



***DELHI JAL BOARD (DJB) & NATIONAL RIVER CONSERVATION  
DIRECTORATE (NRCD), MoEF***

***JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) FUNDED  
YAMUNA ACTION PLAN PROJECT (III)  
(ID-P215)***

**PREQUALIFICATION OF CONTRACTORS**

**FOR**

**CONSTRUCTION OF NEW OKHLA PHASE - I WASTEWATER TREATMENT PLANT  
(WWTP) OF 136 MLD WITH EFFLUENT STANDARDS OF BOD – 10 Mg/L, TSS – 10  
Mg/L OR BETTER AND POWER GENERATION ON TURNKEY BASIS AND THEN  
DEMOLITION OF EXISTING PHASE – I WWTP UNDER YAP (III)**

**ON**

**INTERNATIONAL COMPETITIVE BIDDING**

**REFERENCE ID NO: PQ –YAP (III) (O1/2012-13)**

**ISSUED ON: 23-07-2012**



**Executive Engineer [C] DR. XI  
Delhi Jal Board,  
R. No. 208, Varunalaya Phase- I  
Karol Bagh,  
New Delhi-110005**



**NJS Consultants Co. Ltd.  
In Consortium with  
AECOM-TTI & NJSEI  
PMC – YAP(III) Project  
1203-1204, New Delhi  
House  
Barakhamba Road  
New Delhi – 110 001**

## Table of Contents

Invitation for Prequalification (IFP) .....	1
PART 1 – Prequalification Procedures .....	3
Section I. Instructions to Applicants .....	4
A. General .....	5
B. Contents of the Prequalification Documents.....	6
C. Preparation of Applications.....	8
D. Submission of Applications .....	9
E. Procedures for Evaluation of Applications.....	9
F. Evaluation of Applications and Prequalification of Applicants .....	10
Section II. Prequalification Data Sheet .....	13
Section III. Qualification Criteria and Requirements .....	17
1. Eligibility .....	18
2. Historical Contract Non-Performance .....	19
3. Financial Situation .....	20
4. Experience.....	21
Section IV. Application Forms .....	25
Application Submission Form .....	26
Form ELI -1.1-Applicant Information Form .....	27
Form ELI -1.2- Applicant Partner Information Form.....	28
Form CON – 2-Historical Contract Non-Performance .....	29
Form FIN – 3.1- Financial Situation.....	31
Form FIN - 3.2- Average Annual Construction Turnover.....	33
Form EXP - 4.1-General Construction Experience .....	34
Form EXP - 4.2(a)-Specific Construction Experience .....	35
Form EXP - 4.2(a) -Specific Construction Experience (cont.).....	36
Form EXP - 4.2(b)-Specific Construction Experience in Key Activities .....	37
Form EXP – 5- Format for Experience Certificates .....	38
Form – 6- Format for Affidavit.....	39
Section V. List of Eligible Countries of Japanese ODA Loans .....	41
PART 2 – Works Requirements .....	43
Section VI. Scope of Works.....	45
1. Description of the Works .....	46
2. Construction Period .....	50
3. Site and Other Data.....	51

## Invitation for Prequalification (IFP)

*Date* – 23-07-2012

*Name of Country* - India

*Loan Agreement No* . – ID-P215

*Package Name* - Construction of New Okhla Phase - I, Wastewater Treatment Plant (WWTP) of 136 MLD with effluent standards of BOD – 10 Mg/L, TSS – 10 Mg/L or better and power generation on turnkey basis and then Demolition of Existing Phase – I WWTP under YAP (III)

*Reference ID No.* – PQ–YAP (III) (01/2012-13)

1. National River Conservation Directorate (NRCD), Ministry of Environment and Forests (MOEF), Government of India (GoI), the borrower, has received a loan from Japan International Cooperation Agency (JICA), amounting to JPY 32,571 million towards the cost of Yamuna Action Plan Project (III) (YAP III) for which loan agreement was signed on 17<sup>th</sup> February, 2011.

2. The Delhi Jal Board (hereinafter referred to as “the Employer”) intends to prequalify contractors and/ or firms for

**“CONSTRUCTION OF NEW OKHLA PHASE - I, WASTEWATER TREATMENT PLANT (WWTP) OF 136 MLD WITH EFFLUENT STANDARDS OF BOD – 10 Mg/L, TSS – 10 Mg/L OR BETTER AND POWER GENERATION ON TURNKEY BASIS AND THEN DEMOLITION OF EXISTING PHASE - I WWTP UNDER YAP (III)”**

The above contract will include an Operation and Maintenance period of 10 years after trial run, commissioning and Defects Liability Period of one year.

3. It is expected that Invitation for Bids will be made in October 2012.
4. Prequalification will be conducted through prequalification procedures specified in the Guidelines for Procurement under Japanese ODA Loans, March 2009, and is open to all applicants from eligible source countries, which are all countries and areas. JICA's sample bidding documents shall be applied at the bidding stage.
5. Interested eligible Applicant may obtain further information from and inspect the Prequalification Documents at the address given below from **11:00 A.M. to 4:00 P.M.**
6. Applicants may download the Prequalification Document from the Delhi Jal Board's website [www.delhijalboard.nic.in](http://www.delhijalboard.nic.in) under “Expression of Interest” link from **23-07-2012 to 24-09-2012** up to **2:45 P.M.** upon payment of a nonrefundable fee of 10,000 INR (200 USD).

The applicants shall directly deposit the non refundable document fee in the DJB A/C 90231010012261 at Syndicate Bank, Rani Jhansi Road Branch, New Delhi (IFSC/NEFT Code NO. SYNB0009023).

In the event, the applicant deposits the amount in Cash /Demand draft/Banker's Cheque to the afore-mentioned designated account of DJB, the bidder shall carry the original copy of deposit

slip as a proof of deposit for document fee at the time of attending the clarification meeting.

In event, the applicant deposits the amount using the IFSC/NEFT facility, the applicant shall carry the IFSC/NEFT customers payment confirmation as a proof of deposit for document fee at the time of attending the clarification meeting

The applicant shall submit the copy of deposit slip or the copy of IFSC/NEFT customer payment confirmation slip in separate & sealed envelope, along with the application.

