



# **PREQUALIFICATION DOCUMENTS**

**For**

## **Procurement of**

*Design, manufacture, supply,  
installation, testing and commissioning  
of Tunnel Ventilation & Environmental  
Control Systems*

**MM3-CBS-TVE**

**Employer: Mumbai Metro Rail Corporation**

**Country: Republic of India**

**Project: MUMBAI METRO LINE 3**

**Loan No.: [ID-P 233]**



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# **PART 1 – Prequalification Procedures**

## **Section I. Instructions to Applicants**

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### A. General

- 1. Scope of Application**
  - 1.1 In connection with the Invitation for Prequalification **specified in Section II, Prequalification Data Sheet (PDS)**, the Employer, as **specified in the PDS**, issues these Prequalification Documents (“Prequalification Documents”) for prequalification to bid for the Works described in Section VI, Scope of Works. In case the Works are to be bid as individual contracts (i.e. the slice and package procedure), these are **specified in the PDS**.
  - 1.2 Throughout these Prequalification Documents:
    - (a) the term “in writing” means communicated in written form and delivered against receipt;
    - (b) except where the context requires otherwise, words indicating the singular also include the plural and words indicating the plural also include the singular; and
    - (c) “day” means calendar day.
  
- 2. Source of Funds**
  - 2.1 The Borrower **specified in the PDS** has received or has applied for a Japanese ODA Loan from Japan International Cooperation Agency (hereinafter referred to as “JICA”), with the number, in the amount, and on the signed date of the Loan Agreement **specified in the PDS**, towards the cost of the project **named in the PDS**. The Borrower intends to apply a portion of the proceeds of the loan to payments under the contract resulting from the bidding for which this prequalification is conducted.
  - 2.2 Disbursement of a Japanese ODA Loan by JICA will be subject, in all respects, to the terms and conditions of the Loan Agreement, including the disbursement procedures and the applicable Guidelines for Procurement under Japanese ODA Loans **specified in the PDS**. No party other than the Borrower shall derive any rights from the Loan Agreement or have any claim to loan proceeds.
  - 2.3 The above Loan Agreement will cover only part of the project cost. As for the remaining portion, the Borrower will take appropriate measures for finance.
  
- 3. Corrupt and Fraudulent Practices**
  - 3.1 In this ITA 3.1, “Bidder” and “Contractors” are used as synonyms of “Applicants.”

It is JICA’s policy to require that Bidders and Contractors, as well as Borrowers, under contracts funded with Japanese ODA Loans and other Japanese ODA, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, JICA:

    - (a) will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;
    - (b) will recognise a Bidder or Contractor as ineligible, for a period determined by JICA, to be awarded a contract funded with Japanese ODA Loans if it at any time determines that the Bidder or the Contractor has engaged in corrupt or fraudulent practices in competing for, or in executing another contract funded with Japanese ODA Loans or other Japanese ODA; and
    - (c) Will recognise a Contractor as ineligible to be awarded a contract funded

with Japanese ODA Loans if the Contractor or subcontractor, who has a direct contract with the Contractor, is debarred under the cross debarment decisions by the Multilateral Development Banks. Such period of ineligibility shall not exceed three (3) years from (and including) the date on which the cross debarment is imposed.

“Cross debarment decisions by the Multilateral Development Banks” is a corporate sanction in accordance with the agreement among the African Development Bank Group, Asian Development Bank, European Bank for Reconstruction and Development, Inter-American Development Bank Group and the World Bank Group signed on 9 April, 2010 (as amended from time to time). JICA will recognise the World Bank Group’s debarment of which period exceeds one year, imposed after 19 July, 2010, the date on which the World Bank Group started cross debarment, as “cross debarment decisions by the Multilateral Development Banks.” The list of debarred firms and individuals is available at the electronic address **specified in the PDS**.

JICA will recognise a Bidder or Contractor as ineligible to be awarded a contract funded with Japanese ODA Loans if the Bidder or Contractor is debarred by the World Bank Group for the period starting from the date of advertisements for Prequalification up to the signing of the contract, unless (i) such debarment period does not exceed one year, or (ii) three (3) years have passed since such debarment decision.

If it is revealed that the Contractor was ineligible to be awarded a contract according to above, JICA will, in principle, impose sanctions against the Contractor.

If it is revealed that the subcontractor, who has a direct contract with the Contractor, was debarred by the World Bank Group on the subcontract date, JICA will, in principle, require the Borrower to have the Contractor cancel the subcontract immediately, unless (i) such debarment period does not exceed one year, or (ii) three (3) years have passed since such debarment decision. If the Contractor refuses, JICA will require the Borrower to declare invalidity or cancellation of the contract and demand the refund of the relevant proceeds of the loan or any other remedies on the grounds of contractual violation.

**4. Eligible Applicants**

- 4.1 For the purpose of applying the eligibility criteria listed in this ITA 4, references to the “Applicant” include all entities, involved or intended to be involved with the proposed Works (including all partners and any of their affiliates that directly or indirectly control, or are controlled by or are under common control with the firm), specialist subcontractors, consultants, manufacturers or suppliers (as mentioned in Form ELI-1.2 Applicant’s Party Information Form), and the personnel of each, for any part of the contract including related services.
- 4.2 An Applicant may be a firm that is a single entity or any combination of such entities in the form of joint venture (JV) under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent. In the case of a JV, all members shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms. The JV shall nominate an authorised representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the prequalification process, bidding (in the event the JV submits a



- Bid) and during contract execution (in the event the JV is awarded the Contract).
- 4.3 An Applicant and all members constituting the Applicant shall be from any of the eligible source countries as indicated in Section V, Eligible Source Countries of Japanese ODA Loans.
- 4.4 An Applicant shall not have a conflict of interest. An Applicant shall not be employed under any of the circumstances set forth below, where it is determined to have a conflict of interest throughout the bidding/selection process and/or the execution of the contract unless the conflict has been resolved in a manner acceptable to JICA.
- (a) A firm shall be disqualified from providing goods or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of a project that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm. This provision does not apply to the various firms (consultants, contractors, or suppliers) only due to the reason that those firms together are performing the Contractor's obligations under a turnkey or design and build contract.
- (b) A firm that has a close business relationship with the Borrower's professional personnel, who are directly or indirectly involved in any part of: (i) the preparation of the Prequalification and bid documents for the contract, (ii) the Prequalification and bid evaluation, or (iii) the supervision of such contract, shall be disqualified.
- 4.5 A firm and any of its affiliates (that directly or indirectly control, are controlled by or are under common control with that firm) may submit their applications for prequalification either individually, as joint venture or as a subcontractor among them for the same contract. However, if prequalified, based on the "One Bid Per Bidder" principle, which is to ensure fair competition, only one prequalified applicant will be allowed to bid for the same contract. All Bids submitted in violation of this procedure will be rejected. A firm (including its affiliate), if acting in the capacity of a subcontractor in one Bid, may participate in other Bids, only in that capacity.
- 4.6 A firm having any other form of conflict of interest other than ITA 4.4 and ITA 4.5 shall be disqualified.
- 4.7 An Applicant that has been determined to be ineligible by JICA in accordance with ITA 3, shall not be eligible to be awarded a contract.
- 4.8 Applicants shall provide such evidence of their continued eligibility satisfactory to the Employer, as the Employer shall reasonably request.

#### **B. Contents of the Prequalification Documents**

### **5. Sections of Prequalification Documents**

- 5.1 These Prequalification Documents consist of Parts 1 and 2 which include all the Sections specified below, and which should be read in conjunction with any addendum ("Addendum") issued in accordance with ITA 7.

#### **PART 1 Prequalification Procedures**

- Section I. Instructions to Applicants (ITA)
- Section II. Prequalification Data Sheet (PDS)

- Section III. Qualification Criteria and Requirements
- Section IV. Application Forms
- Section V. List of Eligible Countries of Japanese ODA Loans

PART 2 Works Requirements

- Section VI. Scope of Works

- 5.2 The Invitation for Prequalification issued by the Employer is not part of the Prequalification Documents.
- 5.3 Unless obtained directly from the Employer, the Employer accepts no responsibility for the completeness of the document, responses to requests for clarification, the minutes of the pre-Application meeting (if any), or Addendum to the Prequalification Documents in accordance with ITA 7. In case of any discrepancies, documents issued directly by the Employer shall prevail.
- 5.4 The Applicant is expected to examine all instructions, forms, and terms in the Prequalification Documents and to furnish with its Application all information or documentation as is required by the Prequalification Documents.
- 5.5 General information on the climate, hydrology, topography, access to site, transportation and communications facilities, medical facilities, project layout, expected construction period, and other services and facilities to be provided by the Employer is furnished in Section VI, Scope of Works.

