), Digital Terrain Model (.dtm), typical cross section/templates and(.itl &.ird) and preference file(.xin) or its equivalent in other similar software, to enable DFCCIL for speedier approval & validation of the designs/reports. The consultant also shall submit the survey/LiDAR/imagery data in raw format along with processed data in LAS/DWG/DGN/TIF format. Proper naming convention for the layers and features needs to be developed by the consultant.

## **RFP for preparation FLS and DPR of East West Sub Corridor – Section-7 - TOR**

- 6.5.16 Report on the preliminary design for the purpose of preparing the cost estimate of the project for tunnels, Portals, adits, shafts, bridges, slopes, deep cuttings, protection works, buildings works, yards, track works, electrical works and installations, signalling and telecom works, and all related enabling works along with preparation of layout plans, GADs/conceptual drawings, Sections, sketches etc. GADs of bridges, yards etc and Drawings used in the preliminary design.
- 6.5.17 Geo-Technical Investigations Report
- 6.5.18 Geo-referenced Geological maps/topo sheets/Forest maps etc with final alignment superimposition on them suitable for GIS application.
- 6.5.19 Thematic maps on an appropriate scale based on satellite imagery/Aerial Imagery/Aerial LiDAR data interpretation such as geological map, geomorphologic map, lineament/fracture map showing structural features, detailed drainage and surface water bodies map including report highlighting the problems likely to be encountered during the construction stage.
- 6.5.20 Geological field reconnaissance report for various alignments options based on GSI maps.
- 6.5.21 Detailed Geological Survey Report on 1:5000 scale along final alignment highlighting geological issues for tunnels, bridges, yards, deep cutting, high embankments and tunnel portals. Report to also highlight land slide prone zones along with fault zones as derived from LiDAR DEM/field visits.
- 6.5.22 Geophysical field study report comprising of 2-D resistivity image studies, Seismic refraction studies and Shear Wave velocity studies (VS30) at various locations along finalized alignment.
- 6.5.23 Index map, Plan & L-section of proposed access roads to various sites on alignment and muck dumping area.
- 6.5.24 Details of muck dumping location near the various work site along with its muck capacity, DGPS plans etc
- 6.5.25 Signaling & Telecom. Study Report
- 6.5.26 Electrical Engg. Report
- 6.5.27 Traffic Survey Report
- 6.5.28 Environmental and Social Assessment and Mitigation report containing
  - a. Project Description
  - b. Environmental Baseline Data
  - c. Impact Assessment
  - d. Environmental Management Plan
  - e. Tentative Environmental Cost Estimates
- 6.5.29 Document so land and forest proposals and related documents to be submitted to Authorities for the purpose of land acquisition and obtaining Forest clearance for Final Railway alignment as well as for Access roads to various sites and muck dumping sites etc.
- 6.5.30 Submission of design codes, standards and best international practices relevant to the scope of work.

## **RFP for preparation FLS and DPR of East West Sub Corridor – Section-7 - TOR**

- 6.5.31 Any other item mentioned in the Scope of Work.
- 6.5.32 **Detailed Cost Estimate** of the complete project comprising civil structures such as Earthwork, bridge ,tunnels , stations, P-Way items, electric works, OHE works, Diesel traction, Power supply, Signalling & Telecommunications, air conditioning, ventilation, maintenance depot, environmental studies and clearances, land acquisition, forest clearances, leading, etc and related works including enabling works as a complete job with supporting documents, plans, drawings, designs etc. As per Indian Railway Engineering Code and best practices. The quantities shall be worked out as per the preliminary design, thumb rules, empirical design, existing practices& norms followed in the similar Railway Projects.
- 6.5.33 Part estimate of Civil, S&T, Electric works, Diesel traction and electric traction works shall be brought out separately.
- 6.5.34 Tentative Construction program of all works for the realistic timeframe in commissioning of the Project.
- 6.5.35 Financial and Economic Appraisal
- 6.5.36 Soft (in editable format) and hard copies of all the documents obtained and used by the Consultant in the course of alignment design i.e. maps, topo sheets, contour maps, DGPS data, DEM, Bentley Rail Track or similar software files, Reports of geological mapping and geological investigations etc. of the area surveyed shall be handed over to DFCCIL along with the submission of final report, design, and drawings of the developed alignment. Hard copy shall be of a size suitable for easy handling and preferably bound.

## **7 Instructions to be followed by the Consultant while providing Services**

### **7.1 Reference Codes**

The Design Consultant shall utilize the applicable Indian codes as mentioned in Annex- 4. All relevant Indian Acts and Regulations shall also be complied with. Should the Design Consultant propose to use alternative Standards or Codes of Practice or International best practices they shall submit two copies of such standards or codes with justification for their use to DFCCIL for review and acceptance within 30 days from date of commencement of work.

- 8 **Use of Proprietary Items:** The Consultant shall ensure that there are no named or proprietary products in the documents or on drawings. The Consultant shall indemnify DFCCIL from violation of any copyright infringement and DFCCIL will not be responsible for any act of negligence/ omission in this respect.
- 9 **Proof Consultant:** DFCCIL will get the Alignment design, Survey, Drawings, Reports, Investigations, Design or any other work executed by the Consultant reviewed/accepted/ approved/checked by reputed independent agencies or Proof Consultant to be fixed by DFCCIL. In that case, it will be the responsibility of the Consultant to depute their competent experts/personnel and furnish necessary clarifications/calculation/ assistance for the approval of the Survey, Report, Drawings/design calculations. The actual expenditure on transport and stay of consultant's

personnel will be reimbursed as per clause 6 of Particular Conditions of Contract-Part B: Specific Provisions.

## **10 Standard of Services**

The Consultant shall ensure that technically qualified and experienced staff is deployed to perform the work, including all Quality Control associated with it, insufficient number and that accurate, consistent, clear and easily readable drawings & documents are produced in time. The Consultant shall comply with the provisions and procedures covering standards and codes and drawings.

Scheme and methodology of the work to be executed shall be formulated and submitted to DFCCIL. The format of the documentation required for executing the work shall also be submitted to DFCCIL before the start of the work. The documentation should be as per relevant IS codes / International practice.

The Consultant shall be responsible for the accuracy, correctness and technical merit of its Survey, Design, Calculations, Drawings and all other documentation prepared by it in carrying out the services.

If inaccuracies are found in the survey or services of the Consultant by DFCCIL, then the Consultant shall carry out the survey again this own cost and will have to come to a mutually agreed solution with the DFCCIL.

## **11 Performance;**

Notwithstanding any review of its organizational structure, staff for manning schedules, the Consultant shall remain wholly responsible for providing the services. If in the opinion of the Employer, the progress or performance of the Consultant's work is seen to be anytime inadequate to meet those requirements, the Consultant shall take the necessary steps to improve them on being so notified. If within a reasonable period the Consultant has not improved its progress or performance DFCCIL may by written notice require it to take additional measures, including changes in its organization, at no additional cost to DFCCIL. Such notice shall be in no way deemed to constitute a waiver of DFCCIL rights to terminate the Agreement by reason of the Consultant's breach of contract.

## **12 Safe working methods:**

As the work is required to be carried out in the steep mountains and thick vegetation, the Consultant shall take all necessary measures required to ensure the safety of both his men and equipment at all times and the rates quoted by him shall include the cost of all such measures. If at any time, DFCCIL finds that the safety arrangements are inadequate, the Consultant shall take immediate corrective measures at his cost. Any dereliction in the matter shall in no absolve the Consultant of his sole responsibility to adopt safe working methods.

The Consultant shall remain fully responsible for ensuring safety and in case of an accident, that is attributable to the Consultant or any of his staff as determined by the competent authority from DFCCIL, the Consultant shall bear the cost of all damages to his equipment, men and also damages to DFCCIL. The penalty shall be imposed in case of a first fatal accident for Rs. 5

## **RFP for preparation FLS and DPR of East West Sub Corridor – Section-7 - TOR**

Lakhs and Rs.10 Lakhs for each subsequent case in addition to any compensation due to the family of a deceased person under the law.

The Consultant shall at all times be responsible for any damage or trespasses committed by his agent or his staff while carrying out the work. DFCCIL will not be liable for any damage caused by the Consultant, his agent or his staff to any property whether that of DFCCIL or of an outsider during the execution or arising out of the work entrusted to him.

Inflammable materials such as petrol, kerosene, diesel and explosives tc., required for executing the work shall be stored with necessary precautions to prevent fire accidents. The extant rules as prescribed by the Government

/local authorities shall be observed by the Consultant at all times during the execution of work.

In order to perform the services or work in connection with the various activities given in the Scope of Work if local authorities are to be intimated or their approval is to be taken, the same shall be intimated or approval taken. DFCCIL will render all assistance in obtaining such permissions/ approvals as per the request of the Consultant.

- 13 **Additional items:** Any item of work which is not provided in the schedule of quantities and for which no rates exist shall be executed only with the prior permission of DFCCIL and at the rates and terms and conditions to be mutually agreed upon and incorporated in a supplementary agreement

14 **Site Facilities:**

The Bidders are advised to acquaint themselves well with the site conditions, availability of approach roads etc before quoting their rates. The rates quoted by the bidder are deemed to include charges for any and all site facilities that are considered necessary for the execution of work.

- 15 **Electric Power:** The Consultant shall make his own arrangements for obtaining the electric power required for operating his machinery, equipment, lighting etc. DFCCIL will not undertake any responsibility in this regard.

16 **Land acquisition and Forest Clearance:**

The Consultant is required to draw the approved alignment to scale on village wise Revenue Plan/Maps and work out the quantum of land to be acquired along with the details of Survey number with ownership. Land plan and papers should clearly show private/government/forest land. The details of entire land data required for land acquisition to be placed in the report. The consultant will verify Land plan and Forest papers through joint field verification with State Revenue officials and Forest Officials. Consultant shall collect Record of Rights from Revenue authorities and provide necessary assistance and follow-up action to expedite completion of land acquisition. If deemed necessary, DFCCIL will render assistance in regard to coordination with the concerned Govt. Authorities.

Proposal for Land acquisition and forest diversion will be prepared by the Consultant according to standard performa, which will be provided by DFCCIL.

Similar exercise to be performed for forest land for each Range Officer jurisdiction and the details should be summarized in the reports. Broad activities required for preparation of forest diversion case (as per latest forest guidelines for online proposal submission) shall include the following, but not limited to:

- a) Counting and identification of Trees (with ownership) in RoW (Except above Tunnels but including Portal are a) where trees are likely to be cut for execution of works.
- b) Arranging consent of Gram Sabha(s) under Forest Right Act-2006
- c) Area Identification and measurement for forest and non-forest land.
- d) Preparation of DGPS and Topo sheet map of Diversion area.
- e) KML and Shape file of diversion area.
- f) Muck disposal and Lead plan.
- g) Cost-Benefit Analysis.

#### **17 Knowledge enhancement to DFCCIL Engineers/Staff**

Presentation preferably of one day shall be given to DFCCIL office regarding the state of art technology used for carrying out the alignment design & various survey work on the project under following broad category:

- a) Introduction to satellite imagery, Aerial LiDAR & Imagery and related terms
- b) Processing of imagery for rectification, pre-processing of Aerial LiDAR data
- c) Steps in DEM creation
- d) Ortho-rectification of imagery
- e) Preparation of GIS database and preparation of maps from LiDAR data and Satellite Imagery
- f) Design of alignment
- g) Establishment of Control points with DGPS and its Quality Control
- h) Geological mapping/studies
- i) Any other relevant issue

#### **18 The collection, Storage, and Processing of Field Data:**

All field measurements together with the irrelevant field codes, in general, shall be automatically stored in electronic data-loggers either within the field instrument or attached to field instruments and downloaded from storage remotely or directly to a computer for processing. The consultant is to ensure security of all data especially Aerial LiDAR/Aerial Imagery data in consultation with the employer in accordance with MoD stipulations. No data is to be sent outside India without prior consent of the employer.

#### **19 Submission/Approval/Review Procedures**

- a) The Consultant shall submit the report/ Plan etc (duly signed/stamped on each page) in hard copy to DFCCIL Representatives (one copy) and Proof Checking agency (one copy) for

## **RFP for preparation FLS and DPR of East West Sub Corridor – Section-7 - TOR**

review. The form and detail of the review shall be as determined by DFCCIL and will not absolve the Consultant of the responsibility for the design/survey/investigations under the contract. Two sets of corrected submission incorporating all observations of DFCCIL and proof checking agency shall be again submitted for approval.

- b) The Consultants shall obtain all required and/ or statutory approvals that relate to that submission including where appropriate, approval of concerned government authorities. However, DFCCIL shall assist the Consultant only if deemed necessary.
- c) The consultant will have to certify the accuracy, completeness, and quality of data before submission to DFCCIL.

### **20 Submission of Data, Plans, Design, Reports etc**

- a) The Consultant shall establish a Quality Assurance Plan (QAP) and a system of internal checking and approval of all surveys, designs, including calculations, drawings, and other documents prepared and issued by it, to the Employer for acceptance. The purpose of the checking shall be to ensure accuracy and consistency, as well as compliance with current requirements, standards, codes and the requirements of this document. Certification of such a check has been carried out shall be issued to the Employer with each batch of documentation for acceptance at the final submission and subsequent submissions. Internal checks shall be carried out by personnel who have experience and competence equal or superior to the originator, but who have not been involved in producing the original design.
- b) Unless otherwise required by DFCCIL, supporting details relevant to the submission shall be submitted for review with the respective Submission. The Employer's Representative may require the submission of applicable software if relevant to the Submission including in-house software program /worksheets developed by the Consultant.
- c) The Consultant shall prepare and submit a comprehensive set of a calculation used in the Preliminary Design for the purpose of preparing an estimate and used in the preparation of cost Estimate in a form acceptable to DFCCIL. Should alignment be revised there-after and such revision renders the calculations, as submitted, obsolete or inaccurate, the Consultant shall prepare and submit the revised calculations.

### **21 Format & Sets of design/reports to be submitted by Consultant**

- a) Drawings and CAD data shall comply with the requirements of the Drawing and CAD Standards.
- b) Reports, calculations, specifications, technical data and similar documents shall be provided in A4 format and ring bound to facilitate photocopying. A3 size drawings included in documents shall be folded to A4 size.

## **RFP for preparation FLS and DPR of East West Sub Corridor – Section-7 - TOR**

- c) All revisions to such documents previously submitted shall be clearly marked in the body of the document and recorded in the index or title page.
- d) All computer calculations shall be clearly documented and referenced, and input and output data presented, after any photocopy in reduction, in a readily legible format of minimum font size 10.
- e) All calculations and drawings comprising the submission shall be completed duly checked and reviewed.
- f) For each stage of final submissions, 5 sets of A1 and A3 size each hard copy of drawings and 5 sets of reports and calculations in A4/A3 size shall be submitted. All hard copies drawings, reports and calculations shall be properly bound. All sizes of drawings shall be legible.
- g) In addition to the hard copies, Consultant is required to submit soft copy of all Reports, Calculations and Drawings in editable (native) format and PDF format.
- h) Metric units shall be used in all drawings and reports.
- i) The Final documents shall be duly proof read, reviewed, approved and certified.

### **22 Meetings and Progress Reports during the Consultancy services**

- a) In addition to the express requirements herein, the Consultant shall whenever DFCCIL's representative so requests, provide information and participate in discussion/progress review meetings that related to the design of alignment, time schedules, the progress of works etc.
- b) During all stages of the Consultancy Services, the Consultant shall arrange and convene regular meetings and working sessions, ad hoc question and answer session so that DFCCIL is kept informed of the progress and development of the contract. Drawings, computer simulations and output, models and graphic sketches etc. shall be used to explain and illustrate the details of the proposal whenever necessary.
- c) The frequency of regular meetings and working sessions shall be monthly, or as and when required, or as instructed by DFCCIL's representative.
- d) The Consultant shall submit the progress report and proposed work schedule of the various activities of the consultancy regularly as the direction of the Client.

**23 Schedule of key dates & Payment Schedule:** The Consultant shall deploy the adequate competent and experienced manpower and compatible resources as are required to carry out the Services as per the following Key Dates.



**Time Schedule of Key Deliverable & Payment Schedule**

| <b>KD-</b> | <b>Key Deliverable<sup>A</sup></b>  | <b>Time Schedule</b><br>(in Months=30 days);<br><b>For the 'Key Dates'</b> | <b>Cumulative Time in months</b> | <b>Payment in % of accepted contract amount</b> |
|------------|---|--|----------------------------------|---|
| 1          | <b>Commencement of services</b> , in terms of PC sub Clause 13.1- (D) [ <i>List specific Date</i> ]   | Commencement Date-   | 0                                | 5 %   |
| 2          | On submission of Inception Report (D <sub>1</sub> )   | D <sup>#</sup> + 2*  | 2                                | 10 %  |
| 3          | On submission of Alignment Report-Stage-1(Desk study)(D <sub>2</sub> )  | D+3  | 3                                | 2.5%  |
| 4          | On submission of Alignment Report-Stage-2(study on Stereo-Setallite imagery)D <sub>3</sub>  | D+6  | 6                                | 5%  |
| 5          | On completion of Traffic Surveys D <sub>4</sub>   | D <sub>2</sub> + 4   | 7                                | 5 %   |
| 6          | On submission of Horizontal and Vertical Ground Control Points.(D <sub>5</sub> )  | D <sub>2</sub> + 3   | 6                                | 5%  |
| 7          | On completion of LiDAR Survey, progressively <sup>3</sup> (D <sub>6</sub> )   | D <sub>2</sub> +4  | 7                                | 7.5 %   |
| 8          | On completion of Alignment Design, progressively <sup>3</sup> (D <sub>7</sub> )   | D <sub>6</sub> +2  | 9                                | 10 %  |
| 9          | On submission of Geotechnical Report, progressively <sup>3</sup> (D <sub>8</sub> )  | D <sub>7</sub> +2  | 11                               | 10 %  |
| 10         | On submission of Hydrological Report, progressively <sup>3</sup> (D <sub>9</sub> )  | D <sub>7</sub> +2  | 11                               | 10 %  |
| 11         | Submission of Interim Abstract Estimate Report to facilitate Sanction from Railway Board. (D <sub>10</sub> )  | D <sub>7</sub> +1  | 10                               | 5%  |
| 12         | On completion of GADs and Preliminary design of structures (D <sub>11</sub> )   | D <sub>8</sub> +3  | 14                               | 5 %   |
| 13         | On submission of Signaling & Telecom. and Electrical Engg. including System Plans (S&T and OHE), cost estimation and BOQ along with train operation plan (D <sub>12</sub> ) | D <sub>7</sub> + 2   | 11                               | 5 %   |
| 14         | On submission of Environmental and Social Study Report (D <sub>13</sub> )   | D <sub>7</sub> + 3   | 12                               | 5 %   |
| 15         | Submission of Draft DPR including Detailed Cost Estimate, Financial and Economical Appraisal (D <sub>14</sub> )   | D <sub>11</sub> + 3  | 17                               | 5 %   |
| 16         | On submission of Final Report incorporating comments of Client (D <sub>15</sub> )   | D <sub>14</sub> + 1  | 17+1=18                          | 5 %   |

**‘A’-Key Deliverable [ KD-2 to KD-16] shall be accepted as complete only when, the required submission is specifically approved by the Client.**

**Note**

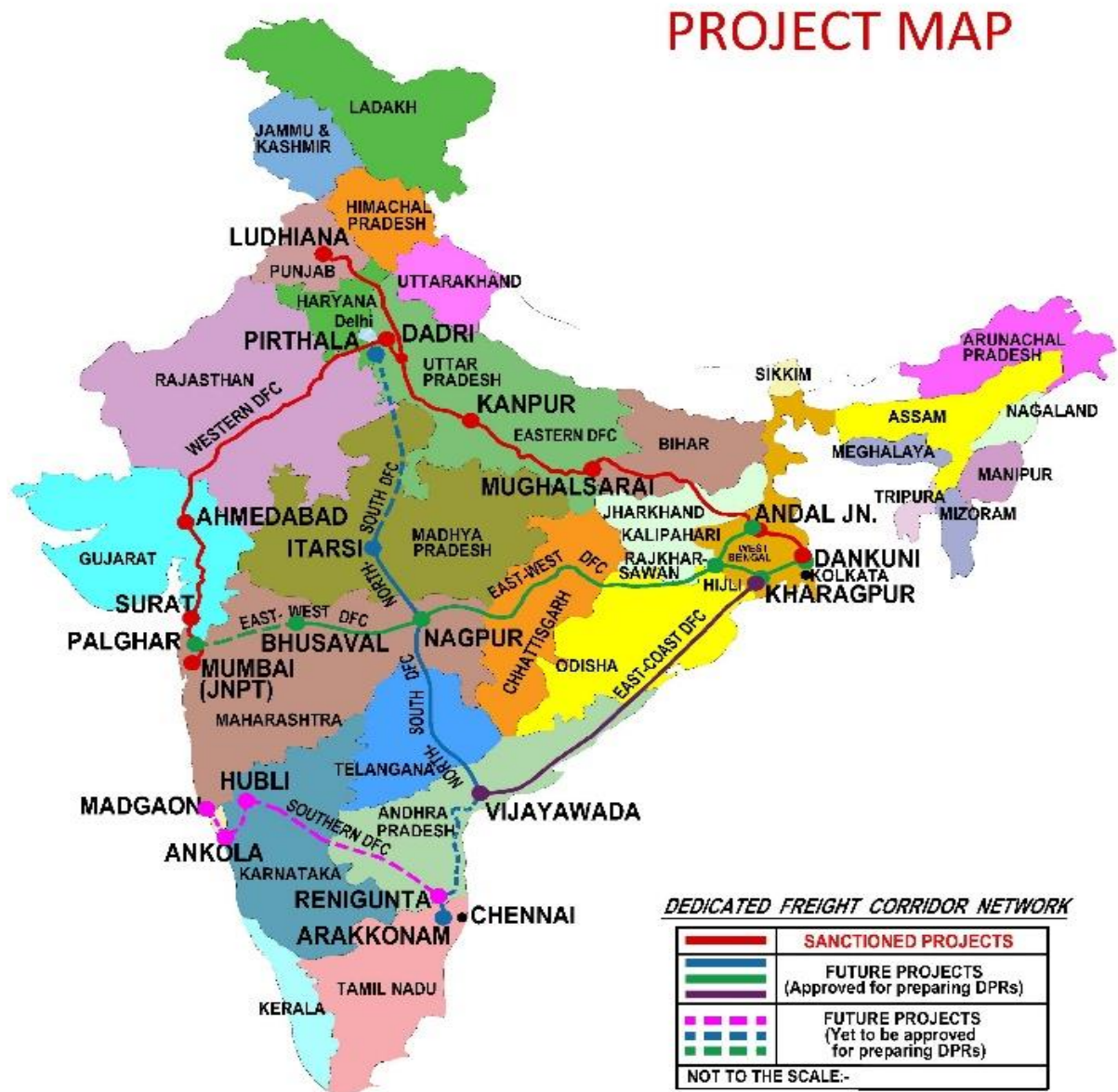
- 1) # - Commencement of service (refer SCC sub clause 13.1.)
- 2) Total Completion period, after Commencement of Services-**18 months**,
- 3) \* - Period expressed in Calendar month (30 days) from the commencement date.
- 4) Payment to the Consultant may be released, subject to other relevant Contractual Provision being fulfilled, on Pro-Rata Basis subject to minimum segment being completed in full by the Consultant not being less than 25% of the total Route Kilometer length envisaged under this contract.

