

100 years and beyond ...



भारत सरकार

GOVERNMENT OF INDIA

जल संसाधन, नदी विकास और गंगा संरक्षण मंत्रालय

Ministry of Water Resources, River Development and Ganga Rejuvenation

केन्द्रीय जल और विद्युत अनुसंधान शाला

Central Water & Power Research Station

खड़कवासला, पुणे - 411 024

Khadakwasla, Pune – 411 024

**TENDER DOCUMENT
(E-PROCUREMENT MODE)**

FOR

**Supply, installation, testing and commissioning of
Advanced water hammer/surge analysis software
under NHP for CWPRS, Pune -24**

[Two Envelope with e-Bidding]



Government of India
Ministry of Water Resources, RD & GR
**Central Water & Power Research Station
Khadakwasla, Pune-411024**

Fax: 020-24381004, Telephones: 020-24103220 Email: cpc.cwprs-pune@gov.in, Web: www.cwprs.gov.in

e- Notice Invite Tender

File No. CWPRS/CPC/AAO(P)/NHP/NIT-4/2019/

Dated: **03.05.2019**

The Scientist-C, Construction and Procurement Cell, CWPRS, Pune, India on behalf of President of India invites online e-tenders through the website <http://eprocure.gov.in/eprocure/app> under **Two bids** system from eligible and qualified bidders for the supply of following goods:

NIT No.	04/2019-20
Name of the Item/Goods	Supply, Installation, Testing and Commissioning of Advanced water hammer/surge analysis software under NHP for CWPRS, Pune -24
Earnest Money Deposit (EMD)/Bid Security	Amount: Rs. 30,000/-
	Validity : 120 days + 45 days
Date of release of Tender through e-procurement Portal http://eprocure.gov.in/eprocure/app	03.05.2019 at 18.00 hrs.
Date and Time of Pre bid Meeting	N.A
Last date for seeking clarification if any. (online only i.e through e-mail)	16.05.2019 up to 17:00 hrs
Start date and time for submission of bids online	17.05.2019 from 11:00 hrs onwards
End date & time for submission of online bid through e-procurement Portal http://eprocure.gov.in/eprocure/app	03.06.2019 at 11.00 hrs.
Date & time for opening of technical bid (online) through e-procurement Portal http://eprocure.gov.in/eprocure/app	03.06.2019 at 12.00 hrs.
Date & time for opening of financial bid (online) through e-procurement Portal http://eprocure.gov.in/eprocure/app	Financial bids of those firms who are technically qualified will be opened online immediately
Validity period of Bid	120 days from last date of bid submission
Delivery Period of the items / Goods	60 days from date of issue of Notification Award/Supply order
Officer Inviting Bids	The Scientist – C, Construction & Procurement Cell (CPC), Central Water & Power Research Station, Khadakwasla, Pune-411024

1. Bid Documents can be downloaded from CWPRS website <http://www.cwprs.gov.in> or from the Central Public Procurement Portal <http://eprocure.gov.in/eprocure/app> free of cost.

2. Bidders should enroll/register in the e-procurement module of Central Public Procurement Portal through the website <http://eprocure.gov.in/eprocure/app> for participating in the bidding process.
3. Bidders should also possess a valid Digital Signature Certificate (DSC) of Class III for online submission of bids.
4. Bids received on CPP portal (<http://eprocure.gov.in/eprocure/app>) only will be considered. Bids in any other form sent through sealed cover/email/post/fax etc. will be rejected.
5. Any change/corrigendum/extension of opening date in respect of this tender shall be issued through **CPP Portal** only and no press notification will be issued in this regard. Bidders are therefore requested to regularly visit our **CPP Portal** for updates.
6. The amount of Earnest Money Deposit (EMD)/Bid Security of **Rs. 30,000/-** in the form of Fixed Deposit Receipts (FDR) of any Nationalized/ Scheduled Bank in favour of "**Pay and Account Officer, CWPRS, Pune**". The bidder should upload the scanned copy (.pdf) of the EMD along with Technical bid document.
7. **The original copies of documents as mentioned in clause 15.7 of ITB and EMD / Bid Security should be submitted to the office of Scientist-C, CPC, CWPRS, Pune on or before 03.06.2019 at 12.00 hrs by personally or through post or courier. The bid will be opened of those documents received by office within stipulated date and time. Other bids will not open and it will be treated as rejected.**
8. On opening date, the bidder can login and see the bid opening process. After opening the bids, he/she will receive the competitor bid sheets.
9. The bidders should upload the scanned copy of duly signed full bid documents (.pdf) along with compliance report/statement.
10. The intending bidder, in case of Prime Equipment Manufacturers shall upload a self-declaration on their letter-head as PDF file in Cover-I (Technical bid) of e-tender, along with the tender documents, confirming that they are regularly manufacturing, supplying, installing, testing & commissioning of the similar equipment for the last 2 years.
11. The intending bidder, in case of Authorized Distributor/ Authorized Dealer shall possess valid authorized Distributorship /Dealership license from Original Equipment Manufacturers. The bidder shall enclose the copy of the same as PDF file in Cover-I of the e-tender while submitting the bid.
12. The bidder must ensure to quote his/her item rate / percentage rate /Lump-sum bid in the attached Bill of Quantity (**BoQ**) (Financial Bid) in Excel Format only.
13. All the tender documents (Technical & Financial bid) to be uploaded as per this tender are to be digitally or duly signed by the bidder.
14. All the communications with respect to the tender shall be addressed to:

The Scientist -C
Construction and Procurement Cell
Room No. 201, OCL Building
Central Water & Power Research Station (CWPRS)
Pune - Sinhagad Road, Khadakwasla
Pune – 411024, Maharashtra
Email : cpc.cwprs-pune@gov.in

The following documents shall be scanned and uploaded **mandatorily** on or before the last date for online submission of bids failing which the bid will be treated as non-responsive and shall be rejected.

COVER – I (Technical Bid)

- i. Fixed Deposit Receipt or Demand Draft of any nationalized or scheduled bank against EMD/Bid security.
- ii. Certificate of Registration for GST.
- iii. OEM certificate/ Authorized Distributor/ Authorized Dealer shall possess valid authorized Distributorship /Dealership license from Original Equipment Manufacturers
- iv. Duly signed full tender documents (.pdf) along with compliance report/statement.
- v. Scanned documents as per clause 5.2 & 15.3 of ITB

COVER – II (Financial Bid)

- i. Price Schedule/ Bill of Quantities (BoQ)

Scientist-C
Construction and Procurement Cell

Copy to :

1. Shri P.M. Abdul Rahiman, Sc 'D' through Dr R.G. Patil, Sc 'E' for kind information
2. Notice board

**GOVERNMENT OF INDIA
NATIONAL HYDROLOGY PROJECT
WORLD BANK FUNDED**

**INVITATION FOR BIDS (IFB)
SHOPPING FOR GOODS**

Date: **03/05/2019**
NIT No.: **04/2019-20**

1. The Government of India has received financing from the World Bank toward towards the cost of **National Hydrology Project** and intends to apply part of the proceeds toward payments under the contract for which this Invitation for Bids is issued. **Bidders are advised to note the minimum qualification criteria specified in the Bidding Documents in order to qualify for the award of the Contract.** In addition, they may also refer to paragraphs 1.6 and 1.7 of the World Bank's Guidelines: *Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers - January 2011, revised July 2014* setting forth the World Bank's policy on conflict of interest.
2. The **Scientist –C, Construction and Procurement Cell, Central Water and Power Research Station, Pune-24** invites bids electronically from eligible bidders for **Supply, Installation, Testing and Commissioning of Advanced water hammer/surge analysis software** under NHP for CWPRS, PUNE – 24. The Bidders may submit Bids for all of the packages.