7. Applicants will be advised, in due course, of the results of their applications. Only such applicants who are prequalified under this procedure will be invited to submit the technical and financial bid.
8. A clarification meeting will be held by the undersigned at **11:00 A.M.** on **08-08-2012** to clarify any queries that prospective applicants may have and the minutes of the meeting shall form a part of the prequalification document. All queries can be sent and emailed to the address and email id as below, before the clarification meeting.
9. The Applicant shall submit **Four hard copies (1 Original + 3 Copies)** of Prequalification proposal in sealed envelope, either by hand, by courier or by registered mail to the address mentioned below:

EXECUTIVE ENGINEER [C] DR. XI  
DELHI JAL BOARD  
ROOM NO. 208, VARUNALAYA PHASE: I  
KAROL BAGH, NEW DELHI-110005

And be clearly marked :

**“Application to prequalify for JICA Assisted Yamuna Action Plan Project (III) – Prequalification for “Construction of New Okhla Phase - I, Wastewater Treatment Plant (WWTP) of 136 MLD with effluent standards of BOD – 10 mg/l, TSS – 10 mg/l or better and power generation on turnkey basis and then Demolition of Existing Phase - I WWTP under YAP (III)”**

The deadline for proposal submission is:

Date: **24-09-2012**

Time: **3:00 P.M.**

New Delhi

Date – **23-07-2012**

Executive Engineer [C] Dr. XI

Delhi Jal Board

Email: mail\_arungupta@yahoo.co.in

## **PART 1 – Prequalification Procedures**

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

*Section I, Instruction to Applicants (ITA) specifies the procedures that regulate the prequalification process. In case of any inconsistency with respect to any clause in Section –I, Instruction to Applicants, clause in Section II, Prequalification Data Sheet (PDS) will prevail*

### A. General

- |                                |   |
|--------------------------------|---|
| <b>1. Scope of Application</b> | 1.1 In connection with the Invitation for Prequalification indicated in Section II, Prequalification Data Sheet (PDS), the Employer, as <b>defined in the PDS</b> , issues these Sample Prequalification Documents (SPD) to Applicants interested in bidding for the Works described in Section VI, Scope of Works. The reference identification number of the contract is <b>provided in the PDS</b> .   |
| <b>2. Source of Funds</b>      | <p>2.1 The Borrower <b>indicated in the PDS</b> has received 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 <b>indicated in the PDS</b>, towards the cost of the project <b>named in the PDS</b>. The Borrower intends to apply a portion of the proceeds of the loan to eligible payments under the contract(s) resulting from the bidding for which this prequalification is conducted.</p> <p>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 “Guidelines for Procurement under Japanese ODA Loans”. No party other than the Borrower shall derive any rights from the Loan Agreement or have any claim to loan proceeds.</p> <p>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.</p> |
| <b>3. Fraud and Corruption</b> | <p>3.1 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:</p> <ul style="list-style-type: none"> <li>(a) will reject a proposal for award if it determine that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;</li> <li>(b) will recognize 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.</li> </ul>  |
| <b>4. Eligible Applicants</b>  | <p>4.1 An Applicant may be a single entity or any combination of entities in the form of joint venture or association (JVA) with the formal intent, as evidenced by a letter of intent, to enter into an agreement or under an existing agreement. In the case of a JVA,</p> <ul style="list-style-type: none"> <li>(a) <b>unless otherwise specified in the PDS</b>, all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms, and</li> <li>(b) the JVA shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the partners of the JVA during the prequalification process and, in the event the JVA is prequalified, during the bidding process, and in the event the JVA is awarded the Contract, during contract execution.</li> </ul>   |

- 4.2 An Applicant and all partners constituting the Applicant shall be from an eligible source country as listed in Section V, List of Eligible Countries of Japanese ODA Loans, which are all the areas and all the countries.
- 4.3 An Applicant shall not have a conflict of interest. All Applicants found to have a conflict of interest shall be disqualified from participating in this prequalification process. An Applicant may be considered to have a conflict of interest with one or more parties in this prequalification process if:
- (a) an Applicant has been engaged by the Employer to provide consulting services for the preparation related to procurement for or implementation of the project;
  - (b) an Applicant is any of its associates/affiliates (inclusive of parent firms) mentioned in subparagraph (a) above; or
  - (c) an Applicant lends, or temporarily second its personnel to firms or organizations which are engaged in consulting services for the preparation related to procurement for or implementation of the project, if the personnel would be involved in any capacity on the same project.
- 4.4 An Applicant shall submit only one application in the same Prequalification process, either individually as an Applicant or as a partner of a JVA. An Applicant who submits, or participates in, more than one application will cause all the applications in which the Applicant has participated to be disqualified. No Applicant can be a subcontractor while submitting an application individually or as a partner of a JVA in the same Prequalification process. A subcontractor in any application may participate in more than one application, but only in that capacity.
- 4.5 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.
- 4.6 Applicants shall provide such evidence of their continued eligibility satisfactory to the Employer, as the Employer shall reasonably request.
- 5. Eligible Goods and Related Services**
- 5.1 All Goods and related services to be supplied under the Contract to be financed by JICA shall have their origin in any country in accordance with Section V, List of Eligible Countries of Japanese ODA Loans.

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

- 6. Sections of Prequalification Documents**
- 6.1 The documents for the prequalification of Applicants (hereinafter referred to as "Prequalification Documents") consist of parts 1 and 2 which comprise all the sections indicated below, and should be read in conjunction with any Addendum issued in accordance with ITA 8.



## PART 1 Prequalification Procedures

- Section I. Instructions to Applicants (ITA)
- Section II. Prequalification Data Sheet (PDS)
- Section III. Qualification Criteria and Requirements
- Section IV. Application Forms
- Section V. List of Eligible Countries of Japanese ODA Loans

## PART 2 Works Requirements

- Section VI. Scope of Works

- 6.2 The “Invitation for Prequalification” issued by the Employer is not part of the Prequalification Documents. A sample form is provided as an attachment to these Prequalification Documents for information only.
- 6.3 The Employer accepts no responsibility for the completeness of the Prequalification Documents and its addenda unless they were obtained directly from the Employer.
- 6.4 The Applicant is expected to examine all instructions, forms, and terms in the Prequalification Documents and to furnish all information or documentation required by the Prequalification Documents.
- 6.5 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.

**7. Clarification of Prequalification Documents**

- 7.1 A prospective Applicant requiring any clarification of the Prequalification Documents shall contact the Employer in writing at the Employer’s address **indicated 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 acquired the Prequalification Document directly from the Employer including a description of the inquiry but without identifying its source. Should the Employer deem it necessary to amend the Prequalification Document as a result of a clarification, it shall do so following the procedure under ITA 8 and in accordance with the provisions of ITA 17.2.