**6. Clarification of Prequalification Documents**

- 6.1 A prospective Applicant requiring any clarification of the Prequalification Documents shall contact the Employer in writing at the Employer's address **specified in the PDS**. The Employer will respond in writing to any request for clarification provided that such request is received no later than fourteen (14) days prior to the deadline for submission of Applications. The Employer shall forward copies of its response to all Applicants who have obtained the Prequalification Documents directly from the Employer including a description of the inquiry but without identifying its source. If so **specified in the PDS**, the Employer shall also promptly publish its response at the web page **identified in the PDS**. Should the Employer deem it necessary to amend the Prequalification Documents as a result of a clarification, it shall do so following the procedure under ITA 7 and in accordance with the provisions of ITA 16.2.
- 6.2 If so **indicated in the PDS**, the prospective Applicant's designated representative is invited at the Applicant's cost to attend a pre-Application meeting at the place, date and time **mentioned in the PDS**. During this pre-Application meeting, prospective Applicants may request clarification of the project requirement, the criteria for qualifications or any other aspects of the Prequalification Documents.
- 6.3 Minutes of the pre-Application meeting, if applicable, including the text of the questions asked by Applicants, including those during the meeting (without identifying the source) and the responses given, together with any responses prepared after the meeting will be transmitted promptly to all prospective Applicants who have obtained the Prequalification Documents. Any modification to the Prequalification Documents that may become necessary as a result of the pre-Application meeting shall be made by the Employer exclusively through the use of an Addendum pursuant to ITA 7.

Non-attendance at the pre-Application meeting will not be a cause for disqualification of an Applicant.

- 7. Amendment of Prequalification Documents**
- 7.1 At any time prior to the deadline for submission of Applications, the Employer may amend the Prequalification Documents by issuing addenda.
- 7.2 Any Addendum issued shall be part of the Prequalification Documents and shall be communicated in writing to all who have obtained the Prequalification Documents from the Employer. If so **specified in the PDS**, the Employer shall promptly publish the Addendum at the Employer's web page **identified in the PDS**.
- 7.3 To give prospective Applicants reasonable time to take an Addendum into account in preparing their Applications, the Employer may, at its discretion, extend the deadline for the submission of Applications in accordance with ITA 16.2.

### C. Preparation of Applications

- 8. Cost of Applications**
- 8.1 The Applicant shall bear all costs associated with the preparation and submission of its Application. The Employer shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the prequalification process.
- 9. Language of Application**
- 9.1 The Application as well as all correspondence and documents relating to the prequalification exchanged by the Applicant and the Employer, shall be written in the language **specified in the PDS**. Supporting documents and printed literature that are part of the Application may be in another language, provided they are accompanied by an accurate translation of the relevant passages in the language **specified in the PDS**, in which case, for purposes of interpretation of the Application, the translation shall govern.
- 10. Documents Comprising the Application**
- 10.1 The application shall comprise the following:
- (a) Application Submission Form, in accordance with ITA 11.1;
  - (b) documentary evidence establishing the Applicant's eligibility to prequalify, in accordance with ITA 12.1;
  - (c) documentary evidence establishing the Applicant's qualifications, in accordance with ITA 13;
  - (d) Acknowledgement of Compliance with Guidelines for Procurement under Japanese ODA Loans (Form-ACK), which shall be signed and dated by the Applicant's authorised representative; and
  - (e) any other document required as **specified in the PDS**.
- 11. Application Submission Form**
- 11.1 The Applicant shall complete an Application Submission Form as provided in Section IV, Application Forms. This Form must be completed without any alteration to its format.
- 12. Documents Establishing the Eligibility of the**
- 12.1 To establish its eligibility in accordance with ITA 4, the Applicant shall complete the eligibility declarations in the Application Submission Form and Forms ELI 1.1 and 1.2, included in Section IV, Application Forms.

## Applicant

### 13. Documents Establishing the Qualifications of the Applicant

13.1 To establish its qualifications to perform the contract(s) in accordance with Section III, Qualification Criteria and Requirements, the Applicant shall provide the information requested in the corresponding forms included in Section IV, Application Forms.

13.2 Wherever an Application Form requires an Applicant to state a monetary amount, the Applicant should indicate the USD equivalent using the rate of exchange determined as follows:

For construction turnover or financial data required for each year - Exchange rate prevailing on the last day of the respective calendar year.

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

Exchange rates shall be taken from the publicly available source **identified in the PDS** or, in case such rates are not available in the source identified above, any other publicly available source acceptable to the Employer. Any error in determining the exchange rates in the Application may be corrected by the Employer.

### 14. Signing of the Application and Number of Copies

14.1 The Applicant shall prepare one original of the documents comprising the Application as described in ITA 10 and clearly mark it "ORIGINAL". The original of the Application shall be typed or written in indelible ink and shall be signed by a person duly authorised to sign on behalf of the Applicant. In case the Applicant is a JV, the Application shall be signed by an authorised representative of the JV on behalf of the JV and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorised signatories.

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

#### **D. Submission of Applications**

- 15. Sealing and Identification of Applications**
- 15.1 The Applicant shall enclose the original and the copies of the Application in a sealed envelope that shall:
- (a) bear the name and address of the Applicant;
  - (b) be addressed to the Employer, in accordance with ITA 16.1; and
  - (c) bear the specific identification of this prequalification process, **specified in PDS 1.1.**
- 15.2 The Employer will accept no responsibility for not processing any envelope that was not identified as required in ITA 15.1 above.
- 16. Deadline for Submission of Applications**
- 16.1 Applicants may either submit their Applications by mail or by hand. Applications shall be received by the Employer at the address and no later than the deadline **specified in the PDS.**
- 16.2 The Employer may, at its discretion, extend the deadline for the submission of Applications by amending the Prequalification Documents in accordance with ITA 7, in which case all rights and obligations of the Employer and the Applicants subject to the previous deadline shall thereafter be subject to the deadline as extended.
- 17. Late Applications**
- 17.1 The Employer reserves the right to accept or reject late Applications.
- 18. Opening of Applications**
- 18.1 The Employer shall open all Applications at the date, time and place **specified in the PDS.**
- 18.2 The Employer shall prepare a record of the opening of Applications to include, as a minimum, the name of the Applicants. A copy of the record shall be distributed to all Applicants.

#### **E. Procedures for Evaluation of Applications**

- 19. Confidentiality**
- 19.1 Information relating to the Applications, their evaluation and result shall not be disclosed to Applicants or any other persons not officially concerned with the prequalification process until the notification of prequalification results is made to all Applicants in accordance with ITA 26.
- 19.2 From the deadline for submission of Applications to the time of notification of the results of the prequalification in accordance with ITA 26, any Applicant that wishes to contact the Employer on any matter related to the prequalification process (except as specified in ITA 19.1 above), may do so only in writing.
- 20. Clarification of Applications**
- 20.1 To assist in the evaluation of Applications, the Employer may, at its discretion, ask an Applicant for a clarification (including missing documents) of its Application, to be submitted within a stated reasonable period of time. Any request for clarification from the Employer and all clarifications from the Applicant shall be in writing.
- 20.2 If an Applicant does not provide clarifications of the information requested by the date and time set in the Employer's request for clarification, its Application shall be evaluated based on the information and documents

available at the time of evaluation of the Application.

**21. Responsiveness of Applications** 21.1 The Employer may reject any Application which is not responsive to the requirements of the Prequalification Documents. In case the information furnished by the Applicant is incomplete or otherwise requires clarification as per ITA 20.1, and the Applicant fails to provide satisfactory clarification and/or missing information, it may result in disqualification of the Applicant.

**22. Subcontractors** 22.1 Applicants planning to subcontract any of the key activities indicated in Section III, Qualification Criteria and Requirements, shall specify the activity (ies) or parts of the Works to be subcontracted in the Application Submission Form. Applicants shall clearly identify the proposed specialist subcontractor(s) in Forms ELI-1.2 and EXP -4.2(b) in Section IV, Application Forms. Such proposed specialist subcontractor(s) shall meet the corresponding qualification requirements specified in Section III, Qualification Criteria and Requirements.

22.2 At this time, the Employer does not intend to execute certain specific parts of the Works by subcontractors selected in advance by the Employer (Nominated Subcontractors) **unless otherwise stated in the PDS.**

#### **F. Evaluation of Applications and Prequalification of Applicants**

**23. Evaluation of Applications** 23.1 The Employer shall use the factors, methods, criteria, and requirements defined in Section III, Qualification Criteria and Requirements to evaluate the qualifications of the Applicants, and no other methods, criteria, or requirements shall be used. The Employer reserves the right to waive minor deviations in the qualification criteria if they do not materially affect the technical capability and financial resources of an Applicant to perform the contract.

23.2 Only the qualifications of subcontractors that have been identified in the Application may be considered in the evaluation of an Applicant. However, the general experience and financial resources of subcontractors may not be added to those of the Applicant for purposes of prequalification of the Applicant.

23.3 Unless otherwise **specified in the PDS**, this prequalification shall be for a single contract.

23.4 Only the qualifications of the Applicant shall be considered. In particular, the qualifications of a parent or other affiliated company that is not party to the Applicant under a JV in accordance with ITA 4.2 shall not be considered.

