



GOVERNMENT OF INDIA

**TENDER**

**UPPER YAMUNA RIVER BOARD  
Ministry of WR, RD&GR, Govt. of India**

**Supply, Installation, Testing, Commissioning,  
Operation & Maintenance of Data Acquisition &  
Transmission System for Providing Discharge Data for  
Canal at 11 Stations in Upper Yamuna Basin**

**TENDER NO.: UYRB/Tech-7/2017/01**

**April, 2017**

**Certified that this tender document contains 44 Pages.**

**Executive Engineer,  
Upper Yamuna River Board**

**Ph: 011-26184025  
Fax: 011-26184025**

- Important Note:-**
- (i) BIDDER SHOULD SUBMIT THIS DOCUMENT IN ORIGINAL DULY SIGNED ON EACH PAGE.**
  - (ii) THE BIDDER SHOULD READ ALL THE INSTRUCTIONS IN THE DOCUMENT THOROUGHLY BEFORE SUBMITTING THE TENDER AND ADHERE TO THE DATES GIVEN.**



**UPPER YAMUNA RIVER BOARD**  
**Ministry of WR, RD&GR, Govt. of India**

**TENDER FOR THE WORK OF Supply, Installation,  
Testing, Commissioning, Operation & Maintenance of  
Data Acquisition & Transmission System for  
Providing Discharge Data for Canal at 11 Stations in  
Upper Yamuna Basin**

|  |                                   |
|--|-----------------------------------|
| <b>Tender No.</b>                                    | <b>: UYRB/Tech-7/2017/01</b>      |
| <b>Estimated Cost</b>                                | <b>: Rs. 59520000/-</b>           |
| <b>Earnest Money</b>                                 | <b>: Rs. 1190400/-</b>            |
| <b>Last Date &amp; Time for Submission of Tender</b> | <b>: 25.05.2017<br/>13:30 hrs</b> |
| <b>Date &amp; Time of Opening of Tender</b>          | <b>: 25.05.2017<br/>14:30 hrs</b> |
| <b>Date of Pre-Bid</b>                               | <b>: 05.05.2017 at 11:00 hrs</b>  |

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## CHECK LIST

Please tick the appropriate column.

| SL. NO. | DOCUMENT   | ENCLOSED |    |
|---------|--|----------|----|
|         |  | YES      | NO |
| 1.      | Covering Letter of Bidder  |          |    |
| 2.      | Original Tender Document including Schedule of Quantities and Financial Tender Format (Table1, 2, A, B & C) duly signed on each page |          |    |
| 3.      | Earnest Money Deposit in form of Demand Draft  |          |    |
| 4.      | Whether Unit Rate of Items quoted in both Figure and Words   |          |    |
| 5.      | Whether Gross Amount of Tendered Value quoted in both Figure and Words   |          |    |
| 6.      | Cost of tender document submitted  |          |    |

( Press Notice)

**NOTICE INVITING TENDER  
Upper Yamuna River Board**

The Executive Engineer, Upper Yamuna River Board, MoWR, RD&GR, Government of India invites online item rate e-tenders on behalf of Hon'ble President of India from experienced manufacturers/ authorized dealers/ reputed & experienced operating company operating in the field of river/ canal level and flow measurements using automatic data acquisition instrumentation and telemetry based data transmission system up to 13:30 Hrs. on 25.05.2017 for the following work **Supply, Installation, Testing, Commissioning, Operation & Maintenance of Data Acquisition & Transmission System for Providing Discharge Data for Canal at 11 Stations in Upper Yamuna Basin for five years:**

| Estimated Cost (Rupees.)  | Earnest Money Deposit (EMD) (Rupees).                                       | Period of completion |
|---|---|----------------------|
| <b>Rs. 59520000/-</b><br>(Rs. five crore ninety five lakh twenty thousand only) | <b>Rs. 1190400/-</b><br>(Rs. Eleven lakh ninety thousand four hundred only) | <b>120 days</b>      |

1. The last date of submission of tender is 25.05.2017 at 13:30 hours.
2. Tenders will be opened at **14.30 Hrs on 25.05.2017.**
3. The interested tenderers may also download the tender document and other details from the website <http://eprocure.gov.in>, the Central Public Procurement Portal of Government of India or TCIL's e- tendering portal [www.tcil-india-electronictender.com](http://www.tcil-india-electronictender.com). The same is also available at tender page on the UYRB website at [www.uyrb.gov.in](http://www.uyrb.gov.in). However, the tenders shall only be accepted on receipt of the cost of tender document as specified before submission of the tender document. The Tender cost shall be paid through A/C payee Demand Draft (non - refundable) drawn on any Nationalized Bank/ Scheduled bank in favor of PAO, MoWR, RD&GR **payable at New Delhi.**

**Sd/-**  
Executive Engineer

**GOVERNMENT OF INDIA  
UPPER YAMUNA RIVER BOARD  
NOTICE INVITING TENDER**

Item rate tenders are invited on behalf of the Hon'ble President of India from the eligible experienced manufacturers, their authorized dealers/ representatives, Indian representative of foreign manufacturers/reputed & experienced operating company having sufficient experience in operations in the field of river/ canal water level and flow measurements using automatic data acquisition instrumentation and telemetry based data transmission system or similar works for **Supply, Installation, Testing, Commissioning, Operation & Maintenance of Data Acquisition & Transmission System for Providing Discharge Data for Canal at 11 Stations in Upper Yamuna Basin for five years**. The work is estimated to cost Rs. **59520000/-** (Rs. five crore ninety five lakh twenty thousand only). This estimate, however, is tentative and indicative for guidance.

Only original Indian manufacturers, their authorized dealers/ representatives, Indian representative of foreign manufacturers having sufficient experience acting singly or in consortium with other such manufacturers/ dealers, having sufficient experience of above works, shall be allowed to quote for the works. **Similar works** are defined as the works of **Supply, Installation, Testing, Commissioning and maintenance of Data Acquisition & telemetry based transmission System in river/ canal systems and/ or operation of such systems for providing river flow/ river water level data as services to the client department, which should be preferably government or government undertakings.**

**1.0 GENERAL INSTRUCTION TO BIDDERS:**

- 1.1. Bids shall be submitted online only at TCIL website URL <https://www.tcil-india-electronictender.com>. Tenderers/Contractors are advised to follow the instructions provided in the 'instructions to the Contractors/Tenderer for the e-submission of the bids online through TCIL portal. The tender notice is also available at [www.eprocure.gov.in](http://www.eprocure.gov.in) and [www.yurb.gov.in](http://www.yurb.gov.in).
- 1.2. Not more than one tender shall be submitted by one contractor or contractors having business relationship. Under no circumstance father and his son(s) or other close relations who have business relationship with one another (i.e. when one or more partner(s)/director(s) are common) be allowed to tender for the same contract as separate competitors. A breach of this condition will render the tenders of both parties liable to rejection.
- 1.3. Tenderer who has downloaded the tender from the TCIL website URL <https://www.tcil-india-electronictender.com> and Central Public Procurement Portal (CPPP) website <https://eprocure.gov.in> shall not tamper/modify the tender form including downloaded price bid template in any manner. In case if the same is found to be tempered/modified in any manner, tender will be completely rejected and EMD would be forfeited.
- 1.4. Intending Tenderer are advised to visit again TCIL website URL <https://www.tcil-india-electronictender.com> and CPPP website <https://eprocure.gov.in/eprocure/app> at least 3 days prior to closing date of submission of tender for any corrigendum/amendment.
- 1.5. Applicant contractor must provide demand draft for Rs. 1000/- (Rupees one thousand only) (to be purchased on or after publication date of this tender) in favour of PAO, MoWR, RD&GR, New Delhi obtained from any Nationalized/scheduled Bank with their application/downloaded tenders as the cost of tender forms/documents. All applicable bank charges shall be borne by the applicant and he shall not have any claim what so ever on this account on department. In case of re-tendering, the firms which have submitted the demand draft in earlier calls will require to submit demand draft along with their tender/application in subsequent calls also. Tender not accompanied with the cost of tender documents is liable to be rejected.
- 1.6. Bids will be opened as per date/time as mentioned in the Tender Key Event Sheet.

## 2.0 SUBMISSION OF DOCUMENTS:

- 2.1 The following documents are to be furnished online in the technical bid part by the Contractor along with as per the tender document:
- 2.1.1 Signed and scanned copy of appropriate value of valid registration certificate, experience certificates of similar works executed as per the tender notice, PAN No and Tender Acceptance Letter.
- 2.1.2 Signed and Scanned copy of previous three years Income-tax/TIN No, Certificate/Affidavit of partnership firm/public Ltd. Company registered certificate.
- 2.2 The following documents are to be furnished online in the financial bid part by the Contractor along with as per the tender document:
- 2.2.1 Signed and scanned price schedule as per tender document.
- 2.3 The financial bid will be opened only for those bidders who qualify the eligibility criteria as per the tender document as a part of technical bid.
- 2.4 The bidder has to submit following documents in hard copy in a sealed envelope before last date and time of submission of online bid otherwise the bid will not be considered for opening:
- 2.4.1 Earnest Money Deposit (EMD) in original.
- 2.4.2 Demand Draft towards tender document cost in original.
- 2.4.3 Pass phrase for Technical & Financial Bid in separate sealed envelope.

## 3.0 Key events and dates:

| Sl. No. | Particulars   | Details   |
|---------|---|---|
| 1.      | Tender inviting authority Designation/Address                           | Executive Engineer, Upper Yamuna River Board, Wing-IV, Ground Floor, West Block-1, R. K. Puram, New Delhi-66.   |
| 2.      | Mode of submission of tender  | Electronic Tenders are to be submitted on TCIL's e-Tendering portal which can be accessed using URL <a href="https://www.tcil-india-electronictender.com">https://www.tcil-india-electronictender.com</a>   |
| 3.      | Address and address at which documents are to be submitted in hard copy | Executive Engineer, Upper Yamuna River Board, Wing-IV, Ground Floor, West Block-1, R. K. Puram, New Delhi-66.   |
| 4.      | Name of work  | <b>Supply, Installation, Testing, Commissioning, Operation &amp; Maintenance of Data Acquisition &amp; Transmission System for Providing Discharge Data for Canal at 11 Stations in Upper Yamuna Basin for five years</b>   |
| 5.      | Language(s) in which items to be printed                                | English   |
| 6.      | Validity of the tender  | Rates inclusive of all taxes etc. shall be valid for a period of 10 months  |
| 7.      | Issuance of the tender  | Tender can be downloaded from 18.04.2017 to 25.05.2017 from TCIL's e-Tendering portal with URL <a href="https://www.tcil-india-electronictender.com">https://www.tcil-india-electronictender.com</a> , <a href="http://www.cwc.gov.in">www.cwc.gov.in</a> or <a href="http://www.eprocure.gov.in">www.eprocure.gov.in</a> . However, in order to be able to participate in the tender it is mandatory to download official copy of tenders from <a href="http://www.tcil-india-electronictender.com">http://www.tcil-india-electronictender.com</a> |
| 8.      | Cost of tender  | Cost of the tender i.e. Rs. 1000.00 is to be submitted in a sealed envelope before last date and time of submission of online bid. The cost of tender can be submitted by means of Demand Draft/Banker's Cheque drawn on any Nationalized Bank/Scheduled Bank payable to the PAO, MoWR, RD&GR.  |
| 9.      | Pre-Bid Meeting   | 05.05.2017 at 11:00 hrs. Upper Yamuna River Board, Wing-IV, Ground Floor, West Block-1, R. K. Puram, New Delhi-66.  |
| 10.     | Details of the contacts for   | Executive Engineer, Upper Yamuna River Board, Wing-IV,  |

|     |   |  |
|-----|---|--|
|     | clarifications and Queries  | Ground Floor, West Block-1, R. K. Puram, New Delhi-66.   |
| 11. | Last date & Time for submission of Bids online                                  | 25.05.2017 upto 13:30 hrs.   |
| 12. | Earnest Money Deposit   | Rupees 1190400 (Rupees Eleven Lakh Ninety Thousand Four Hundred only) by means of Demand Draft/Banker's Cheque drawn on any Nationalized Bank in favor of PAO, MoWR, RD&GR to be submitted in a sealed envelope before last date and time of submission of online bid.   |
| 13. | Date, time and place of Public Online tender Opening Event (Technical Envelope) | Online Public Opening of Technical Bid shall commence at 14:30 hrs. on 25.05.2017 (upto 13:30 hrs.). Interested bidder or their representative not more than 1 or 2 per bidder may be present Wing-IV, Ground Floor, West Block-1, R. K. Puram, New Delhi-66.  |
| 14. | Date, time and place of Public Online tender Opening Event (Financial Envelope) | Online Public Opening of Financial Bid shall be commence immediately after the opening of Technical bid on 25.05.2017.   |
| 15. | Performance guarantee   | The successful bidders will have to deposit an amount equal to 5% of the tendered and accepted value of the work (without limit) as performance guarantee with in 7 days from the date of receipt of the acceptance letter. In case the contractor fails to deposit the said performance guarantee within the period, including the extended period if any, the Earnest Money deposited by the contractor shall be forfeited automatically without any notice to the contractor. The earnest money deposited along with bid shall be returned after receiving the aforesaid performance guarantee. |