Sl. No	Description of goods	Quantity	Location	Delivery Period
1	Advanced water hammer/surge analysis software	1.0 Nos	CWPRS, Pune	60 days

3. The Bidding Document is available online and can be downloaded free of cost by logging on to the website <http://eprocure.gov.in/eprocure/app> or <http://www.cwprs.gov.in>. The bids are to be submitted online through the e-procurement portal only (<http://eprocure.gov.in/eprocure/app>). Bids submitted manually will not be accepted. The bidders would be required to register in the website which is free of cost.
4. For submission of the Bid, the Bidder is required to have Digital Signature Certificate (DSC) from one of the Certifying Authorities authorized by Government of India for issuing DSC. Aspiring bidders who have not obtained the user ID and password for participating in e-procurement in this Project, may obtain the same from the website: <http://eprocure.gov.in/eprocure/app>
5. Bids must be accompanied by Bid Security/EMD for the amount and in the form specified in the Bidding Document. Bid security shall have to be valid for 45 days beyond the validity of the bid. Bids should be valid for 60 days after the deadline date specified for submission. Procedure for submission of Bid Security is described in Para 7 below.
6. Bids must be submitted on <http://eprocure.gov.in/eprocure/app> on or before **11:00 hrs** on **03.06.2019** and will be opened online on **03.06.2019 at 12.00 hrs**. Record of bid opening will be electronically shared with bidders. If the office happens to be closed on the date of opening of the Bids as specified, the Bids

will be opened on the next working day at the same time and venue. Any bid or modifications to bid (including discount) received outside e-Procurement System will not be considered. The electronic bidding system would not allow late submission of bids.

7. The Bidders are required to submit specified **original documents as per clause 15.7 of ITB including original Bid Security in approved form** to Scientist – C, Construction & Procurement Cell (CPC), Central Water & Power Research Station, Khadakwasla, Pune-411024 at the address given below before the date and time specified for opening of the Bids on **03.06.2019 at 12.00 hrs** by registered post/speed post/courier or by hand, failing which the Bids will be declared non-responsive and will not be opened.
8. Other details can be seen in the bidding documents. The Purchaser shall not be held liable for any delays due to system failure beyond its control. Even though the system will attempt to notify the bidders of any bid updates, the Purchaser shall not be liable for any information not received by the bidder. It is the Bidder's responsibility to verify the website for the latest information related to the Bid.

Name and address of Purchaser
The Scientist 'C'
Construction and Procurement Cell
Room no.201, OCL Building
Central Water and Power Research Station
Pune – Sinhagad Road
Khadakwasla, Pune-411024
Tel. No: +91-20-24103220
Fax No. +91-20-24381004
Email : cpc.cwprs-pune@gov.in

NATIONAL HYDROLOGY PROJECT
WORLD BANK FUNDED
Invitation for Bids for Goods under Shopping

1. The **Scientist 'C', Construction and Procurement Cell, CWPRS, Khadakwasla, Pune-24** invites Bids which shall be submitted in the e-Procurement Portal for the following Goods:

Sl. No	Description of goods	Quantity	Location	Delivery Period
1	Supply Installation Testing and commissioning of Advanced water hammer/surge analysis software	1.0 Nos	CWPRS, Pune	60 days

2. Detailed Invitation for Bid is available on <http://eprocure.gov.in/eprocure/app>. The Bidding Document is also available online and can be downloaded free of cost by logging on to the <http://eprocure.gov.in/eprocure/app> or <http://www.cwprs.gov.in>
3. The deadline for submission of Bids is **03.06.2019 at 11.00 hrs**. Bids will be opened on **03.06.2019 at 12.00 hrs**.
4. Bidders are advised to note the minimum qualification criteria specified in the bidding documents. Interested Bidders may participate in the bidding process as per instructions given in the Bidding Documents.

Name and address of Purchaser

The Scientist 'C'
Construction and Procurement Cell
Room no.201, OCL Building
Central Water and Power Research Station
Pune – Sinhagad Road
Khadakwasla, Pune-411024
Tel. No: +91-20-24103220
Fax No. +91-20-24381004
E-mail: cpc.cwprs-pune@gov.in

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PART 1 – BIDDING PROCEDURES

SECTION 1 - INSTRUCTIONS TO BIDDERS

Section 1 - Instructions to Bidders (ITB)

A. General

1. **Scope of Bid** 1.1 The Purchaser, namely *Scientist 'C', Construction and Procurement Cell, CWPRS, Khadakwasla, Pune - 24* issues these Bidding Documents for the supply of Goods and Related Services as specified in Section 3, Schedule of Requirements. The name and identification number of this Shopping procurement is 04/2019-20
2. **Source of Funds** 2.1. Purchaser intends to apply a portion of the funds from the World Bank to eligible payments under the contract for which these Bidding Documents are issued.
3. **Eligible Bidders** 3.1 A Bidder shall not have a conflict of interest. All bidders found to have conflict of interest shall be disqualified. For further details, the Bidder may refer to Clauses 1.6 and 1.7 of the World Bank's Guidelines: Procurement of Goods, Works and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, January 2011, revised July 2014.
4. **Corrupt and Fraudulent Practices** 4.1. The World Bank requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Section 6.

B. Preparation of Bids

5. **Documents Comprising the Bid** 5.1 The Bid shall comprise **Two Parts**, namely the **Technical Part** and the **Financial Part**. These two Parts shall be submitted simultaneously.
- 5.2 The **Technical Part of Bid** shall comprise the following:
 - (a) Letter of Bid – Technical Part in accordance with ITB Clause 6;
 - (b) Bid Security in accordance with ITB 13;
 - (c) Written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 14.2;
 - (d) Documentary evidence in accordance with ITB Clause 10 that the Goods and Related Services conform to the Bidding Documents;
 - (e) Documentary evidence in accordance with ITB Clause 11 establishing the Bidder's qualifications to perform the contract if its bid is accepted;
 - (f) Manufacturer's Authorization in accordance with ITB Clause 11.1 (a), on the form provided in Section 2;
 - (g) Performance Statement of supplies of similar goods made during the last 3 years, in accordance with ITB 11.2;
 - (h) List of Goods & Related Services indicating Bidder's offered delivery period, on the form given in Section 3.

- (i) Affidavit confirming correctness of information and documents submitted with the Bid, as per format given in Section 2; and
- (j) [IA should add any other document, if required]

5.3 The **Financial Part of Bid** shall comprise the following:

- (a) **Price Schedule (BoQ)** (using the Schedule uploaded with the bidding documents) wherein the rates shall be entered online.

6. Letter of Bid and Price Schedules

6.1 The Bidder shall submit the **Letter of Bid – Technical Part**, and **Price Schedules** using the forms furnished in Section 2, Bidding Forms. The forms must be completed without any alterations to the text. All blank spaces shall be filled in with the information requested.

7. Alternative Bids

7.1 Alternative bids shall not be considered.

8. Bid Prices and Discounts

8.1 Price Schedules shall conform to the requirements specified below.

8.2 All lots (Contracts) and items must be listed and priced separately in the Price Schedules.

8.3 The price to be quoted in the Financial Part shall be the total price of the Bid, including any discounts offered.

8.4 Prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract and not subject to variation on any account. A Bid submitted with an adjustable price quotation shall be treated as non-responsive and shall be rejected.