**8. Amendment of Prequalification Documents**

- 8.1 At any time prior to the deadline for submission of applications, the Employer may amend the Prequalification Documents by issuing addenda.
- 8.2 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.
- 8.3 To give prospective Applicants reasonable time to take an addendum into account in preparing their applications, the Employer may, at its discretion, extend the deadline for the submission of applications.

### C. Preparation of Applications

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| <b>9. Cost of Applications</b>  | 9.1 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.  |
| <b>10. Language of Application</b>                                    | 10.1 The application as well as all correspondence and documents relating to the prequalification exchanged by the Applicant and the Employer, shall be written in the language <b>specified in the PDS</b> . 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 <b>specified in the PDS</b> , in which case, for purposes of interpretation of the application, the translation shall govern                        |
| <b>11. Documents Comprising the Application</b>                       | 11.1 The application shall comprise the following: <ul style="list-style-type: none"> <li>(a) Application Submission Form, in accordance with ITA 12;</li> <li>(b) documentary evidence establishing the Applicant's eligibility to prequalify, in accordance with ITA 13;</li> <li>(c) documentary evidence establishing the Applicant's qualifications, in accordance with ITA 14; and</li> <li>(d) any other document required as <b>specified in the PDS</b>.</li> </ul>   |
| <b>12. Application Submission Form</b>                                | 12.1 The Applicant shall prepare an Application Submission Sheet using the form furnished in Section IV, Application Forms. This Form must be completed without any alteration to its format.  |
| <b>13. Documents Establishing the Eligibility of the Applicant</b>    | 13.1 To establish its eligibility in accordance with ITA 4, the Applicant shall complete the eligibility declarations in the Application Submission Form and Forms ELI (eligibility) 1.1 and 1.2, included in Section IV, Application Forms.   |
| <b>14. Documents Establishing the Qualifications of the Applicant</b> | 14.1 To establish its qualifications to perform the contract(s) in accordance with Section III, Qualification Criteria and Requirements, the Applicant shall provide the information requested in the corresponding forms included in Section IV, Application Forms.   |
| <b>15. Signing of the Application and Number of Copies</b>            | 15.1 The Applicant shall prepare one original of the documents comprising the application as described in ITA 11 and clearly mark it "ORIGINAL". The original of the application shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Applicant.<br><br>15.2 The Applicant shall submit copies of the signed original application, in the number <b>specified in the PDS</b> , 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**

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| <b>16. Sealing and Identification of Applications</b> | <p>16.1 The Applicant shall enclose the original and the copies of the application in a sealed envelope that shall:</p> <ul style="list-style-type: none"> <li>(a) bear the name and address of the Applicant;</li> <li>(b) be addressed to the Employer, in accordance with ITA 17.1; and</li> <li>(c) bear the specific reference identification number of this prequalification process, if any, indicated in PDS 1.1.</li> </ul> <p>16.2 The Employer will accept no responsibility for not processing any envelope that was not identified as required.</p>   |
| <b>17. Deadline for Submission of Applications</b>    | <p>17.1 Applicants may always submit their applications by mail or by hand. Applications shall be received by the Employer at the address and no later than the deadline <b>indicated in the PDS</b>. A receipt will be given for all applications submitted.</p> <p>17.2 The Employer may, at its discretion, extend the deadline for the submission of applications by amending the Prequalification Documents in accordance with ITA 8, in which case all rights and obligations of the Employer and the Applicants subject to the previous deadline shall thereafter be subject to the deadline as extended.</p> |
| <b>18. Late Applications</b>                          | <p>18.1 The Employer reserves the right to accept or reject late applications.</p>   |
| <b>19. Opening of Applications</b>                    | <p>19.1 The Employer shall prepare a record of the opening of applications that shall include, as a minimum, the name of the Applicant. A copy of the record shall be distributed to all Applicants.</p>   |

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

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| <b>20. Confidentiality</b>               | <p>20.1 Information relating to the evaluation of applications, and recommendation for prequalification, shall not be disclosed to Applicants or any other persons not officially concerned with such process until the notification of prequalification is made to all Applicants.</p> <p>20.2 From the deadline for submission of applications to the time of notification of the results of the prequalification in accordance with ITA 28, any Applicant that wishes to contact the Employer on any matter related to the prequalification process, may do so but only in writing.</p> |
| <b>21. Clarification of Applications</b> | <p>21.1 To assist in the evaluation of applications, the Employer may, at its discretion, ask any Applicant for a clarification of its application which shall be submitted within a stated reasonable period of time. Any request for clarification and all clarifications shall be in writing.</p> <p>21.2 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 may be rejected.</p>   |

- 22. Responsiveness of Applications** 22.1 The Employer may reject any application which is not responsive to the requirements of the Prequalification Documents.
- 23. Subcontractors** 23.1 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 (experience)-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.
- 23.2 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**

- 24. Evaluation of Applications** 24.1 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. The use of other methods, criteria, or requirements shall not be permitted. The Employer reserves the right to waive minor deviations in the qualification criteria if they do not materially affect the capability of an Applicant to perform the contract.
- 24.2 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.
- 24.3 **Unless otherwise indicated in the PDS**, this prequalification shall be for a single contract.
- 25. Employer's Right to Accept or Reject Applications** 25.1 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.
- 26. Prequalification of Applicants** 26.1 All Applicants, whose applications have been determined to be substantially responsive to the requirements of the Prequalification Documents and who have met or exceeded ("passed") the specified threshold criteria, shall be prequalified by the Employer.
- 27. Notification of Prequalification** 27.1 Once the Employer has completed the evaluation of the applications, it shall notify all Applicants in writing of the names of those Applicants who have been

prequalified.

**28. Invitation for Bids**

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

**29. Changes in Qualifications of Applicants**

- 29.1 Any change in the structure or formation of an Applicant after being prequalified in accordance with ITA 26 and invited to bid shall be subject to a written approval of the Employer prior to the deadline for submission of bids. Any such changes shall be submitted to the Employer not later than fourteen (14) days after the date of the Invitation for Bids. Such approval shall be denied if as a consequence of the change;
- (a) the prequalified Applicant, after the change, no longer substantially meets the qualification criteria set forth in Section III, Qualification Criteria and Requirements; or
  - (b) in the opinion of the Employer, a substantial reduction in competition may result.