23.5 In case of multiple contracts, Applicants should indicate in their Applications the individual contract or combination of contracts in which they are interested. The Employer shall prequalify each Applicant for the maximum combination of contracts for which the Applicant has thereby indicated its interest and for which the Applicant meets the aggregate requirements or any other reasonable requirements set forth by the Employer. The Qualification Criteria and Requirements are mentioned in Section III.

**24. Employer's Right to Accept or Reject Applications** 24.1 The Employer reserves the right to accept or reject any Application, and to annul the prequalification process and reject all Applications at any time, without thereby incurring any liability to Applicants.

- 25. Prequalification of Applicants** 25.1 All Applicants whose Applications substantially meet or exceed the specified qualification requirements will be prequalified by the Employer.
- 26. Notification of Prequalification** 26.1 The Employer shall notify all Applicants in writing of the names of those Applicants who have been prequalified. In addition, those Applicants who have been disqualified will be informed separately.
- 26.2 Applicants that have not been prequalified may write to the Employer to request, in writing, or in a meeting, the grounds on which they were disqualified.
- 27. Invitation for Bids** 27.1 Promptly after the notification of the results of the prequalification, the Employer shall invite Bids from all the Applicants that have been prequalified.
- 27.2 Bidders may be required to provide a Bid Security acceptable to the Employer in the form and an amount to be specified in the Bid documents, and the successful Bidder shall be required to provide a Performance Security to be specified in the Bid documents.
- 27.3 The Bid documents will be prepared in accordance with the applicable Standard Bidding Documents of JICA **specified in the PDS.**
- 28. Changes in Qualifications of Applicants** 28.1 Any change in the structure or formation of an Applicant after being prequalified in accordance with ITA 25 and invited to bid (including, in the case of a JV, any change in the structure or formation of any member thereto) shall be subject to a written approval of the Employer prior to the deadline for submission of Bids. Such approval shall be denied, if; (i) such change has not taken place by the free choice of the firms involved; (ii) as a consequence of the change, the Applicant no longer substantially meets the qualification criteria set forth in Section III, Qualification Criteria and Requirements; or (iii) in the opinion of the Employer, the change may result in a substantial reduction in competition.
- Any such changes should be submitted to the Employer not later than fourteen (14) days after the date of the Invitation for Bids.





## **Section II. Prequalification Data Sheet**

### Prequalification Data Sheet

<b>A. General</b>	
<b>ITA 1.1</b>	The number of the Invitation for Prequalification is <b>MM3-CBS-TVE</b> .
<b>ITA 1.1</b>	The Employer is Mumbai Metro Rail Corporation.
<b>ITA 1.1</b>	The name, identification, and number of the lot(s) (contract(s)) are <b><i>Design, manufacture, supply, installation, testing and commissioning of Tunnel Ventilation System/Environmental Control Systems</i></b> which consists of three (3) contracts packages MM3-CBS-TVE-01(Lot 1), MM3-CBS-TVE-02 (Lot 2) and MM3-CBS-TVE-03 (Lot 3)
<b>ITA 1.2</b>	<b>Add the following sentence at the end of ITA 1.2:</b> “JV” means Consortium or Joint Venture.
<b>ITA 2.1</b>	The name of the Borrower is Government of India.
<b>ITA 2.1</b>	The number of the Loan Agreement is ID-P 233. The amount of a Japanese ODA Loan is Seventy One (71) billion Japanese Yen. The signed date of the Loan Agreement is 17 <sup>th</sup> September 2013
<b>ITA 2.1</b>	The name of the Project is Mumbai Metro Line 3 (Colaba-Bandra-SEEPZ)
<b>ITA 2.2</b>	The applicable Guidelines for Procurement under Japanese ODA Loans are those published in April 2012.
<b>ITA 3.1 (c)</b>	A list of debarred firms and individuals is available at the World Bank’s website: <a href="http://www.worldbank.org/debarr">www.worldbank.org/debarr</a>
<b>ITA 4.1</b>	An applicant should be either  (a) An Indian Company incorporated under Companies Act, 1956 (which has been replaced by Companies Act, 2013).  OR  (b) A Foreign Company registered under relevant legislation in its country of origin and having permission to carry out business in India.
<b>B. Contents of the Prequalification Documents</b>	
<b>ITA 5.1</b>	Eligible applicants may obtain the pre-qualification documents after 6 <sup>th</sup> April 2016 by downloading from the website or address below:  The Managing Director, MMRC  R13, NaMTTRI building E-Block, Bandra Kurla Complex, Bandra (East),  Mumbai – 400 051, India,  Website: <a href="https://www.mmrc.com">https://www.mmrc.com</a>  The documents will be available for a non-refundable fee of INR 2,500/- or US\$38 (Inclusive of MH VAT) to be paid in the form of Demand Draft/Bankers Cheque from any Nationalised / Scheduled Bank in favour of “Mumbai Metro Rail Corporation Limited” payable at “Mumbai” at the office address mentioned above.

<b>ITA 6.1</b>	For <b>clarification purposes</b> only, the Employer's address is: Attention: (Mr.) R.K. Sharma, Executive Director (Elect.) R13, NaMTTRI building E-Block, Bandra Kurla Complex, Bandra (East), Mumbai – 400 051, India, Telephone: +91 22 26597654 Facsimile number: +91 22 26592005 Email Id: <a href="mailto:Ramesh.sharma@mmrcl.com">Ramesh.sharma@mmrcl.com</a>
<b>ITA 6.1 &amp; 7.2</b>	Responses to any request for clarification, if any, will not be published on the Employer's web page.
<b>ITA 6.2</b>	A pre-Application meeting will take place at the following date, time and place: Date: 21 <sup>st</sup> April 2016 Time: 3:00 p.m. Place: R13 NaMTTRI building E-Block, Bandra Kurla Complex, Bandra (East), Mumbai – 400 051, India,
<b>C. Preparation of Applications</b>	
<b>ITA 9.1</b>	The language of the Application as well as of all correspondence is English.
<b>ITA 10.1 (e)</b>	The Applicant shall submit with its Application, the following additional documents: NONE
<b>ITA 13.2</b>	“For Construction turnover or financial data required for each year – Exchange rate prevailing on the last day of the respective calendar year for the countries where the financial year ending on 31st December and for the countries where the financial year ending on 31st March, the Exchange rate prevailing on the 31st December of the preceding year.”  The source for determining exchange rates is <b>Reserve Bank of India</b> reference rate (foreign currency). If the source of the exchange rate for the Bidder's proposed currency cannot be found in the Reserve Bank of India reference rate (foreign currency), then with the Employer's concurrence, the rate in the web site <a href="http://www.xe.com">www.xe.com</a> may be used.
<b>ITA 14.1</b>	<b>Add the following sentence at the end of ITA 14.1:</b> All documents must be spiral/hard bound. No loose papers will be accepted.
<b>ITA 14.2</b>	In addition to the original, the number of copies to be submitted with the Application is two sets of copies and one electronic version (PDF on CD).  The Application should be clearly marked “Application to Pre-qualify for Mumbai Metro Line 3 (Colaba-Bandra-SEEPZ) - Design, manufacture, supply, installation, testing and commissioning of Tunnel Ventilation System/Environmental Control Systems (MM3-CBS-TVE)”.
<b>D. Submission of Application</b>	
<b>ITA 16.1</b>	Submission of applications for pre-qualification must be received in sealed envelopes, either delivered by hand, courier or by registered mail.  <b>The deadline for Application submission is:</b> Date: 27 <sup>th</sup> May 2016

	<p>Time: 3:00 p.m.</p> <p>For <b>Application submission purposes</b> only, the Employer's address is:</p> <p>Attention: The Managing Director, MMRC</p> <p>R13 NaMTTRI building E-Block, Bandra Kurla Complex, Bandra (East), Mumbai – 400 051, India,</p>
<b>ITA 18.1</b>	The opening of the Applications shall be at 4:00 p.m. on 27 <sup>th</sup> May 2016
<b>E. Procedures for Evaluation of Applications</b>	
<b>ITA 22.2</b>	At this time the Employer does not intend to execute certain specific parts of the Works by subcontractors selected in advance (Nominated Subcontractors).
<b>F. Evaluation of Applications and Prequalification of Applicants</b>	
<b>ITA 23.3</b>	<p>As stipulated in ITA 1.1, this prequalification exercise shall be for multiple contracts packages. The whole of the works will be divided into three (3) contract packages as under:-</p> <p>MM3-CBS-TVE-01 Lot 1 Aarey (incl) to BKC (incl)</p> <p>MM3-CBS-TVE-02 Lot 2 BKC (excl) to Science Museum (incl)</p> <p>MM3-CBS-TVE-03 Lot 3 Science Museum (excl) to Cuffe Parade (incl).</p> <p>The Employer will prequalify each Applicant for a maximum contract value (bidding capacity). An Applicant shall be allowed to bid for any contract within his bidding capacity. However, he may only be awarded a maximum number of any <u>2 contracts</u> , provided he meets the aggregated requirements of such contract combination (award capacity).</p> <p>A bidder's award capacity will be determined during bid evaluation when additional information will be assessed such as (i) current contract commitments, (ii) cash flow capacity, (iii) equipment to be allocated, and (iv) personnel to be submitted will be assessed.</p> <p>It is to be noted that Aarey Station will be at grade &amp; air-conditioning provision for certain areas to be included.</p>
<b>ITA 26.1</b>	Applicants will be advised by the Employer in writing by fax or telex, within 60 days of the date for submission of applications, of the result of their application, and of the names of the pre-qualified applicants, without being assigned any reason for the Employer's decision.
<b>ITA 27.3</b>	The Bid documents will be prepared in accordance with Standard Bidding Documents Under Japanese ODA Loans (Plant) published by JICA.