8.5 If so specified in ITB 1, bids are being invited for individual lots (contracts) or for any combination of lots (packages). Prices quoted shall correspond to 100 % of the items specified for each lot and to 100% of the quantities specified for each item of a lot.

8.6 Prices shall be quoted as specified in the Price Schedule included in Section 2, Bidding Forms as stated below:

a) For domestic goods: The price of the Goods quoted shall comprise of base price EXW (**excluding GST**), Charges for transportation, Insurance and other charges up to the final destination i.e. CWPRS, Pune (as per BoQ).

(b) For imported goods: The price of the Goods quoted shall comprise of base price EXW (**excluding GST**), customs duty and any other taxes as applicable and Charges for transportation, Insurance and other charges up to the final destination i.e. CWPRS, Pune (as per BoQ). Customs duty exemption certificate (refer Govt. notification No.51/96-customs dated 23.07.1996 and No. 10/96-Central Excise dated 01.03.1997) shall be provided by CWPRS.

- (ii) Other taxes which will be payable on the Goods if the contract is awarded to the Bidder; and
- (iii) The price for inland transportation, insurance, and other local services required to convey the Goods to their Final Destination (Project Site), namely **Central Water and Power Research Station, Khadakwasla, Pune-411024.**
- (iv) Price for Related Services, if any.
- (v) **The Goods and Services Tax (GST) will be reimbursed to the bidder as per actuals on production of payment receipt/challan along with bill.**

- | | | |
|--|------|--|
| 9. Currencies of Bid | 9.1 | The Bidder shall quote in Indian Rupees only in the BoQ . |
| 10. Documents Establishing the Conformity of the Goods and Related Services | 10.1 | To establish the conformity of the Goods to the Bidding Documents, the Bidder shall furnish as part of its Technical Part of Bid, the documentary evidence that the Goods conform to the technical specifications and standards specified in Section 3, Schedule of Requirements. |
| 11. Qualifications of the Bidder and Documentary Evidence | 11.1 | <p>The documentary evidence of the Bidder's qualifications to perform the contract, if its bid is accepted, shall be submitted as part of its Technical Part of Bid, to establish to the Purchaser's satisfaction:</p> <ul style="list-style-type: none"> (a) (i) that if a Bidder that does not manufacture or produce the Goods it offers to supply, it shall submit with its Bid the Manufacturer's Authorization and confirmation to provide Manufacturer's warranty/guarantee for the goods along with the supply, on the form included in Section 2. The Bidder has the option to furnish the said Authorization from the Authorized Dealer or Distributor in which case, the Form provided in Section 2 may be modified by the Bidder suitably. However, if the Bidder itself is a manufacturer, it may submit Certificate evidencing this position – in lieu of Manufacturer's Authorization. (ii) that supplies for any particular item in each schedule of the bid should be from one manufacturer only. Bids from agents offering supplies from different manufacturers for the same item of the schedule in the bid will be treated as non-responsive. <p>(b) that the Bidder meets the following qualification criterion:</p> <p>The bidder should have supplied goods similar to the type (& capacity) specified in the Schedule of Requirements up to at least 100% of the quantity in any one of last 3 years. At least 40 % of the quantity in case of equipment offered for supply should have been in successful operation for at</p> |

least one year as on date of bid opening.

11.2 The Bidder shall also submit with its Bid, details of supplies of similar goods made during the last 3 years preceding the deadline for Bid submission, using the Proforma for Performance Statement included in Section 2. Bidders shall invariably furnish documentary evidence (End User's certificate) in support of the satisfactory operation of the goods as specified above.

11.3 Bids from Joint Ventures are not acceptable.

11.4 Financial Capability:

The bidders should have annual sales turnover of minimum of **Rs. 15.00 Lakh in the past 3 years**. The Bidder shall furnish documentary evidence that it meets the Financial capability.

12. Period of Validity of Bids

12.1 Bids shall remain valid for the period of **120 days** after the bid submission deadline date prescribed by the Purchaser. A bid valid for a shorter period shall be rejected by the Purchaser as non-responsive.

13. Bid Security

13.1 The Bidder shall furnish as part of its Technical Part of Bid, a Bid Security/EMD, in original for an amount of **INR 30,000/-** in favour of "**Pay and Account Officer, CWPRS, Pune**" [IA should insert the amount equivalent to 2 % of the estimated cost of the lot; in case Bids are being invited for several lots, Bid Security amounts should be tabulated for each Lot in a Table to be added below for this purpose.]

Bid Security/EMD should be in one of the following forms:

- (i) Fixed Deposit/Demand Draft issued by a nationalized/scheduled bank for equivalent or higher values are acceptable provided these are pledged in favour of the "**Pay and Account Officer, CWPRS, Pune**" and such pledging has been noted and suitably endorsed by the bank issuing the deposit certificates.

The Bid Security / EMD shall be valid for forty-five (45) days beyond the original validity period of the Bid.

13.2 If a Bid is not accompanied by a substantially responsive Bid Security / EMD, it shall be rejected by the Purchaser as non-responsive.

13.3 Bid Security / EMD of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's signing the contract and furnishing the Performance Security pursuant to ITB 33.

13.4 The Bid Security / EMD of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the contract and furnished the required performance security.

- 13.5 The Bid Security / EMD may be forfeited:
- (a) if a Bidder withdraws its Bid during the period of bid validity specified by the Bidder on the Letter of Bid, or any extension thereto provided by the Bidder; or
 - (b) if the successful Bidder fails to:
 - (i) sign the Contract in accordance with ITB 32; or
 - (ii) Furnish a performance security in accordance with ITB 33.

14. Preparation and Signing of Bid

- 14.1 The Bidder shall prepare the Bid as per details given in ITB 15.
- 14.2 The Bid shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of Power of Attorney and shall be submitted with the Bid. The name and position held by each person signing the authorization must be typed or printed below the signature.
- 14.3 Corrections, if any, in the bid can be carried out by editing the information before electronic submission on **CPP Portal** (<http://eprocure.gov.in/eprocure/app>)

C. Submission and Opening of Bids

15. Electronic Submission of Bids, and Submission of Original Documents

- 15.1 Bids, both Technical and Financial Parts, shall be submitted online on the e-Procurement Portal (**CPP Portal**) specified in ITB Clause 1. Detailed guidelines for viewing Bids and submission of online Bids are given in the **CPP Portal**. Any Bidder can log on to this **CPP Portal** and view the IFB and details of Works/Goods for which Bids are invited. However, every Bidder has to enrol/ register in the **CPP Portal**, and should have valid Digital Signature Certificate (DSC) in the form of smart card/e-token obtained from any Authorised Certifying Agency. The Bidder should register in the **CPP Portal** using the relevant option available. Then the Digital Signature registration has to be done with the e-token, after logging onto the website. The Bidder can then log in the **CPP Portal** through the secure login by entering the password of the e-token & the user id/ password chosen during registration.

The Bidder should go through the Bidding Document carefully and submit the specified documents, along with the Bid otherwise the Bid may get rejected.