**Additional Notes**

**RFP for preparation FLS and DPR of East West Sub Corridor – Section-7 - TOR**

- a) DFCCIL will interact with Railway and other agency for approval at different stages wherever required, the Consultant shall attend the meetings in this regards to provide clarifications/ presentations. For adhering to the time schedule, 30 days may be included for approval of DFCCIL wherever required. The Consultant shall provide the submissions in such quality and completeness that DFCCIL is able to take the decision without referring back for queries and clarifications.
- b) In case of delays in the completion of the whole works or a part of the works, beyond stipulated completion period as per Key Dates are given above without valid reasons the consultant shall be liable to pay liquidated damages as stipulated in SCC sub Clause no-41.4, Section-8. However, if the delay is recovered in the next key date (s), the damages may be waived off by the competent authority on the request of the Consultant.

Annexure-1  
Map of DFCCIL



MAP FOR INDICATIVE PURPOSE ONLY

**Salient Features Alignment**

|                            | <b>Alignment For</b>   | <b>Section-1*</b> | <b>Section-2*</b> | <b>Section-3*.....</b> |
|----------------------------|------------------------|-------------------|-------------------|------------------------|
| <b>General</b>             | Grade                  |                   |                   |                        |
|                            | Start Location         |                   |                   |                        |
|                            | End Location           |                   |                   |                        |
|                            | Start Elevation        |                   |                   |                        |
|                            | End Elevation          |                   |                   |                        |
|                            | Gain in Elevation      |                   |                   |                        |
|                            | Total Length(Km)       |                   |                   |                        |
|                            | No. of Stations        |                   |                   |                        |
|                            | Alignment in open (km) |                   |                   |                        |
|                            | % Open Area            |                   |                   |                        |
|                            | Preliminary Cost (Cr)  |                   |                   |                        |
|                            | Cost/km (Cr)           |                   |                   |                        |
| <b>Curves &amp; Grades</b> | Curve Length (Km)      |                   |                   |                        |
|                            | No. of Curves          |                   |                   |                        |
|                            | % wrt Alignment        |                   |                   |                        |
|                            | Max Degree of Curve    |                   |                   |                        |
|                            | Ruling Gradient        |                   |                   |                        |
|                            | Tunnel Length (Km)     |                   |                   |                        |
| <b>Tunnels</b>             | No. of Tunnels         |                   |                   |                        |
|                            | Longest Tunnel (m)     |                   |                   |                        |
|                            | No sL>5Km              |                   |                   |                        |
|                            | % wrt Alignment        |                   |                   |                        |
| <b>Bridges</b>             | Bridge Length          |                   |                   |                        |
|                            | No. of Bridges         |                   |                   |                        |
|                            | Max Height             |                   |                   |                        |
|                            | Nos H>20m              |                   |                   |                        |
|                            | % wrt Alignment        |                   |                   |                        |
| <b>Env</b>                 | Forest Cover (Env)     |                   |                   |                        |

*\* Sections to be decided by the Consultant, in consultation with the Client*

**GEOLOGICAL INFORMATION**

Geological appreciation of the project area along the alignment proposed during Corridor Optimization Study has not been done so far by DFCCIL. The Consultant shall carry out a detailed geological survey of the corridor along the proposed alignment as per scope of work.

A geologic survey map shall be accompanied by a written report that provides further explanation of the geology depicted on the map. A complete geologic report normally contains the following components arranged in this order.

- Introduction-- A brief statement about the scope and nature of the map and any agency or institution on basis for the map project.
- Study area --Short description of the map area—its general geography, legal boundaries, climate, land cover, human land use, etc.
- Methodology—Explanation of data collection technique in the field—how and what types of observations and measurements were made. This includes reference to source materials-- aerial photographs, LiDAR data, topographic maps, and soil surveys, as well as types of equipment—survey compass, altimeter, GPS device, etc.
- Results—Each geologic map unit is described in terms of its physical properties (color, composition, thickness, texture, fossils), geographic location, stratigraphic position, and common geomorphic expression in the field. Measurements are presented in the form of tables or diagrams.
- Interpretation—Discussion of the overall geologic conditions within the study area as demonstrated by the map and background information. This usually includes a brief interpretation of the geologic history (Genesis) for map units and geomorphology of the area.
- Conclusions -- A brief summary of main points with an emphasis on results and interpretation.
- References-- List of references to sources cited in the report.

**CODES AND SPECIFICATION**

1. The execution of all works under this tender shall conform to the specifications and codes of practice mentioned below( as amended from time to time).
  - 1 DFCCIL specifications for materials and work.
  - 2 Indian Railway Standard Bridge Substructure Code 1985 (revised)
  - 3 Indian Railway Permanent Way Manual 1986.
  - 4 Indian Railway Schedule of Dimensions.
  - 5 Indian Railway AC Traction Manual
  - 6 Indian Railway Standard Steel Bridge Code, 1962 reprinted.
  - 7 Indian Railway Standard Specification for fabrication and erection of steel girder
  - 8 Indian Railway Manual for Telecom
  - 9 Indian Railway Manual for Signalling
  - 10 Indian Railway Schedule of dimensions for Broad Gauge

**2. CODES OF PRACTICE TO BE FOLLOWED:**

The following codes of Practice shall be followed generally unless otherwise specified. In the absence of the relevant provision of specifications in the under mentioned BIS/IRS/IRC codes, the reference shall be made to International codes/best available engineering practice but with the approval of Employer

- 1 IS:5878(Part I) 1971 Precision Survey and setting out.
- 2 IS4081-2013-Safety Code for Blasting and Related drilling operations.
- 3 IS9103-1999- Admixtures for Concrete.
- 4 IS3764-1992- Safety Code for Excavation work.
- 5 IS4138-1977- Safety Code for Working on Compressed Air.
- 6 IS: 7293-1974- Safety Code for Working with construction Machinery.
- 7 IS:816-1969-Code of practice for use of Metal Arc welding for General Construction in Mild steel.
- 8 IS: 1566-1982-Hard Drawn steel wire fabric for Concrete reinforcement
- 9 IS456-2000–Code of Practice for Plain and Reinforced Concrete.

- 10 IS:1893-1984-Criteria for Earthquake resistant design of structure.
- 11 IS:1200 (Part-XXV)1971-Methods of Measurement of Building and Civil Engineering works.
- 12 IS1905-1987-Code of Practice for the Structural safety of Buildings, Masonry walls.
- 13 IS458-2003- Concrete pipes (with and without reinforcement).
- 14 IS: 800-2007–Code of Practice for use of Structural steel in General Building Construction.
- 15 Code of Practice for Laying of Cables etc. For Electrical &S &T works
- 16 IS 2339:2013for Aluminium Paint ready mix;
- 17 IS 2062-1975for Structural Steel fusion welding quality.
- 18 IS 1148-2009–Rivet bars (Mild Steel) for structural purpose.
- 19 IS 1929-1982andIS 2155-1982-General Dimensions of rivets.
- 20 IS 1367-2014for Mild Steel bolts and nuts;
- 21 Indian Electricity Rules
- 22 Indian Explosive Act
- 23 Indian Explosive Rules
- 24 IS 5878(Various parts) codes of practice for tunneling
- 25 IS9012 Recommended practice for shotcreting.

**NOTES:**

- The latest edition of all the codes of practice along with the up to date correction slips shall be applicable.
- The decision of Employer regarding the interpretation of specification shall be final and binding on the Consultant.
- All relevant codes mentioned above and as directed by Engineer-in-charge shall be made available by the Consultant at his own cost.
- Any code required but not mentioned in the list above will ,also, be procured by the Consultant, at his own cost.

**ANNEXURE-5**

**Data to be provided by DFCCIL to the consultant after commencement date of contract**

- (1) Client would provide all the Consultants the Schedule of Dimensions- Western Corridor
- (2) Client would provide the Data available with the Client to all the Consultants like PETS Survey Report for the all the three corridors i.e. East Coast Corridor (Kharagpur-Vijayawada) – 1115 km, East West Sub Corridor [From Palgarh (near Mumbai) to Andal –totaling 1994.98 km and one Branch Line from Rajkharswan to Kamarkundu (near Dankuni)- totaling approx 333.09 km; Total for Corridor -2328.01 kms], and North South Corridor (Delhi - Chennai)- 2328 km, for reference purpose, only.

In this direction, the Consultants, desirous of obtaining the aforesaid Data / document, shall depute some responsible Personnel, carrying the necessary Authorization from the Consultant with a request for the Data/Document in writing and also submitting a specific ‘Non Disclosure Certificate’[NDC] carrying averment from the Consultant about, the said Consultant being under positive obligation of not disclosing the aforesaid Data , so collected from the Client to any one, not specifically connected with/entrusted with preparation of the Consultant’s Offer.

- (3) DFCCIL will also facilitate to Consultant for collecting/arranging the necessary Topographic Map of Survey of India, Geological Survey of India Map and the details of GTS benchmarks in the area of interest from the office of Survey of India.



**SPECIFICATIONS & METHODOLOGY FOR ENGINEERING SURVEY**

**Table of Contents**

1. General
2. Establishment of Horizontal Control with DGPS
3. Establishment of vertical control
4. Aerial LiDAR and Imagery Specifications
5. Job requirement

**1. General**

Modern technology for surveying is to be used for establishing Ground Control Points, vertical and horizontal control for verification/correction/maintaining accuracy of generated DEM using Aerial LiDAR technology for detailed survey.

The scope of work involves carrying out reconnaissance survey, preparation of survey plans, establishment of control points.

The services to be rendered by the Consultant include all the work described in these technical requirements. Details not specifically described in these instructions are nevertheless a firm requirement if they can be identified as an item, or items, commonly apart of professional grade work of a comparative nature.

**2. Establishment of Horizontal Control with DGPS**

Horizontal control will be established to achieve required accuracy for processing of the Aerial LiDAR data.

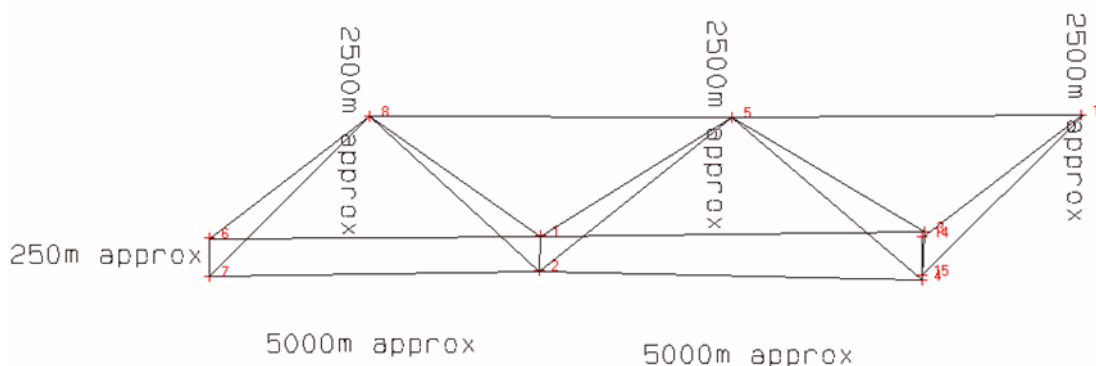
The stations selected shall be obstruction free towards sky at an angle of 15 degree with a horizontal plane. The pillars/points (henceforth designated as control points) for which coordinates are to be established shall be decided in advance in consultation with DFCCIL.

The Consultant shall plan closed loops consisting of a network of triangles, connecting these control points. The Consultant shall get this network approved by DFCCIL before proceeding to the site. The triangles shall be well-formed and preferably not too acute nor obtuse, with sufficient redundancy so that a baseline could be confirmed by observations from multiple control points. There may be occasions where due to some specific site constraints, this network may require change. The concurrence of DFCCIL representative shall be taken for this change.

## **RFP for preparation FLS and DPR of East West Sub Corridor – Section-7 - TOR**

The control point locations shall be so selected as to be clear of HT/LT lines, free from multipath problems associated with tall features in the vicinity, free from foliage, open to sky with a clear view of the horizon close to the proposed alignment (when required) where a permanent feature such as rock outcrop, culvert etc. is available. If such permanent features are not available, control pillars may be erected specifically as per specifications. Differential GPS observations shall be taken on control points in static mode for sufficiently long time using at least 3 receivers forming 3 vertices of a well-formed good triangle.

Minimum common period of observation shall be not less than 3 hours.



The Surveyor shall download the raw GPS data on a PC at the site itself and thereafter applying suitable projection system so as to arrive at grid coordinates (Northing, Easting and Elevation with reference to Mean Sea Level) from geographical coordinates (Latitude, Longitude & Ellipsoidal Height) observed at the site. For doing the network adjustment, one pair permanent control point to be fixed for both horizontal and vertical control. In this case, horizontal control to be fixed with long hour DGPS observation (48 Hours continuous observation). Each day's work shall be compiled and mapped/documentated on the same day.

The parameters used for transformation shall be duly documented in the Report provided by the Consultant.

Both the raw data (in RINEX as well as proprietary formats of GPS manufacturer) as well as the transformed After carrying out DGPS work, the Consultant shall provide the Coordinates of all Control Points to DFCCIL

UTM and WGS84 data shall be supplied by the Consultant to DFCCIL.

### **3. Establishment of Vertical Control**

Vertical control shall be established by running a closed levelling on control points along the corridor using digital level. The Consultant shall close levelling work on a daily basis and find out the closing error. Closing would mean that levelling work shall be started from a known point (first point) and close data known point (first point where known points are not available). For the purpose, length of the loop, as well as each of its segments, shall be recorded with the help of stadia. Raw data from the digital level shall be submitted along with adjusted levels in tabular form.

The closing error of daily loop closure should not exceed  $12\sqrt{K}$  (unless agreed with DFCCIL due to site conditions), where K is the circuit length in a kilometre. In case, the accuracy of daily loop closure exceeds the limits defined above, the entire loop should be repeated until the desired accuracy is achieved.

Then, the level line shall be connected with available GTS benchmarks of Survey of India (SOI) at both the ends. Closing error with respect to SOI GTS benchmarks would be computed and adjusted, if required.

The Consultant shall supply adjusted reduced levels of all the control marks along with raw observations, calculation sheet and description of each control mark on excel component of MS office.

### **4. Aerial LiDAR Survey with Imagery**

#### **4.1 General**

Aerial LiDAR Survey complemented with Aerial Photography shall be carried out for a 500 m corridor around the centerline of the proposed final corridor or as per consultation with DFCCIL. Data will be captured with reference to control network already established along the corridor.

Broadly the work will involve the following:

- a. Collection & paper study of existing alignment reports, data, drawing, documents, ground control points etc;
- b. Ground Control Survey to be undertaken as follows:
  - i. Carrying out reconnaissance survey of the project area for identifying the Control Points for carrying out DGPS survey and preparing a plan of a grid network of Control Points on SOI topo-sheets/satellite imagery.
  - ii. Survey of India Benchmarks to be located during the above reconnaissance survey from information provided by client. These benchmarks shall be tested for stability and the same shall be reported to the client. The entire horizontal and vertical control shall be linked to the approved stable Benchmarks for conversion of LiDAR data to MSL.

- iii. Master Control Network comprising of interconnected triangles (with baseline of about 25 km) to be established for overall horizontal control with approx. 25 km baseline length throughout the alignment. Secondary Control Network comprising of interconnected triangles weaved with Master control network (with base line of 3-5 KM ) to be established with a baseline length of approx. 3-5 km throughout the alignment. Target LiDAR points to be established at an interval of approx. 5 km within the final alignment. To densify Horizontal Control Network, the GNSS triangulation method should be adopted and processing of data for network adjustment should be done to achieve an accuracy of 1:100,000 in horizontal .
  - iv. Establishment of vertical control referenced to SoI MSL Permanent Benchmarks to be undertaken by double tertiary leveling along the entire route by connecting target points. The threshold limit for levelling loop closure accuracy should be  $12\sqrt{K}$  mm, where K is in km.
  - v. Monumentation of Master and Secondary Control Points shall be undertaken if required in consultation with Client .
- 
- c. Applying to Director General of Civil Aviation (DGCA)/Ministry of Defence for flying permissions as per DGCA Civil Aviation Regulation (CAR) Section 3, Air Transport Series F Part I Issue I, 12th October 2010 (Refer Section 6 – Aerial Photography/Geophysical Surveys and Annexure E) along with adherence to all security stipulations issued by Ministry of Defence in the issue of the permit. DFCCIL will provide the necessary support letters.
  - d. The consultant will mobilize an aircraft/helicopter to site fitted with state of art Aerial LiDAR and Imagery sensors (equipment as per minimum specification mentioned in Annexure 3) after due security inspection as per MoD stipulations
  - e. Preparation of flight plan
  - f. Acquiring and pre-processing LiDAR data and digital imagery with LiDAR collected at a point density of 10 points per sq m with FHA of 10 cm and FVA of 10 cm both at 95% confidence interval level. Imagery is to be taken at a resolution of 10 cm GSD.
  - g. Pre-processing data to be referenced to MSL with SoI permanent benchmarks
  - h. Ground survey/Hydrological survey using traditional methods such as Echo Sounders etc along areas such as river crossings etc where Aerial LiDAR data needs to be complemented, including the following:
    - i. 2 KM (1 KM on each side of centerline) along all river crossings with river cross-sections soundings (or alternate acceptable method) taken at centerline and then at every 200 m distance along upstream and downstream of the river and upto 50 m beyond high bank

- ii. The DEM generated from this data shall be suitably merged with the LiDAR DEM in consultation with the client.
- i. Post-processing of LiDAR data to produce the following:
  - i. Classified Point Cloud in LAS (.las) format (Soft Copy format)
  - ii. Three-Dimensional Topographical map of 50 m corridor on either side of the railway centerline on a scale of 1:2500
  - iii. Contours of 50 cm interval for the 50 m corridor
  - iv. Digital Orthophotos of 10 cm GSD resolution (in tiles and seamlessly mosaicked over the survey area)
  - v. DSM of 1 m grid
  - vi. DEM/DTM of 1 m grid
  - vii. 3 sets of all deliverables to be provided in Hard Copy.
  - viii. Soft copy of all deliverables to be provided.

Note: The final output should be compatible with AutoCAD Civil 3D Software. Appropriate QA/QC to be undertaken for the data to ensure adherence to accuracy requirements as per this TOR.

- j. All topographical information including natural & man-made features to be captured such as but not limited to streams, river, flood planes, buildings, wall, fences, roads (Paved, unpaved, dirt), power-pole, power line, light poles, trees, slope top & slope bottom etc
- k. Conducting Quality Control/Quality Assurance (QC/QA) to establish correctness of flight operations
  - l. Validating horizontal and vertical accuracy through independent means
- m. Compliance with other product requirements such as file naming, datum and projection, units, etc.
- n. Delivery of raw data, other products and supporting reports
- o. Consultant may have to process additional data beyond 50 m on either side of alignment, which will be done from Aerial LiDAR data captured within the 250m corridor on either side of alignment. All outputs for additional area also to be provided.