## **Section III. Qualification Criteria and Requirements**

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Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Factor	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
<b>1. Eligibility</b>							
1.1	<b>Nationality</b>	Nationality in accordance with ITA Sub-Clause 4.3	Must meet requirement	N/A	Must meet requirement	N/A	Forms ELI – 1.1 and 1.2, with attachments
1.2	<b>Conflict of Interest</b>	No conflicts of interest in ITA Sub-Clauses 4.4, 4.5 and 4.6	Must meet requirement	N/A	Must meet requirement	N/A	Application Submission Form
1.3	<b>JICA Ineligibility</b>	Not having been declared ineligible by JICA, as described in ITA Sub-Clause 4.7	Must meet requirement	N/A	Must meet requirement	N/A	Application Submission Form Form ACK
<b>2. Historical Contract Non-Performance</b>							
2.1	<b>History of Non-Performing Contracts</b>	Non-performance of a contract <sup>(i)</sup> did not occur as a result of contractor's default since 1 <sup>st</sup> January 2014.	Must meet requirement <sup>(ii)</sup>	N/A	Must meet requirement <sup>(ii)</sup>	N/A	Form CON – 2
2.2	<b>Pending Litigation</b>	All pending litigation shall in total not represent more than 50 % of the Applicant's net worth and shall be treated as resolved against the Applicant.	Must meet requirement <sup>(ii)</sup>	N/A	Must meet requirement <sup>(ii)</sup>	N/A	Form CON – 2

Eligibility and Qualification Criteria			Compliance Requirements			Documentation	
No.	Factor	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
2.3	<b>Litigation History</b>	No consistent history of court/arbitral award decisions <sup>(iv)</sup> against the Applicant <sup>(iii)</sup> since 1 <sup>st</sup> January 2011.	Must meet requirement <sup>(ii)</sup>	N/A	Must meet requirement <sup>(ii)</sup>	N/A	Form CON – 2

Notes for the Applicant

- (i)** Non-performance, as decided by the Employer, shall include all contracts
  - (a) where non-performance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and
  - (b) that were so challenged but fully settled against the contractor.

Non-performance shall not include contracts where Employer’s decision was overruled by the dispute resolution mechanism. Non-performance must be based on all information on fully settled disputes or litigation, i.e. dispute or litigation that has been resolved in accordance with the dispute resolution mechanism under the respective contract and where all appeal instances available to the Applicant have been exhausted.
- (ii)** This requirement also applies to contracts executed by the Applicant as a JV member.
- (iii)** The Applicant shall provide accurate information on the related Application Form about any litigation or arbitration resulting from contracts completed or ongoing under its execution over the last five (5) years. A consistent history of awards against the Applicant or any member of a joint venture may result in failure of the Application.
- (iv)** The occurrence of one (1) or two (2) adverse cases over five (5) years for a Contractor handling, on average, ten (10) similar contracts simultaneously, should not be a cause for rejection.



No.	Factor	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
<b>3. Financial Situation</b>							
3.1	<b>Financial Performance</b>	<p>The audited balance sheets or, if not required by the laws of the Applicant's country, other financial statements acceptable to the Employer, for the last 5 years ending <b>31<sup>st</sup> March 2015</b> for the countries where the financial year ending on 31<sup>st</sup> March , or for the last 5 years ending <b>31<sup>st</sup> December 2014</b> for the countries where the financial year ending on 31<sup>st</sup> December shall be submitted and must demonstrate the current soundness of the Applicant's financial position and indicate its prospective long-term profitability.</p> <p>As the minimum requirement, an Applicant's net worth calculated as the difference between total assets and total liabilities should be positive.</p>	Must meet requirement	N/A	Must meet requirement	N/A	Form FIN – 3.1 with attachments

3.2	<b>Average Annual Turnover</b>	<p><u>For one (1) contract package</u></p> <p>The average annual turnover as a prime contractor (defined as billing for TVS/ECS contracts in progress or completed) over the last 5 financial years (i.e. financial years whose ending dates are between April 1, 2010 to March 31, 2015 for the countries where the financial year ending on 31<sup>st</sup> March or <b>January’1, 2010 to December’31, 2014</b> for the countries where the financial year ending on 31<sup>st</sup> December) must be at least USD 19 million or the equivalent thereof.</p> <p><u>For two (2) contract packages</u></p> <p>The value of turnover above shall be replaced with USD 38 million</p>	Must meet requirement	Must meet requirement	Must meet 25% of the requirement	Must meet 40% of the requirement	Form FIN – 3.2
3.3	<b>Liquidity Position</b>	<p><u>For one (1) contract package</u></p> <p>The total amount, USD 8 million, of liquid assets and lines of credit during the duration of contract</p> <p><u>For two (2) contract packages</u></p> <p>The value of total amount above shall be replaced with USD 16 million.</p>	Must meet requirement	Must meet requirement	Must meet 25% of the requirement	Must meet 40% of the requirement	Form FIN – 3.3

No.	Factor	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
<b>4. Experience</b>							
4.1	<b>General Construction Experience</b>	Experience under construction contracts in the role of contractor, management contractor <sup>(i)</sup> , or subcontractor, for at least the last 5 years starting January 1, 2011	Must meet requirement	N/A	Must meet requirement	N/A	Form EXP – 4.1
4.2 (a)	<b>Specific Experience</b>	A minimum number of two (2) similar contracts that have been satisfactorily and substantially <sup>(ii)</sup> completed as a prime contractor (single entity or JV member) <sup>(iii)</sup> for 10 years between 1st January 2006 and 31 <sup>st</sup> December 2015.  The similarity shall be based on the physical size, complexity, methods /technology or other characteristics as described in Section VI, Scope of Works.	Must meet requirement	Must meet requirement (iv) (v)	N/A	N/A	Form EXP – 4.2(a)
4.2 (b)	<b>Specific Experience</b>	For the above or other contracts executed during the period stipulated in 4.2 (a) above, a minimum construction experience, as prime contractor, management contractor, or subcontractor, in the following key activities: <u>For one (1) contract package</u>	Must meet requirement	Must meet requirement (vi)	N/A	N/A	Form EXP – 4.2(b)

No.	Factor	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
		<p>(a) Detail Engineering, Manufacture, Supply, Installation, Testing and commissioning of large Environmental Control System of large infrastructure projects/ U/G works completed in last 10 years of any of the following value:-</p> <p>(i) One work of more than USD 19 million and above. or</p> <p>(ii) Average value of 2 works - USD 12 million and above or</p> <p>(iii) Average value of 3 works - USD 9 million and above</p> <p>(b) Detail Engineering, Manufacture, Supply, Installation, Testing and commissioning of Tunnel Ventilation System of large infrastructure projects/ U/G works completed in last 10 years of any of the following value:-</p> <p>(i) One work of more than - USD 23 million and above. or</p> <p>(ii) Average value of 2 works -</p>					

No.	Factor	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
		USD 14 million and above or (iii) Average value of 3 works - USD 11 million and above (c) Electrical Systems for MRTS/ Railway/ Airports/ large infrastructure projects <u>For two (2) contract package</u> (a) Detail Engineering, Manufacture, Supply, Installation, Testing and commissioning of large Environmental Control System of large infrastructure projects/ U/G works completed in last 10 years of any of the following value:- (i) One work of more than USD 38 million and above. or (ii) Average value of 2 works - USD 24 million and above or (iii) Average value of 3 works - USD 18 million and above (b) Detail Engineering, Manufacture, Supply, Installation, Testing and commissioning of Tunnel Ventilation System of large					