- 15.2 The Bidder shall submit Bid in two separate online folders/envelopes **simultaneously**, i.e. Folder 1, for the **Technical Part** and Folder 2 - for the **Financial Part**.
- 15.3 **The 'Technical Part of Bid'** submitted online by the Bidder shall comprise the following documents and the Bidder shall upload scanned copies of these documents with the Bid.
- (i) **Letter of Bid – Technical Part** as per format given

in Section 2;

- (ii) **Bid Security** in accordance with ITB 13;
- (iii) **Delivery Period Offered:** List of Goods & Related Services indicating Bidder's offered delivery period, on the form given in Section 3;
- (iv) **Authorization:** Power of Attorney of signatory of Bid in accordance with ITB 14.2;
- (v) **Manufacturer's Authorization** in accordance with ITB 11.1 (a), on the form provided in Section 2;
- (vi) **Affidavit** confirming correctness of information and documents submitted with the Bid in accordance with ITB Clause 5, on the form provided in Section 2;
- (vii) **Performance Statement** of supplies of similar goods made during the last 3 years, in accordance with ITB 11.2;
- (viii) **Compliance of Goods and Related Services with Technical Specifications and Standards:** Documentary evidence in accordance with ITB Clause 10;
- (ix) **Qualifications of the Bidder:** Documentary evidence of Bidder's qualifications to perform the Contract in accordance with ITB 11.1; and
- (x) **Authorized address and contact details** of the Bidder having the following information:
 - Name of Firm
 - Address for communication
 - Telephone No.(s): Office
 - Mobile No.
 - Facsimile (FAX) No.
 - Electronic Mail Identification (E-mail ID)

15.4 The Technical Part of Bid shall not include any financial information related to the Bid price. Where material financial information related to the Bid price is contained in the Technical Part of Bid, the Bid shall be declared non-responsive

15.5 **The Financial Part of Bid** submitted online by the Bidder shall comprise the following:

- (a) Price Schedule (BoQ) (using the Schedule uploaded with the bidding documents) **wherein the rates shall be entered online.** Upon entry of unit rates for all the items, total Bid Price would be calculated automatically by the System and displayed.

15.6 All documents are required to be signed digitally by the Bidder. The System generates a Unique Bid Identification Number, time stamped as per server time, as an acknowledgement for Bid

submission.

15.7 **Submission of Original Documents**

Bidders are required to submit the following documents in original to the Purchaser's office.

(i) Original Bid Security / EMD in approved form valid up to the bid validity period

(ii) Affidavit confirming correctness of information and documents submitted with the Bid, using the Format given in Section 2; and

(iii) Original Power of Attorney.

These original documents should be received by the Purchaser **before the date and time fixed for opening of Technical Part of Bids (03.06.2019 at 12.00 hrs)** either by registered/speed post/courier or by hand, failing which the Bid will be declared non-responsive, and will not be opened. Hard copies of Bids or any other documents are not required to be submitted.

15.8 Any Bid or modifications to Bid (including discount) received outside the e-Procurement System (**CPP Portal**) shall not be considered.

15.9 Bids submitted manually or by Telex, or Cable or by Fax will be rejected as non-responsive.

16. Deadline for Submission of Bids

16.1 Bids must be uploaded online no later than the **03.06.2019 at 11.00 hrs**. A Bidder may modify its Bid any number of times by using the appropriate option for Bid modification on the e-Procurement Portal, before the deadline for submission of Bids. For Bid modification and consequential re-submission, the Bidder is not required to withdraw its Bid submitted earlier. The last modified Bid submitted by the Bidder within the deadline for bid submission shall be considered as the Bid. The modification and consequential re-submission of Bids is allowed any number of times.

16.2 A Bidder may withdraw its Bid by using the appropriate option for Bid withdrawal, before the deadline for submission of Bids. However, if a bid is withdrawn, re-submission of the Bid is allowed

17. Late Bids

17.1 The electronic bidding system would not allow any late submission of Bids after due date and time as per server time.

18. Public Opening of Technical Parts of Bids

18.1 The Purchaser shall publicly open Technical Parts of all Bids online in the Purchaser's office, on **03.06.2019 at 12:00 hrs** in the presence of Bidder's designated representatives and anyone who chooses to attend, and this can also be viewed by the Bidders online. The Financial Parts of the Bids shall remain unopened in the e-Procurement System, until the subsequent public opening, following the evaluation of the Technical Parts of the Bids.

In the event of the specified date of Bid opening being declared a holiday for the Purchaser, the Bids will be opened at the appointed time and location on the next working day.

18.2 In all cases, original documents submitted as specified in ITB 15.7 shall be first scrutinized, and Bids that do not comply with the provisions of ITB 15.7 will be declared non-responsive and will not be opened.

18.3 The Purchaser shall prepare a record of the Technical Part Bid opening that shall include, as a minimum: the name of the Bidder and whether there is a withdrawal, substitution, or modification. The Bidders' representatives who are present shall be requested to sign the record of bid opening maintained by the Purchaser. The omission of a Bidder's signature on the record shall not invalidate the contents and effect of the record.

The Technical Part Bid opening summary will be uploaded on the e-Procurement Portal (**CPP Portal**).

18.4 Only Technical Parts of Bids that are opened at Bid opening shall be considered further for evaluation.

D. Evaluation of Bids

19. Confidentiality

19.1 Any effort by a Bidder to influence the Purchaser in the examination, evaluation, comparison, and post qualification of the bids or contract award decisions may result in the rejection of its Bid.

19.2 From the time of bid opening to the time of Contract Award, if any Bidder wishes to contact the Purchaser on any matter related to the bidding process, it should do so in writing.

20. Clarification of Bids

20.1 To assist in the examination, evaluation, comparison and post-qualification of the bids, the Purchaser may, at its discretion, ask any Bidder for a clarification of its Bid. Any clarification submitted by a Bidder in respect to its Bid and that is not in response to a request by the Purchaser shall not be considered. The Purchaser's request for clarification and the response shall be in writing.

E. Evaluation of Technical Parts of Bids

21. Evaluation

21.1 The Purchaser's determination of a bid's responsiveness is to be based on the contents of the bid itself.

21.2 A substantially responsive Bid is one that conforms to all the terms, conditions, and specifications of the Bidding Documents without material deviation, reservation, or omission.

21.3 Evaluation of Technical Parts of Bid with respect to documents and information furnished in the Bid pursuant to ITB Clause 15.3 shall be taken up. The Purchaser will determine whether

each Bid (a) has been properly signed and supported by the Power of Attorney in favour of the signatory of the Bid; (b) is accompanied by the Bid Security/EMD of requisite amount and validity in the approved form; (c) meets the eligibility criteria defined in ITB Clause 3; (d) Delivery Period offered meets the specified requirements; and (e) has furnished details of compliance with Technical Specifications.

- 21.4 Bids from Agents, without proper authorization from the Manufacturer and without proper agreement to furnish the manufacturer's guarantee/warranty, shall be treated as non-responsive.
- 21.5 Bids offering delivery beyond the stipulated delivery will be treated as non-responsive.
- 21.6 General conditions of Contract stipulate payment schedule offered by Purchaser. If the Bid deviates from that schedule the Bid will be treated as non-responsive.
- 21.7 If a bid is not substantially responsive to the Bidding Documents, it shall be rejected by the Purchaser and may not subsequently be made responsive by the Bidder by correction of the material deviation, reservation, or omission.
- 21.8 The Purchaser shall determine, to its satisfaction, whether all eligible Bidders, whose Bids have been determined to be substantially responsive to the bidding document, meet the Qualification Criteria specified in ITB Clause 11.1.
- 21.9 **The bidders those who are technically qualified, technical demonstration (at CWPRS, Pune or nearest Pune) of the bidders is compulsory to verify the technical competency of the goods before opening of their financial bids, as per terms and conditions of the bid document. The information will be communicated by this office to the technically qualified bidders for their technical competency demonstration of the goods. (It is applicable for a given type of goods and the same will be decided by the Purchaser)**

22. Notification of Result of Evaluation of Technical Parts

- 22.1 Only Bids that are both substantially responsive to the bidding document, and meet all Qualification Criteria shall qualify for opening of the Financial Parts of their Bids at the second public opening.
- 22.2 Evaluation of Technical Parts of Bid will be completed by the Purchaser , and a list will be drawn up of the qualified bidders whose Financial Part of Bids will be eligible for opening.
- 22.3 Purchaser shall notify, online, **the summary of technical evaluation giving details of** those Bidders who have failed to meet the Qualification Criteria and/or whose Bids were considered non-responsive to the requirements in the bidding document, advising them as under:
 - (a) That their Technical Part of Bid failed to meet the

requirements of the bidding document; and

(b) That their Financial Part of the Bid shall not be opened.