Note:

- i. DFCCIL will render assistance to the consultant, if deemed necessary, in obtaining the relevant permissions from various Government agencies like DGCA, MoD, CWC, GSI, SOI etc. as per the request of the Consultant, by way of forwarding request letters etc.
- ii. Consultant has to abide by all security stipulations specified by Ministry of Defence/Survey of India including clearance of the personnel working on this data by MHA/IB.

## **4.2 Detailed Scope of Aerial LiDAR Survey**

### **i. Clearances for Flying**

The consultant is responsible to obtain necessary clearances from Director General of Civil Aviation, Ministry of Defense, Government of India as per DGCA CAR Section 3 Air Transport Series F Part I Issue I, 12th October 2010 (Refer Section 6 – Aerial Photography/Geophysical Surveys and Annexure E) and other agencies as may be required to complete the job of flying over the Area of Investigation (AOI), acquire LiDAR and digital camera data etc. The client would provide necessary documentation; however, getting clearance would be the entirely the responsibility of the contractor. There are chances that alignment may change at any stage of the project. The contractor would need to plan accordingly.

**ii. Flight Planning**

The flight path shall cover the study area completely including enough cross flight lines to eliminate shadowing and allow for proper quality control. Flight line overlap should be 20% or greater, as required, to ensure that there are no data gaps between the usable portions of the swaths. Data collections in high relief terrain should have greater overlap. Any data with gaps between the geometrically usable portions of the swaths will be rejected.

The contractor shall generally avoid missions during inclement weather which have been known to degrade the accuracy of laser return data. The contractor must document mission date, time, flight altitude, airspeed, scan angle, scan rate, laser pulse rates, and other information deemed pertinent.

**iii. Sensor Calibration**

The consultant must provide calibration certificate of sensor issued by the manufacturer. In addition, the contractor must submit evidence that the total LiDAR system was calibrated prior to current project initiation, for the purposes of identifying and correcting systematic errors. Proper system calibration requires repetitive over-flight of terrain features of known and documented size and elevation using flight paths similar to those that will be used in the Area of Investigation (AOI)

**iv. Ground Control Survey**

The consultant must use appropriate ground control to achieve required deliverables as listed above. During data collection, two DGPS base stations will simultaneously be used during the mission. Inter-distance between two base stations should not exceed 25 km.

**v. Pre-Processing**

The raw LiDAR data should be assembled for clipping, filtering, and processing. The elevation data may then be examined and compared to known values and control. Because of the reflective nature of light, it is common for errors to be recorded because of the reflectivity, or lack thereof, from surfaces within the project area. Though a few points within each mission may be identified as discrepant, it is an insignificant percentage (usually less than 5%) and these should be removed from the data

**vi. Post-Processing**

The consultant will provide high-resolution, high-accuracy, "bare-earth" ground elevation data at regular spacing (DEM), irregular spacing with mass points and break-lines (DTM), and the elevation

data of all top surfaces (DSM). To restrict data to ground elevations only, the contractor must remove elevation points on bridges, buildings, and other structures and on vegetation, from the LIDAR-derived data. In addition to randomly spaced LIDAR points, before and after removal of data associated with structures and vegetation, the consultant must produce a bare-earth DEM. The contractor must use Triangular Irregular Network (TIN) linear interpolation procedures, including break lines, when validating the vertical accuracy of the data models.

**vii. Quality Control/Quality Assurance**

Quality Control/Quality Assurance (QC/QA) of the LIDAR and/or LiDAR derived data will be the responsibility of the consultant. This QC/QA process shall include reviews of flight alignments and completeness of supporting data (e.g., cross sections, profiles). The client may perform additional QC/QA testing

**4.3 Detailed Specification of Aerial LiDAR Survey**

**i. LiDAR Data Capture Specifications**

|   |  |
|---|--|
| <b>Coverage</b>                                 | The project will cover a corridor of XX km length. Appropriate flight plans will be prepared so as to achieve the desired point density.   |
| <b>Data density</b>                             | 10 point / m <sup>2</sup> .  |
| <b>Fundamental Spatial Accuracy Requirement</b> | <p>Fundamental spatial accuracy of the survey must conform to the following standard:</p> <ul style="list-style-type: none"> <li>➤ Fundamental Vertical Accuracy (FVA) <math>\leq \pm 10</math> cm. 95% confidence interval (1.96 x RMSE)</li> <li>➤ Fundamental Horizontal Accuracy (FHA) <math>\leq \pm 10</math> cm. 95% confidence interval (1.96 x RMSE)</li> </ul> |
| <b>Horizontal Datum</b>                         | The World Geodetic Datum 84 (WGS-84).  |
| <b>Map Projection</b>                           | The coordinate system for all deliverables is Universal Transverse Mercator (UTM).   |
| <b>Vertical Datum</b>                           | <p><b>Ellipsoid:</b></p> <p>All deliverables specified below as ellipsoidal will be in terms of the WGS-84 reference frame. The source of the ellipsoidal height control shall be explained in the 'Post-Survey Spatial Accuracy Report'.</p>  |
| <b>Geoid Model</b>                              | EGM2008 shall be used to derive Orthometric heights from ellipsoidal data.   |
| <b>Survey Control</b>                           | <ol style="list-style-type: none"> <li>1. All raw survey control data used or derived from this contract will be supplied to client to ensure independent Quality Assurance (QA) of the survey operations.</li> </ol>  |

|                                |  |
|--------------------------------|--|
|                                | <ol style="list-style-type: none"> <li>2. The primary ground control and check point surveys must be referenced to the survey of India local vertical datum specified above comprising Survey of India Bench marks.</li> <li>3. Survey to establish new primary control shall use techniques to achieve a minimum standard of Survey of India for Densification of geodetic survey or equivalent in international standards. This will be mentioned the Project Plan and Project Report submitted to client.</li> <li>4. Any systematic bias in elevation data will be corrected and must be reported to client.</li> </ol>  |
| <b>LiDAR Sensor</b>            | <p>The sensor must be capable of:</p> <ol style="list-style-type: none"> <li>1. Detecting multiple discrete returns, with a minimum of 4 potential returns for each outbound laser pulse.</li> <li>2. Recording the intensity of each return.</li> </ol> <p>LiDAR Sensor:</p> <ol style="list-style-type: none"> <li>1. Pulse Repetition Rate of 300 kHz or better</li> <li>2. Range at reflectivity of 20% and 300 kHz PRF to be more than 2000 m</li> <li>3. Field of view 60 degrees</li> </ol> <p>IMU:</p> <ol style="list-style-type: none"> <li>1. Gyro Bias &lt;0.05 deg/hr</li> <li>2. Data rate &gt; 200 kHz</li> <li>3. Roll Pitch Accuracy better than 0.003°</li> <li>4. Heading Accuracy better than 0.007°</li> <li>5. Velocity Accuracy better than 0.005 m/s</li> </ol> <p>DGPS: Dual Frequency GNSS receivers</p> |
| <b>Collection Requirements</b> | <p>The survey design must plan on:</p> <ol style="list-style-type: none"> <li>1. A scan angle not exceeding 50° Total FOV (+/- 20° from nadir)</li> <li>2. Flight line overlap must be 10% or greater, as required to ensure there are no data gaps between the usable portions of the swaths.</li> <li>3. Data Voids (with void areas more than and equal to 4xNPS<sup>2</sup>), measured using 1st-returns only within a single swath are not acceptable, except: <ol style="list-style-type: none"> <li>a. where caused by water bodies</li> <li>b. where caused by areas of low near infra-red (NIR) reflectivity</li> <li>c. where appropriately filled-in by another swath</li> </ol> </li> </ol>  |



|  |   |
|--|---|
|  | <p>4. The spatial distribution of geometrically usable points is expected to be uniform and free from clustering. In order to ensure consistent data densities throughout the project area.</p> <p>5. Environmental conditions for data capture are:</p> <p>a. Cloud and fog free between the aircraft and the ground.</p> <p>b. Flights would not be undertaken during periods of heavy smoke, haze, and rain.</p> <p>Every effort shall be made to avoid breaks within individual flight lines. Where breaks within a flight line are necessary, the entire flight line composed of the resulting segments shall meet all of the requirements set forth in these specifications</p> |
|--|---|

## ii. Ortho-Photo Specifications

|                             |  |
|-----------------------------|--|
| <b>GSD</b>                  | GSD of 10 cm   |
| <b>Bands</b>                | R G B (Three band natural colour imagery)  |
| <b>End overlap</b>          | 30% minimum  |
| <b>Side overlap</b>         | 20% minimum  |
| <b>Collection condition</b> | <p>Same as LiDAR with following additional conditions:</p> <ul style="list-style-type: none"> <li>➤ Cloud free with minimal smoke, smog, fog and dust.</li> <li>➤ Minimum soil moisture.</li> <li>➤ Every effort shall be made to avoid breaks within individual flight lines. Where necessary, the entire flight line composed of the resulting segments shall meet all of the requirements set forth in these specifications. Where breaks occur, these shall have an overlap of at least four frames to ensure a stereo model of overlap or tie.</li> </ul> |
| <b>Horizontal Datum</b>     | The World Geodetic Datum 84 (WGS-84).  |
| <b>Map Projection</b>       | The coordinate system for all deliverables is the Universal Transverse Mercator (UTM).   |
| <b>Vertical Datum</b>       | <b>Ellipsoid:</b> All deliverables specified below as ellipsoidal will be in terms of the WGS-84 reference frame. The source of the ellipsoidal height control shall be explained in the 'Post-Survey Spatial Accuracy Report'.  |
| <b>Geoid Model</b>          | EGM2008 shall be used to derive Orthometric heights from ellipsoidal data.   |
| <b>Camera Specification</b> | Camera with minimum 80 MP resolution   |
| <b>Imagery Product</b>      | Seamless mosaic covering the project area and nonoverlapping, edge-matched tile  |

## iii. Aerial LiDAR Planning and Reporting Specification

|   |   |
|---|---|
| <p><b>Pre-Survey<br/>Quality<br/>Assurance<br/>Plan</b></p>   | <p>The Contractor shall prepare and submit to the client a Quality Assurance Plan that conforms to an identified management system and generally complies with ISO 9001.</p> <p>The plan must address the organisation and management of the project, work procedures, environmental considerations, safety and risk control and test procedures.</p> <p>The Plan must also detail the procedures to be used in verifying that the deliverables meet the required specification including:</p> <ul style="list-style-type: none"> <li>• The procedures and methodologies to be used to verify that the deliverables meet the required specifications.</li> <li>• Details of proposed sensor calibration checks and methodology to be used to establish both reference stations and ground test sites.</li> </ul> <p>The Project Plan must be submitted at least 15 days prior to commencement of the survey.</p>  |
| <p><b>Post-Survey<br/>Spatial<br/>Accuracy<br/>Report</b></p> | <p>The absolute and relative accuracy of the data, both horizontal and vertical, and relative to known control, shall be verified prior to classification and subsequent product development.</p> <p>This validation is limited to the Fundamental Spatial Accuracy, measured in clear, open areas. A detailed report of this validation is a required deliverable.</p> <p>The report will include the following:</p> <ul style="list-style-type: none"> <li>• Flight trajectories as specified below.</li> <li>• Details of system calibration checks.</li> <li>• Results of relative (flight run) matching and details of any adjustments made.</li> <li>• Source of primary ellipsoidal height control.</li> <li>• Details of ellipsoid to orthometric corrections applied including any final adjustment to local SOI vertical datum supplemental to the standard Geoid correction.</li> <li>• Results of vertical and horizontal accuracy validation.</li> <li>• All survey control coordinates, site id and check point comparisons in both Excel spreadsheet and ESRI shape file formats.</li> </ul> |

|                            |   |
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|                            | <ul style="list-style-type: none"> <li>Digital photographs of all survey and check sites, with the site ID included in the filename. The bearing of the photo direction will also be included.</li> <li>Other related information.</li> </ul>   |
| <b>Flight Trajectories</b> | All flight trajectories used for the capture of the delivered LiDAR and photograph data will be supplied in ESRI Shape files. The shape file table's must include the date of capture, local start time, local end time and which reference station was used for each trajectory. The shape file will show photo footprint and its centre.  |
| <b>Project Report</b>      | <p>The Project Report will comprise a technical discussion addressing how each of the contract specifications has been met, a statement of consistency with any specified standards, results of independent accuracy and validation tests, metadata statements and extraordinary issues that may have affected the nature or delivery of the project.</p> <p>All aspects of the project operations must be adequately reported.</p> |

**iv. Quality Assurance Specifications**

|  |   |
|--|---|
| <b>Fundamental Spatial Accuracy Validation (FSA)</b> | <p><b><u>Vertical Accuracy Validation</u></b></p> <ol style="list-style-type: none"> <li>Specify fundamental vertical accuracy of the point cloud dataset using check points located in open and flat terrain.</li> <li>The vertical accuracy of the point cloud dataset is to be tested using a TIN surface constructed from bare-earth LiDAR points compared against ground survey check points.</li> <li>Check points are to be surveyed independently of any LiDAR GPS operations.</li> <li>The number of check points (locations) is dependent on the extent of the survey. The following strategy will be used as a guide: <ol style="list-style-type: none"> <li>Check points must be established to adequately cover the full extent of the survey area, and be representative of the project area landscape.</li> <li>A minimum of 1 check points (locations) will be taken for every 5 km.</li> </ol> </li> </ol> |
|--|---|

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|  | <p>5. If additional independent validation is required, data will be assessed in accordance with discussion with the client.</p> <p><b><u>Horizontal Accuracy Validation</u></b></p> <p>1. The onus for reaching the required accuracy lies with the data supplier. Independent accuracy assessments may also be carried out.</p> <p>2. Consultant is required to report on the expected horizontal accuracy of elevation products as determined from system and sensor calibration studies.</p> <p>3. In the above circumstances a “compiled to meet” statement of horizontal accuracy at 95 per cent confidence will be reported.</p> <p>4. The contractor may use feature based horizontal accuracy measures to report horizontal accuracy and will notify the approach in post-survey spatial accuracy report.</p> <p>5. If additional independent validation is required, data will be assessed in accordance with mutually agreeable terms.</p> |
|--|---|

**v. LiDAR Point Cloud Specifications**

|                                 |   |
|---------------------------------|---|
| <b>Unclassified Point Cloud</b> | <p>1. All returns, all collected points, fully calibrated and adjusted to specified vertical datum, by swath. 1 file per swath, 1 swath per file, (file size not to exceed 2GB).</p> <p>2. Fully compliant LAS v1.2 (or v1.3), point record format with all standard attributes including:</p> <ul style="list-style-type: none"> <li>a. Intensity values (native radiometric resolution).</li> <li>b. Return number.</li> <li>c. Georeferencing information in all LAS file headers.</li> <li>d. GPS times recorded as adjusted GPS time, at a precision sufficient to allow unique timestamps for each pulse.</li> </ul> <p>3. Data is to be provided in the following Vertical Datums:</p> <ul style="list-style-type: none"> <li>a. Orthometric (Survey of India Vertical Datum)</li> <li>b. Ellipsoidal (WGS-84).</li> </ul> |
|---------------------------------|---|

|  |  |                                    |             |             |   |              |                           |   |         |              |   |        |             |   |                |                                    |   |                   |        |
|--|--|------------------------------------|-------------|-------------|---|--------------|---------------------------|---|---------|--------------|---|--------|-------------|---|----------------|------------------------------------|---|-------------------|--------|
| <b>Classified<br/>Point Cloud</b>                            | <div><div><div>1. All returns, all collected points, fully calibrated and adjusted to specified vertical datum, and classified as specified below.</div><div>2. Fully compliant LAS v1.2 (or v1.3), point record format with all standard attributes including:<div><div>a. Intensity values (native radiometric resolution).</div><div>b. Return number.</div><div>c. Georeferencing information in all LAS file headers.</div><div>d. GPS times recorded as adjusted GPS time, at a precision sufficient to allow unique timestamps for each pulse.</div><div>e. ALL points not identified as “Withheld” are to be classified.</div></div></div><div>3. Data is to be provided in the following Vertical Datums:<div><div>a. Orthometric (Survey of India Vertical Datum)</div><div>b. Ellipsoidal (WGS-84).</div></div></div><div>4. Tiled delivery, as per Data Supply Specifications below.</div></div></div> |                                    |             |             |   |              |                           |   |         |              |   |        |             |   |                |                                    |   |                   |        |
| <b>Required<br/>Point Cloud<br/>Classification<br/>Level</b> | <div><div><div>a) All classified point cloud data must adhere to the following classification scheme. (The ASPRS scheme of classification can be seen for reference)</div><div>b) The minimum number of point classes to be delivered according to this scheme is defined by the Classification Level specified below.</div></div><table><tr><td>Number</td><td>Point Class</td><td>Description</td></tr><tr><td>0</td><td>Unclassified</td><td>Created, never classified</td></tr><tr><td>1</td><td>Default</td><td>Unclassified</td></tr><tr><td>2</td><td>Ground</td><td>Bare Ground</td></tr><tr><td>3</td><td>Low Vegetation</td><td>0-0.3m (essentially sensor “noise”</td></tr><tr><td>4</td><td>Medium Vegetation</td><td>0.3-2m</td></tr></table></div>   | Number                             | Point Class | Description | 0 | Unclassified | Created, never classified | 1 | Default | Unclassified | 2 | Ground | Bare Ground | 3 | Low Vegetation | 0-0.3m (essentially sensor “noise” | 4 | Medium Vegetation | 0.3-2m |
| Number   | Point Class  | Description                        |             |             |   |              |                           |   |         |              |   |        |             |   |                |                                    |   |                   |        |
| 0  | Unclassified   | Created, never classified          |             |             |   |              |                           |   |         |              |   |        |             |   |                |                                    |   |                   |        |
| 1  | Default  | Unclassified                       |             |             |   |              |                           |   |         |              |   |        |             |   |                |                                    |   |                   |        |
| 2  | Ground   | Bare Ground                        |             |             |   |              |                           |   |         |              |   |        |             |   |                |                                    |   |                   |        |
| 3  | Low Vegetation   | 0-0.3m (essentially sensor “noise” |             |             |   |              |                           |   |         |              |   |        |             |   |                |                                    |   |                   |        |
| 4  | Medium Vegetation  | 0.3-2m                             |             |             |   |              |                           |   |         |              |   |        |             |   |                |                                    |   |                   |        |

|  |       |                     |  |
|--|-------|---------------------|--|
|  | 5     | High Vegetation     | >2m  |
|  | 6     | Building Structures | Buildings, sheds, houses and silos etc     |
|  | 7     | Low/high points     | Spurious high/low point returns (unusable) |
|  | 8     | Model Key points    | Reserved for model key points only         |
|  | 9     | Water               | Any point in water                         |
|  | 10    | Bridge              | Any Bridge or overpass                     |
|  | 11    | Not used            | Reserved for future definition             |
|  | 12    | Overlap points      | Flight line overlap points                 |
|  | 13-31 | Not used            | Reserved for future definition             |

**vi. Orthophoto Specification**

|                            |   |
|----------------------------|---|
| <b>Ortho-rectification</b> | <ol style="list-style-type: none"> <li>1. The digital elevation data required for this process shall be provided by the LiDAR deliverables specified above.</li> <li>2. The rectification process shall use the cubic convolution resampling technique to ensure high accuracy and image quality.</li> <li>3. The mosaicking process shall minimize image distortions and smearing and produce a seamless edge-matched product.</li> <li>4. Orthorectified Image Chips shall be tonally balanced prior to generation of an image mosaic. Relative join (misalignment) of transportation features between adjacent image chips/tiles shall be</li> </ol> |
|----------------------------|---|

|                             |   |
|-----------------------------|---|
|                             | <p>within the tolerance defined by the horizontal positional accuracy requirement set out above.</p> <p>5. The rectification process shall involve a solution of the appropriate photogrammetric equations for each pixel in the output image. It is not preferable to solve photogrammetric equations at anchor points only and then warp the content of the original image between the anchor points.</p> <p>6. The contractor will describe its approach for ortho-rectification.</p>  |
| <b>Radiometry</b>           | <p>1. All images will be clear and sharp in detail with no light streaks, static marks, scratches, or other noticeable blemishes. The imagery will be free from defects, such as out-of-focus imagery, and will not contain inconsistencies in tone and/or density between individual orthos and/or adjacent sheets. To ensure consistency, the imagery will be radiometrically and geometrically corrected to enable adjacent files to be displayed simultaneously without obvious distinctions between them.</p> <p>2. The Contractor will describe their technical approach to producing radiometry balance.</p> |
| <b>Digital ortho images</b> | <p>1. Seamless mosaic at anticipated 10 cm pixel resolution.</p> <p>2. Edge-matched, non-overlapping tiles at anticipated 10 cm pixel resolution</p>  |

**vii. Digital Elevation/Surface Model Specifications**

| <b>Deliverables</b>                | <b>Specifications</b>  |
|------------------------------------|--|
| <b>Digital Surface Model (DSM)</b> | <p>a) 1 m grid Digital Surface Model (DSM)</p> <p>b) The DSM will be generated from the “first return” LiDAR mass point data. This will include ground and non-ground points such as vegetation and buildings.</p> |

|                                     |  |
|-------------------------------------|--|
|                                     | <p>c) Void areas (i.e., areas outside the project boundary but within any tiling scheme) shall be coded using a unique “NODATA” value.</p> <p>d) ESRI floating point GRID format.</p>  |
| <b>Digital Elevation Model(DEM)</b> | <p>a) 1 m grid bare earth Digital Elevation Model (DEM)</p> <p>b) The DEM will be generated from the LiDAR mass point data classified as “Ground” only, so that it defines the “bare earth” ground surface.</p> <p>c) The DEM generation will employ a Point to TIN and TIN to Raster process with Natural Nearest Neighbour interpolation.</p> <p>d) Hydro-flattening will be undertaken for natural and man-made water bodies and water courses as defined below:</p> <ol style="list-style-type: none"> <li>1. Non-tidal water bodies with a surface area greater (&gt;) than 625 m<sup>2</sup></li> <li>2. Water courses greater than 30 m nominal width.</li> <li>3. Flat and level bank-to-bank with a gradient following the immediate terrain.</li> <li>4. Water courses will break at road crossings and bridges.</li> <li>5. Sinks must not be filled.</li> <li>6. The entire water surface edge must be at or immediately below the surrounding terrain.</li> </ol> |



|  |   |
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|  | <p>7. Any additional data layers created for the purposes of hydro-flattening such a masks or break-lines must be provided as shape files.</p> <p>e) Void areas (i.e., areas outside the project boundary but within any tiling scheme) shall be coded using a unique “NODATA” value</p> <p>f) ESRI floating point GRID format.</p> |
|--|---|

**Environmental Studies**

The assignment will have two components:

Component-1: Conduct an Environmental Impact Assessment (EIA), Environment Mitigation Plan and related studies.