No.	Factor	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
		infrastructure projects/ U/G works completed in last 10 years of any of the following value:- (i) One work of more than USD 46 million and above. or (ii) Average value of 2 works - USD 28 million and above or (iii) Average value of 3 works - USD 22 million and above The above items (a) and (b) shall include Electrical Systems for MRTS/ Railway/ Airports/ large infrastructure projects					
<p><u>Notes for the Applicant</u></p> <p><b>(i)</b> A management contractor is a firm which takes on the role of contract management as a “general” contractor of sort could do. It does not normally perform directly the construction work(s) associated with the contract. Rather, it manages the work of other (sub) contractors while bearing full responsibility and risk for price, quality, and timely performance of the work contract.</p> <p><b>(ii)</b> Substantial completion shall be based on 80% or more of the works completed under the contract.</p> <p><b>(iii)</b> For contracts under which the Applicant participated as a JV/consortium member, only the Applicant’s share, by value, shall be considered to meet this requirement. In case applicant claims experience for a project undertaken as a member of JV, the particular firm’s position in the JV needs to be clearly brought out in the clients’ certificate or Joint Venture MOU/Agreement.</p> <p><b>(iv)</b> In case of a JV, the value of contracts completed by its members shall not be aggregated to determine whether the requirement of the minimum value of a single contract has been met. Instead, each contract performed by each member shall satisfy the minimum value of a single contract as required for single entity. In determining whether the JV meets the requirement of total number of contracts, only the number of contracts completed by all members, each of value equal or more than the minimum value required shall be aggregated.</p>							

No.	Factor	Requirement	Single Entity	Joint Venture (existing or intended)			Submission Requirements
				All Parties Combined	Each Member	One Member	
		<p><b>(v)</b> Lead member should have completed at least one of two similar contracts.</p> <p><b>(vi)</b> The Applicant shall have simulation and testing equipment and facilities for full design checking and validation (through load simulation) and for testing of the subsystem once installed on site.</p>					





## **Section IV. Application Forms**

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## Application Submission Form

Date: *[insert day, month, year]*  
IFP No.: *MM3-CBS-TVE*

To: The Managing Director, MMRC  
R13 NaMTTRI building E-Block, Bandra Kurla Complex,  
City: Mumbai  
Post Code: 400 051  
Republic of India”

We, the undersigned, apply to be prequalified for the following contract(s) for the Mumbai Metro Line 3 (Colaba-Bandra-SEEPZ).

***Prequalification Documents for Design, manufacture, supply, installation, testing and commissioning of Tunnel Ventilation Systems/Environmental Control Systems***

We declare that:

- (a) We have examined and have no reservations to the Prequalification Documents, including Addendum(s) No(s)., issued in accordance with Instructions to Applicants (ITA) 7: *[insert the number and issuing date of each Addendum]*
- (b) We, including subcontractor, meet the eligibility requirements as stated in ITA 4.
- (c) We, including subcontractor, have no conflict of interest in accordance with ITA 4.
- (d) We, in accordance with ITA 22.1, plan to subcontract the following key activities and/or parts of the Works:  
  
*[insert any of the key activities identified in Section III- 4.2 (b) which the Applicant intends to subcontract]*
- (e) We understand that you may cancel the prequalification process at any time and that you are neither bound to accept any Application that you may receive nor to invite the prequalified Applicants to Bid for the contract subject of this prequalification, without incurring any liability to the Applicants, in accordance with ITA 24.
- (f) All information, statements and description contained in the Application are in all respect true, correct and complete to the best of our knowledge and belief.

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

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

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

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

*Applicant's name [insert full name of Applicant]*

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

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

*[For a Consortium/JV, an authorised representative of the Consortium/JV shall sign, in which case the power of attorney to sign on behalf of all members shall be attached.]*

**Form ELI -1.1**  
**Applicant Information Form**

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

IFP No.: *MM3-CBS-TVE*

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

Applicant's legal name <i>[insert full name]</i>
In case of a JV, legal name of the representative member and each member: <i>[insert full name of each member in the JV and specify the representative member.]</i>
Applicant's actual or intended country of registration: <i>[insert country of registration]</i>
Applicant's actual or intended year of incorporation: <i>[insert year of incorporation]</i>
Applicant's legal address in country of registration: <i>[insert street/ number/ town or city/ country]</i>
Applicant's authorized representative information Name: <i>[insert full name]</i> Address: <i>[insert street/ number/ town or city/ country]</i> Telephone/Fax numbers: <i>[insert telephone/fax numbers, including country and city codes]</i> E-mail address: <i>[insert E-mail address]</i>
1. Attached are copies of original documents of <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITA 4.3. <input type="checkbox"/> In case of a JV, letter of intent to form JV or JV agreement, in accordance with ITA 4.2. 2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

**Form ELI -1.2**  
**Applicant's Party Information Form**

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

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

IFP No.: *MM3-CBS-TVE*

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

Applicant's legal name: <i>[insert full name]</i>
Applicant's Party legal name: <i>[insert full name of Applicant's party]</i>
Applicant's Party country of registration: <i>[insert country of registration]</i>
Applicant's Party year of incorporation: <i>[insert year of incorporation]</i>
Applicant's Party legal address in country of registration: <i>[insert street/ number/ town or city/ country]</i>
Applicant's Party authorized representative information Name: <i>[insert full name]</i> Address: <i>[insert street/ number/ town or city/ country]</i> Telephone/Fax numbers: <i>[insert telephone/fax numbers, including country and city codes]</i> E-mail address: <i>[insert E-mail address]</i>
1. Attached are copies of original documents of <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITA 4.3. 2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

**Form CON - 2  
Historical Contract Non-Performance**

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

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

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

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

IFP No.: *MM3-CBS-TVE*

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

**1. History of Non-Performing Contracts**

Non-Performing Contracts			
<input type="checkbox"/> Contract non-performance did not occur since 1 <sup>st</sup> January 2014, in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.1.			
<input type="checkbox"/> Contract(s) not performed since 1 <sup>st</sup> January 2014 in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.1 as indicated below.			
Year	Non performed portion of contract	Contract Identification	Total Contract Amount (current value, currency, exchange rate and USD equivalent)
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name, number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for non performance: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>

**2. Pending Litigation**

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



**3. Litigation History**

<b>Litigation History</b>		
<input type="checkbox"/> No court/arbitral award decisions against the Applicant since 1 <sup>st</sup> January 2011, in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.3.		
<input type="checkbox"/> Court/ arbitral award decisions against the Applicant since 1 <sup>st</sup> January 2011, in accordance with Section III, Qualification Criteria and Requirements, Sub-Factor 2.3 as indicated below.		
<b>Year of award</b>	<b>Contract Identification</b>	<b>Total Contract Amount (current value, currency, exchange rate and USD equivalent)</b>
<i>[insert year]</i>	Contract Identification: <i>[indicate complete contract name, number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Matter in dispute: <i>[indicate main issues in dispute]</i> Party who initiated the dispute: <i>[indicate "Employer" or "Contractor"]</i> Status of dispute: <i>[indicate if it is being treated by the Adjudicator, under Arbitration or being dealt with by the Judiciary]</i>	<i>[insert amount]</i>

**Form FIN - 3.1**  
**Financial Situation**

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

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

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

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

IFP No.: *MM3-CBS-TVE*

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

**1. Financial data**

Type of Financial information in (currency)	Historic Information for Previous <i>[insert number]</i> years (amount in currency, currency, exchange rate*, USD equivalent)				
	Year 1	Year 2	Year 3	Year 4	Year 5
<b>Statement of Financial Position (Information from Balance Sheet)</b>					
Total Assets (TA)					
Total Liabilities (TL)					
Net Worth (NW)					
Current Assets (CA)					
Current Liabilities (CL)					
<b>Information from Income Statement</b>					
Total Revenue (TR)					
Profits Before Taxes (PBT)					
Profits After Taxes (PAT)					

**2. Financial documents**

The Applicant and its members shall provide copies of financial statements for five *[5]* years pursuant to Section III, Qualifications Criteria and Requirements, Sub-Factor 3.1. The financial statements shall:

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

Attached are copies of financial statements\*\* for the five [5] years required above, and complying with the requirements.

\* Refer to ITA 13.2 for the exchange rate.

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

Note:

Form FIN-3.1 is duly filled shall be self-certified and certified by certified auditors/Chartered Accountants.

**Form FIN - 3.2  
Average Annual Turnover**

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

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

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

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

IFP No.: *MM3-CBS-TVE*

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

<b>Annual Turnover Data</b>			
<b>Year</b>	<b>Amount and Currency</b>	<b>Exchange Rate*</b>	<b>USD Equivalent</b>
<i>[indicate year]</i>	<i>[insert amount and indicate currency]</i>	<i>[insert applicable exchange rate]</i>	<i>[insert amount in USD equivalent]</i>
<b>Average Annual Turnover **</b>			

\* Refer to ITA 13.2 for date and source of exchange rate.

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

Note:

Form FIN-3.2 is duly filled shall be self-certified and certified by certified auditors/Chartered Accountants.

**Form FIN- 3.3:  
Liquidity Position**

*[The following table shall be filled in by the Bidder and by each member of a JV.]*

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

Bidder's Legal Name: *[insert full name]*

Joint Venture Party Legal Name: *[insert full name]*

IFP No.: *MM3-CBS-TVE*

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

<b>Liquidity Position Data</b>				
<b>Month/Year</b>	<b>Source of Financing</b>	<b>Amount and Currency</b>	<b>Exchange Rate*</b>	<b>USD Equivalent</b>
<i>[indicate month/year]</i>	<i>[indicate source of financing]</i>	<i>[insert amount and indicate currency]</i>	<i>[insert applicable exchange rate]</i>	<i>[insert amount in USD equivalent]</i>

- Liquid assets and unused Line of Credit

\*Date of Exchange rate: 31-12-2015

Source of Exchange rate: The source for determining exchange rate is **Reserve Bank of India** reference rate (foreign currency). If the source of the exchange rate for the Bidder's proposed currency cannot be found in the Reserve Bank of India reference rate (foreign currency), then with the Employer's concurrence, the rate in the web site; **www.xe.com** may be used.