22.4 The result of evaluation of the Technical Parts of Bid shall also be made public on e-Procurement Portal.

22.5 The Purchaser shall notify online those Bidders whose Technical Parts of Bids have been evaluated as substantially responsive as under:

(a) their Bid has been evaluated as substantially responsive to the bidding document and met the Qualification Criteria;

(b) their Financial Part of Bid will be opened online; and

F. Public Opening and Evaluation of Financial Parts of Bids

23. Public Opening of Financial Parts of Bids

23.1 The financial bids shall be opened online on the CPP portal on the notified date. All the bidder's names, the Bid prices, the total amount of each bid, including any other details can be viewed online at the time of financial bid opening.

23.2 The electronic summary of the bid opening will be generated and uploaded online. The Purchaser will also prepare minutes of the Bid opening, including the information disclosed and upload the same for viewing online.

24. Correction of Arithmetical Errors

24.1 The e-Procurement System automatically calculates the total amount from unit rates and quantities. The System also automatically populates the amount in words from the amount in figures and therefore there is no scope of discrepancy and need for arithmetic correction.

25. Evaluation of Financial Parts of Bids

25.1 During the detailed evaluation of Financial Parts of Bid, the substantial responsiveness of the Bids will be further determined with respect to those bid conditions i.e. Price Schedule. The Purchaser shall confirm that the following documents are in accordance with the requirements specified in the bidding document. If any of these documents or information is missing, the offer shall be rejected.

(a) Price Schedules in accordance with ITB Clauses 6, 8 & 9.

25.2 If a Bid is not substantially responsive, it will be rejected by the Purchaser, and may not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation.

- 26. Determination of Evaluated Bid prices**
- 26.1 The Purchaser shall evaluate each Bid that has been determined, up to this stage, to be substantially responsive.
- 26.2 To evaluate a Bid, the Purchaser shall only use all the factors, methodologies and criteria defined in ITB Clause 26.3. No other criteria or methodology shall be permitted.
- 26.3 To evaluate a Bid, the Purchaser shall consider the following:
- (a) **Bids will be evaluated for the combined cost of all the items mentioned in BoQ and the Contract will be awarded to the lowest evaluated (L1) Bidder.**
 - (b) **An item not listed in the Price Schedule shall be assumed to be not included in the Bid, and provided that the Bid is substantially responsive, the average price of the item quoted by substantially responsive Bidders will be added to the Bid price and the equivalent total cost of the Bid so determined will be used for price comparison.**
 - (c) **The lowest evaluated Price shall be arrived at up to Final Destination (i.e. CWPRS, Pune) by adding (i) price of Goods quoted EXW (ii) other taxes (customs etc), if any, payable on the Goods (iii) price for inland transportation, insurance, and other local services required to convey the Goods to their Final Destination and (iv) price for Related Services (AMC etc), if any.**
- 27. Comparison of Bids**
- 27.1 The Purchaser shall compare all substantially responsive bids evaluated in accordance with ITB Clause 26.3 to determine the lowest evaluated Bid.
- 28. Purchaser's Right to Accept Any Bid, and to Reject Any or All Bids**
- 28.1 The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to Bidders.

G. Award of Contract

- 29. Award Criteria**
- 29.1 The Purchaser shall award the Contract to the Bidder whose offer has been determined to be the lowest evaluated bid and is substantially responsive to the Bidding Documents, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.
- 30. Purchaser's Right to Vary Quantities at Time of Award**
- 30.1 At the time the Contract is awarded, the Purchaser reserves the right to increase or decrease the quantity of Goods and Related Services originally specified in Section 3, Schedule of Requirements, provided the variation does not exceed 15% and without any change in the unit prices or other terms and

conditions of the Bid and the Bidding Documents.

- 31. Notification of Award;
Publication of Award &
Recourse to unsuccessful Bidders**
- 31.1 Prior to the expiration of the period of bid validity, the Purchaser shall notify the successful Bidder, in writing, that its Bid has been accepted. The Purchaser shall enclose with Notification of Award, the Contract Agreement Form duly filled in for getting it signed by the selected Bidder.
- 31.2 Until the formal Contract is prepared and executed, the notification of award shall constitute a binding Contract.
- 31.3 The Purchaser shall publish on its website. <http://eprocure.gov.in/eprocure/app> or www.cwprs.gov.in the results identifying the Bid and lot numbers and the following information: (i) name of each Bidder who submitted a Bid; (ii) bid prices as read out at bid opening; (iii) name and evaluated prices of each Bid that was evaluated; (iv) name of Bidders whose bids were rejected and the reasons for their rejection; and (v) name of the winning Bidder, and the price it offered, as well as the duration and summary scope of the contract awarded. The Purchaser shall promptly respond in writing to any unsuccessful Bidder who, after Publication of contract award, requests in writing the grounds on which its bid was not selected.
- 31.4 Upon the successful Bidder's furnishing of the Performance Security in accordance with ITB Clause 33 and signing the Contract Agreement Form pursuant to ITB Clause 32, the Purchaser will promptly notify each unsuccessful Bidder.
- 32. Signing of Contract**
- 32.1 The successful Bidder shall sign with date, the Contract Agreement Form sent by the Purchaser pursuant to ITB 31.1, and return it to the Purchaser within 10 days of the date of receipt of the Notification of Award.
- 33. Performance Security**
- 33.1 Within ten (10) days of the receipt of Notification of Award from the Purchaser, the successful Bidder shall furnish the Performance Security in the form specified in the GCC in favour of "**PAO, CWPRS, Pune**". The Purchaser shall promptly thereafter notify the name of the winning Bidder to each unsuccessful Bidder.
- 33.2 Failure of the successful Bidder to submit the above-mentioned Performance Security or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security in accordance with ITB 13.5. In that event the Purchaser may award the Contract to the next lowest evaluated Bidder, whose offer is substantially responsive and is determined by the Purchaser to be qualified to perform the Contract satisfactorily.

Section 2 – Bidding Forms

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Letter of Bid –Technical Part

INSTRUCTIONS TO BIDDERS: PLEASE DELETE THIS BOX ONCE THE DOCUMENT HAS BEEN COMPLETED.

The Bidder must prepare the Letter of Bid on stationery with its letterhead clearly showing the Bidder's complete name and address.

Note: All italicized text is for Bidder's guidance in preparing these forms and shall be deleted from the final products.

Our Reference: No.....

Dated.....