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

<b>A. General</b>	
<b>ITA 1.1</b>	The reference identification number of this Invitation for Prequalification is <i>PQ –YAP(III) (O1/2012-13)</i>
<b>ITA 1.1</b>	The name of the Employer is Delhi Jal Board
<b>ITA 1.1</b>	The name of the package comprising this contract is: <b>Construction of New Okhla Phase - I, Wastewater Treatment Plant (WWTP) of 136 MLD with effluent standards of BOD – 10 mg/l, TSS – 10 mg/l or better and Power Generation on Turnkey Basis and then Demolition of Existing Phase - I WWTP under YAP (III)</b>
<b>ITA 2.1</b>	The name of the Borrower is: National River Conservation Directorate (NRCD), Ministry of Environment and Forests (MoEF), Government of India (GoI)
<b>ITA 2.1</b>	The number of the Loan Agreement is: <b>JICA LOAN NO. ID-P215</b> The amount of a Japanese ODA Loan is: <b>JPY 32,571 Million</b> The signed date of the Loan Agreement is: <b>17<sup>th</sup> February, 2011</b>
<b>ITA 2.1</b>	The name of the Project is – <b>YAMUNA ACTION PLAN PROJECT (III)</b>
<b>ITA 4.1</b>	Being it a technical contract, technically sound partner shall be considered as Lead partner in case of JVA
<b>B. Contents of the Prequalification Documents</b>	
<b>ITA 7.1</b>	For <b><u>clarification purposes</u></b> only, the Employer's address is:  Attention: EXECUTIVE ENGINEER [C] DR. XI DELHI JAL BOARD ROOM NO. 208, VARUNALAYA PHASE: I KAROL BAGH, NEW DELHI-110005 INDIA Tel Fax No-: +91-11-23545168  Email address: mail_arungupta@yahoo.co.in



<b>C. Preparation of Applications</b>	
<b>ITA 10.1</b>	The language of the application as well as of all correspondence is : English  Where information is provided in another language, it shall be accompanied by a translation in English language and shall be duly certified. Such translated versions shall prevail and will be used for interpreting the information.
<b>ITA 11.1 (d)</b>	The Applicant shall submit with its application, the following additional documents: Form EXP – 5- Format for Experience Certificates Form – 6- Format for Affidavit
<b>ITA 15.2</b>	In addition to the original, the number of copies to be submitted with the application is : <b>3 (Three) Copies</b>
<b>D. Submission of Applications</b>	
<b>ITA 17.1</b>	Applicants may always submit their application for prequalification in sealed envelope, either by hand, by courier or by registered mail to the address mentioned below: EXECUTIVE ENGINEER [C] DR. XI DELHI JAL BOARD ROOM NO. 208, VARUNALAYA PHASE: I KAROL BAGH, NEW DELHI-110005  And be clearly marked : <b>“Application to prequalify for JICA Assisted Yamuna Action Plan Project (III) – Prequalification for “Construction of New Okhla Phase - I, Wastewater Treatment Plant (WWTP) of 136 MLD with effluent standards of BOD – 10 mg/l, TSS – 10 mg/l or better and power generation on turnkey basis and then Demolition of Existing Phase - I WWTP under YAP (III)”</b>  The deadline for application submission is: Date: <b>24-09-2012</b> Time: <b>3:00 P.M.</b>
<b>E. Procedures for Evaluation of Applications</b>	
<b>ITA 23.2</b>	The clause stands deleted, as subcontracting is not permitted
<b>F. Evaluation of Applications and Prequalification of Applicants</b>	
<b>ITA 24.3</b>	As stipulated in ITA 1.1, this prequalification shall be for a single contract.



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

Eligibility and Qualification Criteria				Compliance Requirements			Documentation
No.	Subject	Requirement	Single Entity	Joint Venture or Association			Submission Requirements
				All Partners Combined	Each Partner	At Least One Partner	
1. Eligibility							
1.1	Nationality	Nationality in accordance with ITA Sub-Clause 4.2.	Must meet requirement	Existing or intended JVA must meet requirement	Must meet requirement	N/A	Forms ELI – 1.1 and 1.2with attachments
1.2	Conflict of Interest	No conflicts of interest in ITA Sub-Clause 4.3.	Must meet requirement	Existing or intended JVA must meet requirement	Must meet requirement	N/A	Application Submission Form
1.3	JICA Ineligibility	Not having been declared ineligible by JICA, as described in ITA Sub-Clause 4.5.	Must meet requirement	Existing JVA must meet requirement	Must meet requirement	N/A	Application Submission Form

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture or Association			Submission Requirements
				All Partners Combined	Each Partner	At Least One Partner	
2. Historical Contract Non-Performance							
2.1	History of Non-Performing Contracts	Non-performance of a contract did not occur within the last two (2) years prior to the deadline for application submission based on all information on fully settled disputes or litigation. A fully settled dispute or litigation is one 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.	Must meet requirement by itself or as partner to past or existing JVA	N/A	Must meet requirement by itself or as partner to past or existing JVA	N/A	Form CON-2
2.2	Pending Litigation	The applicant shall submit along with, the bid details of all pending litigation. The maximum possible legal liability arising out of all the pending litigation should not exceed 50% of net worth of the applicant.	Must meet requirement by itself or as a partner to past or existing JVA	N/A	Must meet requirement by itself or as a partner to past or existing JVA	N/A	Form CON – 2

Eligibility and Qualification Criteria			Compliance Requirements				Documentation
No.	Subject	Requirement	Single Entity	Joint Venture or Association			Submission Requirements
				All Partners Combined	Each Partner	At Least One Partner	
3. Financial Situation							
3.1	Financial Performance	Net Worth Submission of audited balance sheets or if not required by the law of the Applicant’s country, other financial statements acceptable to the Employer, for the last five (5) years to demonstrate the current soundness of the Applicant’s financial position and its prospective long term profitability. As the minimum requirement, an Applicant’s net worth for any 3 years calculated as the difference between total assets and total liabilities should be positive.	Must meet requirement	N/A	N/A	Must meet requirement	Form FIN – 3.1 with attachments
3.2	Average Annual Construction Turnover	Minimum average annual construction turnover of INR 1200 million calculated as total certified payments received for contracts in progress or completed, within the last 5 years.	Must meet requirement	Must meet requirement	Must meet 25% of the requirement	Must meet 40 % of the requirement	Form FIN – 3.2