#### 4.0 QUALIFYING REQUIREMENTS:

1. The bidder shall be required to produce proof from the appropriate authorities of having satisfactorily completed similar works during the last ten years (ending on the last day of the month previous to the one in which the tenders are invited), where the systems installed by them are working satisfactorily in at least two river basins/ sub-basins for two years. Such works could be inspected/ verified. The bidder shall have to fulfill the following criteria of satisfactory execution of works as given below:
  - 1.1. Three similar works, each of value not less than 40% of the estimated cost,  
Or,
  - 1.2. Two similar works, each of value not less than 50% of the estimated cost,  
Or,
  - 1.3. One similar work of value not less than 80% of the estimated cost put to tender, during the last ten years (ending on the last day of the month previous to the one in which the tenders are invited), where the systems installed by them are working satisfactorily in at least two alluvial river basins/ sub-basins for two years.  
And,
  - 1.4. Having annual turnover equivalent of Indian Rs. 200 Lakhs each during last consecutive three years. Copies of audited balance sheets of the company shall be provided with the technical tender.  
And,
  - 1.5. Having successfully and satisfactorily maintained the Telemetry system for gauge, discharge measurement of Canal/River for at least two years during last ten years.
2. The bidders should fulfill the following criterion:
  - i. Availability of stock with the supplier.



- ii. Date of Manufacturing of the Equipment/Machine.
  - iii. Availability of spare parts.
  - iv. To carry out the service under warranty period and after sale service arrangements; and
  - v. Where the bidder is the agent of the foreign manufacturer and is importing equipments, whether it has imported and supplied such equipments in the past successfully.
3. If the bidder is a supplier (and not OEM) and offers to supply from more than one manufacturing units then the capacity of all such units should be obtained simultaneously and appraised. If any OEM manufacturer authorizes more than one proposer/supplier, offers from such multiple bidders be accepted.
  4. In case the proposed tender is a global tender and offers for imported stores from both the Indian Agent/Stockist and the foreign manufacturer are received, option of Special reports from the Indian Missions in these countries may be kept particularly vis-à-vis capacity for O&M post warranty period.
  5. Prospective bidder may apply in single or in a consortium with other partners each one being EITHER an Original Equipment Manufacturer (OEM) or an Authorized Agent/ representative/ subsidiary having sales and full service facilities located in India. For authorized dealers, the submission of a certificate to the effect from the OEM being represented by him shall be obligatory.
  6. In case of a consortium, a copy of the agreement between various partners will be submitted with the tender clearly identifying the parts and components of the system for which the concerned partner is responsible for execution. However, each of the partners of the consortium will be jointly responsible for execution and completion of the works.
  7. One of the partners of the consortium will be identified as a lead partner and will be authorized to execute the contract with the department. All financial transactions and liabilities shall rest with the lead partner.
  8. The qualifying criteria will be applicable to each of the partners of the consortium with scope of works limited to the extent for which the concerned partner is responsible as a member of the consortium.
  9. In case of consortium of manufacturers, authorized dealers, implementing agencies for the major components of the works such as ADCP etc., the qualifying criteria will be applicable to each partner separately for the specific component of the project for which the partner will be directly responsible.
  10. Agreement shall be drawn with the successful tenderer on prescribed Form CPWD-8 which is available as Government of India Publication. Tenderer shall quote his rates as per various terms and conditions of the said form, which will form part of the agreement.
  11. The time allowed for carrying out the works will be **120 days** from the 15<sup>th</sup> day after the date of written orders to commence the works.
  12. **The site for the work is available.**
  13. Tender documents consisting of specifications, the schedule of requirements of the various items of work to be executed and the set of conditions of contract to be complied with by the implementing agency whose tender may be accepted and other necessary documents can be examined in the office of the *Executive Engineer, Upper Yamuna River Board, New Delhi* in office hours of working days. Tender documents can be downloaded from the website of Upper Yamuna River Board i.e. [www.uyrb.gov.in](http://www.uyrb.gov.in) directly.
  14. The tender shall include all the relevant technical literature, brochures, documents regarding installation & operation methodology and other documents supporting the technical competence of the offers regarding data acquisition, analysis and output system and shall indicate by proper cross referencing with such supporting documents as to how the specification requirements are being met by their offer. Any additional information requested by the department during the course of evaluation of the tender shall be supplied within the time limits set by the department. **The bidder whose material specifications do not meet the required specifications shall be summarily**

**rejected and no claims what so ever shall be entertained in this regard. The rejected tenders will not be evaluated further.**

15. The tender shall be accompanied by Earnest Money, (unless exempted) of Rs. 1190400/- as Demand Draft drawn on a Scheduled Bank in favour of *PAO, MoWR, RD&GR*. Implementing agency exempted from depositing earnest money in individual cases, shall attach with the tender an attested copy of the letter exempting him from depositing earnest money and shall produce the original when called upon to do so. **If the tender is not accompanied with specified earnest money the tender will be summarily rejected and action as per above clauses will be taken.**
16. The description of the work is given in Technical Specification.
17. Detailed information pertaining to the works will be open for inspection by the bidder at the office of the above-mentioned officer. Tenderers are advised to inspect and examine the locations where the telemetry system is to be installed and their surroundings and satisfy themselves before submitting their tenders as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. A bidder shall be deemed to have full knowledge of the site whether he inspects or not and no extra charges consequent on any mis-understanding or otherwise shall be allowed. The tenderer shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a tender by a tenderer implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and other factors having a bearing on the execution of the work.
18. The competent authority on behalf of Hon'ble President of India does not bind itself to accept the lowest or any other tender, and reserves its right to reject any or all of the tenders received without the assignment of any reason. The competent authority on behalf of Hon'ble President of India reserves to himself the right of accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rate quoted.
19. All tenders, in which any of the prescribed conditions are not fulfilled or are incomplete in any respect are liable to be rejected and action as per clauses above will be taken.
20. Canvassing whether directly or indirectly, in connection with tenders is strictly prohibited and the tenders submitted by the implementing agency's who resort to canvassing will be liable to rejection.
21. The tenderer shall not be permitted to tender for works in the UYRB (responsible for award and execution of contracts) in which his near relative is posted as Divisional Accountant or as an officer in any capacity between the grades of Superintending Engineer and Assistant Engineer (both inclusive). He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any Gazetted officer in the Ministry of Water Resources, RD&GR. Any breach of this condition by the tenderer would render his tender liable to be rejected and action as per clauses above will be taken.
22. No Engineer of Gazetted rank or other Gazetted officer employed in Engineering or Administrative duties in an Engineering Department of the Government of India is allowed to work as a implementing agency for a period of one year after his retirement from Government service, without the previous permission of the Government of India in writing. This contract is liable to be cancelled if either the implementing agency or any of his employees is found any time to be such a person who had not obtained the permission of the Government of India as aforesaid before submission of the tender or engagement in the implementing agency's service.
23. The tender for the works shall remain open for acceptance for a period of **120 days** from the date of opening of tenders. If any tenderer withdraws his tender before the said period or makes any modifications in the terms and conditions of the tender which are not acceptable to the department, then the Government shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% and/or 100% of the said earnest money as aforesaid.

24. This Notice Inviting Tender shall form a part of the contract document. The successful tenderer / implementing agency, on acceptance of his tender by the Accepting Authority, shall, within 15 days from the stipulated date of start of the work, sign the contract consisting of:-

- a) The notice inviting tender, all the documents including General Conditions and Special Conditions of contract, technical specifications, forms the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.
- b) Standard C.P.W.D.Form-8.

27. A Pre-bid conference will be held at 11:00 hrs on **05.05.2017** in the office Executive Engineer, Upper Yamuna River Board, West Block-1, Ground Floor, Wing-4, R. K. Puram, New Delhi-66. The representatives of the tenderer and/or their associates (not exceeding a group of 2 persons) shall be eligible to participate in the conference and take part in the discussions. A potential tenderer may send, by 16.00 hrs. of **28.04.2017**, the issues in writing on which clarifications are required. Only written requests will be responded in the amendments/ clarifications issued by the department after the pre-bid conference. All responses to the clarifications will be supplied to all the bidders without identifying the individual tenderer who raised the request. For the bidders purchasing the tender documents subsequent to the issue of the clarifications, the same shall be supplied with the tender documents and no additional queries/ clarifications will be entertained. The clarifications issued shall be treated as amendments to the tender requirements.

In this conference, the clarifications, if any, required by any prospective bidder on the tender documents would be discussed. If, for any reason, whether at its own initiative or in response to a clarification requested by the prospective bidder, the department modifies the tender documents by an amendment, the same will be sent to all prospective tenderer who have received the tender document.

In this conference, all bidders shall have to exhibit the presentation on their company profile and methodology of related works in brief (not more than 10 minutes).

## **5.0 Special instructions to Bidders by TCIL for e-Tendering:**

The special instruction (for e-Tendering) supplement 'Instruction to Bidders', as given in these Tender Documents. Submission of Online Bids is mandatory for this Tender. E-Tendering is a new methodology for conducting Public Procurement in a transparent and secured manner. Now, the Government of India has made e-tendering mandatory. Suppliers/Vendors will be the biggest beneficiaries of this new system of procurement. For conducting electronic tendering, Upper Yamuna River Board has decided to use the portal <https://www.tcil-india-electronictender.com> through TCIL, a Government of India Undertaking. This portal is based on the world's most 'secure' and 'user friendly' software from Electronic Tender®. A portal built using Electronic Tender's Software is also referred to as Electronic Tender System® (ETS). Benefits to tenderers are outlined on the Home-page of the portal.

### **Instructions**

#### **Tender Bidding Methodology:**

Single Stage Envelope

#### **Broad Outline of Activities from Bidder's Perspective:**

Procure a Digital Signing Certificate (DSC)

Register on Electronic Tendering System® (ETS)

Create Marketing Authorities (MAs), Users and assign roles on ETS

View Notice Inviting Tender (NIT) on ETS

For this tender—Assign Tender Search Code (TSC) to a MA

Download Official Copy of Tender Documents from ETS

Clarification to Tender Documents on ETS

Query to Central Water Commission (Optional)

View response to queries posted by Central Water Commission

Bid-Submission on ETS

Attend Public Online Tender Opening Event (TOE) on ETS

--Opening of relevant Bid-Part

Post-TOE Clarification on ETS (Optional)

--Respond to Central Water Commission Post-TOE queries

Attend Public Online Tender Opening Event (TOE) on ETS

Opening of relevant part (i.e. Financial-Part)

(Only for Technical Responsive Bidders)

Participate in e-Reverse Auction on ETS

For participating in this tender online, the following instructions are to be read carefully.

These instructions are supplemented with more detailed guidelines on the relevant screens of the ETS.

#### **Digital Certificates**

For integrity of data and authenticity/non-repudiation of electronic records, and to be compliant with IT Act 2000, it is necessary for each user to have a Digital Certificate (DC). Also referred to as Digital Signature Certificate (DSC), of Class 2 or above, issued by a Certifying Authority (CA) licensed by Controller of Certifying Authorities (CCA) [refer <http://www.cca.gov.in>].

#### **Registration:**

To use the Electronic Tender® portal <https://www.tcil-india-electronictender.com>, vendors need to register on the portal. Registration of each organization is to be done by one of its senior persons who will be the main person coordinating for the e-tendering activities. In ETS terminology, this person will be referred to as the Super User (SU) of that organization. For further details, please visit the website/portal, and click on the 'Supplier Organization' link under 'Registration' (on the Home Page), and follow further instructions as given on the site, Pay Annual Registration Fee as applicable.

After successful submission of Registration details and Annual Registration Fee, please contact TCIL/ETS Helpdesk (as given below), to get your registration accepted/activated.