To:

The Scientist 'C'
Construction and Procurement Cell
Central Water and Power Research Station
Khadakwasla, Pune-411024

Subject: **Supply, Installation, Testing and Commissioning of Advanced water hammer/surge analysis software** under NHP for CWPRS, Pune -24

Ref : NIT No. 04/2019-20

Sir,

1. We, the undersigned, hereby submit our Bid, in two parts, namely:

- (a) Technical Part; and
- (b) Financial Part

2. In submitting our Bid, we make the following declarations:

- (a) **No reservations:** We have examined and have no reservations to the Bidding Documents;
- (b) **Conformity:** We offer to supply in conformity with the Bidding Documents and in accordance with the Delivery Schedules specified in the Schedule of Requirements the following Goods and Related Services *[insert a brief description of the Goods and Related Services]*;
- (c) **Bid Validity Period:** Our bid shall be valid for the period of **120** days, from the deadline fixed for the bid submission, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

- (d) **Performance Security:** If our bid is accepted, we commit to obtain a performance security in accordance with ITB Clause 33 and GCC Clause 11 for the due performance of the Contract;
- (e) **Eligibility:** We meet the eligibility requirements and have no conflict of interest;
- (f) **One Bid Per Bidder:** We are not participating in more than one bid in this bidding process;
- (g) **Government owned entity:** We are not a government owned entity/ We are a government owned entity but meet the requirements specified in the World Bank's Guidelines referred to in ITB 3.1; *[Bidder should select the appropriate option as applicable.]*
- (h) **Ineligibility:** Our firm, its affiliates or subsidiaries—including any subcontractors or suppliers for any part of the contract - has not been declared ineligible by the Bank, or under Indian laws or official regulations;
- (i) **Binding Contract:** We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed.
- (j) **Not Bound to Accept:** We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.
- (k) **Suspension and Debarment:** We have not been debarred from participation in bidding/removed from approved list (dealings suspended) by the Central or any State Government or by the World Bank.
- (l) **Fraud and Corruption:** We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in any type of Collusion, Fraud and Corruption.
- (m) **Prevention of Corruption Act:** We undertake that, in competing for (and, if the award is made to us, in executing) the above contract, we will strictly observe the laws against fraud and corruption in force in India namely, "Prevention of Corruption Act 1988."

Yours faithfully,

Authorized Signature

Name & Title of Signatory

In the capacity of *[insert legal capacity of person signing the Letter of Bid]*

Name of Bidder _____

Address _____

Dated on _____ day of _____, _____ *[insert date of signing]*

Price Schedule Forms

*[The Bidder shall fill in the Price Schedule online (using the Schedule uploaded with the bidding documents) in accordance with the instructions indicated. The list of line items in column 1 of the **Price Schedule** shall coincide with the List of Goods and Related Services specified by the Purchaser in the Schedule of Requirements.]*

BILL OF QUANTITIES (BoQ)

Name of the Bidder: _____

NIT No. **04/2019-20**

Sr. No	Description of work	Quantity	Unit	Delivery Period	Country of Origin	Rate per Unit (Excluding GST)	Taxes, if any (Customs) and Price for Equipment transportation, charges for handling, insurance, and other services required to convey the goods to their final destination.	Total price (Col.3 X Col.7) Rs. P	Grand Total (Col 8 + Col 9) Rs. P	Grand Total in Words
1	2	3	4	5	6	7	8	9	10	11
1	FOR GOODS									
1.01	Supply, Installation, Testing and Commissioning of Advanced water hammer/surge analysis software	1.0	No	60 days from the date of issue of Notification of award						
Grand Total										

Note: Goods and Services Tax shall be paid as per actuals on production of receipt/challan along with bill

Manufacturer's Authorization

[The Bidder shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are binding on the Manufacturer. The Bidder shall include it in its bid in accordance with ITB Section.]

Date: *[insert date (as day, month and year) of Bid Submission]*

NIT No.: **04/2019-20**

To:

**The Scientist 'C'
Construction and Procurement Cell
Room no.201, OCL Building
Central Water and Power Research Station
Khadakwasla, Pune-411024**

WHEREAS

We *[insert complete name of Manufacturer]*, who are official manufacturers of *[insert type of goods manufactured]*, having factories at *[insert full address of Manufacturer's factories]*, do hereby authorize *[insert complete name of Bidder]* to submit a bid the purpose of which is to provide the following Goods, manufactured by us *[insert name and or brief description of the Goods]*, and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with Clause 15 of the General Conditions of Contract, with respect to the Goods offered by the above firm.

Signed: *[insert signature(s) of authorized representative(s) of the Manufacturer]*

Name: *[insert complete name(s) of authorized representative(s) of the Manufacturer]*

Title: *[insert title]*

Dated on _____ day of _____, _____ *[insert date of signing]*

PROFORMA FOR PERFORMANCE STATEMENT

[Reference: ITB 11.2]

Proforma for Performance Statement (for a period of last 3 years)

NIT No. **04/2019-20**

Date of opening. **03.06.2019**

Time **12:00 Hours**

Name of the Bidder _____

<u>Order placed by</u> (full address of Purchaser)	<u>Order No. and date</u>	<u>Description and quantity of ordered equipment</u>	<u>Value of order</u>	<u>Date of completion of delivery</u>		<u>Remarks indicating reasons for late delivery, if any</u>	<u>Has the equipment been satisfactorily functioning? (Attach a certificate from the Purchaser/Consignee)</u>
				As per contract	Actual		
1	2	3	4	5	6	7	8

Signature and seal of the Bidder

**FORM OF AFFIDAVIT FOR CORRECTNESS OF
INFORMATION AND DOCUMENTS SUBMITTED WITH
BID**

[Reference ITB 5]

[This affidavit should be on a non-judicial stamp paper of Rs.10/- and shall be attested by Magistrate/ Sub-Judge/ Notary Public]

I, (name of the authorised representative of the Bidder) solemnly affirm and state as under:

1. I hereby certify that all the information and documents furnished with the Bid submitted online in response to NIT No. 04/2019-20 date 03/05/2019 issued by **The Scientist – C, CPC, CWPRS, Pune - 24** for **Supply, Installation, Testing and Commissioning of Advanced water hammer/surge analysis software** under NHP for CWPRS, Pune -24. are true and correct.

2. *I hereby certify that I have been authorised by
..... (the Bidder) to sign on their behalf, the Bid mentioned in paragraph 1 above.

Deponent

Place:

Date:

** This sub-paragraph is not applicable if the Bidder is an individual and is signing the Bid on his own behalf.*

PART 2 - SUPPLY REQUIREMENTS

SECTION 3 – SCHEDULE OF REQUIREMENTS

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1. LIST OF GOODS & RELATED SERVICES AND DELIVERY PERIOD

Line Item No.	Description of Goods and Related Services	Quantity	Physical unit	Final Destination (Project site)	Desired Delivery Period for completion of supply from the date of the Contract	Bidder's offered Delivery Period [to be provided by the Bidder]
1	2	3	4	5	6	7
1.01	Supply, Installation, Testing and Commissioning of Advanced water hammer/surge analysis software	1.0	No	CWPRS, Khadakwasla, Pune-24	60 Days	

Note:

1. All details should be filled in by Purchaser except for Colum 7.
2. Delivery Period offered by the Bidder should be filled in Column 7 by the Bidder.

2. TECHNICAL SPECIFICATIONS

for Advanced water hammer/surge analysis software

General

The software is for modelling and analysis of fluid transients such as 'pressure surge' and 'water hammer' in complex piping of any scale.