Component-2: Prepare the case for wildlife clearances (with all required documents for online uploading) to obtain necessary clearances.

**Component 1:**

**a) EIA Study**

The main objective of the environmental impact assessment study is to identify and assess environmental impacts of the proposed Railway line project as part of the planning and design process, and formulate necessary measures to reduce those impacts to acceptable levels. It may be noted that although the project does not attract EIA Notification 2006, this EIA study in general shall be conducted in compliance with the Notification only.

The scope of work includes, but not limited to:

- Review the proposed project activities and delineate the project impact area; this should be a minimum of 10km either side of the proposed Railway line
- Review applicable environmental legislations, both central and state, and identify them and try requirement and process to be followed for obtaining such clearances/approvals
- Develop base line environmental and socio-economic profile of the study area base do both secondary sources of information and necessary field surveys
- Identify the project activities likely to cause potential significant impacts to the natural environment, and assess the significance of those impacts (such as permanent or temporary, cumulative, and/or irreversible)
- Conduct alternate analysis for the proposed alignment (“with” and “without” projects scenario) and among the existing Railway line and new alignment.
- Develop appropriate mitigation measures and actions to avoid, mitigate, or reduce the identified impacts to acceptable levels
- Formulate the Environmental Management Plan including an Environmental Monitoring Plan effectiveness of mitigation measures during construction and operation; EMP should also include implementation schedule and associated costs for execution of mitigation and enhancement works; and detailing of the requirements for institutional strengthening and training

- Conduct Public Consultation with project affected persons and stakeholders to incorporate their views

b) **Baseline Environmental Profile of the Study Area**

Development of Railway is generally intended to improve economic and social well being of the people in general, it may also have negative impacts on the surrounding environment and as well as on the people living in the immediate vicinity. In order to identify any potential impact on and potential change to the natural and socio-economic environments, the baseline environmental profile should be developed based on both available secondary sources of information and primary surveys. This baseline will include but not limited to following: Physical Resources (location, topography, soil, geology, seismicity, water, air, land, etc), Ecological Resources (Flora, fauna, forests, protected areas etc), and Socio-economic profile (demography, economic and social stratification, occupational pattern, land holding, cultural aspects).

Primary data/monitoring to define characteristics of the existing natural environment including soil, water, air, noise, land use, cultural properties and flora & fauna.

- Monitoring to be carried at critical locations
- Ambient air and noise monitoring at selected junctions, major settlements, school and hospitals etc along the proposed alignment
- Railway noise at the selected points along the existing Railway line.
- Water Monitoring at selected river/streams/ponds and ground water sources near major settlements.
- Soil Monitoring at major selected settlements, near surface water bodies.
- Limited Ecological resources surveys (flora & fauna) in consultation with Forest/Wildlife Department to substantiate the secondary data available with the department
- Inventory of cultural property resources along the alignment Secondary Data to define meteorological, geology, seismicity, quarries, borrow areas, disposal sites etc.
- Details of quarry and borrow areas to be used will be collected.
- Meteorological data from IMD, topo sheets and maps from Survey of India, geological and soil data from GoI, Seismic data from earthquake department.
- Social data including ownership pattern, identification of tribes, vulnerable social groups, land estimates etc.

Appropriate maps and graphical methods should be used to present the baseline profile. A base map of the study area indicating administrative boundaries, topographical features, forests, wildlife sanctuaries, water bodies etc shall prepare.

**c) Impact Prediction & Mitigation**

Railway projects may have negative impacts on physical environmental resources (topography, drainage, land, water, air etc), ecological resources (flora and fauna) and socio-economic (displacement, loss of livelihood etc) and cultural resources (damage to historical/archaeological and cultural sites) depending on the proposed alignment.

Potential impacts of the proposed project should be predicted and assessed with appropriate methods such as model studies, empirical methods, reference to existing similar situations, reference to previous studies, details of mitigation, methods proposed to reduce adverse effects of the project and reference to the models along with the inputs used should be mentioned.

The proposed alignment is passing through forest areas and/or protected areas.

The EIA should focus inter-alia on the aspects such as:

- Potential impacts on the forests/protected areas,
- Potential impacts due to generation and disposal of large quantities of muck/debris from tunneling
- Tunnel safety (inter alia should fire safety, lightning, power supply, natural risks, traffic management, ground support, natural risks, ground water and runoff water)
- Study for Impact on wildlife in the project area will be got carried out by DFCCIL through reputed institutes like Wildlife Institute of India (WII) etc., for which consultant shall associate fully and provide all project related data relevant to the study to such agencies.

Mitigation measures should be proposed as required during the construction stage as well as the operation stage of the project for all the identified impacts. Measures shall be suitable, effective, feasible and least cost and should focus on mitigation of negative impacts and enhancement of positive benefits of the proposed project. The order of priority in identifying mitigation measures shall be to (i) avoid, (ii) mitigate, (iii) reduce to acceptable levels and/or, (iv) compensate the adverse impacts caused by the project.

Appropriate measures for handling muck/debris generated from tunneling activity shall be suggested. Amuck/debris management plan shall be prepared to indicate the details such as quantity, collection and transportation of muck/debris and final disposal including a suitable site.

**d) Environmental Management Plan**

Environmental Management Plan (EMP) shall be developed describing the environmental management measures that will be carried out to mitigate negative impacts or enhance the environment during implementation of a project, plus the environmental monitoring to be conducted to ensure that mitigation is provided and is effective in reducing impacts, or to determine the long-term impacts of a project. EMP for outline specific mitigation measures, environmental monitoring requirements, and related institutional arrangements, including budget requirements. The EMP should also include good environmental construction guidelines to be incorporated in the Bid document's work requirements.

EMP should include a review of institutional arrangement for implementation of EMP, required capacity building and training, timelines, and budget.

Environmental Monitoring Plan shall be elaborated for the construction period and operation period covering locations sensitive to pollution aspects as well as areas covering protected areas, wildlife sanctuary, and other eco-sensitive areas along the project alignment. This should include:

- Technical aspects of monitoring for achieving effectiveness in mitigation measures
- The requirement of monitoring facilities and methods adopted
- Frequency, location, parameters of the monitoring
- Compilation and analysis of data and reporting system
- Procurement schedules and budgets in detail
- Training requirements

**e) Public Consultation**

Public consultation is the process of exchanging information with those persons and organizations with a legitimate interest in a project and/or who are likely to be affected by the project (stakeholders). It is a two-way process that informs and involves the community in developing a project and informs the proponent about issues and concerns, which can then be addressed in project design. Information disclosure involves stakeholders in monitoring the development and implementation of a project and fosters openness in decision-making by presenting documents and other project materials for public scrutiny. Public consultation meetings shall be conducted at district-level; the draft summary EIA report should be made available. All consultation meeting shall be properly documented. Subsequently, the feedback from the consultations shall be integrated appropriately in finalizing the EIA Report.

**Component 2:**

- a) Prepare the case for wildlife clearances (with all required documents for online uploading) to obtain necessary clearances

**RFP for preparation FLS and DPR of East West Sub Corridor – Section-7 - TOR**

- Consultant shall also assess the requirement of Wildlife clearances and prepare a case for the same if required as per the latest forest guidelines.
- Identify mandatory approvals/clearance required for the proposed project and appraise DFCCIL the modalities and competent authorities for such clearances.
- Prepare documentation/application forms for approvals.

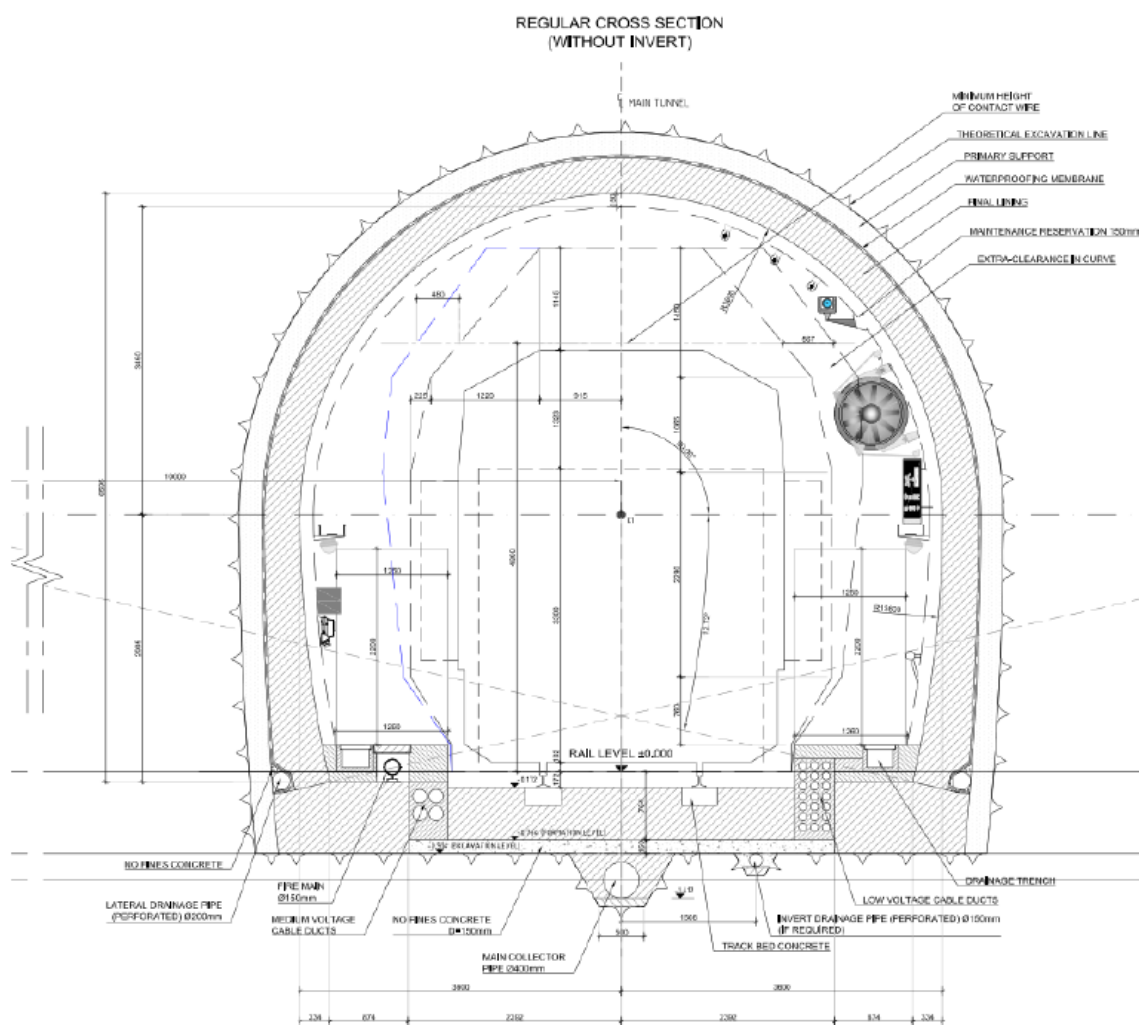
b) Timeline

- As specified in Annexure-1 to TOR-Appendix-A

c) Project Team for guidance may comprise of:

- i. EIA Expert
- ii. Environmental Scientist (forestry)
- iii. Environmental Scientist (wildlife)
- iv. Social Development Specialist
- v. Pollution Control Expert
- vi. Any other expert required

**Typical tunnel cross section, indicative only**



**The indicative format of the Detailed Project Report (DPR)**

| <b>Chapter</b> | <b>Description</b>   |
|----------------|--|
| I              | Report   |
| II             | History & Geography  |
| III            | Gauge, Length, Grades & Curves   |
| IV             | Alternate Routes   |
| V              | Description of Alignment   |
| VI             | Environment Impact Assessment Study  |
| VII            | Construction and Engineering   |
| VIII           | Signaling and Telecommunication  |
| IX             | Electrical   |
| X              | Traffic Survey and Rate of Return  |
| XI             | Construction Schedule  |
|                | <b>Annexures</b>   |
| Annexure – 1   | List of Gradients  |
| Annexure – 2   | Details of Curves  |
| Annexure – 3   | Index Map–Alternative alignments   |
| Annexure – 4   | Typical Cross section of Earthwork in the embankment.                                |
| Annexure – 5   | Details of Major and Important Bridges   |
| Annexure – 6   | Details of Hydrological Studies of bridges.  |
| Annexure – 7   | Details of relevant clauses applicable for the design of various elements of Bridge. |
| Annexure – 8   | Details of Minor bridges   |
| Annexure – 9   | Details of tunnels   |



**RFP for preparation FLS and DPR of East West Sub Corridor – Section-7 - TOR**

|               |   |
|---------------|---|
| Annexure – 10 | List of Traffic facilities proposed at different stations |
| Annexure – 11 | Requirement of quarters at different stations             |
| Annexure – 12 | Detailed Estimate   |
| Annexure..... |   |

## **PART - II**

# **Section 8-1**

## **Form of Contract**



**I. Form of Contract**

**LUMP-SUM**

(Text in brackets [ ] is optional; all notes should be deleted in the final text)

This CONTRACT (hereinafter called the “Contract”) is made the [number] day of the month of [month], [year], between, on the one hand, ‘Dedicated Freight Corridor Corporation of India Limited (hereafter referred to as ‘**DFCCIL or Client**’), Dedicated Freight Corridor Corporation of India Ltd, a Govt. of India Enterprise under Ministry of Railways and a company incorporated under the provisions of the Companies Act, 1956 having its registered office at 5th Floor, Supreme Court Metro Station Complex, New Delhi-110001 represented through its Designation of concerned DFCCIL Official (hereinafter referred to as “DFCCIL/Client” which expression shall, unless repugnant to the context, be deemed to include its successors and assigns) and, on the other hand, [name of Consultant] (hereinafter called the “Consultant”, Which expression shall, unless repugnant to the context, be deemed to include its successors and assigns;”).

*[If the Consultant consist of more than one entity, the above should be partially amended to read as follows: “...(hereinafter called the “Client”) and, on the other hand, a Joint Venture/Consortium/ Association (Name of JV/Consortium/Association) consisting of following entities, each member of which shall be jointly and severally liable to the Client for all the Consultant's obligations under this Contract, namely, [name of member] and [name of member] (hereinafter called the “Consultant”).]*

Whereas,

(a) The Client has requested the Consultant to provide certain consulting services as follows (hereinafter called the “Services”);

‘Consultancy & related Services for the preparation of Detailed Project Report(DPR), inclusive of Preliminary alignment development, optimization of Alignment, Final location survey (FLS) including Geo Technical survey, Geological mapping & Hydrological Survey, preparation of Land Plans on Revenue Maps and also, inclusive of study for 2X25 KV Electrification, study for Signaling catering to ETCS-2, Study for Communication, all discipline [e.g. Civil, Electric & S&T] Quantity and Cost estimation, Environmental and Social impact Study , Maintenance study & Traffic study-FIRR & EIRR, Market demand survey, Cost Benefit analysis, Study regarding intermodal Transport Integration for New Dedicated Freight Corridor (DFC) namely -East-West Sub Corridor comprised of sub Corridors- Bhusaval-Nagpur-Kharagpur- Dankuni (1673 RKM) and sub Corridor -Rajkharswan-Kalipahari-Andal-(195 RKM)’ **[RFP no-2020/HQ/EN/PWC/Future Corridor/RFP/DPR/Package-2 dated 04-05-2020].**

(b) the Consultant, having represented to the Client that it has the required professional skills, expertise and technical resources, has agreed to provide the Services on the terms and conditions set forth in this Contract;

(c) The Client , upon being in receipt of Railway Board’s direction for the DFCCIL to undertake the work of preparation of detailed Project report (DPR) along with Railway Board’s acceptance to provide Financing for the work, intends to apply such funds for engaging Consultant for the **Works**;

NOW THEREFORE the parties (Client & Consultant) hereto hereby agree as follows:

1. The following documents attached hereto shall be deemed to form an integral part of this Contract:

(a) Letter of Acceptance [ LOA]

(b) The General Conditions of Contract ;

## **RFP for preparation FLS and DPR of East West Sub Corridor Section-8-1 Form of Contract**

(c) The Special Conditions of Contract;

(d) Appendices:

(e) Appendix A: Terms of Reference

Appendix B: Key Experts

Appendix C: Breakdown of Contract Price

Appendix D: Form of Advance Payments Guarantee

Appendix-E-Pre-Contract Integrity Pact

In the event of any inconsistency between the documents, the following order of precedence shall prevail: the Special Conditions of Contract; the General Conditions of Contract, including Attachment 1; Appendix A; Appendix B; Appendix C; Appendix D & Appendix-E Any reference to this Contract shall include, where the context permits, a reference to its Appendices.

2. The mutual rights and obligations of the Client and the Consultant shall be as set forth in the Contract, in particular:

(b) The Consultant shall carry out the Services in accordance with the provisions of the Contract; and

(b) The Client shall make payments to the Consultant in accordance with the provisions of the Contract.

IN WITNESS WHEREOF, the Parties hereto have caused this Contract to be signed in their respective names as of the day and year first above written.