Important Note: To minimize teething problems during the use of ETS (including the Registration process), it is recommended that the user should peruse the instructions given under 'ETS User-Guidance

Center' located on ETS Home Page, including instructions for timely registration on ETS. The instruction relating to cognizance.

Please note that even after acceptance of your registration by the Service Provider, to respond to a tender you will also require time to complete activities related to your Organization, such as creation of users, assigning roles to them, etc.

| TCIL/ETS Helpdesk |   |
|-------------------|---|
| Telephone/Mobile  | Customer Support (0930 hrs to 1800 hrs, Monday to Friday except on gazette holidays): +91-11-26241790<br>(Multiple lines)<br>Emergency Support Mobile Numbers: +91-9868393775, 9868393717, 9868393792 |
| E-mail ID         | <a href="mailto:Ets_support@tcil-india.com">Ets_support@tcil-india.com</a>  |

| Buyer Organization Name Contact         |  |
|---|--|
| Upper Yamuna River Board Contact Person | Executive Engineer, UYRB                               |
| Telephone/Mobile                        | 26184025   |
| E-mail ID                               | <a href="mailto:Uyrb-mowr@nic.in">Uyrb-mowr@nic.in</a> |

### Some Bidding related Information for this Tender (Sealed Bid)

The entire bid-submission would be online on ETS (unless specified for Offline Submissions). Broad outline of submissions are as follows:

Submission of Bid-Parts/Envelopes

Single-Part

Submission of information pertaining Bid Security/Earnest Money Deposit (EMD)

Submission of digitally signed copy of Tender Documents/Addendum

Submission of General Terms and Conditions (with /without deviations)

Submission of Special Terms and Conditions (with /without deviations)

### Special Note on Security and Transparency of Bids

Security related functionality has been rigorously implemented in ETS in a multidimensional manner. Starting with 'Acceptance of Registration by the Service Provider', provision for security has been made at various stages in Electronic Tender's software. Specifically for Bid Submission, some security related aspects are outlined below:

As part of the Electronic Encrypeter™ functionality, the contents of both the 'Electronic Forms' and the 'Main-Bid' are securely encrypted using a Pass-Phrase created by the Bidder himself. Unlike a 'password', a Pass-Phrase can be a multi-word sentence with spaces between words (e.g. I love this World). A Pass-Phrase is easier to remember, and more difficult to break. It is recommended that a separate Pass-Phrase be created for each Bid-Part. This method of bid-encryption does not have the security and data-integrity related vulnerabilities which are inherent in e-tendering systems which use Public-Key of the specified officer of a Buyer organization for bid-encryption. Bid-encryption in ETS is such that the Bids cannot be decrypted before the Public Online Tender Opening Event (TOE), even if there is connivance between the concerned tender-opening officers of the Buyer organization and the personnel of e-tendering service provider.

**CAUTION:** All bidders must fill Electronic Forms™ for each bid-part sincerely and carefully, and avoid any discrepancy between information given in the Electronic Forms™ and the corresponding Main-Bid. For transparency, the information submitted by a bidder in the Electronic Forms™ is made available to other bidders during the Online Public TOE. If it is found during the Online Public TOE that a bidder has not filled in the complete information in the Electronic Forms™, the TOE officer may make available for downloading the corresponding Main-Bid of that bidder at the risk of the bidder. If variation is noted between the information contained in the Electronic Forms™ and the 'Main-Bid', the contents of the Electronic Forms™ shall prevail. Alternatively, the Buyer organization reserves the right to consider the higher of the two pieces of information (e.g. the higher price) for the purpose of short-listing, and the

lower of the two pieces of information (e.g. the lower price) for the purpose of payment in case that bidder is an awardee in that tender.

Typically, 'Pass-Phrase' of the Bid-Part to be opened during a particular Public Online Tender Opening Event (TOE) is furnished online by each bidder during the TOE itself, when demanded by the concerned Tender Opening Officer.

(Optional Text in EBI, depending upon the decision of the Buyer organization):

Additionally, the bidder shall make sure that the Pass-Phrase to decrypt the relevant

OR

Additionally, the bidder shall make sure that the Pass-Phrase to decrypt the relevant Bid-Part is submitted into the 'Time Locked Electronic Key Box (EKB)' after the corresponding deadline of Bid Submission, and before the commencement of the Online TOE. The process of submission of this Pass-Phrase in the 'Time Locked Electronic Key Box' is done in a secure manner by first encrypting this Pass-Phrase with the designated keys provided by the Buyer organization.

There is an additional protection with SSL Encryption during transit from the client-end computer of a Supplier organization to the e-tendering server/portal.  
Public Online Tender Opening Event (TOE)

ETS offers a unique facility for 'Public Online Tender Opening Event (TOE)'. Tender Opening Officers, as well as, authorized representatives of bidders can simultaneously attend the Public Online Tender Opening Event (TOE) from the comfort of their offices. Alternatively, one/two duly authorized representative(s) of bidders (i.e. Supplier organization) are requested to carry a Laptop with Wireless Internet Connectivity, if they wish to come to Buyer Organization Name office for the Public Online TOE.

Every legal requirement for a transparent and secure 'Public Online Tender Opening Event (TOE)', including digital counter-signing of each opened bid by the authorized TOE Event (TOE)', including digital counter-signing of each opened bid by the authorized TOE officer(s) in the simultaneous online presence of the participating bidders' representative, has been implemented on ETS.

As soon as a Bid is decrypted with the corresponding 'Pass-Phrase' as submitted online by the bidder himself (during the TOE itself), salient points of the Bids (as identified by the Buyer organization) are simultaneously made available for downloading by all participating bidders. The tedium of taking notes during a manual 'Tender Opening Event' is therefore replaced with this superior and convenient form of 'Public Online Tender Opening Event (TOE)'.

ETS has a unique facility of 'Online Comparison Chart' which is dynamically updated as each online bid is opened. The format of the chart is based on inputs provided by the Buyer for each Bid-Part of a tender. The information in the Comparison Chart is based on the data submitted by the Bidders. A detailed Technical and/or Financial Comparison Chart enhances Transparency. Detailed instructions are given on relevant screens.

ETS has a unique facility of a detailed report titled 'Minutes of Online Tender Opening Event (TOE)' covering all important activities of 'Online Tender Opening Event (TOE)'. This is available to all participating bidders for 'viewing/Downloading'.

There are many more facilities and features on ETS. For a particular tender, the screens viewed by a Supplier will depend upon the options selected by the concerned Buyer.

#### **Other Instructions:**

For further instructions, the vendor should visit the home-page of the portal <https://www.tcil-india-electronictender.com>, and go to the User-Guidance Center.

The help information provided through 'ETS User-Guidance Center' is available in three categories – Users intending to Register/First-Time Users, Logged-in users of Buyer organization, and Logged-in users of Supplier organizations. Various links (including links for User Manuals) are provided under each of the three categories.

Important Note: It is strongly recommended that all authorized users of Supplier organization should thoroughly peruse the information provided under the relevant links, and take appropriate action. This will prevent hiccups, and the minimize teething problems during the use of ETS.

#### **SIX CRITICAL DO'S AND DON'T'S FOR BIDDERS:**

Specially for Supplier organizations, the following 'SIX KEY INSTRUCTIONS for Bidders' must be assiduously adhered to:

1. Obtain individual Digital Signing Certificate (DSC or DC) well in advance of your first tender submission deadline on ETS.
2. Register your organization on ETS well in advance of the important deadlines for your first tender on ETS viz 'date and Time of Closure of Procurement of Tender Documents' and 'Last Date and Time of Receipt of Bids'. Please note that even after acceptance of your registration by the Service Provider, to respond to a tender you will also require time to complete activities related to your organization, such as creation of users, assigning roles to them, etc.
3. Get your organization's concerned executives trained on ETS well in advance of your first tender submission deadline on ETS.
4. Submit your bids well in advance of tender submission deadline on ETS (There could be last minute problems due to internet timeout, breakdown, etc.).
5. It is the responsibility of each bidder to remember and securely store the Pass-Phrase for each Bid-Part submitted by that bidder. In the event of a bidder forgetting the Pass Phrase before the expiry of deadline for Bid-Submission facility is provided to the bidder to 'Annual Previous Submission' from the Bid-Submission Overview page and start afresh with new Pass-Phrase(s).
6. ETS will make your bid available for opening during the Online Public Tender Opening Event (TOE) 'ONLY IF' your 'Status pertaining Overall Bid-Submission' is 'Complete'. For your record, you can generate and save a copy of 'Final Submission Receipt'. This receipt can be generated from 'Bid-Submission Overview Page' only if the 'Status pertaining overall Bid-Submission' is 'Complete'.

#### **NOTE:**

While the first three instructions mentioned above are especially relevant to first-time users of ETS, the fourth, fifth and sixth instructions are relevant at all times.

#### **Minimum Requirements at Bidder's End**

Computer System with good configuration (Min PIV, 1 GB RAM, Window XP with Service Pack 3)

Broadband connectivity

Microsoft Internet Explorer 6.0 or above

Digital Certificate(s)

**Executive Engineer,  
Upper Yamuna River Board**

## 6.0 ADDITIONAL TERM AND CONDITIONS

- 1) At any time prior to the deadline for submission of tenders, the department may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the tender documents by amendment in writing, which will be binding on all the bidder.
- 2) The tender prepared by the bidder, as well as all correspondence and documents relating to the tender exchanged by the bidder and the department shall be written in English language. Supporting documents and printed literature furnished by the bidder may be in another language provided they are accompanied by an accurate translation of the relevant passages in the English language in which case, for purposes of interpretation of the tender, the translation in English Language shall govern.
- 3) All corrections/ cuttings in the tender document shall be initialed by the bidder.
- 4) The tender prepared by the bidder shall comprise the following components:
  - a) Documentary evidence to establish that the bidder is eligible to tender and is qualified to perform the contract if the tender is accepted.
  - b) Technical specifications of the offered equipment's along with comparative statement specifying how the specification of equipments (which shall also include the brand name and manufacture's details for each component) proposed to be supplied shall meet the specifications required in the tender documents. The statement shall clearly indicate variations, if any, with the term and conditions of the tender document.
  - c) Documentary evidence to establish that the goods and ancillary services to be supplied by the bidder are as per specifications and conform to the tender documents. The documentary evidence of conformity of the goods and services to the tender documents may be in the form of literature, drawings and data, and shall consist of:
    - i) A detailed description of the essential technical and performance characteristics of the goods.
    - ii) A list giving full particulars, including available sources and current prices of spare parts, special tools, etc. necessary for the proper and continuing functioning of the goods for a period of fifteen years, following commencement of the use of the goods by the Department, and
    - iii) An item-by-item comments on the department's technical specifications demonstrating substantial responsiveness of the goods and services to those specifications or a statement of deviations and exceptions to the provisions of the technical specifications.
    - iv) For purposes of the comments to be furnished, the bidder shall note that standards for workmanship, material and equipment designated by the department in its technical specifications are intended not only to be descriptive but also restrictive. The bidder may substitute alternative standards provided it demonstrates, to the department's satisfaction, that the substitutions ensure substantial equivalence to those.
  - d) Earnest Money Deposit in prescribed form; and
  - e) Original tender with schedule of quantities, Financial Tender Format duly completed and bearing signatures of the bidder under their seal.
  - f) The Bio-data of the Engineers/ Technicians in-charge of the work during execution as well as maintenance.
- 5) The prices quoted shall be F.O.R. destination and inclusive of all duties and taxes including custom duty, octroi, VAT, service tax, entry and other taxes, etc. and no additional amount on the quoted prices shall be paid on account of such duties, taxes and octroi, etc.
- 6) Prices quoted by the bidder shall remain fixed during the validity period of the Contract and shall not be subject to variation on any account. A tender submitted with an adjustable price quotation or conditionality is liable to be treated as non-responsive and rejected.