Applicants are required to submit a bank reference letter (as per attached format) from a reputable commercial bank to the effect that such bank certifies the financial capability of the applicants to meet their financial obligation to perform the said contract and considers to issue a specific line of credit when and if the contract is awarded to the applicants. Form FIN-3.3: Liquidity Position is duly filled and to be self-certified with supporting documents from the bank.

(Bank letter head)

Ref No:-

Date:

[insert day, month, year]

Managing Director, MMRC

MMRDA, Bandra Kurla Complex, Bandra (East), City: Mumbai

Post Code: 400 051

Republic of India

Dear Sir

Sub: Evidence of access to working Capital limit to *{Bidder's Legal Name: [insert full name]}* in connection with their bid for Design, manufacture, supply, installation, testing and commissioning of TVS/ECS (Pre-qualification No:-MM3-CBS-TVE)

We understand from *{Bidder's Legal Name: [insert full name and address]}*, one of the reputed customers of our Branch, that they are submitting their Bid for Design, manufacture, supply, installation, testing and commissioning of TVS/ECS (Invitation for Bid No.:MM3-CBS-TVE).

Further, we understand from *{Bidder's Legal Name: [insert full name]}* that they are required to submit a letter from their bankers confirming availability of Working Capital support / Line of Credit i.e. Overdraft to the extent of *{INR/USD/EURO/YEN i.e XXX million}* as required until completion of Contract as per the details given below:

Sr.No.	Particulars	Amount	Remarks
		INR/USD/EURO/YEN <i>i.e XXX million</i>	
Total:			

We wish to inform you that the Company is one of our Prime customers of our Branch. The company is enjoying total Working Capital limits i.e. Cash Credit limit of *{INR/USD/EURO/YEN i.e XXX million}* and the Guarantee / Letters of Credit limit of *{INR/USD/EURO/YEN i.e XXX million}* from Banking System under the system arrangement.

In this connection, we shall provide necessary Working Capital support i.e. Overdraft to the extent of *{INR/USD/EURO/YEN i.e XXX million}* as per terms applicable for such limits within the consortium. The above Credit facility proposed until completion of Contract to be extended to the bidder shall be subject to due diligence and approvals from our sanctioning authorities.

Yours Sincerely

{Bank Name}

.....  
Banker's authorised representative informationName: *[insert full name]*Address: *[insert street/ number/ town or city/ country]*Telephone/Fax numbers: *[insert telephone/fax numbers, including country and city codes]*E-mail address: *[insert E-mail address]*

**Form EXP - 4.1  
General Construction Experience**

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

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

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

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

IFP No.: *MM3-CBS-TVE*

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

*[Identify contracts that demonstrate continuous construction work over the past five [5] years pursuant to Section III, Qualification Criteria and Requirements, Sub-Factor 4.1. List contracts chronologically, according to their commencement (starting) dates.]*

<b>General Construction Experience</b>			
<b>Starting Year</b>	<b>Ending Year</b>	<b>Contract Identification</b>	<b>Role of Applicant</b>
<i>[indicate year]</i>	<i>[indicate year]</i>	Contract name: <i>[insert full name]</i> Brief description of the Works performed by the Applicant: <i>[describe Works performed briefly]</i> Amount of contract: <i>[insert amount in currency, mention currency used, exchange rate and USD equivalent*]</i> Name of Employer: <i>[indicate full name]</i> Address: <i>[indicate street/number/town or city/country]</i>	<i>[insert "Prime Contractor (single entity or JV member)" or "Subcontractor" or "Management Contractor"]</i>

\* Refer to ITA 13.2 for date and source of exchange rate.

Form EXP-4.1 is duly filled shall be self-certified and supported by the necessary documents issued by the respective clients, in support of experience is to be furnished

**Form EXP - 4.2(a)**  
**Specific Construction Experience**

*[The following table shall be filled in for contracts performed by the Applicant, each member of a JV.]*

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

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

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

IFP No.: *MM3-CBS-TVE*

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

*[Fill out one (1) form per contract.]*

<b>Contract of Similar Size and Nature</b>			
<b>Similar Contract No.</b> <i>[insert number] of [insert number of similar contracts required]</i>	<b>Information</b>		
Contract Identification	<i>[insert contract name and Reference ID number, if applicable]</i>		
Award Date	<i>[insert day, month, year, e.g., 15 June, 2015]</i>		
Completion Date	<i>[insert day, month, year, e.g., 03 October, 2017]</i>		
Role in Contract <i>[check the appropriate box]</i>	<b>Prime Contractor</b>		
	Single entity <input type="checkbox"/>	JV member <input type="checkbox"/>	
Total Contract Amount	<i>[insert total contract amount and currency(ies)]</i>		USD <i>[insert exchange rate and total contract amount in USD equivalent]*</i>
If member in a JV, specify participation in total Contract amount	<i>[insert a percentage amount]</i>	<i>[insert total contract amount and currency(ies)]</i>	USD <i>[insert exchange rate and total contract amount in USD equivalent]*</i>
Employer's Name:	<i>[insert full name]</i>		
Address:	<i>[indicate street / number / town or city / country]</i>		
Telephone/Fax Number:	<i>[insert telephone/fax numbers, including country and city area codes]</i>		
E-mail:	<i>[insert E-mail address, if available]</i>		



**Form EXP - 4.2(a) (cont.)  
Specific Construction Experience (cont.)**

<b>Similar Contract No.</b> <i>[insert number] of [insert number of similar contracts required]</i>	<b>Information</b>
Description of the similarity in accordance with Sub-Factor 4.2(a) of Section III:	
1. Physical Size of required works items	<i>[insert physical size of items]</i>
2. Complexity	<i>[insert description of complexity]</i>
3. Methods/Technology	<i>[insert specific aspects of the methods/ technology involved in the contract]</i>
4. Other Characteristics	<i>[insert other characteristics as described in Section VI, Scope of Works]</i>

\* Refer to ITA 13.2 for date and source of exchange rate.

Form EXP-4.2(a) is duly filled shall be self-certified and supported by the necessary documents issued by the respective clients, in support of experience is to be furnished.

**Form EXP - 4.2(b)**  
**Specific Construction Experience**

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

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

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

Subcontractor's Legal Name *[insert full name]*

IFP No.: *MM3-CBS-TVE*

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

*[Fill out one (1) form per contract.]*

Key Activity No. (1) \_\_\_\_\_: *[insert brief description of the Activity, emphasizing its specificity]*

Total Quantity of Activity under the contract: \_\_\_\_\_

<b>Contract with Similar Key Activities</b>			
<b>Item</b>	<b>Information</b>		
Contract Identification	<i>[insert contract name and number, if applicable]</i>		
Award Date	<i>[insert day, month, year, e.g., 15 June, 2015]</i>		
Completion Date	<i>[insert day, month, year, e.g., 03 October, 2017]</i>		
Role in Contract <i>[check the appropriate box]</i>	Prime Contractor		Management Contractor
	Single entity <input type="checkbox"/>	JV member <input type="checkbox"/>	<input type="checkbox"/>
Total Contract Amount	<i>[insert total contract amount in local currency]</i>		USD <i>[insert Exchange rate and total contract amount in USD equivalent]*</i>
Quantity (Volume, number or rate of production, as applicable) performed under the contract per year or part of the year <i>[Insert extent of participation indicating actual quantity of key activity successfully completed in the role performed]</i>	Total quantity in the contract (i)	Percentage participation (ii)	Actual Quantity Performed (i) x (ii)
Year 1			
Year 2			
Year 3			
Year 4			

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

\* Refer to ITA 13.2 for date and source of exchange rate.

2. Activity No. (2) \_\_\_\_\_

3. Activity No. (3) \_\_\_\_\_

Form EXP-4.2(b) is duly filled shall be self-certified and supported by the necessary documents issued by the respective clients, in support of experience is to be furnished.

## Important Notes:

1. To substantiate experience vide 4.2 (a) and 4.2 (b) The applicant shall provide details showing their previous experience of similar contracts completed during the last ten years. The applicant must demonstrate experience in all areas covered by this Contract including detailed design, system assembly, installing, testing and commissioning of systems of sizes and technology comparable to those contemplated under this contract and also show capability of full integration of sub-systems with other system.
2. The Bidder may provide the details in his offer either in Indian Rupees OR in any freely convertible Foreign Currency. For the purpose of evaluation, all prices will be converted to Indian Rupees by using the Exchange (selling) rates for those currencies. The source for determining exchange rate is at the close of business of the Reserve Bank of India reference rate (foreign currency) at 31<sup>st</sup> Dec of each year. If the source of the exchange rate for the Bidder's proposed currency cannot be found in the Reserve Bank of India reference rate (foreign currency), then with the Employer's concurrence, the rate in the web site; [www.xe.com](http://www.xe.com) may be used.
3. To bring the contract values at par, the contract values shall be calculated by assuming 5% inflation for Indian Rupees and 2% for foreign currency portion every year for first 9 years. Only the value of contract as executed by the applicant member in his own name should be indicated. Where a work is undertaken by a Group, only that portion of the Contract which is undertaken by the concerned applicant / member should be included and the remaining done by the other members of the Group excluded.