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|  | Authorized Representative of the Lead Member and thereby Authorized Representative of the JV/Consortium/Association i.e. <b>Authorized Representative of the Consultant</b> | Authorized Representative of the Constituent Member-1 | Authorized Representative of the Constituent Member-2..... |
| Authorized Signature {In full and initials}: | (Consultant Round Stamp)  | (Member's Round Stamp)                                | (Member's Round Stamp)                                     |
| Name and Title of Authorized Signatory:      |   |   |  |
| Address                                      |   |   |  |
| E Mail                                       |   |   |  |
| Telephone number                             |   |   |  |
| <b>In witness of above</b>                   |   |   |  |
| Signature of Witness                         |   |   |  |
| Address                                      |   |   |  |
| E Mail                                       |   |   |  |
| Telephone number                             |   |   |  |



## **Section 8-2**

### **General Conditions of Contract (GCC)**





## II. General Conditions of Contract

### A. GENERAL PROVISIONS

|   |                    |  |
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| 1 | <b>Definitions</b> | 1.1. Unless the context otherwise requires, the following terms whenever used in this Contract have the following meanings:  |
|   |                    | (a) <b>“Applicable Guidelines”</b> means Guidelines, issued by Client, and as referred in this RFP.  |
|   |                    | (b) <b>“Applicable Law”</b> means the laws and any other instruments having the force of law in the Client’s country, or in such other country as may be specified in the <b>Special Conditions of Contract (SCC)</b> , as they may be issued and in force from time to time   |
|   |                    | (c) <b>–Not Used–</b>  |
|   |                    | (d) <b>- Not Used-</b>   |
|   |                    | e) <b>“Client”</b> means the implementing agency that signs the Contract for the Services with the Selected Consultant.  |
|   |                    | (f) <b>“Consultant”</b> means a legally-established professional consulting firm or entity selected by the Client to provide the Services under the signed Contract.   |
|   |                    | (g) <b>“Contract”</b> means the legally binding written agreement signed between the Client and the Consultant and which includes all the attached documents listed in its paragraph 1 of the Form of Contract (the General Conditions (GCC), the Special Conditions (SCC), and the Appendices).   |
|   |                    | (h) <b>“Day”</b> means a working day unless indicated otherwise.   |
|   |                    | (i) <b>“Effective Date”</b> means the date on which this Contract comes into force and effect pursuant to Clause GCC 11.   |
|   |                    | (j) <b>“Experts”</b> means, collectively, Key Experts, Non-Key Experts, or any other personnel of the Consultant, Sub-consultant or JV member(s) assigned by the Consultant to perform the Services or any part thereof under the Contract.  |
|   |                    | (k) <b>“Foreign Currency”</b> means any currency other than the currency of the Client's country.  |
|   |                    | (l) <b>“GCC”</b> means these General Conditions of Contract.   |
|   |                    | m) <b>“Government”</b> means the Government of the Client's country.   |
|   |                    | (n) <b>“Joint Venture (JV)”</b> means an association with or without a legal personality distinct from that of its members, of more than one entity where one member has the authority to conduct all businesses for and on behalf of any and all the members of the JV, and where the members of the JV are jointly and severally liable to the Client for the performance of the Contract. |
|   |                    | (o) <b>“Key Expert(s)”</b> means an individual professional whose skills, qualifications, knowledge and experience are critical to the performance of the Services under the Contract and whose Curricula Vitae (CV) was taken into account in the technical evaluation of the Consultant's proposal.  |
|   |                    | (p) <b>“Local Currency”</b> means the currency of the Client’s country.  |

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|   |   | (q) <b>“Non-Key Expert(s)”</b> means an individual professional provided by the Consultant or its Sub-consultant to perform the Services or any part thereof under the Contract.   |
|   |   | (r) <b>“Party”</b> means the Client or the Consultant, as the case may be, and <b>“Parties”</b> means both of them.  |
|   |   | (s) <b>“SCC”</b> means the Special Conditions of Contract by which the GCC may be amended or supplemented but not over-written   |
|   |   | (t) <b>“Services”</b> means the work to be performed by the Consultant pursuant to this Contract, as described in Appendix A hereto.   |
|   |   | (u) <b>“Sub-consultants”</b> means an entity to whom/which the Consultant subcontracts any part of the Services while remaining solely liable for the execution of the Contract.   |
|   |   | (v) <b>“Third Party”</b> means any person or entity other than the Government, the Client, the Consultant or a Sub-consultant.   |
| 2 | <b>Relationship between the Parties</b> | 2.1. Nothing contained herein shall be construed as establishing a relationship of master and servant or of principal and agent as between the Client and the Consultant. The Consultant, subject to this Contract, has complete charge of the Experts and Sub-consultants, if any, performing the Services and shall be fully responsible for the Services performed by them or on their behalf hereunder.            |
| 3 | <b>Law Governing Contract</b>           | 3.1. This Contract, its meaning and interpretation, and the relation between the Parties shall be governed by the Applicable Law.  |
| 4 | <b>Language</b>                         | 4.1. This Contract has been executed in the language specified in the SCC, which shall be the binding and controlling language for all matters relating to the meaning or interpretation of this Contract.   |
| 5 | <b>Headings</b>                         | 5.1. The headings shall not limit, alter or affect the meaning of this Contract.   |
| 6 | <b>Communications</b>                   | 6.1. Any communication required or permitted to be given or made pursuant to this Contract shall be in writing in the language specified in Clause GCC 4. Any such notice, request or consent shall be deemed to have been given or made when delivered in person to an authorized representative of the Party to whom the communication is addressed, or when sent to such Party at the address specified in the SCC. |
|   |   | 6.2. A Party may change its address for notice hereunder by giving the other Party any communication of such change to the address specified in the SCC.   |
| 7 | <b>Location</b>                         | 7.1. The Services shall be performed at such locations as are specified in <b>Appendix A</b> hereto and, where the location of a particular task is not so specified, at such locations, whether in the Government's country or elsewhere, as the Client may approve.  |
| 8 | <b>Authority of Member in Charge</b>    | 8.1. In case the Consultant is a Joint Venture, the members hereby authorize the member specified in the SCC to act on their behalf in exercising all the Consultant's rights and obligations towards the Client under this Contract, including without limitation the receiving of instructions and payments from the Client.   |
| 9 | <b>Authorized Representatives</b>       | 9.1. Any action required or permitted to be taken, and any document required or permitted to be executed under this Contract by the Client   |

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|  |  | or the Consultant may be taken or executed by the officials specified in the <b>SCC</b> .  |
| 10   | <b>Corrupt and Fraudulent Practices</b>                        | 10.1. The Client requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Section-6.  |
| a)   | <b>Commissions and Fees</b>                                    | 10.2. The Client requires the Consultant to disclose any commissions, gratuities or fees that may have been paid or are to be paid to agents or any other party with respect to the selection process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee. Failure to disclose such commissions, gratuities or fees may result in termination of the Contract. |
| <b>B. COMMENCEMENT, COMPLETION, MODIFICATION AND TERMINATION OF CONTRACT</b> |  |  |
| 11   | <b>Effectiveness of Contract</b>                               | 11.1. This Contract shall come into force and effect on the date (the "Effective Date") of the Client's notice to the Consultant instructing the Consultant to begin carrying out the Services. This notice shall confirm that the effectiveness conditions, if any, listed in the <b>SCC</b> have been met.   |
| 12   | <b>Termination of Contract for Failure to Become Effective</b> | 12.1. If this Contract has not become effective within such time period after the date of Contract signature as specified in the <b>SCC</b> , either Party may, by not less than twenty two (22) days written notice to the other Party, declare this Contract to be null and void, and in the event of such a declaration by either Party, neither Party shall have any claim against the other Party with respect hereto.  |
| 13   | <b>Commencement of Services</b>                                | 13.1. The Consultant shall confirm availability of Key Experts and begin carrying out the Services not later than the number of days after the Effective Date specified in the <b>SCC</b> .  |
| 14   | <b>Expiration of Contract</b>                                  | 14.1. Unless terminated earlier pursuant to Clause GCC 19 hereof, this Contract shall expire at the end of such time period after the Effective Date as specified in the <b>SCC</b> .  |
| 15   | <b>Entire Agreement</b>  | 15.1. This Contract contains all covenants, stipulations and provisions agreed by the Parties. No agent or representative of either Party has authority to make, and the Parties shall not be bound by or be liable for, any statement, representation, promise or agreement not set forth herein.   |
| 16   | <b>Modifications or Variations</b>                             | 16.1. Any modification or variation of the terms and conditions of this Contract, including any modification or variation of the scope of the Services, may only be made by written agreement between the Parties. However, each Party shall give due consideration to any proposals for modification or variation made by the other Party.  |
|  |  | <b>16.2.</b> In cases of substantial modifications or variations, the prior written consent of the Client is required.   |
| 17   | <b>Force Majeure</b>   |  |
| a)   | <b>Definition</b>  | <b>17.1.</b> For the purposes of this Contract, "Force Majeure" means an event which is beyond the reasonable control of a Party, is not   |

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|    |                              | <p>foreseeable, is unavoidable, and makes a Party's performance of its obligations hereunder impossible or so impractical as reasonably to be considered impossible under the circumstances, and subject to those requirements, includes, but is not limited to, war, riots, civil disorder, earthquake, fire, explosion, storm, flood or other adverse weather conditions, strikes, lockouts or other industrial action confiscation or any other action by Government agencies.</p> <p><b>17.2.</b> Force Majeure shall not include (i) any event which is caused by the negligence or intentional action of a Party or such Party's Experts, Sub-consultants or agents or employees, nor (ii) any event which a diligent Party could reasonably have been expected to both take into account at the time of the conclusion of this Contract, and avoid or overcome in the carrying out of its obligations hereunder.</p> |
|    |                              | <p><b>17.3.</b> Force Majeure shall not include insufficiency of funds or failure to make any payment required hereunder.</p>   |
| b) | <b>No Breach of Contract</b> | <p><b>17.4.</b> The failure of a Party to fulfill any of its obligations hereunder shall not be considered to be a breach of, or default under, this Contract insofar as such inability arises from an event of Force Majeure, provided that the Party affected by such an event has taken all reasonable precautions, due care and reasonable alternative measures, all with the objective of carrying out the terms and conditions of this Contract.</p>  |
| c) | <b>Measures to be Taken</b>  | <p><b>17.5.</b> A Party affected by an event of Force Majeure shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall take all reasonable measures to minimize the consequences of any event of Force Majeure.</p>  |
|    |                              | <p><b>17.6.</b> A Party affected by an event of Force Majeure shall notify the other Party of such event as soon as possible, and in any case not later than fourteen (14) calendar days following the occurrence of such event, providing evidence of the nature and cause of such event, and shall similarly give written notice of the restoration of normal conditions as soon as possible.</p>   |
|    |                              | <p><b>17.7.</b> Any period within which a Party shall, pursuant to this Contract, complete any action or task, shall be extended for a period equal to the time during which such Party was unable to perform such action as a result of Force Majeure.</p>   |
|    |                              | <p><b>17.8.</b> During the period of their inability to perform the Services as a result of an event of Force Majeure, the Consultant, upon instructions by the Client, shall either:</p> <ul style="list-style-type: none"> <li>(a) demobilize, in which case the Consultant shall be reimbursed for additional costs they reasonably and necessarily incurred, and, if required by the Client, in reactivating the Services; or</li> <li>(b) continue with the Services to the extent reasonably possible, in which case the Consultant shall continue to be paid under the terms of this Contract and be reimbursed for additional costs reasonably and necessarily incurred.</li> </ul>   |
|    |                              | <p><b>17.9.</b> In the case of disagreement between the Parties as to the existence or extent of Force Majeure, the matter shall be settled according to Clauses GCC 44 &amp; 45.</p>   |

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| 18 | <b>Suspension</b>        | 18.1. The Client may, by written notice of suspension to the Consultant, suspend all payments to the Consultant hereunder if the Consultant fails to perform any of its obligations under this Contract, including the carrying out of the Services, provided that such notice of suspension (i) shall specify the nature of the failure, and (ii) shall request the Consultant to remedy such failure within a period not exceeding thirty (30) calendar days after receipt by the Consultant of such notice of suspension.  |
| 19 | <b>Termination</b>       | 19.1. This Contract may be terminated by either Party as per provisions set up below:   |
| a) | <b>By the client</b>     | <p>19.1.1. The Client may terminate this Contract in case of the occurrence of any of the events specified in paragraphs (a) through (f) of this Clause. In such an occurrence the Client shall give at least thirty (30) calendar days" written notice of termination to the Consultant in case of the events referred to in (a) through (d); at least sixty (60) calendar days" written notice in case of the event referred to in (e); and at least five (5) calendar days" written notice in case of the event referred to in (f):</p> <p>(a) If the Consultant fails to remedy a failure in the performance of its obligations hereunder, as specified in a notice of suspension pursuant to Clause GCC 18;</p> <p>(b) If the Consultant becomes (or, if the Consultant consists of more than one entity, if any of its members becomes) insolvent or Bankrupt or enter into any agreements with their creditors for relief of debt or take advantage of any law for the benefit of debtors or go into liquidation or receivership whether compulsory or voluntary;</p> <p>(c) If the Consultant fails to comply with any final decision reached as a result of arbitration proceedings pursuant to Clause GCC 45.1;</p> <p>(d) If, as the result of Force Majeure, the Consultant is unable to perform a material portion of the Services for a period of not less than sixty (60) calendar days;</p> <p>(e) If the Client, in its sole discretion and for any reason whatsoever, decides to terminate this Contract;</p> <p>(f) If the Consultant fails to confirm availability of Key Experts as required in Clause GCC 13.</p> |
|    |                          | 19.1.2. Furthermore, if the Client determines that the Consultant has engaged in corrupt, fraudulent, collusive, coercive or obstructive practices, in competing for or in executing the Contract, then the Client may, after giving fourteen (14) calendar days written notice to the Consultant, terminate the Consultant's employment under the Contract.  |
| b) | <b>By the Consultant</b> | <p>19.1.3. The Consultant may terminate this Contract, by not less than thirty (30) calendar days" written notice to the Client, in case of the occurrence of any of the events specified in paragraphs (a) through (d) of this Clause.</p> <p>(a) If the Client fails to pay any money due to the Consultant pursuant to this Contract and not subject to dispute pursuant to Clause GCC 45.1 within forty-five (45) calendar days after receiving written notice from the Consultant that such payment is overdue.</p>  |

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|   |  | <p>(b) If, as the result of Force Majeure, the Consultant is unable to perform a material portion of the Services for a period of not less than sixty (60) calendar days.</p> <p>(c) If the Client fails to comply with any final decision reached as a result of arbitration pursuant to Clause GCC 45.1.</p> <p>(d) If the Client is in material breach of its obligations pursuant to this Contract and has not remedied the same within forty-five (45) days (or such longer period as the Consultant may have subsequently approved in writing) following the receipt by the Client of the Consultant's notice specifying such breach.</p> |
| c)                                      | <b>Cessation of Rights and Obligations</b> | <b>19.1.4.</b> Upon termination of this Contract pursuant to Clauses GCC 12 or GCC 19 hereof, or upon expiration of this Contract pursuant to Clause GCC 14, all rights and obligations of the Parties hereunder shall cease, except (i) such rights and obligations as may have accrued on the date of termination or expiration, (ii) the obligation of confidentiality set forth in Clause GCC 22, (iii) the Consultant's obligation to permit inspection, copying and auditing of their accounts and records set forth in Clause GCC 25, and (iv) any right which a Party may have under the Applicable Law.                                |
| d)                                      | <b>Cessation of Services</b>               | <b>19.1.5.</b> Upon termination of this Contract by notice of either Party to the other pursuant to Clauses GCC 19a or GCC 19b, the Consultant shall, immediately upon dispatch or receipt of such notice, take all necessary steps to bring the Services to a close in a prompt and orderly manner and shall make every reasonable effort to keep expenditures for this purpose to a minimum. With respect to documents prepared by the Consultant and equipment and materials furnished by the Client, the Consultant shall proceed as provided, respectively, by Clauses GCC 27 or GCC 28.   |
| e)                                      | <b>Payment upon Termination</b>            | <p><b>19.1.6.</b> Upon termination of this Contract, the Client shall make the following payments to the Consultant ;</p> <p>(a) payment for Services satisfactorily performed prior to the effective date of termination; and</p> <p>(b) in the case of termination pursuant to paragraphs (d) and (e) of Clause GCC 19.1.1, reimbursement of any reasonable cost incidental to the prompt and orderly termination of this Contract, including the cost of the return travel of the Experts.</p>   |
| <b>C. OBLIGATIONS OF THE CONSULTANT</b> |  |   |
| 20                                      | <b>General</b>                             |   |
| a)                                      | <b>Standard of Performance</b>             | <b>20.1</b> The Consultant shall perform the Services and carry out the Services with all due diligence, efficiency and economy, in accordance with generally accepted professional standards and practices, and shall observe sound management practices, and employ appropriate technology and safe and effective equipment, machinery, materials and methods. The Consultant shall always act, in respect of any matter relating to this Contract or to the Services, as a faithful adviser to the Client, and shall at all times support and safeguard the Client's legitimate interests in any dealings with the third parties.            |

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|    |  | <b>20.2.</b> The Consultant shall employ and provide such qualified and experienced Experts and Sub-consultants as are required to carry out the Services.   |
|    |  | <b>20.3.</b> The Consultant may subcontract part of the Services to an extent and with such Key Experts and Sub-consultants as may be approved in advance by the Client. Notwithstanding such approval, the Consultant shall retain full responsibility for the Services.  |
| b) | <b>Law Applicable to Services</b>                                    | <b>20.4.</b> The Consultant shall perform the Services in accordance with the Contract and the Applicable Law and shall take all practicable steps to ensure that any of its Experts and Sub-consultants, comply with the Applicable Law.  |
|    |  | <b>20.5.</b> Throughout the execution of the Contract, the Consultant shall comply with the import of goods and services prohibitions in the Client's country when<br>(a) as a matter of law or official regulations, the Client's country prohibits commercial relations with that country; or<br>(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 Client's Country prohibits any import of goods from that country or any payments to any country, person, or entity in that country.                                  |
|    |  | <b>20.6.</b> The Client shall notify the Consultant in writing of relevant local customs, and the Consultant shall, after such notification, respect such customs.   |
| 21 | <b>Conflict of Interests</b>   | <b>21.1.</b> The Consultant shall hold the Client's interests paramount, without any consideration for future work, and strictly avoid conflict with other assignments or their own corporate interests.   |
| a) | <b>Consultant Not to Benefit from Commissions, Discounts, etc.</b>   | <b>21.1.1</b> The payment of the Consultant pursuant to GCC F (Clauses GCC 38 through 42) shall constitute the Consultant's only payment in connection with this Contract and, subject to Clause GCC 21.1.3, the Consultant shall not accept for its own benefit any trade commission, discount or similar payment in connection with activities pursuant to this Contract or in the discharge of its obligations hereunder, and the Consultant shall use its best efforts to ensure that any Sub-consultants, as well as the Experts and agents of either of them, similarly shall not receive any such additional payment. |
|    |  | <b>21.1.2.</b> Furthermore, if the Consultant, as part of the Services, has the responsibility of advising the Client on the procurement of goods, works or services, the Consultant shall comply with the Client's Guidelines and shall at all times exercise such responsibility in the best interest of the Client. Any discounts or commissions obtained by the Consultant in the exercise of such procurement responsibility shall be for the account of the Client.  |
| b) | <b>Consultant and Affiliates Not to Engage in Certain Activities</b> | <b>21.1.3.</b> The Consultant agrees that, during the term of this Contract and after its termination, the Consultant and any entity affiliated with the Consultant, as well as any Sub-consultants and any entity affiliated with such Sub-consultants, shall be disqualified from providing goods, works or non-consulting services resulting from or directly related to the Consultant's Services for the preparation or implementation of the project, unless otherwise indicated in the <b>SCC</b> .   |



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| c) | <b>Prohibition of Conflicting Activities</b>                   | <b>21.1.4</b> The Consultant shall not engage, and shall cause its Experts as well as its Sub-consultants not to engage, either directly or indirectly, in any business or professional activities that would conflict with the activities assigned to them under this Contract.   |
| d) | <b>Strict Duty to Disclose Conflicting Activities</b>          | <b>21.1.5</b> The Consultant has an obligation and shall ensure that its Experts and Sub-consultants shall have an obligation to disclose any situation of actual or potential conflict that impacts their capacity to serve the best interest of their Client, or that may reasonably be perceived as having this effect. Failure to disclose said situations may lead to the disqualification of the Consultant or the termination of its Contract.  |
| 22 | <b>Confidentiality</b>   | <b>22.1</b> Except with the prior written consent of the Client, the Consultant and the Experts shall not at any time communicate to any person or entity any confidential information acquired in the course of the Services, nor shall the Consultant and the Experts make public the recommendations formulated in the course of, or as a result of, the Services.  |
| 23 | <b>Liability of the Consultant</b>                             | <b>23.1</b> Subject to additional provisions, if any, set forth in the <b>SCC</b> , the Consultant's liability under this Contract shall be provided by the Applicable Law.  |
| 24 | <b>Insurance to be Taken out by the Consultant</b>             | <b>24.1</b> The Consultant (i) shall take out and maintain, and shall cause any Sub-consultants to take out and maintain, at its (or the Sub-consultants", as the case may be) own cost but on terms and conditions approved by the Client, insurance against the risks, and for the coverage specified in the <b>SCC</b> , and (ii) at the Client's request, shall provide evidence to the Client showing that such insurance has been taken out and maintained and that the current premiums therefore have been paid. The Consultant shall ensure that such insurance is in place prior to commencing the Services as stated in Clause GCC 13.  |
| 25 | <b>Accounting, Inspection and Auditing</b>                     | <b>25.1</b> The Consultant shall keep, and shall make all reasonable efforts to cause its Sub-consultants to keep, accurate and systematic accounts and records in respect of the Services and in such form and detail as will clearly identify relevant time changes and costs.   |
|    |  | <b>25.2</b> The Consultant shall permit and shall cause its Sub-consultants to permit, the Client and/or persons appointed by the Client to inspect the Site and/or all accounts and records relating to the performance of the Contract and the submission of the Proposal to provide the Services, and to have such accounts and records audited by auditors appointed by the Client. The Consultant's attention is drawn to Clause GCC 10 which provides, inter alia, that acts intended to materially impede the exercise of the Client's inspection and audit rights provided for under this Clause GCC 25.2 constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility.) |
| 26 | <b>Reporting Obligations</b>                                   | <b>26.1</b> The Consultant shall submit to the Client the reports and documents specified in <b>Appendix A</b> , in the form, in the numbers and within the time periods set forth in the said Appendix.   |
| 27 | <b>Proprietary Rights of the Client in Reports and Records</b> | <b>27.1</b> Unless otherwise indicated in the <b>SCC</b> , all reports and relevant data and information such as maps, diagrams, plans, databases, other documents and software, supporting records or material compiled or  |