- 7) Prices shall be quoted in Indian Rupees only.
- 8) During evaluation of tenders, the department may, at its discretion and if felt necessary, ask the bidder for a clarification of its tender or ask for field/ office demonstration of the equipment, for which no charges shall be paid to the bidder. The request for clarification and the response shall be in writing and no change in prices or substance of the tender shall be sought, offered or permitted.
- 9) Tenders from agents/ dealers, without proper authorization from the manufacturer, shall be treated as non-responsive.
- 10) Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail. If the implementing agency does not accept the correction of errors, its tender will be rejected.
- 11) The department will evaluate and compare tender which have been determined to be substantially responsive. Non-responsive tenders shall be summarily rejected and will not be evaluated.
- 12) The evaluation for determining the lowest tender shall include:
  - a) The cost of equipment including all the taxes, octroi, levies etc. as applicable at final destination and installation, testing, commissioning, operation & maintenance and any other services essential for completion of works i.e. data collection, compilation, transmission and receipt at its destination viz., display system, etc.;
  - b) Cost of essential spares/consumables as required for running & maintenance of all the equipments/system for five years; and
  - c) Cost of Annual Maintenance Contract for all the equipments/system including replacement of defective material for contract period i.e. three years beyond warranty period of two years.
- 13) The bidder shall not contact the Department on any matter relating to its tender, from the time of the tender opening to the time the Contract is awarded. If the Tenderer wishes to bring additional information to the notice of the Department, it should do so in writing.
- 14) An affirmative determination will be a prerequisite for award of the work to the implementing agency.
- 15) The department, at the time of award of contract, reserves the right to increase or decrease the number of measurement stations up to any extent and services originally specified in the Schedule of Quantities & Financial Tender Format without any change in unit price or other terms and conditions.
- 16) Attention of the tenderers is drawn to the Clause 1 and Clause 1(A) of General Conditions of Contract under CPWD Forms 7/8 regarding the deduction of security deposit.

**GOVERNMENT OF INDIA  
UPPER YAMUNA RIVER BOARD (UYRB)**

STATE : NCT of Delhi  
ORGANISATION : Upper Yamuna River Board, West Block-1, Ground Floor,  
Wing-4, R. K. Puram, New Delhi-66.  
MINISTRY : Ministry of WR, RD&GR

Tender & Contract for Works

**Tender for the work of for Supply, Installation, Testing, Commissioning, Operation & Maintenance of Data Acquisition & Transmission System for Providing Discharge Data for Canal at 11 Stations in Upper Yamuna Basin for five years.**

- (i) To be submitted online by **13:30 hrs. on 25.05.2017** on TCIL's e- tendering portal [www.tcil-india-electronictender.com](http://www.tcil-india-electronictender.com).
- (ii) To be opened in presence of tenderer(s) or their authorized representatives who may be present at **14:30 hrs. on 25.05.2017** in the office of *Executive Engineer, Upper Yamuna River Board*.

**TENDER**

I/We have read and examined the Notice Inviting Tender, Schedule A, B, C, D, E & F Specifications applicable, Drawings & Designs, General Rules and Directions, General Conditions and Special Conditions of Contract, Schedule of Rate & other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.

I/We hereby tender for the execution of the work specified for the President of India within the time specified in Schedule 'F', viz., schedule of quantities and in accordance in all respects with the specifications, designs, drawings and instructions with such materials as are provided for, by, and in respects in accordance with, such conditions so far as applicable.

I/We agree to keep the tender open for **120** days from the due date of submission thereof and not to make any modifications in its terms and conditions.

A sum of **Rs. 1190400** /- (**Rs. Eleven lakh ninety thousand four hundred only**) is hereby forwarded as Demand Draft of a Scheduled Bank as earnest money. If I/ We, fail to commence the work specified, I/we agree that the said Hon'ble President of India or his successors in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely; otherwise the said earnest money shall be retained by him towards Security Deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein and to carry out such deviations as may be ordered, upto maximum of the percentage mentioned in Schedule 'F'.

I/we have already furnished Security to the Hon'ble President of India in lieu of earnest money and have deposited with the Executive Engineer, Upper Yamuna River Board a lump sum security of **Rs. 1190400/- (Rs. Eleven lakh ninety thousand four hundred only)** as Earnest Money in individual cases & I/We, therefore claim exemption in terms of the Bond executed by me/us and bearing no. \_\_\_\_\_ dt. \_\_\_/\_\_\_/2017 against the necessity of depositing Earnest Money in respect of the above tender for work. I/We agree that should the President of India or his successors in office decide to forfeit Earnest Money mentioned for this work, unless a sum equal to the earnest money is paid by us forthwith, the competent authority, for President of India may at his option recover it out of the deposit and in the event of deficiency, out of any other money due to me/us under this contract or otherwise.

I/We hereby declare that I/we shall treat the tender documents drawings and other records connected

with the work as secret/ confidential documents and shall not communicate information/ derived there from to any person other than a person to whom I/ we am/ are authorized to communicate the same or use the information in any manner prejudicial to the safety of the State.

I/ We agree that should I/ we fail to commence the work specified in the above memorandum, an amount equal to the amount of the earnest money mentioned in the form of invitation of tender shall be absolutely forfeited to the President of India and the same may at the option of the competent authority on behalf of the President of India be recovered without prejudice to any other right or remedy available in law out of the deposit in so far as the same may extend in terms of the said bond and in the event of deficiency out of any other money due to me/ us under this contract or otherwise.

Dated.....

Signature of Implementing agency  
Postal Address

Witness:

Address:

Seal

Occupation:

#### ACCEPTANCE

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for and on behalf of the President of India for a sum of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_)

The letters referred to below shall form part of this contract Agreement:

- i)
- ii)
- iii)

For & on behalf of Hon'ble President of India  
Signature.....  
Designation.....

Dated.....

## SCHEDULES

- SCHEDULE 'A'**- Schedule of quantities (Enclosed at **PART A & B**)
- SCHEDULE 'B'** – Not applicable
- SCHEDULE 'C'** - Not applicable
- SCHEDULE 'D'** – Additional Conditions of Contract and Technical specifications.
- SCHEDULE 'E'** - Not Applicable
- SCHEDULE 'F'** - Reference to General Conditions of Contract as applicable for Tenders invited under CPWD Form 7/8.

**Name of work: Supply, Installation, Testing, Commissioning, Operation & Maintenance of Data Acquisition & Transmission System for Providing Discharge Data for Canal at 11 Stations in Upper Yamuna Basin for five years.**

|         |   |   |
|---------|---|---|
| i       | Earnest money:  | Rs. 1190400/-   |
| ii      | Performance guarantee   | 5% of the contract value                                      |
| iii     | Security Deposit  | 5% of the contract value                                      |
|         | <b>General Rules &amp; Directions:</b>  |   |
|         | Officer inviting tender   | <i>Executive Engineer, Upper Yamuna River Board</i>           |
|         | <b>Definitions:</b>   | Additional definitions as per conditions of contract clause 1 |
| 2(v)    | Engineer-in-Charge  | <i>Executive Engineer, Upper Yamuna River Board</i>           |
| 2(viii) | Accepting Authority:  | Ministry of WR, RD&GR, Govt. of India                         |
| 2(x)    | Percentage on cost of materials and labour to cover all overheads and profits.                  | Not Applicable  |
| 2(xi)   | Standard Schedule of Rates  | Not Applicable  |
| 2(xii)  | Department:   | Upper Yamuna River Board                                      |
| 9(ii)   | Standard CPWD Contract Form   | CPWD Form-8 as amended from time to time                      |
|         | <b>Clause 1</b>   |   |
| i       | Time allowed for submission of Performance Guarantee from date of issue of letter of acceptance | 30 Days (No extensions to be granted)                         |
| ii      | Maximum allowable extension beyond the period (provided in i) above                             | Nil   |
|         | <b>Clause 2</b>   |   |
|         | Authority for fixing Compensation under clause 2  | Member Secretary, UYRB  |

|  |   |   |
|--|---|---|
|  | <b>Clause 2 A</b>   |   |
|  | Whether Clause 2 A is applicable  | No  |
|  | <b>Clause 5</b>   |   |
|  | Number of days from date of issue of letter of acceptance for reckoning date of start | 15 Days   |
|  | <b>Milestones</b>   | None  |
|  | Time allowed for execution of work  | 120 Days  |
|  | <b>Clause 6 &amp; 6A</b>  | As per Special conditions of contract.  |
|  | <b>Clause 7</b><br>Payment on intermediate certificate                                | Separate procedure as defined in Special Conditions of Contract                     |
|  | <b>Clause 10 A</b>  | Not applicable  |
|  | <b>Clause 10 B(ii)</b>  | Not applicable  |
|  | <b>Clause 10C(a)</b>  | Not applicable  |
|  | <b>Clause 10 C(c)</b>   | Not applicable  |
|  | <b>Clause 11</b><br>Specifications to be followed for execution of work               | Enclosed Scope of Work and Technical Specifications                                 |
|  | <b>Clause 12</b>  | As per rule   |
|  | <b>Clause 16</b>  | As per Special Conditions of contract. The sub-standard work shall not be accepted. |
|  | <b>Clause 18</b>  | Not applicable  |

|  |  |  |                              |
|--|--|--|------------------------------|
|  | <b>Clause 36</b>   |  |                              |
|  | Minimum qualifications & experience required for Principal Technical Representative                        | a) For works with estimated cost put to tender more than                         |                              |
|  |  | Rs. 10 Lakhs   | Graduate engineer retired AE |
|  |  | less than Rs. 10 lakhs for Civil work  | Recognized Diploma holder    |
|  |  | for Elect/Mech works   | Recognized Diploma holder    |
|  |  | Discipline to which the Principal Technical Representative should belong         | Elect.                       |
|  | Minimum experience of works  | 5 Years  |                              |
|  | Recovery to be effected from the implementing agency in the event of not fulfilling provision of clause 36 | Rs. 30,000/- per month for Graduate<br>Rs. 20,000/- per month for diploma holder |                              |
|  | <b>Clause 42</b>   | Not applicable   |                              |

## SPECIAL CONDITIONS OF CONTRACT

### 1. **Definition:**

#### 1.1. In this Contract, the following terms shall be interpreted as indicated

“**The Contract**” means the agreement entered into between the UYRB and the implementing agency, as recorded in the Contract Form signed by the parties, including all amendments, attachments and appendices thereto and all documents incorporated by reference therein.

“**The Contract Price**” means the price payable to the implementing agency under the Contract for the full and satisfactory performance of its contractual obligations.

“**The Goods**” means all of the equipment, machinery and/ or other materials which the implementing agency is required to supply to the UYRB under the contract.

“**The Equipment(s)**” means all of the equipment, machinery and/ or other materials which the implementing agency is required to supply to the UYRB under the contract.

“**The Services**” means those services ancillary to the supply of the Goods, such as transportation and insurance, and any other incidental services, such as installation, testing, commissioning, provision of technical assistance, training, regulation & operation, maintenance, data collection & transmission cum display system and other such obligations of the Implementing agency covered under the contract for successful commissioning of the system and satisfactory performance of the commissioned system.

“**The Department/Customer/Department/UYRB**” means Upper Yamuna River Board through *Executive Engineer, Upper Yamuna River Board* and any other specifically designated Officer of UYRB.

“**The Tenderer/Bidder/Implementing agency/Implementing Agency**” means the individual or firm/ agency/consortium supplying, installing, testing, commissioning, operating and maintaining the Goods/systems and providing requisite services under this contract.

“**The project Site**”/ “**Remote Station**” where applicable, means the place or places of stations for discharge measurement named in Conditions of Contract where the system is to be supplied/installed/ commissioned.

“**Day**” means calendar day.

“**Organization**” shall mean Upper Yamuna River Board, MoWR, RD&GR.

#### 2. **Applications:** These conditions shall supersede/ modify the General Conditions of the Contract.

### 3. **Governing Language**

#### 3.1 The Contract shall be written in the English language. The version of the Contract written in the specified language shall govern its interpretation. All correspondence and other documents pertaining to the Contract which are exchanged by the parties shall be written in the same language or Hindi.

### 4. **Standards**

#### 4.1 The works done i.e. Supply, Installation, Testing, Commissioning, Operation & Maintenance of Telemetry System for the Measurement of Discharge of Canal/River at 11 Stations in Upper Yamuna Basin under this Contract shall conform to the standards mentioned in the Technical Specifications, and, when no applicable standard is mentioned, to the latest Bureau of Indian

Standards. The latest may be defined as Standard issued two months prior to date of issue of Tender document. The entire work should be carried out following best of engineering and professional practices.

**5. Use of Contract Documents and Information Inspection and audit by the Government of India**

5.1 The implementing agency shall not, without the UYRB prior written consent, disclose the contract, or any provision thereof, or any specification, plan, drawing, pattern, sample or information furnished by or on behalf of the department in connection therewith, to any person other than a person employed by the Implementing agency in the performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.

5.2 The implementing agency shall not, without the Department's prior written consent, make use of any document or information enumerated in Clause 5.1 except for purposes of performing the contract.

5.3 Any document, other than the contract itself, enumerated in Clause 5.1 shall remain the property of the department and shall be returned (all copies) to the department on completion of the Implementing agency's performance under the contract if so required by the department.