**Notes: -**

*All the financials shall be taken into consideration at the time of bidding*

*All the financial calculations required shall be done by applicant and shall be certified by its chartered accountant, else the information will not be considered for evaluation.*

Eligibility and Qualification Criteria				Compliance Requirements			Documentation
No.	Subject	Requirement	Single Entity	Joint Venture or Association			Submission Requirements
				All Partners Combined	Each Partner	At Least One Partner	
4. Experience							
4.1	General Construction Experience	<p>The applicant should have successful experience of Design, Construction, Erection, Testing &amp; Commissioning of:</p> <p>a. At least 1 (One) Wastewater Treatment Plant (WWTP) of 110 MLD or more with aerobic suspended growth process OR</p> <p>b. At least 2 (Two) Waste Water Treatment plant (WWTP) of 68 MLD each or more with aerobic suspended growth process OR</p> <p>c. At least 3 (Three) Waste Water Treatment plant (WWTP) of 55 MLD each or more with aerobic suspended growth process</p> <p>The applicant should have done Operation &amp; Maintenance of any one of the above works for at least 1 year in the last 10 years.</p> <p>The above works should have been commissioned in last 10 years as on date of issue of NIT and should be running successfully thereafter.</p>	Must meet requirement	Must meet requirement	N/A	N/A	Form EXP – 4.1
4.2 (a)	Specific Construction Experience	The applicant should have experience of EPC contract including testing & successful commissioning of One Waste Water Treatment plant (WWTP) of minimum capacity of 55 MLD based on aerobic suspended growth process with high rate anaerobic digesters.	Must meet requirement	Must meet requirement	N/A	N/A	Form EXP – 4.2

Eligibility and Qualification Criteria				Compliance Requirements			Documentation
No.	Subject	Requirement	Single Entity	Joint Venture or Association			Submission Requirements
				All Partners Combined	Each Partner	At Least One Partner	
		The said work should have been commissioned in last 10 years as on date of issue of NIT and should be in operation thereafter.					
4.2 (b)		<p>The applicant should have experience of EPC contract including testing &amp; successful commissioning of One Waste Water Treatment plant (WWTP) of minimum capacity of 55 MLD based on aerobic suspended growth process with biological nutrient removal.</p> <p>The said work should have been commissioned in last 10 years as on date of issue of NIT and should be in operation thereafter.</p>	Must meet requirement	Must meet requirement	N/A	N/A	Form EXP – 4.2
4.2 (c)		<p>The applicant should have experience of EPC contract including testing &amp; successful commissioning of One Waste Water Treatment plant (WWTP) of minimum capacity of 55 MLD based on aerobic suspended growth process with effluent standards as BOD ≤ 10 mg/l, TSS ≤ 10 mg/l.</p> <p>The said work should have been commissioned in last 10 years as on date of issue of NIT and should be in operation thereafter.</p>	Must meet requirement	Must meet requirement	N/A	N/A	Form EXP – 4.2



Eligibility and Qualification Criteria				Compliance Requirements			Documentation
No.	Subject	Requirement	Single Entity	Joint Venture or Association			Submission Requirements
				All Partners Combined	Each Partner	At Least One Partner	
4.2 (d)		<p>The Applicant must have carried out the design, construction, erection and successful commissioning of at least one Waste Water Treatment plant (WWTP) based on aerobic suspended growth process with <b>minimum 0.5 MW/0.65 MVA power generation from biogas produced at the plant using only biogas engines.</b></p> <p>The said work should have been commissioned in last 10 years as on date of issue of NIT and should be in operation thereafter.</p>	Must meet requirement	Must meet requirement	N/A	N/A	Form EXP – 4.2
4.2 (e)		<p>The applicant should have experience of design, construction, testing &amp; successful commissioning of at least one Waste Water Treatment Plant (WWTP) / Water Treatment Plant (WTP) of minimum 55 MLD capacity with SCADA.</p> <p>The said work should have been commissioned in last 10 years as on date of issue of NIT and should be in operation thereafter.</p>	Must meet requirement	Must meet requirement	N/A	N/A	Form EXP – 4.2

**Notes:**

- a) *Operation & Maintenance experience shall be counted from actual date of commissioning of the Wastewater Treatment Plant (WWTP). Operation & Maintenance carried out during defect liability period shall also be considered as a part of O&M requirement.*
- b) *Applicants having experience of said works as subcontractor shall not be considered.*

## **Section IV. Application Forms**

### Application Submission Form

Date: *[insert day, month, year]*  
Reference ID No.: *[insert number, if any]*

To: *[insert full name of Employer]*

We, the undersigned, apply to be prequalified for the contract of referenced number and 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) Clause 8: *[insert the number and issuing date of each addendum]*.
- (b) We, including any subcontractors or suppliers for any part of the contract resulting from this prequalification process, have nationalities from eligible countries of Japanese ODA Loans, in accordance with ITA Sub-Clause 4.2: *[insert the nationality of the Applicant, including that of all partners in case of a Joint Venture, and the nationality of each already identified subcontractor and supplier of related services, if applicable]*;
- (c) We, including any subcontractors or suppliers for any part of the contract resulting from this prequalification, do not have any conflict of interest, in accordance with ITA Sub-Clause 4.3;
- (d) We, including any subcontractors or suppliers for any part of the contract resulting from this prequalification, have not been declared ineligible by JICA, in accordance with ITA Sub-Clause 4.5 and with PDS against Clause 4;
- (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 Clause 25.

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

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

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

*Duly authorized to sign the application for and on behalf of:*

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

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

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

**Form ELI -1.1-Applicant Information Form**Date: *[insert day, month, year]*Reference ID No.: *[insert number, if any]*Page *[insert page number]* of *[insert total number]* pages

Applicant's legal name <i>[insert full legal name]</i>
In case of Joint Venture (JV), legal name of each partner: <i>[insert full legal name of each partner in JV]</i>
Applicant's actual or intended country of constitution: <i>[indicate country of Constitution]</i>
Applicant's actual or intended year of constitution: <i>[indicate year of Constitution]</i>
Applicant's legal address in country of constitution: <i>[insert street/ number/ town or city/ country]</i>
Applicant's authorized representative information Name: <i>[insert full legal name]</i> Address: <i>[insert street/ number/ town or city/ country]</i> Telephone/Fax numbers: <i>[insert telephone/fax numbers, including country and city codes]</i> E-mail address: <i>[indicate E-mail address]</i>
Attached are copies of original documents of <input type="checkbox"/> Articles of incorporation or documents of constitution, and documents of registration of the legal entity named above, in accordance with ITA 4.1 and 4.2. <input type="checkbox"/> In case of JV, letter of intent to form JV or JV agreement, in accordance with ITA 4.1.