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|  |  | prepared by the Consultant for the Client in the course of the Services shall be confidential and become and remain the absolute property of the Client. The Consultant shall, not later than upon termination or expiration of this Contract, deliver all such documents to the Client, together with a detailed inventory thereof. The Consultant may retain a copy of such documents, data and/or software but shall not use the same for purposes unrelated to this Contract without prior written approval of the Client.  |
|  |  | <b>27.2</b> If license agreements are necessary or appropriate between the Consultant and third parties for purposes of development of the plans, drawings, specifications, designs, databases, other documents and software, the Consultant shall obtain the Client's prior written approval to such agreements, and the Client shall be entitled at its discretion to require recovering the expenses related to the development of the program(s) concerned. Other restrictions about the future use of these documents and software, if any, shall be specified in the <b>SCC</b> .   |
| 28   | <b>Equipment, Vehicles and Materials</b>     | <b>28.1</b> Equipment, vehicles and materials made available to the Consultant by the Client, or purchased by the Consultant wholly or partly with funds provided by the Client, shall be the property of the Client and shall be marked accordingly. Upon termination or expiration of this Contract, the Consultant shall make available to the Client an inventory of such equipment, vehicles and materials and shall dispose of such equipment, vehicles and materials in accordance with the Client's instructions. While in possession of such equipment, vehicles and materials, the Consultant, unless otherwise instructed by the Client in writing, shall insure them at the expense of the Client in an amount equal to their full replacement value. |
|  |  | <b>28.2</b> Any equipment or materials brought by the Consultant or its Experts into the Client's country for the use either for the project or personal use shall remain the property of the Consultant or the Experts concerned, as applicable.   |
| <b>D. CONSULTANT'S EXPERTS AND SUB-CONSULTANTS</b> |  |   |
| 29   | <b>Description of Key Experts</b>            | <b>29.1</b> The title, agreed job description, minimum qualification and estimated period of engagement to carry out the Services of each of the Consultant's Key Experts are described in <b>Appendix B</b> .  |
| 30   | <b>Replacement of Key Experts</b>            | <b>30.1</b> Except as the Client may otherwise agree in writing, no changes shall be made in the Key Experts.   |
|  |  | <b>30.2</b> Notwithstanding the above, the substitution of Key Experts during Contract execution may be considered only based on the Consultant's written request and due to circumstances outside the reasonable control of the Consultant, including but not limited to death or medical incapacity. In such case, the Consultant shall forthwith provide as a replacement, a person of equivalent or better qualifications and experience, and at the same rate of remuneration.   |
| 31   | <b>Removal of Experts or Sub-consultants</b> | <b>31.1</b> If the Client finds that any of the Experts or Sub-consultant has committed serious misconduct or has been charged with having committed a criminal action, or shall the Client determine that Consultant's Expert or Sub-consultant have engaged in corrupt,   |

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|                                     |                                  | fraudulent, collusive, coercive or obstructive practice while performing the Services, the Consultant shall, at the Client's written request, provide a replacement  |
|                                     |                                  | <b>31.2</b> In the event that any of Key Experts, Non-Key Experts or Sub-consultants is found by the Client to be incompetent or incapable in discharging assigned duties, the Client, specifying the grounds therefore, may request the Consultant to provide a replacement   |
|                                     |                                  | <b>31.3</b> Any replacement of the removed Experts or Sub-consultants shall possess better qualifications and experience and shall be acceptable to the Client.  |
|                                     |                                  | <b>31.4</b> The Consultant shall bear all costs arising out of or incidental to any removal and/or replacement of such Experts.  |
| <b>E. OBLIGATIONS OF THE CLIENT</b> |                                  |  |
| 32                                  | <b>Assistance and Exemptions</b> | <p><b>32.1</b> Unless otherwise specified in the SCC, the Client shall use its best efforts to:</p> <p>(a) Assist the Consultant with obtaining work permits and such other documents as shall be necessary to enable the Consultant to perform the Services.</p> <p>(b) Assist the Consultant with promptly obtaining, for the Experts and, if appropriate, their eligible dependents, all necessary entry and exit visas, residence permits, exchange permits and any other documents required for their stay in the Client's country while carrying out the Services under the Contract.</p> <p>(c) Facilitate prompt clearance through customs of any property required for the Services and of the personal effects of the Experts and their eligible dependents.</p> <p>(c) Issue to officials, agents and representatives of the Government all such instructions and information as may be necessary or appropriate for the prompt and effective implementation of the Services.</p> <p>(d) Assist the Consultant and the Experts and any Sub-consultants employed by the Consultant for the Services with obtaining exemption from any requirement to register or obtain any permit to practice their profession or to establish themselves either individually or as a corporate entity in the Client's country according to the applicable law in the Client's country.</p> <p>(e) Assist the Consultant, any Sub-consultants and the Experts of either of them with obtaining the privilege, pursuant to the applicable law in the Client's country, of bringing into the Client's country reasonable amounts of foreign currency for the purposes of the Services or for the personal use of the Experts and of withdrawing any such amounts as may be earned therein by the Experts in the execution of the Services.</p> <p>(f) Provide to the Consultant any such other assistance as may be specified in the SCC.</p> |
| 33                                  | <b>Access to Project Site</b>    | <b>33.1</b> The Client warrants that the Consultant shall have, free of charge, unimpeded access to the project site in respect of which access is required for the performance of the Services. The Client will be responsible for any damage to the project site or any property thereon resulting from such access and will indemnify the Consultant and each of the experts in respect of liability for any such damage, unless such   |

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|                                      |   | damage is caused by the willful default or negligence of the Consultant or any Sub-consultants or the Experts of either of them.   |
| 34                                   | <b>Change in the Applicable Law Related to Taxes and Duties</b> | <b>34.1</b> If, after the date of this Contract, there is any change in the applicable law in the Client's country with respect to taxes and duties which increases or decreases the cost incurred by the Consultant in performing the Services, then the remuneration and reimbursable expenses otherwise payable to the Consultant under this Contract shall be increased or decreased accordingly by agreement between the Parties hereto, and corresponding adjustments shall be made to the Contract price amount specified in Clause GCC 38.1. |
| 35                                   | <b>Services, Facilities and Property of the Client</b>          | <b>35.1</b> The Client shall make available to the Consultant and the Experts, for the purposes of the Services and free of any charge, the services, facilities and property described in the Terms of Reference ( <b>Appendix A</b> ) at the times and in the manner specified in said <b>Appendix A</b> .   |
| 36                                   | <b>Counterpart Personnel</b>                                    | <b>36.1</b> The Client shall make available to the Consultant free of charge such professional and support counterpart personnel, to be nominated by the Client with the Consultant's advice, if specified in <b>Appendix A</b> .  |
|                                      |   | <b>36.2</b> Professional and support counterpart personnel, excluding Client's liaison personnel, shall work under the exclusive direction of the Consultant. If any member of the counterpart personnel fails to perform adequately any work assigned to such member by the Consultant that is consistent with the position occupied by such member, the Consultant may request the replacement of such member, and the Client shall not unreasonably refuse to act upon such request.  |
| 37                                   | <b>Payment Obligation</b>                                       | <b>37.1</b> In consideration of the Services performed by the Consultant under this Contract, the Client shall make such payments to the Consultant for the deliverables specified in <b>Appendix A</b> and in such manner as is provided by GCC F below.  |
| <b>F. PAYMENTS TO THE CONSULTANT</b> |   |  |
| 38                                   | <b>Contract Price</b>   | <b>38.1</b> The Contract price is fixed and is set forth in the <b>SCC</b> . The Contract price breakdown is provided in <b>Appendix C</b> .   |
|                                      |   | <b>38.2</b> Any change to the Contract price specified in Clause 38.1 can be made only if the Parties have agreed to the revised scope of Services pursuant to Clause GCC 16 and have amended in writing the Terms of Reference in <b>Appendix A</b> .   |
| 39                                   | <b>Taxes and Duties</b>   | <b>39.1</b> The Consultant, Sub-consultants and Experts are responsible for meeting any and all tax liabilities arising out of the Contract unless it is stated otherwise in the <b>SCC</b> .  |
|                                      |   | <b>39.2</b> As an exception to the above and as stated in the <b>SCC</b> , all local identifiable indirect taxes (itemized and finalized at Contract negotiations) are reimbursed to the Consultant or are paid by the Client on behalf of the Consultant.   |
| 40                                   | <b>Currency of Payment</b>                                      | <b>40.1</b> Any payment under this Contract shall be made in the currency (ies) of the Contract.   |
| 41                                   | <b>Mode of Billing and Payment</b>                              | <b>41.1</b> The total payments under this Contract shall not exceed the Contract price set forth in Clause GCC 38.1.   |
|                                      |   | <b>41.2</b> The payments under this Contract shall be made in lump-sum installments against deliverables specified in <b>Appendix A</b> . The  |

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|                                   |                                     | payments will be made according to the payment schedule stated in the <b>SCC</b> .  |
|                                   |                                     | <b>41.2.1 Advance payment:</b> Unless otherwise indicated in the <b>SCC</b> , an advance payment shall be made against an advance payment BANK guarantee acceptable to the Client in an amount (or amounts) and in a currency (or currencies) specified in the <b>SCC</b> . Such guarantee (i) is to remain effective until the advance payment has been fully set off, and (ii) is to be in the form set forth in <b>Appendix D</b> , or in such other form as the Client shall have approved in writing. The advance payments will be set off by the Client in equal portions against the lump-sum installments specified in the <b>SCC</b> until said advance payments have been fully set off.  |
|                                   |                                     | <b>41.2.2 The Lump-Sum Installment Payments.</b> The Client shall pay the Consultant within sixty (60) days after the receipt by the Client of the deliverable(s) and the cover invoice for the related lump-sum installment payment. The payment can be withheld if the Client does not approve the submitted deliverable(s) as satisfactory in which case the Client shall provide comments to the Consultant within the same sixty (60) days period. The Consultant shall thereupon promptly make any necessary corrections, and thereafter the foregoing process shall be repeated.   |
|                                   |                                     | <b>41.2.3 The Final Payment .</b> The final payment under this Clause shall be made only after the final report 1 have been submitted by the Consultant and approved as satisfactory by the Client. The Services shall then be deemed completed and finally accepted by the Client. The last lump-sum installment shall be deemed approved for payment by the Client within ninety (90) calendar days after receipt of the final report by the Client unless the Client, within such ninety (90) calendar day period, gives written notice to the Consultant specifying in detail deficiencies in the Services, the final report. The Consultant shall thereupon promptly make any necessary corrections, and thereafter the foregoing process shall be repeated.<br><b>41.2.4</b> All payments under this Contract shall be made to the accounts of the Consultant specified in the <b>SCC</b> . |
|                                   |                                     | <b>41.2.4</b> With the exception of the final payment under 41.2.3 above, payments do not constitute acceptance of the whole Services nor relieve the Consultant of any obligations hereunder.  |
| 42                                | <b>Interest on Delayed Payments</b> | <b>42.1</b> If the Client had delayed payments beyond fifteen (15) days after the due date stated in Clause GCC 41.2.2 , interest shall be paid to the Consultant on any amount due by, not paid on, such due date for each day of delay at the annual rate stated in the <b>SCC</b> .  |
| <b>G. FAIRNESS AND GOOD FAITH</b> |                                     |   |
| 43                                | Good Faith                          | <b>43.1</b> The Parties undertake to act in good faith with respect to each other's rights under this Contract and to adopt all reasonable measures to ensure the realization of the objectives of this Contract.   |
| <b>H. SETTLEMENT OF DISPUTES</b>  |                                     |   |
| 44                                | <b>Amicable Settlement</b>          | <b>44.1</b> The Parties shall seek to resolve any dispute amicably by mutual consultation.  |
|                                   |                                     | <b>44.2</b> If either Party objects to any action or inaction of the other Party, the objecting Party may file a written Notice of Dispute to the other Party providing in detail the basis of the dispute. The Party receiving   |

**RFP for preparation FLS and DPR of East West Sub Corridor Section-8-2 GCC**

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|    |                           | the Notice of Dispute will consider it and respond in writing within fourteen (14) days after receipt. If that Party fails to respond within fourteen (14) days, or the dispute cannot be amicably settled within fourteen (14) days following the response of that Party, Clause GCC 45.1 shall apply. |
| 45 | <b>Dispute Resolution</b> | <b>45.1</b> Any dispute between the Parties arising under or related to this Contract that cannot be settled amicably may be referred to by either Party to the adjudication/arbitration in accordance with the provisions specified in the <b>SCC</b> .<br><br>--X--                                   |

## **Section 8-3**

# **Special Conditions of Contract**





### III. Special Conditions of Contract

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| Number & GC Clause   | Amendments of, and Supplements to, Clauses in the General Conditions of Contract  |
| <b>A.GENERAL PROVISIONS</b>  |   |
| <b>1.1(b) [Applicable Law] &amp; 3.1[Law governing the Contract]</b> | <p>The Contract shall be construed in accordance with the laws of <b>India</b>.</p> <p>Applicable Law shall mean, all Laws, Bye Laws, Statutes, Rules, regulations, Orders, ordinances, guidelines, Codes, Notices, directions, Judgments, decrees or other Requirements or Official directives and /or any Statutory Authority, in the <b>Republic of India</b>.</p>   |
| <b>1.1.(x) Performance security</b>                                  | <p>As stated in ITC sub Clause 30.1 Data sheet, Consultant shall furnish The <b>Performance security</b> which shall be a single Financial Instrument, in the name of the Consultant [i.e. in the name of the JV/Consortium/Association, submitting the proposal as the Consultant] in the form of a unconditional Bank Guarantee, for an amount , equivalent to <b>5.0%</b> of the accepted Contract Amount [in respective Contract Currencies, both Local &amp; Foreign currencies], as stated in the LOA, issued by an Indian Scheduled Bank. The beneficiary of the Performance Security BG shall be <b>Dedicated Freight Corridor Corporation of India Limited</b>. The Performance Security, <b>prepared in a Format given in this RFP</b>, shall be valid for a period of 28 days more than the Completion period, as stated as stated in the <b>Payment Schedule -Annexure-1 to Terms of Reference (TOR-Appendix-A)</b> of the RFP and subject to further extensions, as required and so requested by the Client. In Case, Consultant does not extend the validity of the Performance security BG, it shall form a ground for Client opting to encash the Bank Guarantee.</p> |
| <b>4.1[Language]</b>   | The Language is <b>English</b>  |
| <b>6.1 &amp; 6.2 [Communication]</b>                                 | <p>The Addresses are ;</p> <p>Client- <b>Dedicated Freight Corridor Corporation of India Ltd.(DFCCIL)</b>,<br/>         Attention-Praveen Kumar-GGM/P/WC*<br/>         Room no-505, Dedicated Freight Corporation of India limited<br/>         5th Floor, Supreme Court Metro Station building complex<br/>         Pragati Maidan-New Delhi-110001</p> <p>Phone-011-23379815; Cell phone- 09717636822<br/>         Facsimile-011-23454701<br/>         E MailID-praveenkumar@dfcc.co.in</p> <p><i>[*Note-After award of the Works, the identity of the DFCCIL contact person may change]</i></p> <p><b>Consultant-Details to be filled award of the Work.</b><br/>         Attention-</p>   |

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|   | Facsimile-<br>E Mail (where permitted)-  |
| <b>8.1[Authority of Member in Charge]</b>                                   | <p><i>[If the Consultant consists only of one entity, state “N/A”; OR If the Consultant is a Joint Venture/Consortium/Association consisting of more than one entity, the name of the Joint Venture/Consortium/Association member whose address is specified in Clause SCC6.1 should be inserted here. ]</i></p> <p>The Lead Member on behalf of the Joint Venture/Consortium/Association is _____ <i>[insert name of the member]</i></p>  |
| <b>9.1[Authorized Representative]</b>                                       | <p><b>The Authorized Representatives are:</b></p> <p><b>For the Client:</b> <i>[name, title]</i></p> <p><b>For the Consultant:</b> <i>[name, title]</i></p>  |
| <b>B.COMMENCEMENT, COMPLETION, MODIFICATION AND TERMINATION OF CONTRACT</b> |  |
| <b>11.1[Effectiveness of the Contract]</b>                                  | The effectiveness Conditions are the following-N/A   |
| <b>12.1[Termination of the contract for failure to become effective]</b>    | <p><b>Termination of the Contract for failure to become effective</b></p> <p>The time period shall be-<b>04 months.</b></p>  |
| <b>13.1[Commencement of services]</b>                                       | The number of Days shall be <b>10 days.</b>  |
| <b>14.1[Expiration of the contract]</b>                                     | At the <b>end of period of 30 Days</b> after the <b>Total Completion period, [18 Months after Commencement of Services]</b> or <b>Latest of Completion period, as mutually extended by the Parties through mutual consent</b> subject to modification under GC sub Clause 16.1.  |
| <b>C. OBLIGATIONS OF THE CONSULTANT</b>                                     |  |
| <b>20.1.(i) (Deficiency of Services)</b>                                    | <p>Insert a new sub Clause as under;</p> <p>The following, inter alia, shall constitute “Deficiency of services”</p> <ul style="list-style-type: none"> <li>(i) Non Deployment or delayed of required Equipment, Machinery, Infrastructure &amp; logistics (including all types of Transportation, as required) necessary for successful &amp; complete implementation of this project.</li> <li>(ii) Non deployment or delayed deployment of adequately qualified and experienced Experts with respect</li> </ul> |

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|  | <p>to/commensurate with Stages as defined in Consultancy Work plan in terms of Consultancy Programme, as defined in TOR.</p> <ul style="list-style-type: none"> <li>(iii) Consultant's non adherence with Consultancy Programme i.e. delayed Contract execution /implementation of the Works due to reasons attributable to the Consultant.</li> <li>(iv) Not keeping proper record during the Consultancy Contract.</li> <li>(v) Refusing to give detailed reasons for actions taken / recommended by the consultants during the Consultancy Contract</li> <li>(vi) Sub Standard Consultancy Works by the Consultant.</li> <li>(vii) Frequent replacement of Consultant professionals.</li> </ul> <p>The above list is not exhaustive and subject to further revision, triggered by Consultant, Consultant's voluntary actions or omissions, fairly adjudged to be detrimental for the successful and complete Project Implementation within stipulated time.</p> <p>Subject to above, Client shall have the right to serve upon the Consultant, a notice of 'Deficiency of Services' and shall, subsequently, be entitled to Damages being paid by the Consultant, as defined in the succeeding PC sub Clause 41.3.</p> |
| <b>23.1[Liability of the Consultant]</b>             | <p>The following limitation of the Consultant's Liability towards the Client can be subject to the Contract's negotiations:</p> <p>"Limitation of the Consultant's Liability towards the Client:</p> <p>(a) Except in the case of gross negligence or willful misconduct on the part of the Consultant or on the part of any person or a firm acting on behalf of the Consultant in carrying out the Services, the Consultant, with respect to damage caused by the Consultant to the Client's property, shall not be liable to the Client:</p> <ul style="list-style-type: none"> <li>(i) for any indirect or consequential loss or damage; and</li> <li>(ii) for any direct loss or damage that exceeds [ one] times the total value of the Contract;</li> </ul> <p>(b) This limitation of liability shall not</p> <ul style="list-style-type: none"> <li>(i) affect the Consultant's liability, if any, for damage to Third Parties caused by the Consultant or any person or firm acting on behalf of the Consultant in carrying out the Services;</li> <li>(ii) be construed as providing the Consultant with any limitation or exclusion from liability which is prohibited by the "Applicable Law " </li></ul>     |
| <b>24.1[Insurance to be taken by the Consultant]</b> | <p>The insurance coverage against the risks shall be as follows:</p> <ul style="list-style-type: none"> <li>(a) Professional liability insurance, with a minimum coverage of Accepted Contract Amount-in INR.</li> </ul>  |

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|   | <p>(b) Third Party motor vehicle liability insurance in respect of motor vehicles operated in the Client's country by the Consultant or its Experts or Sub-consultants, for the Period of Consultancy Contract' in accordance with the applicable law in the Client's country- Indian Motor Vehicle Act.</p> <p>(c) Third Party liability insurance, with a minimum coverage of [insert amount and currency or state "in accordance with the applicable law in the Client's country"];</p> <p>(d) Client's liability and workers' compensation insurance in respect of the experts and Sub-consultants in accordance with the relevant provisions of the applicable law in the Client's country, as well as, with respect to such Experts, any such life, health, accident, travel or other insurance as may be appropriate; and</p> <p>(e) insurance against loss of or damage to (i) equipment purchased in whole or in part with funds provided under this Contract, (ii) the Consultant's property &amp; all types of equipment (Whether owned, Hired or Leased) used in the performance of the Services, and (iii) any documents prepared by the Consultant in the performance of the Services.</p> <p>Consultant shall <b>submit relevant insurance Policies</b> with the Client, along <b>with a statement mentioning</b>, the details of all the relevant Insurance policies e.g. Policy Number, Insurance provider, Risk covered, Beneficiary, Date of Premium Paid and the Date of Next Premium due, at a glance, <b>within 90 Days of Commencement of Services [referred in PC sub Clause 13.1]</b>.</p> <p>Consultant shall be under obligation to pay the requisite Premiums of all the aforesaid relevant Insurance policies well in advance of the Next Premium submission deadline and Consultant after thus, renewing the policies shall submit the Policy renewals/Premium receipts along with the Statement, referred in the preceding Para of this PC Sub Clause.</p> |
| <b>27.1[Proprietary rights of the client in Reports and record]</b> | Exceptions to Client Proprietary rights- None   |
| 27.2  | The Consultant shall not use these documents and software for purposes unrelated to this Contract without the prior written approval of the Client.   |
| <b>F.PAYMENTS TO THE CONSULTANTS</b>                                |   |
| <b>38.1 [Contract Price]</b>  | <p>The Contract Price is -----</p> <p><i>[insert amount and currency for each currency as applicable]</i></p> <p><i>[indicate: inclusive or exclusive]</i> of local indirect taxes.</p>   |