5.4 The implementing agency shall permit the authorized representative of the Department to inspect the implementing agency's accounts and records relating to the performance of the implementing agency and to have them audited by auditors appointed by the Department, whenever required.

**6. Patent Rights:** The implementing agency shall indemnify the department against all third party claims of infringement of patent, trademark, or industrial design rights etc arising from use of the Goods or any part thereof.

**7 Inspections, testing and Acceptance**

**7.1.1 Factory Inspection for Acceptance Testing**

The implementing agency shall specify factory acceptance tests in respect of each component of the system and its major sub-assemblies wherever relevant as a part of the technical Tender. The implementing agency shall also mention the acceptability ranges of the test parameters for acceptance at factory level.

The Department or its representative shall have the right to inspect and/ or to test the Goods to confirm their conformity to the contract specifications at no extra cost to the Department. However, TA/ DA of the inspection team will be borne by the Department. The Department shall notify the Supplier in writing in a timely manner of the identity of the representatives retained for these purposes.

Factory Acceptance Test results shall be retained as part of the project QA record and the same shall be supplied to the department.

After successful completion of Factory Acceptance Tests for any section of the Works, the Department shall approve that section of the Works for delivery to site. Any such approval shall in no way relieve the Supplier of any of his obligations under the Contract.

The factory acceptance testing shall include the complete system being fully tested using simulation techniques where applicable to demonstrate its compliance with the specification. The test shall allow for the connection of analogue inputs, digital inputs etc. to enable the overall performance and suitability of the software to be tested.

The department, at its discretion may waive off the witnessing of the tests but the records of the tests shall be provided duly authenticated by the implementing agency.

### **7.1.2 System Integration Testing**

The implementing agency shall specify System integration tests proposed to be carried out as a part of the technical Tender. The tests shall be such that the performance of the system as a whole gets involved in the test plan. The System integration tests may be carried out after completion of factory acceptance of the individual component. All those components that do not pass the system integration tests and undergo modifications shall be passed again through factory acceptance testing before using them for repeat system integrating tests

If any software errors are found, they shall be recoded and the code shall be amended. The test shall then be repeated.

System Integration Test results shall be retained as part of the project QA record and shall be made available to the Department for his inspection if he so requires. If any errors are found in the Test Procedure or Result Sheets, they shall be corrected and resubmitted to the Department for acceptance.

### **7.1.3 Acceptance Protocol**

In order to facilitate the acceptance of the system, the Implementing agency should give a list of deliverables at each location. The list shall be verified by the Consignees and accordingly will give a verification report whether all deliverables have been delivered properly at the site.

- 7.2.1** The department or its representative shall have the right to inspect and/ or test the Goods to confirm their conformity of the output data to the contract specifications at no extra cost to the department. The goods proposed to be supplied and commissioned shall be accompanied with their technical specifications which shall clearly specify inspections and tests required to confirm the conformity of goods to the contract specifications. The department shall notify the implementing agency in writing, in a timely manner, of the identity of any representatives retained for the purposes of tests and inspections, if required. TA/ DA of the inspection team will be borne by the department.
- 7.2.2** The inspections and tests may be conducted on the premises of the Implementing agency and/or its sub implementing agency(s) and/or at point of delivery and/or at the Good's final destination. All reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the department for carrying out the inspections.
- 7.2.3** Should any inspected or tested Goods, fail to conform to the specifications, the department may reject the Goods and the implementing agency shall replace the rejected Goods.
- 7.2.4** The department's right to inspect, test and, where necessary, reject the goods before or after the goods' installation at remote station and data received at minimum 8 locations viz. 5 locations at New Delhi (offices of MoWR, RD&GR, UYRB, Delhi Jal Board, UP Irrigation department, Haryana Irrigation & Water Recourses Department) and 1 location each at WRD Rajasthan, Jaipur, Irrigation & Public Health Department, Himachal Pradesh, Shimla (H.P.) and Irrigation Department, Uttarakhand, Dehradun shall in no way be limited or waived by reason of the Goods/system having previously been inspected, tested, and passed by the department or its representative at any point. Nothing shall in any way release the Implementing agency from any warranty or other obligations under this contract.
- 7.2.5** The inspection of the Goods/system shall be carried out to check whether the Goods are in conformity with the technical specifications attached to the contract agreement and shall be in line with the inspection/ test procedures laid down in the Technical Specifications. Complete hardware and software as specified in the contract should be supplied, installed and commissioned properly by the implementing agency prior to commencement of acceptance tests.



- 7.2.6** In the event of the hardware and software failing to pass the acceptance test, a period not exceeding one weeks will be given to rectify the defects and clear the acceptance test, failing which the department reserves the rights to get the equipment replaced by the implementing agency at no extra cost to the department.
- 7.2.7** Before the goods and equipment are taken over by the Department, the Implementing agency shall supply operation and maintenance manuals together with drawings of the goods and equipment. These shall be in such detail as will enable the Department to check/inspect all parts of the works/equipments as stated in the technical specifications.
- 7.2.8** The manuals and drawings shall be in the ruling language (English) and in such form and numbers as stated in the Technical specifications
- 7.2.9** Unless and otherwise agreed, the supply, installation, testing and commissioning of goods/equipment/system shall not be considered to be completed until the output of all stations is satisfactory at each display centres as mentioned in para 7.4 for a minimum period of one month.
- 7.2.10** For the System software & other Software's, the Implementing agency shall provide complete and legal documentation of hardware, all sub-systems, operating systems, compiler, system software and the other software. The Implementing agency shall also provide licensed software for all software products, whether developed by it or acquired from others. The implementing agency shall also supply listing and codes of all softwares forming part for successful completion of services under this contract. The implementing agency shall also indemnify the department against any levies/ penalties on account of any default in this regard. The implementing agency shall have to intimate the department about the space and power consumption details required for the installation of instrument at remote station and display centre for the analysis and transmission of data.
- 7.2.11** The locations of remote stations (11 nos.) and display (8 nos.) may be changed as per the site conditions at the time of installation from the specified locations as mentioned in the tender.

### **7.3 Acceptance Tests**

The acceptance test will be conducted by the department or any other person nominated by the department, at its option. Acceptance test shall be carried out in two stages. The first stage of acceptance will be based on preliminary inspection of the equipment supplied with respect to the required and supplied components.

Second stage of site testing shall be undertaken for a period of 7 days to prove the equipment installation and ensure that all operators are fully conversant with the equipment and calibration procedures, methods of operation and all facilities provided by software. During the period of 7 days, there shall be no occurrence of any malfunction in any component necessitating replacement or repairs. No malfunction, partial or complete failure of any part of hardware or excessive heating of motors or other electro-mechanical equipment or bugs in the software should occur. All the software should be complete and no missing modules/ sections will be allowed. The supplier shall maintain necessary log in respect of the results of the tests to establish to the entire satisfaction of the department, the successful completion of the test specified. The testing schedule will be agreed to by both the parties during performance of contract. In this stage a regular comprehensive check of functioning of all the components will be made. On conclusion of site acceptance, all relevant documentation pertaining to the site shall be handed over by the supplier to the representative of the department.

### **7.4 Documentation**

Detailed operating and maintenance manuals for the control system and other equipment supplied under the contract shall be provided. Four copies of draft manuals are to be provided prior to factory acceptance testing for approval and 12 copies each of the final manuals have to be given at each location prior to final hand over.

The manuals shall detail in full the equipment supplied under this contract, including test certificates, and the software section shall be comprehensive and in sufficient detail to allow personnel to easily modify any setting or operational parameter.

The provision of all documentation is essential and shall be specific to the contract.

**7.5 Acceptance Certificates:** On successful completion of acceptability test, receipt of deliverables at all locations in the prescribed format, etc. and after the department is satisfied with the working on the system for continuous one month at sites as well as at display location, the acceptance certificate will be issued by the Department.

**7.6** The training as specified in the Technical specifications for each hardware and software component installed shall be provided to the personnel deployed by the implementing agency to enable them to effectively operate the total system.

## **8 Transportation & Delivery**

Implementing agency shall be responsible for transportation, storage, installation, etc. of all equipment/system.

## **9 Site preparation and installation**

The implementing agency shall perform site inspection to ascertain the ground conditions before the installation of the hardware after the confirmation from the UYRB.

## **10. Incidental Services**

The implementing agency shall be required to provide any or all of the following services:

- (a) Performance or supervision of the on-site assembly and/or start-up of the supplied Goods;
- (b) furnishing of tools required for assembly and/or maintenance of the supplied Goods;
- (c) furnishing of detailed operations and maintenance manual for each appropriate unit of supplied Goods;
- (d) The license and license fee, if any, for operation of GSM/GPRS based Augmentation System for a period of 5 years from date of installation shall be provided by the supplier. If required the supplier shall facilitate the purchaser for obtaining license beyond period of 5 years.
- (e) Furnishing of appropriate hardware, system design and programming services required for development and/ or maintenance of the supplied goods;
- (f) Supply of detailed operations and maintenance manual for each appropriate unit of commissioned goods/ equipments; operation and maintenance of all equipment/system will be carried out by the implementing agency.
- (g) Maintenance of all the equipment through vigorous supervision including repair and/ or replacement of defective material will be undertaken by the implementing agency for the entire contract period.
- (h) Software updates and bug fixing services for the software originally developed by the Implementing agency during the period of operation and maintenance.

## **11. Spare parts**

The Implementing agency is required to provide shall provide all the spare parts etc. required during the period of operation and maintenance as per the contract.

## **12. Warranty, Operation and Maintenance Service**

**12.1** The system shall be under warranty for a period of two years beyond date of signing of acceptance certificate. The Implementing agency, therefore, shall warrant that the goods supplied under the contract are new, unused, of the most recent or current models and that they incorporate all recent improvements in design and materials unless provided otherwise in the Contract. The implementing agency further warrants that all Goods installed and all civil/mechanical works undertaken under this Contract shall have no defect, arising from design, materials or workmanship or from any act or omission of the Implementing agency, that may develop under normal use of the supplied Goods in the field conditions prevailing.

**12.2** Without limiting the generality of the foregoing, the implementing agency shall further warrant that:

- That the Hardware and Software will not be abnormally end or provide invalid or incorrect results.
- That the Hardware and Software will manage and manipulate data involving dates, including single century formulas and multi-century formulas, and will not cause an abnormally ending scenario within the application or generate incorrect data.

**12.3** This warranty at site shall remain valid for the period of two years from the date of signing of the Acceptance Certificate for which the cost towards maintenance of system shall be payable by the department. The implementing agency shall, in addition, comply with the performance guarantees specified under the contract. If, for reasons attributable to the implementing agency, these guarantees are not attained in whole or in part, the implementing agency shall, make such changes, modifications, and/ or addition to the goods or any part specified in the contract at its own cost and expense and to carry out further performance tests in accordance with Clause 7. Failure on part of implementing agency to ensure such performance guarantees shall make the implementing agency liable for deficiency in providing services and attract penal action, thereof, in form of deduction of payment towards the warranty periods.

Beyond the period of two years from the date of signing of the Acceptance Certificate i.e. after the warranty period, the installed system shall be under Annual maintenance for further 3 years and the charges for that shall be paid by department as per the contract conditions. Operation of system for daily observation of data, transmitting the same for its display at Data Display Centres and its archival shall be carried out by Implementing agency at the cost payable as per contract conditions.

**12.4** The operation and maintenance services for entire system complete, including all completed civil/ mechanical works, supplied equipment/ system, all accessories like cable, etc. and attachments of the equipments/ systems installed and the software installed including providing of all required consumables, additional spare parts, repair of the defective equipment or units/parts thereof, data services shall be provided by the implementing agency under this contract.

**12.5** The department shall notify Implementing agency of any errors and malfunctions, which occur and noticed during the contract period, by fax/ telephone/ e-mail/ special messenger directly or through his Service Engineer(s) at his office address during normal working hours or at their residence after normal office hours and/ or on holidays.