### Form ELI -1.2- Applicant Partner Information Form

*[The following form shall be filled in for the Applicant's partners including partner(s) of a joint venture, subcontractors, suppliers, and other partners]*

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

Reference ID No.: *[insert number, if any]*

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

JV Applicant legal name: <i>[insert full legal name]</i>
Applicant Partner's legal name: <i>[insert full legal name of Applicant partners]</i>
Applicant Partner's country of registration: <i>[indicate country of registration]</i>
Applicant Partner's year of constitution: <i>[indicate year of constitution]</i>
Applicant Partner's legal address in country of constitution: <i>[insert street/ number/ town or city/ country]</i>
Applicant Partner's authorized representative information Name: <i>[insert full legal name]</i> Address: <i>[insert street/ number/ town or city/ country]</i> Telephone/Fax numbers: <i>[insert telephone/fax numbers, including country and city codes]</i> E-mail address: <i>[indicate E-mail address]</i>
Attached are copies of original documents of <input type="checkbox"/> Articles of incorporation or documents of constitution, and registration documents of the legal entity named above, in accordance with ITA 4.1 and 4.2.

## Form CON – 2-Historical Contract Non-Performance

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

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

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

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

Reference ID No.: *[insert number, if any]*

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 during the <i>[number]</i> years specified in Section III, Qualification Criteria, and Requirements, Sub-Factor 2.1.			
<input type="checkbox"/> Contract(s) not performed during the <i>[number]</i> years specified in Section III, Qualification Criteria and Requirements, requirement 2.1			
Year	Non performed portion of contract	Contract Identification	Total Contract Amount (current value, US\$ equivalent)
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name, number, and any other identification]</i>  Name of Employer: <i>[insert full name]</i>  Address of Employer: <i>[insert street/city/country]</i>  Reason(s) for non performance: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>

## 2. Pending

Pending Litigation			
<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	Outcome as Percentage of Net Worth	Contract Identification	Total Contract Amount (current value, US\$ equivalent)
<i>[insert year]</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>	<i>[insert amount]</i>



### Form FIN – 3.1- Financial Situation

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

Date: [insert day, month, year]

Applicant's Legal Name: [insert full name]

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

Reference ID No.: [insert number, if any]

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

#### 1. Financial Data

<b>Historic Information for Previous [insert number] years, [insert in words] (US\$ Equivalent)</b>				
Year 1	Year 2	Year 3	Year...	Year n

#### Information from Balance Sheet

Total Assets (TA)					
Total Liabilities (TL)					
Net Worth (NW)					
Current Assets (CA)					
Current Liabilities (CL)					

#### 2. Information from Income Statement

Total Revenue (TR)					
Profits Before Taxes (PBT)					
Profits After Taxes (PAT)					

### 3. Financial Documents

The Applicant and its partners shall provide copies of the balance sheets and/or financial statements for *[number]* 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 partner to a JV, and not sister or parent companies.
  - (b) be audited by a certified accountant.
  - (c) be complete, including all notes to the financial statements.
  - (d) correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted).
- ☐ Attached are copies of financial statements (balance sheets including all related notes, and income statements) for the *[number]* years, as indicated above, and complying with the requirements.

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

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

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

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

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

Reference ID No.: *[insert number, if any]*

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

Annual Turnover Data (Construction only)			
Year	Amount and Currency	Exchange Rate	US\$ Equivalent
<i>[indicate year]</i>	<i>[insert amount and indicate currency]</i>	<i>[insert applicable exchange rate]</i>	<i>[insert amount in US\$ equiv.]</i>
Average Annual Construction Turnover *			

- \* Average Annual Construction Turnover calculated as total certified payments received for work in progress or completed, divided by the number of years specified in Section III, Qualification Criteria and Requirements, Sub-Factor 3.2.

### Form EXP - 4.1-General Construction Experience

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

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

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

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

Reference ID No.: *[insert number, if any]*

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

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

General Construction Experience			
Starting Month / Year	Ending Month / Year	Contract Identification	Role of Applicant
<i>[indicate month/ year]</i>	<i>[indicate month/ year]</i>	Contract name: <i>[insert full name]</i> Brief description of the Works performed by the Applicant: <i>[describe Works performed briefly]</i> Name of Employer: <i>[indicate full name]</i> Address: <i>[indicate street/number/town or city/country]</i>	<i>[insert "Contractor" or "Subcontractor" or "Management Contractor"]</i>

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

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

Date: *[insert day, month, year]*  
Applicant's Legal Name: *[insert full name]*  
Applicant's Party Legal Name: *[insert full name]*  
Reference ID No.: *[insert number, if any]*  
Page *[insert page number]* of *[insert total number]* pages

**Fill up one (1) form per contract.**

Contract of Similar Size and Nature		
<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</i>	
Award Date	<i>[insert day, month, year, i.e., 15 June, 2015]</i>	
Completion Date	<i>[insert day, month, year, i.e., 03 October, 2017]</i>	
Role in Contract	<b>Prime Contractor Only</b>	
Total Contract Amount	<i>[insert total contract amount in US\$]</i>	
If partner in a JV, specify participation in total contract amount	<i>[insert a percentage amount]</i>	<i>[insert total contract amount in US\$]</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) -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. Amount	<i>[insert amount in US\$]</i>
2. Physical Size	<i>[insert physical size of activities]</i>
3. Complexity	<i>[insert description of complexity]</i>
4. Methods/Technology	<i>[insert specific aspects of the methods/ technology involved in the contract]</i>
5. Other Characteristics	<i>[insert other characteristics as described in Section VI, Scope of Works]</i>

**Form EXP - 4.2(b)-Specific Construction Experience in Key Activities**Date: *[insert day, month, year]*Applicant's Legal Name: *[insert full name]*Applicant's Party Legal Name: *[insert full name]*Subcontractor's Legal Name (as per ITA 23.1) *[insert full name]*Reference ID No.: *[insert number, if any]*Page *[insert page number]* of *[insert total number]* pages**Fill up one (1) form per contract.**1. Key Activity No. (1) \_\_\_\_: *[insert brief description of the Activity, emphasizing its specificity]*