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|   | <p>Local indirect Taxes Chargeable in respect of this Contract for Services provided by the Consultant shall be reimbursed by the Client to the Consultant.</p> <p>The amount of local indirect Tax is ----- [insert the amount as finalized at the Contract's negotiations on the basis of the estimates provided by the Consultant in Form FIN-2 of the Consultant's Financial Proposal.</p>   |
| <b>39.1 &amp; 39.2 [Taxes and duties]</b> | <p>The Client shall reimburse the Consultant, the Sub-consultants and the Experts any indirect taxes, duties, fees, levies and other impositions imposed, under the applicable law in the Client's country, on the Consultant, the Sub-consultants and the Experts in respect of:</p> <ul style="list-style-type: none"> <li>(a) any payments whatsoever made to the Consultant, Sub-consultants and the Experts (other than nationals or permanent residents of the Client's country), in connection with the carrying out of the Services;</li> <li>(b) any equipment, materials and supplies brought into the Client's country by the Consultant or Sub-consultants for the purpose of carrying out the Services and which, after having been brought into such territories, will be subsequently withdrawn by them;</li> <li>(c) any equipment imported for the purpose of carrying out the Services and paid for out of funds provided by the Client and which is treated as property of the Client;</li> <li>(d) any property brought into the Client's country by the Consultant, any Sub-consultants or the Experts (other than nationals or permanent residents of the Client's country), or the eligible dependents of such experts for their personal use and which will subsequently be withdrawn by them upon the irrespective departure from the Client's country, provided that: <ul style="list-style-type: none"> <li>(i) the Consultant, Sub-consultants and experts shall follow the usual customs procedures of the Client's country in importing property into the Client's country; and</li> <li>(i) if the Consultant, Sub-consultants or Experts do not withdraw but dispose of any property in the Client's country upon which customs duties and taxes are liable to be reimbursed by the Client, the Consultant, Sub-consultants or Experts, as the case may be, (a) shall bear such customs duties and taxes in conformity with the regulations of the Client's country, or (b) shall reimburse them to the Client if they were paid by the Client at the time the property in question was brought into the Client's country.</li> </ul> </li> </ul> <p>The Consultants, Sub Consultants and the Personnel shall pay the corporate income tax and personal income tax payable by them under the contract and applicable laws.</p> <p>The Client;</p> <p>a) Shall effect Tax deduction at source (TDS) as per the applicable rates in respect of payments made to the Consultants;</p> |

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|                                | <p>b) Shall arrange to deposit the above TDS with the Govt/Tax Authorities within the time stipulated under the relevant Act. Certificates evidencing such deposits shall be forwarded by the Client to the Consultants;</p> <p>c) Shall reimburse to the consultant Local indirect Taxes mentioned in sub clause 38.1 of GCC payable as per applicable valuation rules as are determined by concern tax authority from time to time. The Client shall compensate the Consultants for any further Local indirect Taxes mentioned in sub clause 38.1 of GCC payable occasioned due to subsequent changes in valuation rules if any ;</p> <p>d) Shall reimburse to the Consultants any additional taxes that may become payable due to change in applicable law , effected on or after Base Date i.e. 28 Days prior to Proposal submission deadline. Such payments shall be made by the consultants within the time specified in the law and reimbursed on satisfactory production of the evidence thereof to the Client. Any levy of interest or penalty leviable/imposable purely on account of non-compliance by the Client any time shall be to the account of the Client.</p>  |
| <b>39.3 [Price adjustment]</b> | <p>Insert a New Sub Clause;</p> <p>The price adjustment shall be applicable on the Remuneration component [ref- Break down of the Contract Amount-Appendix-C]</p> <p>(a) Remuneration paid in foreign currency pursuant to the rates set forth in Form-FIN-3[Breakdown of remuneration] shall be adjusted every 12 months (and, the first time, with effect for the remuneration earned in the 13<sup>th</sup> calendar month after the, Date corresponding to the Commencement of Services date, by applying the following formula:</p> $R_f = R_{fo} \times \frac{I_f}{I_{fo}}$ <p>where <math>R_f</math> is the adjusted remuneration, <math>R_{fo}</math> is the remuneration payable on the basis of the rates set forth in Appendix C for remuneration payable in foreign currency, <math>I_f</math> is the official index for salaries in the country of the foreign currency for the first month for which the adjustment is supposed to have effect, and <math>I_{fo}</math> is the official index for salaries in the country of the foreign currency for the next month after the Commencement of Services date.</p> <p>(b) Remuneration paid in local currency pursuant to the rates set forth in Appendix E shall be adjusted every 12 months (and, for the first time, with effect for the remuneration earned in the 13<sup>th</sup> calendar month after the date corresponding to the Commencement of Services date) by applying the following formula:</p> $R_l = R_{lo} \times \frac{I_l}{I_{lo}}$ |

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|  | <p>where <math>R_l</math> is the adjusted remuneration, <math>R_{lo}</math> is the remuneration payable on the basis of the rates set forth in Appendix C (Break Down of Accepted Contract Amount) for remuneration payable in local currency, <math>I_l</math> is the relevant index for salaries in the Client's Country [i.e. (All India General index) Consumer Price index for industrial Workers [CPI(IW)]published by Ministry of Labor &amp; Employment], for the first month for which the adjustment is to have effect and, <math>I_{lo}</math> is the official index for salaries in the Client's Country [i.e. (All India General index) Consumer Price index for industrial Workers [CPI(IW)]published by Ministry of Labor &amp; Employment], for the next month, after the Commencement of Services date.</p>  |
| <p><b>41 [ Mode of billing and Payment]</b></p> <p><b>41.2.2 [Lump sum Installment Payments]</b></p> | <p>The Payment installments to the Consultants shall be based upon achievement of Key deliverables By the Consultant in terms of 'Payment Schedule' attached as Annexure-1 (Payment Schedule) to the TOR (Appendix-A) and subject to successful achievement of all the concerned Key deliverables specified therein the Payment schedule, in the specified Contract Currencies.</p>   |
| <p><b>41.2.1 [Advance Payment]</b></p>   | <p>After Commencement of Services by the Consultant, the Client shall Pay, on written Request by the Consultant, an interest free Advance payment of 5% of the accepted Contract Amount in the specified Contract Currencies, subject to the Consultant submitting an Advance Payment Bank Guarantee issued by an Indian Scheduled Bank in the format, issued as Appendix-D. The Advance payment Bank Guarantee shall be for the equivalent amount, in the relevant currencies and shall remain valid for a 18 month period subject to future extensions as &amp; when required and notified by the Client, till such a time, the advance payment is fully recovered.</p>   |
| <p><b>41.2.2 [Lump sum Installment Payments]</b></p>   | <p>The Consultant's accounts are<br/>For foreign Currency –Account Details<br/>For Local Currency-Account details</p>   |
| <p><b>41.3-Damages for 'Deficiency of Services' on Part of Consultant</b></p>                        | <p>Add new <b>PC sub clause 41.3;</b><br/>"In Case of 'Deficiencies in the Services' by the Consultant, as defined Vide SCC sub Clause 20.1.(i), Consultant shall pay Damages, to the Client. In the case of Deficiency of Services, Parties agree that the Consultant shall pay an amount equivalent to 0.01% of the contract amount. The aforesaid Damages shall not exceed the maximum amount of 2.5% of Contract Price. The intent to levy Damages shall be conveyed by the Client by way of Notice. Imposition of penalty will not restrict the other rights of client as provided in the contract for termination, arbitration etc. These Damages shall not relieve the Consultant from his / their Obligation to complete the Services or from any other duties/Obligation or responsibilities which the Consultant may have under this Consultancy Contract."</p> |
| <p><b>41.4-Liquidated Damages</b></p>  | <p>Add new <b>PC sub clause 41.4;</b><br/>Parties agree that in Case of Delays, attributable to Consultant, in achievement of any of the Key deliverables (KDs) beyond stipulated completion period as per Key Dates , as stated therein the 'Payment Schedule' in Appendix-A, Consultant shall pay to the Client an amount</p>   |

|  |  |
|--|--|
|  | <p><b>equivalent to 0.1% of the accepted Contract Amount (as stated in the LOA) per week or part there of the aforesaid delay, as Liquidated Damages, subject to Maximum payable (by the Consultant) to the maximum of 2.5% of the accepted Contract amount.</b></p> <p>In Case, the Consultant completes the entire assignment within the stipulated time frame, <b>the aforesaid amount of Liquidated Damages paid by the Consultant shall be refunded to the Consultant.</b></p> <p>In Case, the Consultant Completes the entire assignment/Works/Consultancy services, as described in TOR as an objective of the Project, appended in the Appendix-A, earlier than the stipulated Total completion period of 18 months [PC sub Clause 14.1, above], Consultant shall be entitled to an <b>incentive equivalent to 0.1% of the accepted Contract Amount, per week or part thereof, period adjudged earlier than the Total Completion period.</b></p> |
| <b>42.1Interest on delayed payments]</b> | The interest rate is London Inter-BANK on lending Rate (LIBOR) plus 2% for foreign Currency and 8% for local currency.   |
| <b>H. Settlement of disputes</b>         |  |



|                                 |   |
|---------------------------------|---|
| <b>45.1[Dispute resolution]</b> | <p>Any Dispute arising between the parties in connection with or arising out of the Contract or during the execution of the contract, shall be settled by Institutional Arbitration, if the dispute cannot be settled under amicable settlement.</p> <p>Unless otherwise agreed by the Parties, the arbitration shall be under the International Chamber of Commerce (ICC) rules with Delhi, as venue &amp; Seat of Arbitration.</p> <p>The Governing Law shall be The Arbitration and Conciliation Act 1996 as amended by The arbitration and Conciliation (Amendment) Act ,2019 (33 of 2019)</p> <p><b>Jurisdiction of The Court</b></p> <p>Notwithstanding, anything to the contrary in this RFP and in matter of all disputes , arising out of the contract or the execution of the Consultancy Assignment, Parties agree to the exclusive jurisdiction of adequately competent [as per Applicable Law ] Court <b>of Delhi.</b></p> |
|---------------------------------|---|

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# **Section 8-4**

# **APPENDICES**



## IV. Appendices

### APPENDIX A – TERMS OF REFERENCE with Annexure-1(Payment Schedule)

[This Appendix shall include the final Terms of Reference (TOR) worked out by the Client and the Consultant during the negotiations; Various Tasks scoped –**Key deliverables (KDs)**, dates (**Key Dates**) for KDs, as worked on the basis of the Time Schedule [given in the Annexure-1 to TOR-Appendix-A], i.e **Key Deliverables(KDs)**; location of performance for different tasks; **detailed reporting requirements** and **Payment schedule against Key Deliverables** against which the payments to the Consultant will be made; Consultant's intended input with Time Schedule, including Input of Equipment/Machinery/Infrastructure/All types of Transportation necessary for the successful and Complete Project implementation and input of Consultant's Personnel/Experts along with schedule of deployment, Client's Personnel assigned by the Client to work on the Consultant's team; specific tasks or actions that require prior approval by the Client. *[Insert the text based on the Section 7 (Terms of Reference) of the RFP and modified based on the Forms TECH-1 through TECH-6 of the Consultant's Proposal. Highlight the changes to Section 7 of the RFP.]*

Annexure-1 (Payment Schedule), although provided here, shall be finalized after Negotiation with the Highest ranked Consultant

#### Annexure-1 to Terms of Reference (TOR-Appendix-A)

**Name of Work**-Consultancy & related Services for the preparation of Detailed Project Report(DPR), inclusive of Preliminary alignment development, optimization of Alignment, Final location survey (FLS) including Geo Technical survey, Geological mapping & Hydrological Survey, preparation of Land Plans on Revenue Maps and also, inclusive of study for 2X25 KV Electrification, study for Signaling catering to ETCS-2, Study for Communication, all discipline [e.g. Civil, Electric & S&T] Quantity and Cost estimation, Environmental and Social impact Study , Maintenance study & Traffic study-FIRR & EIRR, Market demand survey, Cost Benefit analysis, Study regarding intermodal Transport Integration for New Dedicated Freight Corridor (DFC) namely -East-West Sub Corridor comprised of sub Corridors-Bhusaval-Nagpur-Kharagpur- Dankuni (1673 RKM) and sub Corridor -Rajkharswan-Kalipahari-Andal-(195 RKM)-**RFP no-2020/HQ/EN/PWC/Future Corridor/RFP/DPR/Package-2 dated 04-05-2020**

#### Time Schedule of Key Deliverable & Payment Schedule

| KD- | Key Deliverable <sup>A</sup>  | Time Schedule (in Months=30 days);<br>For the 'Key Dates' | Cumulative Time in months | Payment in % of accepted contract amount |
|-----|---|---|---------------------------|--|
| 1   | <b>Commencement of services</b> , in terms of PC sub Clause 13.1- (D) / <i>List specific Date</i> | Commencement Date-  | 0                         | 5 %                                      |
| 2   | On submission of Inception Report (D <sub>1</sub> )   | D# + 2*   | 2                         | 10 %                                     |
| 3   | On submission of Alignment Report-Stage-1(Desk study)(D <sub>2</sub> )                            | D+3   | 3                         | 2.5%                                     |

## **RFP for preparation FLS and DPR of East West Sub Corridor Section-8-4 Appendices**

|    |   |                     |         |       |
|----|---|---------------------|---------|-------|
| 4  | On submission of Alignment Report-Stage-2(study on Stereo-Setallite imagery)D <sub>3</sub>  | D+6                 | 6       | 5%    |
| 5  | On completion of Traffic Surveys D <sub>4</sub>   | D <sub>2</sub> + 4  | 7       | 5 %   |
| 6  | On submission of Horizontal and Vertical Ground Control Points.(D <sub>5</sub> )  | D <sub>2</sub> + 3  | 6       | 5%    |
| 7  | On completion of LiDAR Survey, progressively <sup>3</sup> (D <sub>6</sub> )   | D <sub>2</sub> +4   | 7       | 7.5 % |
| 8  | On completion of Alignment Design, progressively <sup>3</sup> (D <sub>7</sub> )   | D <sub>6</sub> +2   | 9       | 10 %  |
| 9  | On submission of Geotechnical Report, progressively <sup>3</sup> (D <sub>8</sub> )  | D <sub>7</sub> +2   | 11      | 10 %  |
| 10 | On submission of Hydrological Report, progressively <sup>3</sup> (D <sub>9</sub> )  | D <sub>7</sub> +2   | 11      | 10 %  |
| 11 | Submission of Interim Abstract Estimate Report to facilitate Sanction from Railway Board. (D <sub>10</sub> )  | D <sub>7</sub> +1   | 10      | 5%    |
| 12 | On completion of GADs and Preliminary design of structures (D <sub>11</sub> )   | D <sub>8</sub> +3   | 14      | 5 %   |
| 13 | On submission of Signaling & Telecom. and Electrical Engg. including System Plans (S&T and OHE), cost estimation and BOQ along with train operation plan (D <sub>12</sub> ) | D <sub>7</sub> + 2  | 11      | 5 %   |
| 14 | On submission of Environmental and Social Study Report (D <sub>13</sub> )   | D <sub>7</sub> + 3  | 12      | 5 %   |
| 15 | Submission of Draft DPR including Detailed Cost Estimate, Financial and Economical Appraisal (D <sub>14</sub> )   | D <sub>11</sub> + 3 | 17      | 5 %   |
| 16 | On submission of Final Report incorporating comments of Client (D <sub>15</sub> )   | D <sub>14</sub> + 1 | 17+1=18 | 5 %   |

*‘A’-Key Deliverable [ KD-2 to KD-16] shall be accepted as complete only when, the required submission is specifically approved by the Client.*

### **Note**

- 1) # - Commencement of service (refer SCC sub clause 13.1.)
- 2) Total Completion period, after Commencement of Services-**18 months**,
- 3) \* - Period expressed in Calendar month (30 days) from the commencement date.
- 4) Payment to the Consultant may be released, subject to other relevant Contractual Provision being fulfilled, on Pro-Rata Basis subject to minimum segment being completed in full by the Consultant not being less than 25% of the total Route Kilometer length envisaged under this contract.

### **Additional Notes**

- a) DFCCIL will interact with Railway and other agency for approval at different stages wherever required, the Consultant shall attend the meetings in this regards to provide clarifications/ presentations. For adhering to the time schedule, 30 days may be included for approval of DFCCIL wherever required. The Consultant shall provide the submissions in such quality and completeness that DFCCIL is able to take the decision without referring back for queries and clarifications.

- b) In case of delays in the completion of the whole works or a part of the works, beyond stipulated completion period as per Key Dates are given above without valid reasons the consultant shall be liable to pay liquidated damages as stipulated in SCC sub Clause no-41.4, Section-8. However, if the delay is recovered in the next key date (s), the damages may be waived off by the competent authority on the request of the Consultant.

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**Note-I – Regarding Payment to Consultants [Ref-SCC Sub Clause 41 & 41.2.2]**

Subject to Total Payments under the contract not exceeding the Contract Price set forth in Sub Clause 38.1 except as subsequently revised subject to any Modifications or Variations made under written Agreement between the Parties [sub Clause 16.1] , the Payment to Consultant shall be released, in Installments, by the Client, upon the Consultant submitting a written Statement in triplicate, during the first week of the each ensuing month after the first Month of the commencement of Services, duly certifying in full detail, the Key deliverables, achieved during the preceding month along with cover invoice for the related lump sum Installment payment.

The Payment installments shall be based upon above Payment Schedule attached as Annexure-1 (Payment Schedule) to the TOR (Appendix-A) and subject to successful achievement of all the concerned Key deliverables specified therein the Payment schedule, in the specified Contract Currencies.

The Client shall make Payment to the Consultant, within a period not exceeding **60 days** after the receipt of the deliverables and cover invoice for the related lump sum Installment payment to the Consultant, after due Client's scrutiny of the Consultant claim for Payment & verification of the Key deliverables stated to be achieved.

As mentioned above, Consultant, during the first week of each ensuing month after the first Month after the commencement of services, shall submit a monthly statement. Consultant shall submit such statement even in case the payable , in terms of this contract, to the Consultant comes to Nil entitlement in which Case, the Consultant shall submit a “ Nil” statement.

**Note-II-Regarding Advance payment [Ref-SCC Sub Clause 41.2.1]**

The total Advance Payment shall be recovered by the Client, in 14 equal installments, spread across a period not exceeding 16 months (i.e. beginning in the third month after Commencement of Services, in terms of PC sub Clause 13.1), after the Commencement of Services, from the amount payable to the Consultant.

In Case, the amount of Recovery installment in a particular Currency is less than the amount payable in that currency to the Consultant, the Client shall recover the equivalent amount from the other available Currencies including Local Currency (INR) [Exchange rate corresponding to the date on which, the Consultant submits the Statement for Payment, Source of Exchange rate –Financial Bench Marks India Pvt. Ltd. (FIBL) on Base Date i.e. 28 Days prior to Proposal submission deadline].

In Case, Due to amount Payable to the consultant being inadequate, it is not possible to recover the advance payment in 14 Installments spread over 16 months after the commencement of Services, Client shall impose interest @ 8 % per annum on the Balance amount remaining to be recovered and for the remaining period till such time the Advance Payment is fully recovered. The aforesaid interest shall be recovered in addition to the Balance amount from the Payable to the Consultant.

## **APPENDIX B - KEY EXPERTS**

*[Insert a table based on Form TECH-6 of the Consultant's Technical Proposal and finalized at the Contract's negotiations. Attach the CVs (updated and signed by the respective Key Experts) demonstrating the qualifications of Key Experts.]*

---

## **APPENDIX C – BREAKDOWN OF CONTRACT PRICE**

*[Insert the table with the unit rates to arrive at the breakdown of the lump-sum price. The table shall be based on [Form FIN-3 and FIN-4] of the Consultant's Proposal and reflect any changes agreed at the Contract negotiations, if any. The footnote shall list such changes made to [Form FIN-3 and FIN-4] at the negotiations or state that none has been made.]*

## **APPENDIX D - FORM OF ADVANCE PAYMENTS GUARANTEE**

*[See Clause GCC 41.2.1 and SCC 41.2.1]*

### **BANK Guarantee for Advance Payment**

\_\_\_\_\_ *[BANK's Name, and Address of Issuing Branch or Office]*  
**Beneficiary:** \_\_\_\_\_ *[Name and Address of Client]* **Date:** \_\_\_\_\_

**ADVANCE PAYMENT GUARANTEE No.:** \_\_\_\_\_ We have been informed that \_\_\_\_\_ *[name of Consultant or a name of the Joint Venture, same as appears on the signed Contract]* (hereinafter called "the Consultant") has entered into Contract No. \_\_\_\_\_ *[reference number of the contract]* dated \_\_\_\_\_ with you, for the provision of \_\_\_\_\_ *[brief description of Services]* (hereinafter called "the Contract").