The Bidders shall provide the cross reference of all the amount filled in the application forms with their proposal. All the figures shall be clearly linked with the reference page numbers of the proposal.

4. A Group comprising a joint venture, partnership or consortium may apply for pre-qualification. The term 'JV' has been used interchangeably for JV/ Consortium/ Partnership.

Details of the existing or proposed joint venture, partnership or consortium agreement in the form of a Memorandum of Understanding (MOU) signed by all participants will be required. Details of the intended % participation by each member with complete details of the proposed division of responsibilities and corporate relationships among the individual members shall be clearly stated.

Foreign Applicants/Partners of JV or Consortium shall obtain requisite attestation to their notarization from either their embassy in India or Indian embassy in their country. Members of countries of HAGUE convention can submit document with "Apostille Stamp".

Nomination of one of the members of the partnership, consortium or joint venture to be in-charge; and this authorization shall be covered in the Power of Attorney signed by the legally authorized signatories of all members of consortium or joint venture;

It should also state which member of the joint venture, consortium or partnership will be acting as lead member on behalf of the joint venture, consortium or partnership in all its relations and communications with MMRC. The lead member of JV/consortium shall not have less than 40% share and other members shall not have less than 15% of the share.

5. All documents and other information supplied by MMRC or submitted by an Applicant to MMRC shall remain or become the property of MMRC. The MMRC will not return any pre-qualification submission.
6. Financial data for last 5 years has to be submitted by the applicants along with the audited Balance Sheets. All the financial data will be taken from the audited balance sheets for last five years. All financial data in the prescribed format shall be certified by Chartered Accountant along with his signature and seal.

## Form ACK

### Acknowledgement of Compliance with Guidelines for Procurement under Japanese ODA Loans

A) I, *[insert name and position of authorized signatory]*, being duly authorized by *[insert name of Applicant/members of joint venture (“JV”)]* (hereinafter referred to as the “Applicant”) to execute this Acknowledgement of Compliance with Guidelines for Procurement under Japanese ODA Loans, hereby certify on behalf of the Applicant and myself that all information provided in the Application submitted by the Applicant for *[insert Loan No and name of the Project]* is true, correct and accurate to the best of the Applicant’s and my knowledge and belief. I further certify, on behalf of the Applicant, that:

- (i) the Application has been prepared and submitted in full compliance with the terms and conditions set forth in the Guidelines for Procurement under Japanese ODA Loans (hereinafter referred to as the “Guidelines”); and
- (ii) the Applicant has not, directly or indirectly, taken any action which is or constitutes a corrupt, fraudulent, collusive or coercive act or practice in violation of the Guidelines and is not subject to any conflict of interest as stipulated in the relevant section of the Guidelines.

*<If debarment for more than one year by the World Bank Group is NOT imposed, use the following sentence B).>*

B) I certify that the Applicant has NOT been debarred by the World Bank Group for more than one year since the commencement of the advertisement for prequalification.

*<If debarment for more than one year by the World Bank Group has been imposed BUT three (3) years have passed since the date of such debarment decision, use the following sentence B’).>*

B’) I certify that the Applicant has been debarred by the World Bank Group for a period more than one year BUT that on the date of issuance of Invitation for Bids at least three (3) years had passed since the date of such debarment decision. Details of the debarment are as follows:

name of the debarred firm	starting date of debarment	ending date of debarment	reason for debarment

C) I certify that the Applicant will not enter into a subcontract with a firm which has been debarred by the World Bank Group for a period more than one year, unless on the date of the subcontract at least three (3) years have passed since the date of such debarment decision.

D) I certify, on behalf of the Applicant, that if selected to undertake services in connection with the contract, the Applicant shall carry out such services in continuing compliance with the terms and conditions of the Guidelines.

E) I further certify, on behalf of the Applicant, that if the Applicant is requested, directly or indirectly, to engage in any corrupt or fraudulent action under any applicable law, such as the payment of a rebate, at any time during a process of public procurement, negotiations, execution or implementation of

contract (including amendment thereof), the Applicant shall report all relevant facts regarding such request to the relevant section in JICA (details of which are specified below) in a timely manner.

JICA's information desk on fraud and corruption (A report can be made to either of the offices identified below.)

(1) JICA Headquarters: Legal Affairs Division, General Affairs Department

URL: <https://www2.jica.go.jp/en/odainfo/index.php>

Tel: +81 (0)3 5226 8850

(2) JICA India office,

2<sup>nd</sup> Floor, Dr. Gopal Das Bhawan,

28, Barakhambha Road,

New Delhi - 110001

Tel: +91 11 47685500

FAX: +91 11 47685555

URL: <http://www.jica.go.jp/>

The Applicant acknowledges and agrees that the reporting obligation stated above shall NOT in any way affect the Applicant's responsibilities, obligations or rights, under relevant laws, regulations, contracts, guidelines or otherwise, to disclose or report such request or other information to any other person(s) or to take any other action, required to or allowed to, be taken by the Applicant. The Applicant further acknowledges and agrees that JICA is not involved in or responsible for the procurement process in any way.

- F) If any of the statements made herein is subsequently proven to be untrue or incorrect based on facts subsequently determined, or if any of the warranties or covenants made herein is not complied with, the Applicant will accept, comply with, and not object to any remedies taken by the Employer and any sanctions imposed by or actions taken by JICA.

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**Authorized Signatory**

*[Insert name of signatory; title]*

**For and on behalf of** *[Insert name of the Applicant]*

Date:

## **Section V. Eligible Source Countries of Japanese ODA Loans**

*[All countries and Areas]*

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## **PART 2 – Works Requirements**



## **Section VI. Scope of Works**

**Contents**

1. Description of the Works ..... 3  
2. Contract Period ..... 6  
3. Site and Other Data ..... 7

## 1. Description of the Works

### A. Project Description

The scope of work comprises design, erection, manufacture / supply, installation, testing and successful commissioning of equipment forming Tunnel Ventilation System for the Mumbai Metro Line 3 (MML3) project together with training staff on the system operation and maintenance, and, with maintenance of the Tunnel Ventilation System (TVS) and Environment Control Systems (ECS) till the end of the test and commissioning of the whole MML3 metro rail system. It also includes the supply of spares and special maintenance tools and the supply of operation & maintenance manuals. The equipment required for the project shall feature all equipment and systems required to form part of TVS and ECS.

The MML3 consists of 26 underground stations and one station at grade with the total length of approximately 32.5 km. There will be 9 interchange stations with 6 crossovers. The tunnel diameter will be 5.8m. The train will be an eight (8) car train with the overall length of approximately 178 m.

### B. General

The Bid document to be issued by the MMRC will include Bid Drawings, BOQ, GCC, SCC, ITT, Employer's Requirements and Technical Specifications for Design Verification and Construction of Environment Control System and Tunnel Ventilation System of Mumbai Mass Rapid Transport System (MMRTS) Line-3. This will principally cover performance but will provide technical requirements in sufficient depth to eliminate undesirable features.

The scope of work comprises design, erection, manufacture / supply, installation, testing and successful commissioning of equipment forming Tunnel Ventilation System for the Mumbai Metro Line 3 (MML3) project together with training staff on the system operation and maintenance, and, with maintenance of the Tunnel Ventilation System (TVS) and Environment Control Systems (ECS) till the end of the test and commissioning of the whole MML3 metro rail system. The scope of the works will be divided into three lots, viz, MM3-CBS-TVE-01(Lot 1), MM3-CBS-TVE-02 (Lot 2) and MM3-CBS-TVE-03 (Lot3). It also includes the supply of spares and special maintenance tools and the supply of operation & maintenance manuals. The equipment required for the project shall feature all equipment and systems required to form part of TVS and ECS. Employer may enter into maintenance contract with the contractors for a period of 3 to 5 years post DLP.

The successful Bidder will be responsible for coordinating all interfaces between the systems he is offering and all other packages awarded to other Contractors / DDCs which impinge upon his design e.g. Electrical & Mechanical (E&M), Rolling Stock, Tunnel fixed structure, Station buildings and platforms, Signalling and Telecommunication, maintenance management information system, Platform Screen Doors System, if any etc. MMRC will supervise/facilitate the coordination between the Contractor and other designated contractors. However, the Contractor will allow for liaison with, and modifications to his design to cater for the work of such other Contractors for common design approaches and standardisation on system implementation practices.