Contract with Similar Key Activities			
Item	Information		
Contract Identification	<i>[insert contract name and number, if applicable]</i>		
Award Date	<i>[insert day, month, year, i.e., 15 June, 2015]</i>		
Completion Date	<i>[insert day, month, year, i.e., 03 October, 2017]</i>		
Role in Contract <i>[check the appropriate box]</i>	Prime Contractor <input type="checkbox"/>	Management Contractor <input type="checkbox"/>	Subcontractor <input type="checkbox"/>
Total Contract Amount	<i>[insert total contract amount in US\$]</i>		
If partner in a JV or subcontractor, specify participation of total contract amount	<i>[insert a percentage amount]</i>	<i>[insert total contract amount in US\$]</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>		

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

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

**Form EXP – 5- Format for Experience Certificates**

*(To be self attested by the bidder)*

*The Contractor should submit the experience certificates from the respective clients containing the following information:*

- 1. Name of Work*
- 2. Location*
- 3. Scope of Work*
- 4. Capacity*
- 5. Cost of Work*
- 6. Name of Client*
- 7. Details of Client (Department, address, telephone number, email id)*
- 8. Duration of Work*
- 9. Scheduled date of start of Work*
- 10. Schedule date of completion of Work*
- 11. Actual date of start of Work*
- 12. Actual date of completion of Work*
- 13. Delay, if any*
- 14. Amount of penalty, if any*
- 15. Present status of Work*
- 16. Performance of Work*



**Form – 6- Format for Affidavit**

*AFFIDAVIT*  
(To be filled by the bidder)

Date:

From,

(Contractor's Detail)

To,

Delhi Jal Board (Govt. of NCT of Delhi),

Varunalya Phase-II, Karol Bagh,

New Delhi - 110005

Contract: (Contract Name)

Dear Sirs,

I/We have annexed to this Bid the following documents:

- (i) Original Power of Attorney or other proof of authority of the person who has signed the Bid or Copy of Power of Attorney or other authority.
- (ii) Audited Balance sheet of the Bidder for the last 5 (Five) years.
- (iii) Letter of award and completion certificates for the eligible projects
- (iv) Documents as per the eligibility criteria
- (v) Any additional documents as listed below:

.....  
I/We hereby undertake that the statements made in the bid and the information given in Annexure referred to above are true in all respects and that in the event of any such statement or information being found to be incorrect in any particular, the same may be construed to be a misrepresentation entitling Delhi Jal Board to cancel the bid or terminate any resultant Contract.

I/We undertake that we have no conflict of interest as specified in the bidding documents for the above Contract and that if found otherwise, Delhi Jal Board can take all requisite measures, including but not limited to cancellation of bid or terminate any resultant Contract, as per provisions of Contract.

I/We further undertake as and when called upon by Delhi Jal Board to produce for its inspection, original(s) of the documents(s) of which copies have been annexed hereto.

Yours faithfully,

(Signature(s) of the Bidders(s))

Name & Designation of authorised person signing the Bid on behalf of the Bidder(s) Full Name and address of the Bidder(s)



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

Eligibility for the Provision of Goods, Works and Services in

JICA-Financed Procurement

ALL COUNTRIES AND AREAS ARE ELIGIBLE



## **PART 2 – Works Requirements**



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

## 1. Description of the Works

### A. General Information

#### A-1. Background

Recognizing the gravity of the pollution of rivers, the Government of India (GoI) launched a massive plan for their pollution abatement. River Yamuna was selected for undertaking pollution control measures, as it is one of the largest tributaries of the Ganges and passes through important urban centers including Delhi and Agra in Northern India.

The water of River Yamuna is of reasonably good quality throughout its length from Yamunotri to Wazirabad in Delhi (about 375 km). The waste water is discharged through 18 drains between Wazirabad barrage and Okhla barrage (22 km stretch), thus leaving the river severely polluted after Wazirabad in Delhi. In order to control the water pollution and improve the water quality of River Yamuna, some important measures were taken up under the Yamuna Action Plan project. The Yamuna Action Plan (YAP) project was formulated on the basis of the study conducted under special assistance of the Japan Bank for International Co-operation (JBIC) now JICA, and covers Delhi, 8 towns of Uttar Pradesh and 6 towns of Haryana.

##### a. City of Delhi

Delhi, the capital of India, is situated on the bank of River Yamuna, surrounded in the North, West and South by the State of Haryana and in the East by the state of Uttar Pradesh. Delhi is situated at longitude 77°13'16.08"E and latitude 28°37'58.55", and is at an average altitude of 210m above MSL covering an area of 1486 square kilometers (sq km).

The climate of Delhi is semi-arid. The mean maximum temperature varies between 27.6° C and 40.2°C. The mean minimum temperature ranges from 7.5°C to 22.2°C. The average annual rainfall is 714 mm and generally 85% precipitation occurs during the monsoon months from June to September.

##### b. Delhi Jal Board

Originally, the Delhi Water Supply and Sewage Disposal Undertaking (DWS&SDU) under the Municipal Corporation of Delhi, was responsible for the production and distribution of potable water after treating raw water from various sources like River Yamuna, Bhakra storage, Upper Ganga Canal and groundwater.

On 6th April 1998, the Delhi Jal Board (DJB) was constituted through an Act of the Delhi Legislative Assembly incorporating the previous DWS&SDU. The DJB is one of the arms of the Government of National Capital Territory of Delhi.



### **A-2. Projects executed under Yamuna Action Plan (YAP –I and YAP –II in Delhi )**

Under YAP-I, DJB commissioned 2 WWTPs (10 MLD each at Sen Nursing Home Nallah and Delhi Gate Nallah in 1995). It is worth mentioning that performance for both the WWTP's in terms of quality and quantity is really commendable. The treated water from both the WWTP's is being utilized for industrial purposes from the date of their commissioning. DJB has ensured financial sustainability of operation and maintenance of both the WWTPs constructed under YAP – I funds.

Since YAP - I was not able to address the issue of Yamuna cleanliness fully, particularly in the 22 Km stretch in Delhi and the downstream areas, few new towns in U.P. were further identified that were adding to the pollution in the river. Hence to accomplish the overall objectives of the Yamuna Action Plan, YAP - II was developed. .

Under YAP-II, the most critical stretches of Yamuna were taken into consideration.