Consultancy & related Services for the preparation of Detailed Project Report(DPR), inclusive of Preliminary alignment development, optimization of Alignment, Final location survey (FLS) including Geo Technical survey, Geological mapping & Hydrological Survey, preparation of Land Plans on Revenue Maps and also, inclusive of study for 2X25 KV Electrification, study for Signaling catering to ETCS-2, Study for Communication, all discipline [e.g. Civil, Electric & S&T] Quantity and Cost estimation, Environmental and Social impact Study , Maintenance study & Traffic study-FIRR & EIRR, Market demand survey, Cost Benefit analysis, Study regarding intermodal Transport Integration for New Dedicated Freight Corridor (DFC) namely -East West Sub Corridor comprised of sub Corridors- Bhusaval-Nagpur-Kharagpur- Dankuni (1673 RKM) and sub Corridor -Rajkharswan-Kalipahari-Andal-(195 RKM)' **[RFP no-2020/HQ/EN/PWC/Future Corridor/RFP/DPR/Package-2 dated 04-05-2020];**

## **RFP for preparation FLS and DPR of East West Sub Corridor Section-8-4 Appendices**

Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum of \_\_\_\_\_ [*Currency wise amount in figures*] ( ) [*Currency wise amount in words*] is to be made against an advance payment guarantee.

At the request of the Consultant, we \_\_\_\_\_ [*name of BANK*] hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of \_\_\_\_\_ [*currency wise amount in figures*] ( ) [*currency wise amount in words*]<sup>1</sup> upon receipt by us of your first demand in writing accompanied by a written statement stating that the Consultant are in breach of their obligation under the Contract.

It is a condition for any claim and payment under this guarantee to be made that the advance payment referred to above must have been received by the Consultant on their account number \_\_\_\_\_ at \_\_\_\_\_ [*name and address of BANK*].

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Consultant as indicated in copies of certified monthly statements which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of the <sup>1</sup>payment certificate indicating that the Consultant has made full repayment of the amount of the advance payment, or on the \_\_\_\_ day of \_\_\_\_\_, 2\_\_\_\_,2 whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 758.

\_\_\_\_\_ [*signature(s)*]

*Note: All italicized text is for indicative purposes only to assist in preparing this form and shall be deleted from the final.*

\_\_\_\_\_  
\_\_\_\_\_

*The Guarantor shall insert an amount representing the amount of the advance payment and denominated in the currency (ies) of the Advance Payment as specified in the Contract.*

*[The Consultant should note that in the event of Client submitting a request, prior to the expiration date established in the guarantee, in writing for an extension of the BG to the Consultant. The Consultant shall be under obligation to extend this guarantee for a period commensurate with the requirements of GC Sub-Clause 41.2.1 [Advance Payment].*

\_\_\_\_\_





## **APPENDIX-E- PRE-CONTRACT INTEGRITY PACT**



**Dedicated Freight Corridor Corporation of India Ltd.**

(A GOVERNMENT OF INDIA UNDERTAKING)

No. HQ/F&AC/GM-RM/INTG PACT/2011/1  
2028.08.2015

Dated: 28/08/15

All GGMs/GMs in Corporate Office  
All CPMs

**Subject: Implementation of Integrity Pact in DFCCIL**

Dear Sir,

As per office Memorandum no. F. No. DPE/13(12)/11-Fin Dated 09.09.2011 issued by Ministry of Heavy Industries (DPE) all PSUs should enter into Integrity Pact in the required Performa in their procurement transactions / contracts with suitable changes specific to the situation in which the pact is to be used. The Pact, entering into which would be a preliminary qualification for any bidder, essentially envisages an agreement between the prospective vendors/bidders and the buyer (DFCCIL), committing the persons/officials on both sides, not to resort to any corrupt practices in any aspect/stage of the contract.

Accordingly, it has been decided to implement the Integrity Pact for contracts (excluding those being funded by World Bank and JICA) whose values are above the following threshold so as to cover up to 95% of the monetary value of contracts value in the organization:

- 1) Works Contracts – Rs.10 Crore;
- 2) Consultancy Services – Rs.1 Crore;
- 3) Hire / Lease / Repair & Maintenance Contract – Rs.1 Crore;
- 4) Purchase of Stores – Rs.1 Crore.

MD/DFCCIL has desired that the Integrity Pact may also be implemented in World Bank and JICA funded contracts. Necessary approval from funding agencies may kindly be obtained on priority by the executive signing the contract.

The Pact has to be implemented through a panel of Independent External Monitors who will review independently and objectively the compliance of the obligations by both the parties. As these IEM'S are to be appointed by the CVC in consultation with the CVO and are being processed separately, their names would be apprised to your office in due course.

A copy of the Pre-Contract Integrity Pact is enclosed herewith as *Annexure-I* along with the relevant DPE guidelines and CVC circulars in this regard as *Annexure-II*.

Since, the integrity Pact is to be signed by the executive dealing with the procurement transaction, as such submitting of confirmation / information solicited by MOR vide letter no. 2013/Infra/6/21 dated 13.01.2015 and

Regd. Off : 5<sup>th</sup> Floor, Pragati Maidan Metro Station Building Complex, New Delhi – 110001  
CIN- U60232DL2006GOI155068, Tel.: +91-11-23454700, Fax: +91-11-23454701, Website : dfccil.gov.in



**Dedicated Freight Corridor Corporation of India Ltd.**

(A GOVERNMENT OF INDIA UNDERTAKING)

डिडीकेटिड फ्रेट कोरीडोर

compliance of CVC guidelines in this regard need to be ensured by the procurement wing (GGM (P)/EC and GGM(P)/WC) of the respective corridors. A copy of the said letter is enclosed herewith as **Annexure-III**.

This issues with the approval of MD/DFCCIL.

Thanking You,

Yours' sincerely,

*Amita Prasad Sarbhai*  
**Amita Prasad Sarbhai**  
GM/Fin./RM

Copy to:

Dir (PP)  
Dir (Infra)  
Dir (OP &BD)  
CVO  
Secretary to MD

115/9

186

ANNEXURE - J

**PRE CONTRACT INTEGRITY PACT**

**General**

This pre-bid pre-contract Agreement (hereinafter called the Integrity Pact) is made on \_\_\_\_\_ day of the month of \_\_\_\_\_ 2011, between, on one hand, the DFCCIL acting through Shri ..... Designation of the officer, (hereinafter called the CLIENT, which expression shall mean and include, unless the context otherwise requires, his successors in office and assigns) of the First Part and M/s \_\_\_\_\_ represented by Shri \_\_\_\_\_, Chief Executive Officer (hereinafter called the "BIDDER/SELLER" which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the Second part.

WHEREAS the CLIENT proposes to procure (Name of the Stores/Equipment/Item, Name of the Consultancy Service, Name of Works Contract, Name of Services) and the [A] is willing to offer/has offered for stores or works.

WHEREAS the [A] is a private company/public company/Government undertaking/partnership/ registered export agency, constituted in accordance with the relevant law in the matter and the CLIENT is a PSU performing its functions on behalf of the President of India.

NOW, THEREFOR,

To avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to:-

Enabling the CLIENT to obtain the desired said (Name of the Stores/Equipment/Item, Name of the Consultancy Service, Name of Works Contract, Name of Services) at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement, and

Enabling BIDDERS to abstain from bribing or indulging in any corrupt practice in order to secure [B] by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and the CLIENT will commit to prevent corruption, in any form, by its officials by following transparent procedures.

The parties hereto hereby agree to enter into this Integrity Pact and agree as follows:

185

**Commitments of the CLIENT**

- 1.1 The CLIENT undertakes that no official of the CLIENT, connected directly or indirectly with the [B], will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the [A] either for themselves or for any person, organization or third party related to the [B], in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the [B].
- 1.2 The CLIENT will, during the pre-contract stage, treat all BIDDERS alike, and will provide to all BIDDERS the same information and will not provide any such information to any particular BIDDER which could afford an advantage to that particular [A] in comparison to other BIDDERS.
- 1.3 All the officials of the CLIENT will report to the appropriate Government office any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach.
2. In case any such preceding misconduct on the part of such official(s) is reported by the [A] to the CLIENT with full and verifiable facts and the same is prima facie found to be correct by the CLIENT, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by the CLIENT and such a person shall be debarred from further dealings related to the [B] process. In such a case while an enquiry is being conducted by the CLIENT the proceedings under the [B] would not be stalled.

**Commitments of BIDDERS**

3. The [A] commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage in order to secure the [B] contract or in furtherance to secure it and in particular commit itself to the following:-
  - 3.1 The [A] will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the CLIENT, connected directly or indirectly with the bidding process, or to any person, organisation or third party related to the [B] in exchange for any advantage in the bidding, evaluation, contracting and implementation of the [B].
  - 3.2 The [A] further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the CLIENT or otherwise in procuring the Contract or forbearing to do or having done any act in relation to the obtaining or execution of the [B] or any other [B] with the Government

(M)

189

for showing or forbearing to show favour or disfavor to any person in relation to the [B] or any other [B] with the Government.

- 3.3\* [A] shall disclose the name and address of agents and representatives and Indian [A] shall disclose their foreign principals or associates.
- 3.4\* [A] shall disclose the payments to be made by them to agents/brokers or any other intermediary, in connection with this bid/contract.
- 3.5 The [A] further confirms and declares to the CLIENT that the [A] is the original manufacturer/integrator/authorized government sponsored export entity of the defence stores and has not engaged any individual or firm or company whether Indian or foreign to intercede, facilitate or in any way to recommend to the CLIENT or any of its functionaries, whether officially or unofficially to the award of the [B] to the [A] nor has any amount been paid, promised or intended to be paid to any such individual, firm or company in respect of any such intercession, facilitation or recommendation.
- 3.6 The [A] either while presenting the bid or during pre-contract negotiations or before signing the [B] shall disclose any payments he has made, is committed to or intends to make to officials of the CLIENT or their family members, agents, brokers or any other intermediaries in connection with the [B] and the details of services agreed upon for such payments.
- 3.7 The [A] will not collude with other parties interested in the [B] to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the [B].
- 3.8 The [A] will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.
- 3.9 The [A] shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information provided by the CLIENT as part of the business relationship, regarding plans, technical proposals and business details, including information contained in any electronic data carrier. The [A] also undertakes to exercise due and adequate care lest any such information is divulged.
- 3.10 The [A] commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.
- 3.11 The [A] shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.
- 3.12 If the [A] or any employee of the [A] or any person acting on behalf of the [A], either directly or indirectly, is a relative of any of the officers of the CLIENT, or alternatively, if any relative of an officer of the CLIENT has financial



11  
183

interest/stake in the BIDDER's firm, the same shall be disclosed by the [A] at the time of filing of tender.

The term 'relative' for this purpose would be as defined in Section 6 of the Companies Act 1956.

- 3.13 The [A] shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the CLIENT.

4. **Previous Transaction**

- 4.1 The [A] declares that no previous transgression occurred in the last three years immediately before signing of this Integrity Pact, with any other company in any country in respect of any corrupt practices envisaged hereunder or with any Public Sector Enterprise in India or any Government Department in India that could justify BIDDER's exclusion from the tender process.

- 4.2 The [A] agrees that if it makes incorrect statement on this subject, [A] can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

5. **Earnest Money (Security Deposit)**

- 5.1 While submitting commercial bid, the [A] shall deposit an amount \_\_\_\_\_ (to be specified in RFP) as Earnest Money/Security Deposit, with the CLIENT through any of the following instruments:

- (i) Bank Draft or a Pay Order in favour of \_\_\_\_\_
- (ii) A confirmed guarantee by an Indian Nationalized Bank, promising payment of the guaranteed sum to the CLIENT on demand within three working days without any demur whatsoever and without seeking any reasons whatsoever. The demand for payment by the CLIENT shall be treated as conclusive proof or payment.
- (iii) Any other mode or through any other instrument (to be specified in the RFP).

- 5.2 The Earnest Money/Security Deposit shall be valid upto a period of five years or the complete conclusion of the contractual obligations to the complete satisfaction of both the BIDDER and the CLIENT, including warranty period, whichever is later.

- 5.3 In case of the successful [A] a clause would also be incorporated in the Article pertaining to Performance Guarantee in the [B] that the provisions of Sanctions for Violation shall be applicable for forfeiture of Performance Bond in case of a decision by the CLIENT to forfeit the same without assigning any reason for imposing sanction for violation of this pact.



11/6/13  
(182)

5.4 No interest shall be payable by the CLIENT to the [A] on Earnest Money/Security Deposit for the period of its currency.

6. Sanctions for Violations

- 6.1 Any breach of the aforesaid provisions by the [A] or any one employed by it or acting on its behalf (whether with or without the knowledge of the [A]) shall entitle the CLIENT to take all or any one of the following actions, wherever required:-
- (i) To immediately call off the pre-contract negotiations without assigning any reason or giving any compensation to the [A]. However, the proceedings with the other BIDDER(s) would continue.
  - (ii) The Earnest Money Deposit (in pre-contract stage) and/or Security Deposit/performance Bond (after the [B] is signed) shall stand forfeited fully and the CLIENT shall not be required to assign any reason therefore.
  - (iii) To immediately cancel the [B], if already signed, without giving any compensation to the [A].
  - (iv) To recover all sums already paid by the CLIENT, and in case of an Indian [A] with interest thereon at 2% higher than the prevailing Prime Lending Rate of State Bank of India, while in case of a [A] from the country other than India with interest thereon at 2% higher than the LIBOR. If any outstanding payment is due to the [A] from the CLIENT in connection with any other [B], such outstanding payment could also be utilized to recover the aforesaid sum and interest.
  - (v) To encash the advance bank guarantee and performance bond/warranty bond, if furnished by the [A], in order to recover the payments, already made by the CLIENT, along with interest.
  - (vi) To cancel all or any other Contracts with the [A]. The [A] shall be liable to pay compensation for any loss or damage to the CLIENT resulting from such cancellation/rescission and the CLIENT shall be entitled to deduct the amount so payable from the money(s) due to the [A].
  - (vii) To debar the [A] from participating in future bidding processes of the Government of India for a minimum period of five years, which may be further extended at the discretion of the CLIENT.
  - (viii) To recover all sums paid in violation of this Pact by [A]) to any middleman or agent or broker with a view to securing [B] the contract.

52

(8)

- (ix) In cases where irrevocable Letters of Credit have been received in respect of any [B] signed by the CLIENT with the [A], the same shall not be opened.
- (x) Forfeiture of Performance Bond in case of a decision by the CLIENT to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.

6.2 The CLIENT will entitled to take all or any of the actions mentioned at para 6.1(i) to (x) of this Pact also on the Commission by the [A] or any one employed by it or acting on its behalf (whether with or without the knowledge of the [A], of an offence as defined in Chapter IX of the Indian Penal Code, 1860 or Prevention of Corruption Act, 1988 or any other statute enacted for prevention of corruption.

6.3 The decision of the CLIENT to the effect that a breach of the provisions of this Pact has been committed by the [A] shall be final and conclusive on the [A]. However, the [A] can approach the Independent Monitor(s) appointed for the purposes of this Pact.

7. Fall Clause

7.1 The [A] undertakes that it has not supplied /is not supplying similar product/systems or subsystems at a price lower than that offered in the present bid in respect of any other Ministry/Department of the Government of India or PSU and if it is found at any stage that similar product/systems or sub systems was supplied by the [A] to any other Ministry/Department of the Government of India or a PSU at a lower price, then that very price, with due allowance for elapsed time, will be applicable to the present case and the difference in the cost would be refunded by the [A] to the CLIENT, if the [B] has already been concluded.

8. Independent Monitors

8.1 The CLIENT has appointed Independent Monitors (hereinafter referred to as Monitors) for this Pact in consultant with the Central Vigilance Commission (Names and Addresses of the Monitors to be given).

8.2 The task of the Monitors shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this Pact.

8.3 The Monitors shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently.

8.4 Both the parties accept that the Monitors have the right to access all the documents relating to the project/procurement, including minutes of meetings.

8

11/6/15  
180

- 8.5 As soon as the Monitor notices, or has reason to believe, a violation of this Pact, he will so inform the Authority designated by the CLIENT.
- 8.6 The BIDDER(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the CLIENT including that provided by the BIDDER. The [A] will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Subcontractors. The Monitor shall be under contractual obligation to treat the information and documents of the [A] with confidentiality.
- 8.7 The CLIENT will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the parties. The parties will offer to the Monitor the option to participate in such meetings.
- 8.8 The Monitor will submit a written report to the MD/DFCCIL within 8 to 10 weeks from the date of reference or intimation to him by the CLIENT/BIDDER and, should the occasion arise, submit proposals for correcting problematic situations.
9. **Facilitation of Investigation**  
In case of any allegation of violation of any provisions of this Pact or payment of commission, the CLIENT or its agencies shall be entitled to examine all the documents including the Books of Accounts of the [A] and the [A] shall provide necessary information and documents in English and shall extend all possible help for the purpose of such examination.
10. **Law and Place of Jurisdiction**  
This Pact is subject to Indian Law. The place of performance and jurisdiction is the seat of the CLIENT.
11. **Other Legal Actions**  
The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.
12. **Validity**
- 12.1 The validity of this Integrity Pact shall be from date of its signing and extend upto 5 years or the complete execution of the [B] to the satisfaction of both the CLIENT and the [A], including warranty period, whichever is later. In case [A] is unsuccessful, this Integrity Pact shall expire after six months from the date of the signing of the [B].
- 12.2 Should one or several provisions of this Pact turn out to be invalid; the remainder of this Pact shall remain valid. In this case, the parties will strive to come to an agreement to their original intentions.

9

11-6/16

(179)

13. The parties hereby sign this Integrity Pact at \_\_\_\_\_ on \_\_\_\_\_

CLIENT  
Name of the Officer  
Designation  
Deptt./Ministry/PSU

BIDDER  
CHIEF EXECUTIVE OFFICER

Witness

1. \_\_\_\_\_

2. \_\_\_\_\_

Witness

1. \_\_\_\_\_

2. \_\_\_\_\_

Note :

[A] – To be replaced by BIDDER/Seller/Consultant/Consultancy firm/Service provider as the case may be.

[B] – To be replaced by Contract/Supply Contract/Consultancy Contract/Works Contract as the case may be.

(16)

178/  
13/9/12

NOTE

Amendment - II

178

No. HQ/Vig./CVC/RV/Circulars

Dated 11.09.12

Sub: - Adoption of Integrity Pact Standard Operating Procedure.

On the above noted subject copy of CVC Circular No. 06/07/12 dated 23.07.12 is enclosed herewith for information and necessary action.

DA/ as above

(L.D. Bhoria)  
Dy. G.M. (Vigilance)

Copy to:-

1. PS to MD for information of MD
2. All GGMs, AGMs, GMs/DFCCIL
3. All CPMs/DECCIL

GM/RM  
This can be done by you  
GGM/RS  
Dm  
17/9

It discuss the status of Integrity Pact.

R  
14/9  
ms

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No. 011/VGL/053 - 18.5.09  
Central Vigilance Commission  
\*\*\*\*\*

Satarkta Bhawan, Block-A,  
GPO Complex, INA,  
New Delhi-110023.  
Dated: 23<sup>rd</sup> July, 2012

Circular No. 06/07/12

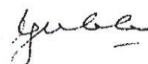
Subject:- Adoption of Integrity Pact-Standard Operating Procedure-reg.

In continuation of Commission's circular No. 10/5/09 dated 18.5.09 laying down "Standard Operating Procedure" for adoption of Integrity Pact in major Govt. Department/organisations, the Commission has decided to lay down age criteria for appointment of IEMs. Commission has therefore resolved that at the time of appointment as IEM, the person concerned should be less than 70 years of age. On completion of tenure of initial three years if age of 70 years has been crossed, further extension of two years will not be admissible.

2. Accordingly, a new sub-para i.e. 5.10 under Para 5 of the Commission's circular No. 10/5/09 dated 18.5.09 is added which may be read as under:

*5.10 At the time of appointment as IEM the person should be less than 70 years of age. On completion of tenure of initial three years if age of 70 years has been crossed, further extension of two years will not be admissible.*

Other provision contained in Commission's circular No. 10/5/09 dated 18.5.09 would remain unchanged.

  
(Madhu Sham)  
Deputy Secretary

All Chief Vigilance Officers

(12)

**RFP for preparation FLS and DPR of East West Sub Corridor Section-8-4 Appendices**

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51

Annexure-III

176

77

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15/1/2015

GOVERNMENT OF INDIA  
MINISTRY OF RAILWAYS  
(RAILWAY BOARD)

No. 2013/Infra/6/21

Dated: 13.1.2015

Managing Director, DFCCIL,  
5<sup>th</sup> Floor, Pragati Maidan  
Station Building Complex  
New Delhi-110001  
Fax-23454605, 23454701

Sub: Use of Integrity Pact by Public Sector Undertakings.

Ref: DFCCIL letter No. HQ/F&AC/GGM-RM/INTG.PACT/2011/1 dated  
21.10.2013.

*ir/Fin*  
In ref to above letter, it is requested to advise the basis for the proposed threshold value above which the Integrity Pact would be used in procurement transactions/contracts. It is prudent to mention here that as per CVC's guidelines, threshold value for the procurement transactions/contracts should be decided after conducting proper ABC analysis and should be fixed so as to cover 90-95% of the total procurement of the organisation in monetary terms. It is requested to confirm that the above guidelines have been followed. Details of works contracts, consulting services, hire/lease/repair and maintenance contracts and purchase of stores made in last three years, may also be furnished.

*Please put up.*

*15/1/15*

*15/1/15*

*17/1/15*

*13/1/15*  
(Sandeep Srivastava)  
Director Planning (Special)  
Room # 143, Rail Bhawan  
Telefax: +91-11-23383525  
Email: [dplgspl@gmail.com](mailto:dplgspl@gmail.com)

13