- 12.6 The authorized representative of UYRB shall provide free access to the sites where the defect has occurred.
- 12.7 Implementing agency shall be responsible for, providing & replacement of all consumable and non-consumable items required for the installation, operation and maintenance during the entire contract period so that services towards data acquisition, transmission and its receipt at display centre function without any interruption whatsoever and department has no responsibility in this regard at all.
- 12.8 Operating System (OS) Support: This contract is inclusive of OS support on all the equipments/systems covered under this contract. Any problem related with OS maintenance, reloading of OS with all device drivers, system configuration and network configuration will be attended and rectified by the implementing agency. All required device drivers will be provided by the implementing agency including OS up-gradation.
- 12.9 Anti-Virus Software (AVS) Support: The contract includes the regular up gradation of all AVS during the AMC on all the systems. Any problem related with AVS support will be attended and rectified by the implementing agency. All required AVS support will be provided by the implementing agency.
- 12.10 It is sole responsibility of implementing agency to ensure that entire system remains functional at all times such that data is successfully received at all display units. **Entire system is defined as comprising of automatic data acquisition system with its civil/ mechanical/ electrical installations including data collection platform, power source such as battery, solar panels etc, data transmission system and data display units at the requisite locations. Successful display of data means receipt of accurate data in real time by following complete process of data acquisition using automatic instrumentation, its storage, transmission, display and archival.** Therefore, it is necessary that any defect noticed or brought to notice of implementing agency is immediately attended and rectified. For this purpose, implementing agency is required to follow guidelines of response time given as below.
- 12.11 The maximum response time for a complaint from any of the locations specified in the schedule of requirements or otherwise also i.e. time required for implementing agency's maintenance engineers to restore the system to ensure successful display of data at requisite locations after malfunction in respect of receipt of correct data in real time is either noticed by implementing agency or brought to his notice by department through any of means such as SMS/ fax/ e-mail or letter shall not **exceed 48 hours**. Upon receipt of such notice, the Implementing agency shall, repair or replace the defective/ malfunctioning goods or parts thereof, without cost to the Department within 48 hours as per contract in force. If a remote site remain "fail" in excess of the maintenance time schedule of 48 hours, the implementing agency is liable to pay penalty @ **Rs. 2000/- per day per equipment/system in addition to zero payment for pro-rata data "fail" period.** If a remote site remain "fail" in excess of the maintenance time schedule of 48 hours for 5 or more times in a calendar month, the implementing agency is liable to pay penalty in form of zero payment towards services as per schedule of rates item @ sl. No. 2 & 3 for the particular month.
- 12.12 If the implementing agency fails to repair the equipment/ spare due to non-availability of the spare/ technological changes the same may be replaced by the implementing agency with equivalent equipment/ spare of same specification and reputed make with prior permission of UYRB and the costs involved in this process shall be borne by the implementing agency.
- 12.13 The amount of penalty in respect of repair/replacement of equipment/system will be subjected to maximum 10% of the tendered amount only in respect of item as per schedule of rates item @ sl no 1. In addition to above, no operation & maintenance charges and balance payment in respect of the cost of the equipment/system (if any) shall be paid to the implementing agency. The Department may also proceed to take such remedial action as may be necessary to ensure successful display of data at requisite locations, at the Implementing agency's risk and expense

and without prejudice to any other rights which the Department may have against the Implementing agency under the Contract. The necessary actions taken by department for rectification of deficiency at the cost of implementing agency, shall be adjusted by making necessary deduction against the running bills of the implementing agency.

**12.14** The authority to decide and review the penalty shall be Chairman, UYRB.

### **13. Measurement**

**13.1** The UYRB shall verify the Goods/system as per specification before and at the time of installation of the equipment at site. The Implementing agency shall have to provide a copy of purchase order/delivery challan of the equipment/system to UYRB.

**13.2** The Implementing agency shall transport required goods for installation at site and shall unpack and get the individual components, equipments, consumables and spares verified in terms of their numbers and quantities by the UYRB (if required).

**13.3** The Implementing agency shall also demonstrate performance of the installation as a whole at the work sites.

**13.4** The UYRB shall issue an acceptance certificate in respect of each equipment/system on demonstration by the Implementing agency towards satisfactory acquisition of the data and satisfactory storage of the same in internal memory, its transmission, display at display units and archival for continuous one month and completion of all training modules and handover of all documentation.

### **14 Payment**

The method and conditions of payment to be made to the Implementing agency under this Contract shall be strictly as per clauses of General Conditions of Contract.

- (i) Payment will be made in Indian Rupees only. The payment will be released through e-payment directly in the account of the Implementing agency after completing all requisite formalities in terms of contract.
- (ii) Payments shall be made in running account (R/A) bills as per GCC payment terms on satisfactory completion of works/ services at following milestones;
  - (a) 60% payment of the contract price excluding the Annual Operation & Maintenance Cost shall be made on the issue of acceptance certificate as per Clause 7.5 & 13.4.
  - (b) Balance payment shall be made after successful completion of warranty period of two years @ 30% of the contract price excluding the Operation & Annual Maintenance Cost and cost of provision of **data services** (Operation cost).
  - (c) The cost of operation & annual maintenance contract and cost of provision of **data services** (Operation Cost) shall be paid in equal quarterly installments after successful operation & maintenance of the system against a certificate to this effect from UYRB during the quarter.
  - (d) 10% of entire contract cost shall remain with the department at all times as security deposit against bank guarantee pledged in favour of department as per GCC.
- (v) **Deductions from the bill:**
  - (a) Security Deposit (**1<sup>st</sup> deduction**) shall be deducted as per Clause 1 and Clause 1(A) of General Conditions of the Contract (GCC) under CPWD Forms 7/8.

- (b) The Income tax as applicable shall be deducted at source from the bill.
- (c) Sales/ Service Tax as applicable shall be deducted at source from the bill.
- (d) Certificate on account of taxes payable/ paid to the Government shall be given to the implementing agency. No other certificates for claiming any other tax exemptions will be given.

## 15 Prices

Prices payable to the implementing agency as stated in the contract shall be firm and not subject to adjustment and hike during the performance of the contract. Prices quoted shall be inclusive of all taxes and duties levied at the country of import or in India.

## 16 Change Orders

The Department may at any time, by a written order given to the Implementing agency, make changes within the general scope of the contract in any one or more of the following:

- i. Drawings, designs, or specifications, where Goods/system to be furnished under the contract are to be specifically manufactured for the Department;
- ii. The number of stations, their location, etc.;
- iii. The place of delivery; and / or
- iv. The Services to be provided by the Implementing agency.
- v. If any such change causes an increase or decrease in the cost of or the time required for, the implementing agency's performance of any provisions under the contract, an equitable adjustment shall be made in the Contract Price or delivery schedule, or both as per description given in this para, and the Contract shall accordingly be amended. Any claims by the Implementing agency for adjustment under this clause must be asserted within thirty (30) days from the date of the Implementing agency's receipt of the Department's change order. *The implementing agency shall, within specified period as above, submit to the department a schedule of changes in the cost of performance of any provisions under the contract giving a detailed analysis of rates justifying the changed cost arrived thereto in form of supporting documents, market prices of spares/ components/ services etc. The schedule shall be examined by the department by making necessary queries from the market and decision towards its approval or otherwise shall be communicated in writing to the implementing agency. If the department decides not to approve the schedule, the schedule of changes in the cost arrived by the department based on its examination shall be treated as final and shall remain acceptable to the implementing agency. The decision of the department in all such matter shall be final. Non-acceptance of such schedule by the implementing agency may render hi liable to penalty under clause 12.12.*

- 17 **Contract Amendments:** Subject to Clause 16, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

## 18 Assignments

The implementing agency shall not assign, in whole or in part, its obligations to perform under this Contract, except with the Department's prior written consent.

## 19 Sub-contracts

- 19.1 The Implementing agency shall notify the Department in writing of all sub-contracts awarded under this contract if not already specified in the tender. Such notifications, in the original tender or later, shall not relieve the implementing agency from any liability or obligation under the contract.

**19.2** Sub-contracts must comply with the provisions of Clause 3 of General Conditions of Contract (GCC).

**20.0 Delays in the implementing agency's Performance**

**20.1** Delivery of the Goods and performance of Services shall be made by the Implementing agency in accordance with the time schedule provided by the implementing agency at the signing of agreement and agreed by UYRB.

**20.2** If at any time during performance of the Contract, the Implementing agency or its sub-implementing agency(s) should encounter conditions impeding timely delivery of the Goods and performance of Services, the Implementing agency shall promptly notify the department in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Implementing agency's notice, the department shall evaluate the situation and may at its discretion extend the Implementing agency's time for performance, with or without liquidated damages as per Clause of GCC, in which case the extension shall be ratified by the parties by amendment of the Contract.

**20.3** Except as provided under Clause 23, a delay by the Implementing agency in the performance of its delivery obligations shall render the Implementing agency liable to the imposition of liquidated damages pursuant to Clause 21 unless an extension of time is agreed upon pursuant to Clause 20.2 without the application of liquidated damages.

**21.0 Liquidated Damages**

Subject to Clause 23, if the Implementing agency fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Contract, the department shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified of the delivered price of the delayed Goods or unperformed Services for each week or part thereof delay until actual delivery or performance, upto a maximum deduction of the percentage specified. Once the maximum is reached, the department may consider termination of the Contract pursuant to Clause 23. The applicable rate is 1% per week and the maximum deduction is 10% of the contract price.

**22.0 Termination for Default**

**22.1** The Department, without prejudice to any other remedy for breach of contract, by written notice of default sent to the Implementing agency, may terminate this Contract in whole or in part.

- i. if the Implementing agency fails to deliver any or all of the Goods within the period(s) specified in the Contract, or within any extension thereof granted by the Department pursuant to Clause 20.2;
- ii. if the Implementing agency fails to perform any other obligation(s) under the contract.
- iii. if the Implementing agency, in the judgment of the Department has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

For the purpose of this clause:

“Corrupt practice” means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the supply process or in contract execution.

“fraudulent practice” means a misrepresentation of facts in order to influence a supply process or the execution of a contract to the detriment of the Department, and includes collusive practice among Tenderers (prior to or after tender submission) designed to establish tender prices at artificial non-competitive levels and to deprive the Department of the benefits of free and open competition.

**22.2** In the event the Department terminates the Contract in whole or in part, pursuant to Clause 22.1, the Department may procure, upon such terms and in such manner as it deems appropriate, Goods or services similar to those undelivered and the implementing agency shall be liable to the Department for any excess costs for such similar Goods or Services. However, the implementing agency shall continue performance of the Contract to the extent not terminated.

**23.0 Force Majeure**

**23.1** Notwithstanding the provisions of Clause 20, 21 and 22, the Implementing agency shall not be liable for forfeiture of performance security liquidated damages or termination for default, if and to the extent that, its delay in performance or other failure to perform the obligations under the Contract is the result of an event of Force Majeure.

**23.2** For purposes of this Clause, “Force Majeure” means an event beyond the control of the Implementing agency and not involving the Implementing agency’s fault or negligence and not foreseeable. Such events may include but are not restricted to wars or revolutions or civil commotions and civil unrest, general break down of law and order, fires, epidemics, quarantine restrictions and freight embargos

**23.3** If a Force Majeure situation arises, the Implementing agency shall promptly notify the Department in writing of such condition and the cause thereof. Unless otherwise directed by the Department in writing, the Implementing agency shall continue to perform its obligations under the contract as far as reasonably practical, and shall seek, all reasonable alternative means for performance not prevented by the force Majeure event.

**24.0 Termination for Insolvency**

The Department may at any time terminate the Contract by giving written notice to the Implementing agency if the Implementing agency becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Implementing agency, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the Department.

**25.0 Termination for Convenience**

**25.1** The Department, by written notice sent to the Implementing agency, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Department’s convenience, the extent to which performance of the Implementing agency under the Contract is terminated, and the date upon which such termination becomes effective.

**26.0 Resolution of disputes**

**26.1** The department and the Implementing agency shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them and or in connection with the Contract.

**26.2** If, after thirty (30) days from the commencement of such informal negotiations, the Department and the Implementing agency have been unable to resolve amicably a Contract dispute, either party may require that the dispute be referred for resolution to the formal mechanisms specified. These mechanisms may include, but are not restricted to, conciliation mediated by a third party, adjudication in an agreed national forum.

**26.3 Settlement of disputes**

The rules of procedure for arbitration proceedings pursuant to settlement of disputes shall be as follows:



- (a) In case of dispute or difference arising between the Department and implementing agency relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Arbitration and Conciliation Act, 1996. The Chairman, UYRB shall function as Arbitrator.
- (c) Arbitration proceedings shall be held at New Delhi and the language of the arbitration proceedings and that of all documents and communications between the parties shall be English.
- (d) The decision of the Arbitrator shall be final and binding upon both parties. The cost and expenses of Arbitration proceedings will be paid as determined by the Arbitrator. However, the expenses incurred by each party in connection with the preparation, presentation etc. of its proceedings as also the fees and expenses paid to the Arbitrator shall be borne by each party itself.