System Types

The software should be able to analyze following system types

- Single pumped main pipeline.
- Branched pumped systems which consist of multiple pipelines.
- Single gravity main pipeline.
- Branched gravity system which consist of multiple pipelines without pumps.
- Hydraulic power plant system transient studies.

❖ Refer Annexure-I for detailed description of systems.

Events and Phenomena

The events and phenomena that will be necessary to model in the system were Valve operation, Pump shut-down (trip), Pump start-up, Vapour cavity formation, Filling and drainage, Gas release in the fluid, Trapped gas pockets, Surge suppression, Turbine start-up, Load acceptance by turbine, Load rejection by turbine etc.,

❖ Refer Annexure-II for detailed description of events and phenomena.

Basic Physical Elements

- The software should have following basic physical elements for modeling in the system based on empirical equations and correlations.
 - *Flow elements:*
 - ✓ Pipes : Cylindrical, Annular, Rectangular etc.,
 - ✓ Bends: Circular, Circular mitre, Circular composite mitre, Rectangular with various aspect ratios, Rectangular mitre etc.,
 - ✓ Control valves : Butterfly, Ball, Globe, Sluice, Angle, Y, Flow Control valve, Pressure Control valve, etc.,
 - ✓ Reservoirs, delivery/ distribution chambers, expansions, filters & strainers, contractions and Variable diameter conduit
 - ✓ Orifices: Sharp edged, Sharp edged conical, long and square etc.,
 - ✓ Check valves: Simple, Clapper, Poppet etc.,
 - *Turbo machines:* Pumps, turbines, pump-turbine, turbine governor etc.,
 - *Junctions:* T junctions for 90°, 60°, 45° and 30°, Y junctions with same and different branch areas as through pipe area etc.,
 - *Surge suppression components:* Zero velocity valves, vacuum breakers, air admission and release valves, air cushion valves, surge tanks, feed tanks, surge shaft, stand-pipes and flexible pipes, air vessel and accumulators, relief and by-pass valves, pump fly wheels etc.,

Other Requirements

- The software should have other requirements as follows

- Calculate flow reversal time during sudden stoppage of pumps, after flow reversal the reverse rotation of pump in RPM should be computed.
- An option to define the elevation profile Vs pipe length in system modelling.
- Options to create new components based on scripts or logical combinations of existing components.
- Inbuilt pipe schedule data where the length and internal diameter could be decided based on standards like ASME, DIN, JIS etc. User should have options to create his own pipe schedule database.
- An option to define extensive liquid property used in the simulation.
- Inbuilt fluid property database.

Graphical User Interface (GUI)

- The software should have a GUI to model the network schematics along with a library of all relevant fluid system elements which represents the physics corresponding to the component.
- The software should have single GUI for all functionalities including steady state and transient simulations. The schematics built for steady state simulation should be able to be used for transient simulation with appropriate data inputs.
- The software should have windows native functionalities of cut, copy, and paste for the ease of building the network/system schematics.
- The GUI should have layer functionality with options like hide and unhide as well as lock and unlock. The part of the network should be able to assign each layer to hide or lock.
- Pipes and links should be able to represent as different colours for easy representation in complex systems. The GUI should have unlimited undo redo option for network modelling.
- Data entry and results should be in any custom unit's combination as well as user defined units. Pressure representation should be in absolute, gauge, total and static.

Simulation options

- Steady state: For pressure and flow estimations.
- Transient: For slow and fast transient simulations.
 - Method of characteristics, for hydraulic transient computation.
 - Cavity bubble formation and collapse at nodes and its corresponding effects on pressure.
 - The software should be able to calculate appropriate time step based on user defined wave speed and reach length relaxation factors.
 - Option to set restart point and restart transient simulations with different time steps and conditions.
- Priming simulation to compute time taken for liquid to replace air in the system.
- Simulation of mixing multiple non-reacting fluids and track its composition across the network.

Result visualisation

- Plotting of results on the network as numbers or multiple parameter tables.
- Results for transient simulations should have the option to be plotted as graphs between time or any given parameters.
- Overlay and plot multiple graphs with different results.
- Compare results between any number of runs with any network.
- Hydraulic transient results should be plotted as maximum and minimum pressures along with hydraulic gradient lines for a pipe chainage.

- Static pressure Vs pipe length Vs time plot for pipes.

Data management

- Save results in user defined time interval.
- Disable results for components.
- User defined controls on outputs to be saved.
- The network should be able reset to the input data used for any given result sets.

System Types

- ***Single pumped main pipeline:*** This system consists of one pipeline from a pumping station to a point of delivery. This may be a tank, or a reservoir or the atmosphere, to which the pipeline connects or discharges. The pump station may contain more than one pump, in parallel or in series, and these may be operated together or alternately.
- ***Branched pumped system:*** This system consists of multiple pipelines. They may have multiple pumps or pumping stations, each connected by a pipeline to a single point of delivery. Multiple pipelines may connect a single pumping station connected by multiple pipelines to a number of points of delivery, or there may be both multiple inlets and multiple points of delivery. Water mains may be reticulated (cross-linked) forming loops, and certain parts may flow in opposite directions in different modes of operation. These systems may consist of multiple pipelines (with different characteristics) connected to each other and with other types of elements such as reservoirs, pumps, valves and all types of surge suppression equipment. They include typical water distribution systems, in which part of the system functions by gravity and part by pumping.
- ***Single gravity main pipeline:*** This system consists of one pipeline from a tank or reservoir to another tank or reservoir at a lower elevation.
- ***Branched gravity system:*** This system consists of multiple pipelines without pumps. There may be multiple inlets each connected by a pipeline to a single point of delivery, a single inlet connected by multiple pipelines to a number of points of delivery, or both multiple inlets and multiple points of delivery.

Events and Phenomena

The events and phenomena that will be necessary to model were Valve operation, Pump shut-down (trip), Pump start-up, Vapour cavity formation, Filling and drainage, Gas release in the fluid, Trapped gas pockets, Surge suppression, Turbine stoppage (full-load rejection), Turbine start-up etc.,

- **Valve operation:** Valve operation can occur in response to other events in a system – as a passive device, or it can be used to initiate an event – as an active device.
- **Pump shut-down (trip):** It is frequently the most violent event to be modelled in normal operation. This may be accompanied by the controlled closing of a valve. Where multiple pumps are operating concurrently at the time of a power failure, they all run down simultaneously, instead of the normal sequential shut-down.
- **Pump start-up:** While this event must necessarily precede any pump shutdown, it may be much less important in the design because it is always a planned event that can be anticipated and controlled and it causes much smaller disturbances.
- **Vapour cavity formation:** When the pressure at a point in a liquid fall to the local vapour pressure, a vapour cavity forms. Due to pressure variation in the pipe system the volume can reach to zero and consequently the cavity collapses, and the net inflow is instantaneously forced to zero. This frequently results in a large pressure rise, often to an unacceptable level.
- **Filling and drainage:** When a pipeline is started up for the first time, or restarted after shut-down for repair or maintenance, it is necessary to fill the line in a controlled manner. Thus the design must consider the safe expulsion of air as part of the initial start-up procedure.
- **Gas release in the fluid:** Rapid increases in pressure have little effect except to compress the free gas, causing some increase in wave speed. The effects of rapid pressure reduction are usually much greater, bringing dissolved gas out of solution and severely reducing the wave speed, which is fundamental to the behaviour of pipeline system.
- **Trapped gas pockets:** The presence of trapped gas pockets in a system has a major, and frequently undesirable, effect on its behaviour. There is a critical volume of gas between that large enough to cause long period pressure oscillations and that small enough to have a minor shock absorbing effect.
- **Surge suppression:** Surge suppression techniques must be employed using surge suppression components.
- **Turbine start-up:** It is always a planned event that can be anticipated and controlled and it causes much smaller disturbances.
- **Load acceptance by turbine:** The wicket gates are opened at the prescribed rate to the opening at which turbine output will be equal to the final output.
- **Turbine stoppage/ Load rejection by turbine:** It is frequently the most violent event to be modelled in normal operation. The wicket gates are closed for a load rejection. This may be moderated by control and/or protection devices such as a flywheel, by-pass with synchronous valve; or relief-valve.