The contractors shall understand the complexity of the metro systems on the large industrial grade fire rated ventilation fan systems, no single point of failure system, redundancies of equipment and control systems, congested services coordination in limited available space, planning for the life cycle replacements without stopping revenue service.

The successful Bidder will also be required to provide sufficient technical data, (dimensions, weight and mounting details) including maintenance schedules, inspection/repair produces any machinery/plant required of all equipment/all sub-systems. In addition other technical interface details will be provided to enable other project contractors to proceed in parallel with their design and development.

Safety worthiness of the system will be evaluated by Commissioner of Metro Rail Safety under

Ministry of Civil Aviation Govt. of India.

The Contractor should be in position to provide necessary support (have experts with adequate knowledge and experience, qualification, and to submit such documentation as required) to assist MMRC for effective interaction with Indian authorities viz. Ministry of Railways, RDSO, Commissioner of Metro Railway Safety, EIG and Mumbai Fire Service (MFS).

The contractor shall be responsible for obtaining relevant certificates or clearance from local civic authorities, viz completion certificates, fire clearance etc. MMRC shall extend necessary assistance wherever possible. However, it will be the ultimate responsibility of the contractor to obtain all the required relevant certificates or clearances as per the time schedule prescribed by MMRC.

The successful Bidder will have to ensure transfer of technology for detail design, indigenous, system assembly, installation, maintenance and software customization/modification within a defined time frame. For that purpose, the Applicants may set up suitable facilities in India.

**The contractor shall be responsible for the design of concept stage, preliminary stage, detail design stage, working / shop drawing stage to the stage of execution and preparation of As Built Drawings.**

The work is likely to cover Design Verification, Detail Engineering, Supply, Installation, Preparation of Operation and Maintenance Manual, Training of Maintenance/Operation Personnel, Testing and Commissioning of the Environment Control System (ECS) and Tunnel Ventilation System (TVS) of Mumbai MRTS Line-3 for 26 underground stations in 3 construction lots and associated tunnel and ramp sections.

For the underground stations from VidyaNagri to Seepz, the TVS and ECS shall adopt the following system configuration concept :

- i. Tunnel ventilation fans shall also be used for Over Track Exhaust function including normal heat extraction from trackway and smoke exhaust for train trackway fire.
- ii. A separate station exhaust system shall be provided for station smoke exhaust. The supply air ducts will be utilised for smoke exhaust in case of fire in the station.

For all the other underground stations except Vidya Nagri to Seepz, the TVS and ECS shall adopt the following system configuration concept :

- i. Tunnel ventilation fans shall only be used for tunnel ventilation purpose.
- ii. The Over Track Exhaust system shall also be used for station smoke exhaust. The supply air ducts will be utilised for smoke exhaust in case of fire in the station.

### **C. Tunnel Ventilation System (TVS)**

The scope of TVS comprises detailed design, coordination with all relevant parties, procurement, installation, testing and successful commissioning for the underground part of the corridors. The Tunnel Ventilation System shall consist of:

- i. TVS simulation by utilising the Subway Environmental Simulation (SES) computer program or the equivalent software. Simulation software, approach and the modelling results synchronisations shall be agreed and coordinated among the construction contracts. The SES simulation for the whole line shall be the scope of work for Contract Lot-1(MM3-CBS-TVE-01). Contract Lots 2 and 3 shall coordinate with Contract Lot -1 for the implementation of the tunnel ventilation system performance as per the simulation results.
- ii. Computational fluid dynamics (CFD) modelling for the station, trackway, siding tracks, etc. fire simulations.
- iii. Ventilation Systems for Track way Exhaust system including fans, dampers and steel ductworks,
- iv. TVS including fans, dampers, steel ductworks and velocity sensors,

- v. Tunnel ventilation control system including the SCADA for the stations and the OCC,
- vi. Associated electrical power supply and distribution system between the low voltage main panel and Tunnel Ventilation equipment.

#### **D. Environment Control Systems (ECS)**

The scope of ECS comprises detailed design, coordination with all relevant parties, manufacture, verification, procurement, installation, testing and successful commissioning for the underground part of the corridors. The ECS shall consist of:

- i. Air conditioning system to the stations, utility rooms, plantrooms, OCC building, etc. The system shall include chillers, pumps, cooling towers, AHUs, FCUs, ductwork, pipework, etc. to form a complete system,
- ii. Ventilation systems to plantrooms include fans dampers, ductwork, etc. to form a complete system,
- iii. ECS control system including the SCADA,
- iv. Associated electrical power supply and distribution system between the low voltage main panel and ECS equipment.
- v. VRV system to be provided for Aarey Station, which is at grade.

#### **E. General**

The following scopes apply to both TVS and ECS.

- i. Testing and commissioning (including system acceptance testing, integrated testing & commissioning and operational acceptance),
- ii. Supply of operation and maintenance manuals,
- iii. Training of operation and maintenance personnel,
- iv. Supply of spares, special tools and maintenance tools,

## **2. Contract Period**

The tentative project period is Forty Eight (48 ) months, excluding post DLP core maintenance service.  
The detailed key dates pertaining will be described in the Bid documents.

### 3. Site and Other Data

#### 1. Mumbai City Profile

The climate of Mumbai is a tropical wet and dry climate. The high temperature in Mumbai is approximately 30-33 degrees Celsius without changing dramatically throughout a year. Since Mumbai faces the Arabian Sea, it does not experience extremely high or low temperatures. It is different from Delhi located in an inland area. Due to the monsoon, it is in the period from June to September when Mumbai experiences a continuous spell of rainy weather. Almost all of the annual rainfall of about 2,200mm concentrates in this period. There is little rainfall from February to May and the temperature is the highest in this period.

#### 2. Project Description

##### 2.1. Outline of Project

- (a) As shown in red in Figure 1, the alignment of Mumbai Metro Line 3 spans approximately 32.5 km from Colaba (Cuffe Parade) in the south through Bandra, ending within the Special Electronics Export Processing Zone (SEEPZ) in the north, and consists of 26 underground stations. A depot and one (1) at grade station are planned to be located in the northern end; they are not part of this PQ document.
- (b) Mumbai Metro Line 3 has 9 interchanges with other transportations (railways and bus depots) to complement each other. The maximum PHPDT (Peak Hour Peak Direction Traffic) forecast is 38,930 in 2025 and 42,021 in 2031. The designed capacity of the Metro line is 72,000 PHPDT.
- (c) Because of issues of Depot site, Line-3 might be extended from SEEPZ to east, with around 10 km. That extension line would be elevated line. The detailed information will be given in Bid Documents.



Figure 1: Alignment of Mumbai Metro Rail Line 3

## 2.2. Salient Features

The salient features of this project are shown in the table below.

<b>Sr. No.</b>	<b>Features</b>
1	Gauge (Nominal): 1435 mm
2	Route Length (Between Dead Ends) : Colaba-Bandra-SEEPZ – Underground - Aarey Milk Colony at-grade Approximately 32.5 km
3	No. of Stations: 26 underground + 1 at-grade
4	Max. Design Speed: 90/95 km/h Max. Operating Speed: 80/85 km/h
5	Traction Power System
	(a) Traction System voltage: 25kV AC
	(b) Source of Power Supply: OCS System
	(c) LV Power supply at 415 volt, 3 phase, 50 hertz. 4 wire system
6	Rolling Stock
	(a) 3.20m wide with stainless steel or aluminum body
	(b) Maximum Axle Load: 17 tonnes
	(c) Maximum Length of the cars: 22.6 m
	(d) Distance between bogie centres as 14.750-/+0.350 m
	(e) Number Max of cars per train: 8
7	Headway (Target of 72 000 PHPDT)
	(a) 210 seconds for year 2020 - 30 trains in operation
	(b) 150 seconds for year 2031 - 42 trains in operation
	(c) 135 seconds for year 2052 - 53 trains in operation
8	Signalling CBTC GOA4 for and Operated to GOA2 initially, with driver to open/close train doors during peak hours.
9	AFC
	(a) Contactless Smart Card – For multiple journeys.
	(b) Contactless Smart Token – For Single Journey



10	<p>TVS/ECS</p> <p>Tunnel Ventilation</p> <ul style="list-style-type: none"> <li>(a) Tunnel ventilation and track way exhaust systems utilizing the Tunnel Ventilation Fans (TVF).</li> <li>(b) Tunnel ventilation system with Saccardo nozzle to push smoke to the TVF exhaust point for fire emergency scenarios.</li> <li>(c) Under-Platform Supply Systems (UPSS) consist of Air Handling Units which can provide cool air into the track way for hot days.</li> </ul> <p>Environmental Control System</p> <ul style="list-style-type: none"> <li>(a) Chilled water cooling system for public areas, offices and plant rooms.</li> <li>(b) Station smoke exhaust system to use TVF plants.</li> </ul>
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### 2.3. Other Information

(a) Access to site

Information on access to site is described in the Bid documents.

(b) Transportation, communications facilities and medical facilities

The Contractor shall procure transportation, communications facilities and medical facilities at his own responsibility.