## **27.0 Applicable Law**

**27.1** The contract shall be interpreted in accordance with the laws of the India.

## **28.0 Notices**

**28.1** Any notice given by one party to the other pursuant to this Contract shall be sent to the other party in writing or facsimile or email and confirmed in writing to the other party's address specified.

**28.2** A notice shall be effective when delivered or on the notice's effective date, whichever is later.

**28.3** The implementing agency is responsible for managing the activities of its personnel or sub-contracted personnel and will hold itself responsible for any misdemeanors.

**28.4** The Implementing agency will treat as confidential all data and information about the Department, obtained in the execution of his responsibilities, in strict confidence and will not reveal such information to any other party without the prior written approval of the Department.

**28.5** The Department reserves the right to terminate the contract in full or in part with one week prior notice.

## SCOPE OF WOK AND TECHNICAL SPECIFICATIONS

### 1.0 SCOPE OF WORK

The scope of work consists of following;

- i. Supply, installation, testing and commissioning of automatic data acquisition using side looking Acoustic Doppler Current Profiler using either bank mounted or mounted at other appropriate location; data transmission system using GSM/GPRS mode of communication of reputed service provider from the proposed 11 remote location in Upper Yamuna Basin to the requisite locations;
- ii. Daily data observation using the commissioned system at a predefined frequency, its successful transmission to Data display locations in UYRB office and offices of basin States and its archival in appropriate data management formats for subsequent use; and
- iii. Maintenance of entire system for a period of five years, out of which the system shall be under warranty for a period of two years and thereafter for next three years it shall be under annual Maintenance Contract.
- iv. Operation of the system for a period of 5 years to carry out the functions as under para (ii) above.

The implementing agency shall be required to provide any or all of the following services:

1. Supply, installation & commissioning, testing of Side Looking Acoustic Doppler Current Profiler (SL-ADCP) (either bank mounted or mounted at other appropriate location), associated peripherals, along with Software and with all accessories for discharge and water level measurement of river/canal, data collection platform, GSM based data transmission system, attachments complete at 11 locations as given below:
  - a. At Hindon Cut Canal upstream of its confluence with river Yamuna at Okhla Barrage,
  - b. Agra Canal downstream of Okhla Barrage,
  - c. Gurgaon Feeder Canal downstream of its off take point from Agra Canal,
  - d. Agra Canal downstream of the off take point of Gurgaon Feeder Canal,
  - e. Bharatpur Feeder Canal downstream of its off take from Agra Canal,
  - f. Gurgaon Feeder Canal just downstream of its entry in Rajasthan,
  - g. Entry point of Bharatpur Feeder in Rajasthan territory,
  - h. Entry point of Agra Canal in Haryana state,
  - i. Exit point of Agra Canal in Haryana state,
  - j. Downstream of Hathnikund Barrage at the off take of Eastern Jamuna Canal (EJC).
  - k. Downstream of Hathnikund Barrage at the off take of Western Jamuna Canal (WJC).
2. Performing on-site assembly, start-up processes required for installation and commissioning of the supplied goods and their supervision.
3. Obtaining clearances and necessary approvals/ permissions from various Govt. agencies for supply of goods and for operation. UYRB shall be providing necessary assistance for obtaining such clearances as and when requested by the implementing agency. However entire responsibility for obtaining the necessary clearances, approvals/ permissions shall lie with the implementing agency only.
4. Supply of detailed operations and maintenance manual for each appropriate unit of commissioned goods/ equipments;
5. Supply of list of essential/ mandatory spares/ consumables required for running & maintenance of all the equipments for five years;
6. Daily data observations and its transmission to data display locations in the offices of as given below;
  - a. Ministry of Water Resources, River Development & Ganga Rejuvenation, New Delhi.
  - b. Upper Yamuna River Board, New Delhi.
  - c. Delhi Jal Board, New Delhi.

- d. UP Irrigation department, New Delhi.
- e. Haryana Irrigation & Water Resources Department, New Delhi.
- f. Water Resources Department, Rajasthan, Jaipur,
- g. Irrigation & Public Health Department, Himachal Pradesh, Shimla (H.P.)
- h. Irrigation Department, Uttarakhand, Dehradun.

- 7. Operation & Maintenance of all the equipment through vigorous supervision including repair and/ or replacement of defective material for five years period so as to ensure that performance of system is not compromised as per satisfaction of UYRB.

## **2.0 Technical specifications**

### **2.1 SIDE LOOKING ACOUSTIC DOPPLER CURRENT PROFILER (SL-ADCP) - Purpose**

Side Looking Acoustic Doppler technology based continuous flow monitoring for canal/ river sites on river Yamuna and its tributaries.

The complete system shall comprise of a side-looking Doppler instrument to be suitably installed underwater or above water level, as technology permits, along one of the wall of the canal with cable running to the bank. At the bank a suitable instrument shelter / housing should be provided of NEMA-IV rating for protection against all weather conditions.

The shelter will house a Sealed Maintenance Free battery of 60/65AH, Charger Controller and a flow display that is compatible with the side-looking Doppler instrument for local display of the flow at the site.

A complete system is required at each site comprising of the side looking Doppler instrument with cable and suitable mounting accessories/hardware for installation on the canal. The NEMA-IV shelter/housing at the bank with battery and charger regulator, solar panel of 20 Watt and Local Flow Display are also part of the supply. The Shelter/Housing may be put on a small mast/tower/ concrete pedestal of about 6ft height and a suitable fencing should be provided around this site for protection against vandalism.

Following are the minimum desired features/specifications of the system:

- The horizontal velocity sampling range of the instrument should be 120 meters or more or should fit the complete range of horizontal canal.
- The side looking Doppler instrument should be capable of measuring water velocities of  $\pm 6$  m/s or greater.
- The resolution of velocity measurement should be 0.01 m/s or better with accuracy of velocity measurement of about 1%.
- The instrument should have at least two horizontal beams with 20-25 deg slant angle for 2D water velocity measurement.
- The instrument should have one vertical beam for making the water level measurement at the site of installation. The vertical beam should be capable of making water level / depth measurements at least up to 10 meters.
- As an additional measure the instrument should also have an internal pressure sensor that can be used for water level measurement with a desirable accuracy of 0.25%.
- It should be possible to feed the cross-section of measurement site to in the side-looking Doppler instrument. The area may be trapezoidal or a natural channel cross-section (irregular shape) in

unlined areas. With the area fed to the instrument and by measuring the water level, instrument should automatically compute the area under submergence and use this for automatic discharge computation within the side-looking Doppler instrument.

- Since the instrument is based on the Doppler technology, it should also be possible to have Multicell velocity profiling within the cross-section of measurement. The number of cells, cell width should be programmable.
- For automatic discharge computation, an Independent velocity measurement cell of programmable dimension should be measured within the sampling range of the instrument. It should be possible to use this integrated cell for flow calculations.
- The side-looking Doppler instrument should have internal memory for recording the data preferably for recording and storing the data for one month. It should at least be of 4MB.
- It should be possible to perform the index velocity correlation on the system for automatic discharge computation based on the index velocity of the instrument. The complete system should be supplied with Velocity-Index Discharge Rating software package.
- The instrument should have internal temperature sensor for water temperature measurement to correct the speed of sound (that is used in measurements) accordingly. The sensor should have a range of 0 to 60° C with resolution of 0.01° C and accuracy of 0.1° C or better.
- All the computations should be performed within the side looking Doppler instrument including Flow computations and output, including total volume computation and such facilities should not necessitate outside peripherals.
- The instrument should have RS232, SDI-12 for communication with Laptop or external datalogger or telemetry system.
- The complete supplied system should be such that it should be possible to upgrade it to include the telemetry component (i.e. External Data logger and Radio/GSM//GPRS modems) without any hardware replacement.
- On average about 40 meter cable length would be required with each Side-Looking Doppler instrument, however vendors should also quote for per meter rate for any additional cable length that may be required at the site.
- Since the system is to be installed at remote locations, the instrument should be as much less power consuming as possible. The maximum power draw should be under 1.0 W.
- As mentioned above, the system should be provided with Flow Display installed in the NEMA-IV enclosure. It should be possible to view/display the following parameters on this display.

Velocity  
Water Level  
Discharge  
Cross Section  
Cross sectional area

- The system should support reporting of measured/computed parameters in either Metric or English units?
- The complete system should have a warrantee period of two years from the date of acceptance.
- The system will be supplied with Datalogger and GSM/GPRS communication for data communication and dissemination to various authorities.

## Specifications

|                                     |  |
|-------------------------------------|--|
| Mode of operation                   | Real time from the installed location  |
| Maximum Sampling Range              | 120m or Should fit the complete width of the canal.  |
| Number of Beams                     | 2 Horizontal Beams for measuring velocity in X and Y and 1 Vertical Beam for Depth measurement |
| -Side Lobe Suppression <sup>3</sup> | >60dB  |
| Slant Angle                         | 25 deg   |
| Multi-cell Velocity Profiling       | Up to 10 cells   |
| Internal Nonvolatile Memory         | 4MB  |
| Water Velocity Range                | ±6 m/s   |
| -Velocity Resolution                | ≤0.01 m/s (0.003 ft/s)   |
| -Velocity Accuracy                  | ±1% of measured velocity;  |
| Water Level -Vertical Beam Range    | 0.2 to 10.0 m  |
| -Vertical Beam Accuracy             | ±0.1%  |
| -Pressure Sensor Range              | 20 m   |
| -Pressure Sensor Accuracy (FS)      | 0.25% FS   |
| Compass and Tilt Sensor             | Should have built in Compass and Tilt Sensor   |
| Power                               | 7-30 VDC   |
| -Input                              |  |
| -Power Consumption <sup>4</sup>     | 0.7 – 1.0 W  |
| Temperature Sensor                  | Should have inbuilt Temperature Sensor   |
| Temperature Sensor -Resolution      | ±0.01° C   |
| -Temperature Accuracy               | ±0.1° C  |

### 2. Tilt sensor

|          |                                 |
|----------|---------------------------------|
| Range    | -15° to +15°, both X and Y axis |
| Accuracy | 2°                              |

### 3. Auxiliary

|                         |   |
|-------------------------|---|
| Communication interface | The SL-ADCP shall communicate with the laptop PC. Connector for SL-ADCP and laptop PC, cables, internal rechargeable battery, antennae and waterproof cases are included in the delivery. |
| Power supply            | 7 to 30 VDC   |
| Housing                 | corrosion proof   |
| Ingress protection      | waterproof upto 50m   |
| Operating temperature   | 0 to 50°C   |

(The operating temperature range specification applies to all components of the SL-ADCP, like: sensor head, cables, interfaces, etc.)

|          |             |
|----------|-------------|
| Humidity | up to 100 % |
|----------|-------------|

#### 4. Specifications for Data logger:

##### Data Collection Platform

- I. Interfacing/ communication facility with sensor on SDI-12 Port
- II. 4 Analog inputs single ended
- III. Digital I/O ( Input levels: 0.0-5.0 volts)
- IV. SDI-12 or higher ..... (SDI-12 master mode and connector)
- V. The Side Looking Doppler should be interfaced on SDI-12 or RS232 of the datalogger
- VI. Data storage capacity/memory: minimum 256 MB, expandable to 2 GB
- VII. Data download retrieving through direct cable connection or a USB pendrive
- VIII. Power input voltage (10- 16 Volts)
- IX. Power LEDs
- X. Operating Temperature: -40 to 60 deg C
- XI. Communication ports- 1 RS232 communication ports, 1 USB Port,
- XII. Data collection platform should be easily upgradable to accept INSAT TDMA Transmitter in the future.