Following were the major projects:

- Construction of new 136 MLD (30 MGD) Okhla WWTP
- Construction of new 55 MLD (12 MGD) STP and renovation of 91 MLD (20 MGD) and 182 MLD (40 MGD) STPs at Keshopur
- Rehabilitation of Ring Road Trunk Sewer
- Construction of Wazirabad Road Sewer
- Rehabilitation and new construction of Bela Road Sewer
- Public Outreach

### **A-3. Yamuna Action Plan Project (III)**

With the successful implementation of YAP–II projects, DJB's own initiatives and the Interceptor Sewer project, it is expected that water quality of River Yamuna will improve to desired standards. The Interceptor Sewer Project which has been approved by the Expenditure Finance Committee (EFC) of the Government of India for Rs. 1357.71 Cr under JnNURM is under implementation.

Subsequent to the YAP –II projects and the lessons learnt in their execution and keeping the objective of cleaning River Yamuna, the Delhi Government/Delhi Jal Board have approached JICA (Japan International Co-operation Agency) for financial assistance under a soft term loan for YAP (III).

The main objective of YAP (III) is to restore the water quality of River Yamuna to acceptable standards by providing a commercially and technically viable solution on priority basis that can reduce pollution in the Yamuna River. Another important goal of the Project is to provide adequate treatment capacity to carry anticipated flows generated by the dry weather interceptors proposed in YAP (III).

The prioritized projects include the following:

- Rehabilitation of Trunk Sewers in Trans Yamuna Kondli Drainage Basin and Rithala Drainage Basin
- Rehabilitation of Rising Mains in Trans Yamuna Kondli Drainage Basin and Rithala Drainage Basin
- Construction of New Okhla Phase - I WWTP 136 MLD (30 MGD) with treated effluent standards of  $BOD \leq 10 \text{ mg/l}$  and  $TSS \leq 10 \text{ mg/l}$  and then Demolition of existing Okhla Phase - I WWTP
- Rehabilitation of existing Wastewater Treatment Plants at Okhla, Kondli and Rithala with focus on additional oxygen for nitrification for enhanced treated water quality, improved sludge stabilization and enhanced biogas generation, as well improved bio solids dewatering.
- Upgradation of Waste Water Treatment Plants at Okhla (564 MLD), Kondli (204 MLD) and Rithala (182 MLD) conforming to effluent standards of  $BOD \leq 10 \text{ mg/l}$  and  $TSS \leq 10 \text{ mg/l}$ . The treated waste water shall be used for urban landscape, industrial, washing of vehicles and other non domestic purposes.

## **B. Scheme Description and Scope of Work**

### **B-1. The Project**

Construction of New Okhla Phase - I, Wastewater Treatment Plant (WWTP) of 136 MLD with effluent standards of BOD – 10 mg/l, TSS – 10 mg/l or better and power generation on turnkey basis and then Demolition of Existing Phase - I WWTP under YAP (III).

### **B-2. Okhla Wastewater Treatment Plants - Historical Background**

Okhla Wastewater Treatment Plants (WWTPs) is located in the Okhla catchment of Delhi in the southern part of the city. The Okhla Wastewater treatment Works has been constructed in various phases, with the first phase constructed in the year 1937 and subsequently five other phases have been added. The present capacity of the works is 773MLD [(136+55+205+168+73+136) MLD] at present, the largest Wastewater treatment facility in Delhi.

The first phase of the Okhla plant is over 75 years old and has outlived its effective economic life.

The option of rehabilitation or demolition of existing Phase - I plant and construction of new WWTP of same capacity has been critically reviewed and the option of constructing new plant has been considered. The existing facility shall be demolished after the new facility is put into service.

### **B-3. Scope of Work**

The Scope of Work involves construction of a new Wastewater Treatment Plant of 136 MLD capacity and then demolition of existing Phase - I treatment plant, conforming to the following standards before disposal into River Yamuna/Agra canal:

- BOD  $\leq 10$  mg/l
- TSS  $\leq 10$  mg/l
- Fecal Coliform  $\leq 1,000$  MPN / 100 ml

using aerobic suspended growth process to achieve the specified standards, having high rate suspended growth anaerobic digesters with continuous mixing to achieve stabilized bio solids for power generation and dewatering of bio solids/sludge using mechanical means.

#### B-4. Key Performance Indicators

The plants performance and technology shall be evaluated on the following key performance indicators:

S No	Key Performance Indicators	Basis
1.	Treated Wastewater Quality	Quality of the output as per the mandatory norms specified below BOD $\leq$ 10 mg/l TSS $\leq$ 10 mg/l Fecal Coliform $\leq$ 1000 MPN / 100 ML
2.	Gross Energy	Preference to Technology using minimum Gross Energy
3.	Net Energy consumption	Minimum energy
4.	Chemicals Usage	Minimum
5.	Reliability	Plant to have Quality : 96 % or better, evaluated on a daily basis ( not exceeding one quality infringement per month ) Throughput : 95 % evaluated on a yearly basis Bio Gas / Power Generation : 90 % plus on a monthly basis
6.	Bio Solids	To be stabilized and dewatered to a non free flowing condition with a minimum moisture content
7.	Maintenance including replacement	Preventative maintenance schedule
8.	Breakdown	Not exceeding 0.5 % on hourly basis i.e. not exceeding 40 hours per year

### 2. Construction Period

The anticipated Construction Period shall be of 48 months including 6 months of trial run and commissioning.

### 3. Site and Other Data

#### a) Topography:

The topography of Delhi can be divided into three different parts, the plains, the Yamuna flood plain, and the ridge. As per the topography, Delhi is located on the western fringes of the Gangetic Plains. The low altitude Yamuna flood plains provides an excellent scope of agriculture, as it is covered with the fertile alluvium brought by the River Yamuna and deposited here during the frequent floods.

#### b) Seismicity:

Delhi is located in zone IV which has fairly high seismicity where the general occurrence of earthquakes is of 5-6 magnitude. The seismicity around Delhi appears to be associated with a major geological structure, which is known as the Delhi-Haridwar Ridge. This ridge constitutes an important tectonic block between 28° - 30° N and 76° - 79° E with a NE-SW trend. It coincides with the extension of the Aravali mountain belt beneath the alluvial plains of the Ganga basin to the northeast of Delhi towards the Himalayan Mountains.

#### c) Location:

Okhla Waste Water Treatment Plant (WWTP) Phase – I is located in the southern part of the city behind the Central Road Research Institute (CRRI) in Okhla at Mathura Road.

The approximate geographical coordinates of the site is as follows:

Latitude: 28°32'58.00''N

Longitude: 77°16'46.00''E