#### 5. Hardware and software

Laptop PC suitable for communicating with the SL-ADCP and other devices for running the associated SL-ADCP software in the field, and for communicating with office based PCs for subsequent data transfer through Real Time interfacing (RS232, RS432, RS485).

a. Laptop should be make of standard brand and should have the following minimum specification:

- Intel Core i7 Processor (6<sup>th</sup> generation, 2.8 GHz, 6 MB L2 cache, 1066 MHz FSB)
- 15.6 or 14/14.1 inch TFT Screen; 4 USB Ports
- 4 GB DDR3 RAM upgradeable to 8 GB or More
- HDD 320 GB 5400 rpm
- DVD Writer: Integrated 8X DVD Writer and Integrated Stereo
- Speaker, Key Board with Touch Pad.
- Inbuilt web-cam.
- Integrated 56 KBPS Modem (FAX/DATA) and 10/100 IEEE8023 Ethernet card.
- Power Supply- 230V, 50 Hz AC Supply with rechargeable Battery Pack comprising of Li-ION battery Suitable for approx. 4 hrs. Operation complete with battery Charger/ adaptor.
- Anti-virus package loaded with validity during entire contract.
- Windows7 Operating System Preloaded and MS Office 2010 licensed copy software and Good quality Carry Bag will be part of delivery.
- With Blue Tooth Connectivity

6. Display Screen in in the Control Room at UYRB office shall be 54” Full HD LED Screen of a reputed company make.

**7. Computer Specifications:**

Desktop Computer with i7 Processor 3.2 GHz with 4MB L3 cache, Intel Q57 mother board, 4 GB integrated graphics card, 4GB, 1066 MHz, DDR III RAM, 320 GB 72k rpm, HDD, 10/100/1000 on board integrated network port with preloaded windows 10 professional and MS office, with 104 keys key board, optical mouse, DVD ROM Drive, 47 cm TFT digital color monitor and HP lazer color printer A3 size.

**8. Set-up:** Preparation of the instrument for data collection, setting of depth-cell size, number of depth cells and ping rate, averaging, storage interval. In case the instrument features an in-built compass then software assisted compass calibration shall be supported.

**9. Data collection:** The data should be available through GSM Network to all the Basin States and UYRB with its server installed in the UYRB office. The details of GSM transmitter and modem is as under:

| <b>GSM / GPRS Transmitter</b> |  |
|-------------------------------|--|
| Transmission System           | GSM/GPRS/edge based data transmission system   |
| Performance                   | Data Reception availability of 95% or better   |
| Communication Direction       | Utilize GSM/GPRS network for two-way TCP/IP (INTERNET) connection  |
| VPN protocol                  | Radio to utilize VPN protocol  |
| Transmission trigger          | Data collection to be triggered by interrogation from Data Center, or by event based transmission triggered by remote site |
| Power Saving                  | Ability to disable interrogation system in order to save power at remote site  |
| Communication Protocol        | Data transmission to execute HTTP Post or FTPS to transmit data to the Data Center   |
| Accessories                   | All associated equipment, including Antenna all cables and mounting hardware   |
| <b>Software</b>               |  |
| Operating System              | Windows software for system configuration, transfer and analysis of data to computer                                       |
| Version                       | English language version   |
| License                       | All required licenses included   |
| <b>General Features</b>       |  |
| Battery                       | The battery should be easy to replace, and easily available in the market  |
| Tools                         | Complete tool kit for installation and routine maintenance   |
| Manuals                       | Full documentation and maintenance instructions in English   |

**GSM / GPRS Modem**

**FUNCTIONAL REQUIREMENT: To transmit data**

**DESIGN REQUIREMENTS:**

The equipment offered should conform to the following technical Specifications:

| <b>Feature</b>                 | <b>Value</b>                                 |
|--------------------------------|--|
| <b>Ambient Site Conditions</b> |  |
| Operating Temperature          | From -20 to +60                              |
| Performance                    | Data Reception availability of 95% or better |

|                          |  |
|--------------------------|--|
| Form factor              | The Transmitter should either be integral part of data logger specified above, or it should be supplied as independent unit compatible with supplied data logger |
| <b>Specific Features</b> |  |
| Communication Direction  | Utilize GSM/GPRS network for two-way TCP/IP (INTERNET) connection  |
| VPN protocol             | Radio to utilize VPN protocol  |
| Transmission trigger     | Data collection to be triggered by interrogation from Data Center, or by event based transmission triggered by remote site                                       |
| Power Saving             | Ability to disable interrogation system in order to save power at remote site  |
| Communication Protocol   | Data transmission to execute HTTP Post or FTPS to transmit data to the Data Center   |
| Accessories              | All associated equipment, including Antenna all cables and mounting hardware   |
| <b>Antenna features</b>  |  |
| Frequency range          | 900 MHz: 824-960 MHz/1800MHz:1710-1880 MHz   |
| Impedance                | 50 ohms  |
| VSWR                     | ≤ 2.0  |
| Radiation                | Omni-directional   |
| Operating temperature    | -10 to + 60 degrees Celsius  |
| Connector                | SMA adaptable to GSM/GPRS modem  |
| Cable length             | As required  |

10. **Data export:** Data should be exported to all Basin States and UYRB in excel format or similarly compatible format.
11. **Operating system:** Compatible and latest Microsoft OS.



## SCHEDULE OF REQUIREMENTS

### **PART-A: Schedule of Items/ Works**

| S. No. | Brief Description  | Unit | Quantity |
|--------|--|------|----------|
| 1.     | <p>Supply, installation, testing and commissioning of automatic data acquisition instrumentation system using side-looking Acoustic Doppler Current Profiler, either bank mounted or mounted at other appropriate location; data collection platform; data transmission system using GSM/ GPRS mode of communication from reputed service provider from the proposed remote location in Upper Yamuna Basin to the requisite locations and conforming to technical specifications specified under section-“Scope of work &amp; technical specifications” of bid document. The instrument shall be supplied associated peripherals, Laptop along with softwares and with all accessories/ attachments for at-site gauge/ discharge measurement in canals complete in all respects.</p> <p>The system shall be supplied with all fixtures/bracket for installation of the system and shall have robust mechanism for lowering the system under-water at measured requisite depths.</p> <p>The Side Looking ADCP and its peripheral system shall be provided with appropriate software for use on a robust laptop/ PC to permit receipt of and processing of the data in the field and for post-processing, and must incorporate full user-friendly graphical interface and data presentation graphics facilities to show real-time displays of stream current profile and computed discharge. All necessary cables, connectors, batteries and user manuals are also to be supplied.</p> <p>7 days at-site trainings as specified in Special Condition of Contract shall be provided as one job for complete system.</p> | set  | 11       |
| 2.     | <p>Supply, installation, testing and commissioning of cloud based server and high definition, LED digital smart data screen with facilities for real-time data display, its archival in appropriate data management formats for subsequent use. The commissioned items should conform to technical specifications specified under section “Scope of work &amp; technical specifications” of bid document.</p>  | set  | 8        |
| 3.     | <p>Daily data observation using the commissioned system at a predefined frequency (discharge observation twice a day at 0800 hrs and 1800 hrs or as specified by the engineer-in-charge and hourly water levels or as specified by the engineer-in-charge, its successful transmission &amp; display using arrangements commissioned under para 1&amp; 2 above at digital smart Data display locations in UYRB office and offices of basin States; its archival in appropriate data management formats for subsequent use; and</p>   | day  |          |

**Part-B: Schedule of Comprehensive Annual Maintenance of System**

| S No | Details  | Unit                          | Qty |
|------|--|-------------------------------|-----|
| 1.   | Comprehensive annual maintenance of entire system for a period of three years beyond warranty period for all equipments including all hardware, software and accessories supplied under the contract, necessary calibration of all instrumentation and Up-gradation of all software associated with successful working of system. The system shall be under warranty for a period of two years beyond date of signing of acceptance certificate. | Per annum for complete system | 1   |

**Part-C: Schedule specifying Location of Water Level/ Discharge Observation Sites**

| S No. | Details   |
|-------|---|
| 1.    | In Hindon Cut Canal upstream of its confluence with river Yamuna at Okhla Barrage |
| 2.    | Agra Canal downstream of Okhla Barrage  |
| 3.    | Gurgaon Feeder Canal downstream of its off take point from Agra Canal             |
| 4.    | Agra Canal downstream of the off take point of Gurgaon Feeder Canal               |
| 5.    | Bharatpur Feeder Canal downstream of its off take from Agra Canal                 |
| 6.    | Gurgaon Feeder Canal just downstream of its entry in Rajasthan                    |
| 7.    | Entry point of Bharatpur Feeder in Rajasthan territory                            |
| 8.    | Entry point of Agra Canal in Haryana state  |
| 9.    | Exit point of Agra Canal in Haryana state   |
| 10.   | Downstream of Hathnikund Barrage at Eastern Jamuna Canal (EJC)                    |
| 11.   | Downstream of Hathnikund Barrage at Western Jamuna Canal (WJC)                    |

**Note:-** The 11 Nos. Side Looking ADCP's shall be installed/commissioned by the supplier after delivery to the consignee and made operational at the following sites:-

**Part-D: Schedule specifying Location of Central Server and digital smart Data display locations**

| S No   | Details   |
|--|---|
| <b>Central Server</b>  |   |
| 1.   | UYRB Office, West Block-II, R.K.Puram, New Delhi.                               |
| <b>Digital smart Data display locations (in the offices of):</b> |   |
| 1.   | Ministry of Water Resources, River Development & Ganga Rejuvenation, New Delhi. |
| 2.   | Delhi Jal Board, New Delhi.   |
| 3.   | UP Irrigation department, New Delhi.  |
| 4.   | Haryana Irrigation & Water Resources Department, New Delhi.                     |
| 5.   | Water Resources Department, Rajasthan, Jaipur,                                  |
| 6.   | Irrigation & Public Health Department, Himachal Pradesh, Shimla (H.P.)          |
| 7.   | Irrigation Department, Uttarakhand, Dehradun.                                   |

**FINANCIAL BID FORMAT**  
**The rates may be given in Indian Rupees only.**

**TABLE-A**

| <b>S. No.</b> | <b>Brief Description</b>   | <b>Unit</b> | <b>Quantity</b> | <b>Rate (Rs)</b> | <b>Amount (Rs)</b> |
|---------------|--|-------------|-----------------|------------------|--------------------|
| 1.            | <p>Supply, installation, testing and commissioning of automatic data acquisition instrumentation system using side-looking Acoustic Doppler Current Profiler, either bank mounted or mounted at other appropriate location; data collection platform; data transmission system using GSM/ GPRS mode of communication from reputed service provider from the proposed remote location in Upper Yamuna Basin to the requisite locations and conforming to technical specifications specified under section-“Scope of work &amp; technical specifications” of bid document. The instrument shall be supplied associated peripherals, Laptop along with softwares and with all accessories/ attachments for at-site gauge/ discharge measurement in canals complete in all respects.</p> <p>The system shall be supplied with all fixtures/bracket for installation of the system and shall have robust mechanism for lowering the system under-water at measured requisite depths.</p> <p>The Side Looking ADCP and its peripheral system shall be provided with appropriate software for use on a robust laptop/ PC to permit receipt of and processing of the data in the field and for post-processing, and must incorporate full user-friendly graphical interface and data presentation graphics facilities to show real-time displays of stream current profile and computed discharge. All necessary cables, connectors, batteries and user manuals are also to be supplied.</p> <p>7 days at-site trainings as specified in Special Condition of Contract shall be provided as one job for complete system.</p> | set         | 11              |                  |                    |
| 2.            | Supply, installation, testing and commissioning of cloud based server and high definition, LED digital smart data screen with facilities for real-time data display, its archival in appropriate data management formats for subsequent use. The commissioned items should conform to technical specifications specified under section “Scope of work & technical specifications” of bid document.   | set         | 8               |                  |                    |
| 2.            | <b>Operation Cost:</b> Daily data observation using the commissioned system at a predefined frequency (discharge observation twice a day at 0800 hrs and 1800 hrs or as specified by the engineer-in-charge and hourly water levels, its successful transmission & display using arrangements commissioned under para 1& 2 above at digital smart Data display locations in UYRB office and offices of basin States and its archival in appropriate data management formats for subsequent use; and  | month       | 60              |                  |                    |

**TABLE-B**

| <b>S. No.</b> | <b>Brief Description</b>  | <b>Unit</b>                             | <b>Quantity</b> | <b>Rate (Rs)</b> | <b>Amount (Rs)</b> |
|---------------|---|---|-----------------|------------------|--------------------|
| 1             | <b>Maintenance Cost:</b> Comprehensive annual maintenance of entire system for a period of three years beyond warranty period for all equipments including all hardware, software and accessories supplied under the contract, necessary calibration of all instrumentation and Up-gradation of all software associated with successful working of system. The system shall be under warranty for a period of two years beyond date of signing of acceptance certificate. | Per annum for complete system           | 1               |                  |                    |
|               | Year-1  | Not Applicable as under warranty period |                 |                  |                    |
|               | Year-2  | Not Applicable as under warranty period |                 |                  |                    |
|               | Year-3  | year                                    | 1               |                  |                    |
|               | Year-4  | year                                    | 1               |                  |                    |
|               | Year-5  | year                                    | 1               |                  |                    |

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