TEST CASES

1. Transients caused by pump operation

Input data:

Pipe diameter	: 0.95 m
Pipe length	: 4620 m
Wave celerity	: 1000 m/s
Friction factor	: 0.016
Water discharge in pipe	: 1.4 m ³ /s
Rated Head of pump	: 82.5 m
Rated Discharge of pump	: 0.35 m ³ /s
Rated Pump Speed	: 1500 RPM
Pump efficiency at rated conditions	: 0.8
Moment of Inertia (WR ²)	: 80 kg-m ²
Total no of Pumps (parallel)	: 4
Type of pump	: VT pump

Pipeline Profile: As shown in Fig.1

Events and phenomena to be carried out for testing of software:

- ✓ Pump start-up
- ✓ Valve operation (like zero velocity valve, NRV, butterfly valve etc.,)
- ✓ Pumps running with various combinations of surge suppression components (like air valve, one-way surge tank, air vessel etc.,)
- ✓ Pumps running without suppression component
- ✓ Pump shut-down

Output data:

- ✓ Hydraulic transient results should be plotted as maximum and minimum pressures along with hydraulic gradient lines for the pipe chainage.
- ✓ Calculate flow reversal time during sudden stoppage of pumps, after flow reversal the reverse rotation of pump in RPM should be computed.

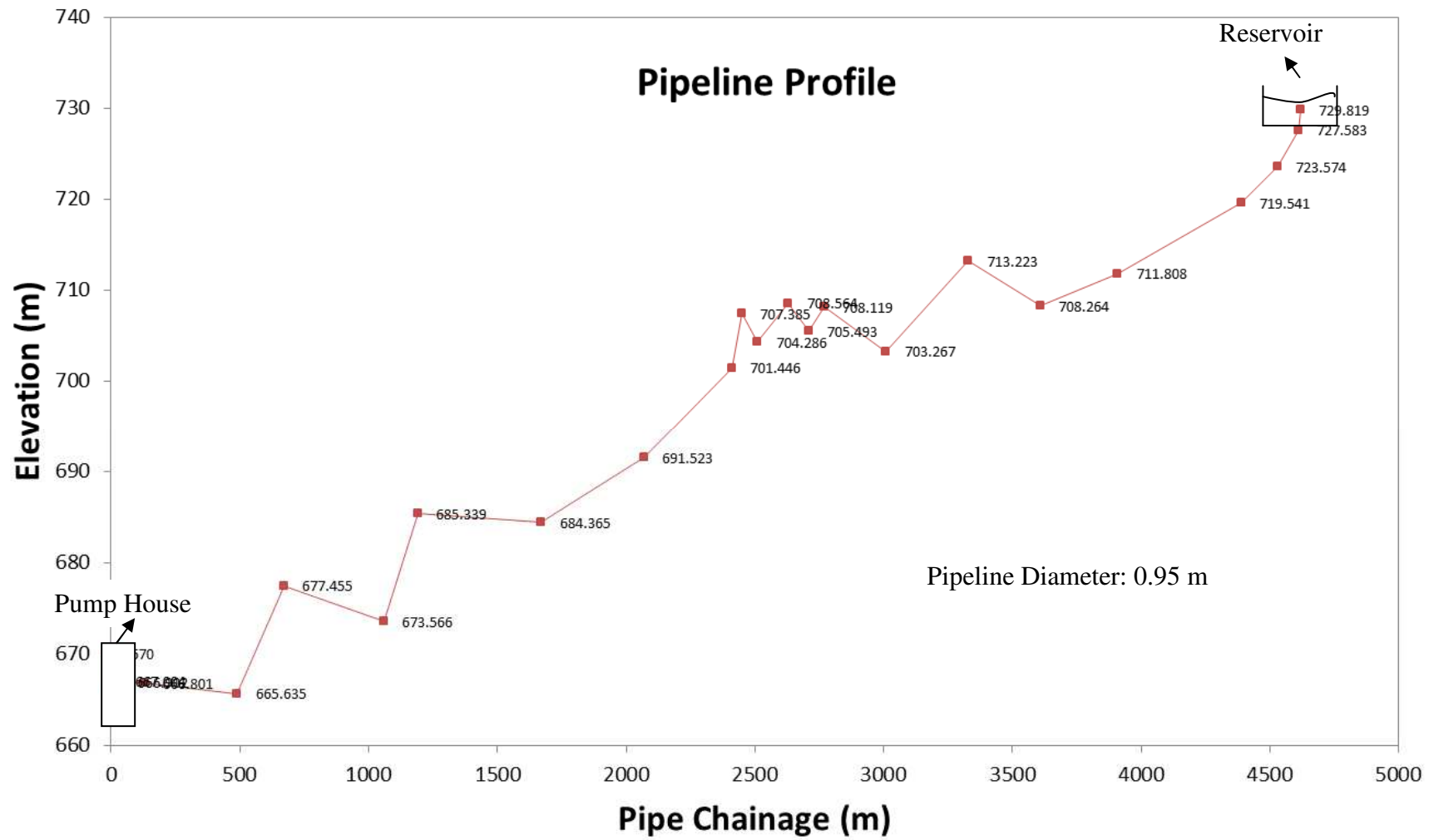


Fig.1 Pipeline Profile

2. Transients caused by Turbine operation

This example is taken from section 5.8 of applied hydraulics transients by M.Hanif Chaudhry (1979). G.M.Shrum Generating Station is located on the Peace River in British Columbia, Canada. The power plant consists of 10 Francis units. Each unit has its individual power conduit (penstock and power intake). In the tail race, five units discharge into one manifold, and a free-flow tunnel conveys water from each manifold to the tailrace channel. A schematic of the upstream water passages is shown in Fig.2, and of the downstream water passages in Fig. 3. Data for Unit No.4 are given below.

Input data:

Turbine and generator

Rated turbine output	: 231 MW
Rated head	: 152.4 m
Synchronous speed	: 150 rpm
Flow at rated head for rated output	: 164 m ³ /s
WR ² of turbine and generator	: 9.27 x 10 ⁶ kg m ²
Runner diameter	: 4.86 m

Governor settings

Dashpot time constant	: 8.0 s
Temporary droop	: 0.4
Permanent droop	: 0.05
Dashpot saturation limit	: 0.25
Self – regulation constant	: 0.15

Conduits

Pipe No	Diameter (m)	Length (m)	Wave Velocity (m/s)	Friction Factor
1	5.49	207	1244	0.016
2	5.49	78	1290	0.010
3	4.9	36.5	1300	0.009

Events and phenomena to be carried out for testing of software:

- ✓ Total load rejection at 250 MW

Output data:

- ✓ Wicket gate opening (%) wrt time after load rejection
- ✓ Penstock pressure head (m) wrt time after load rejection
- ✓ Turbine speed (rpm) wrt time after load rejection

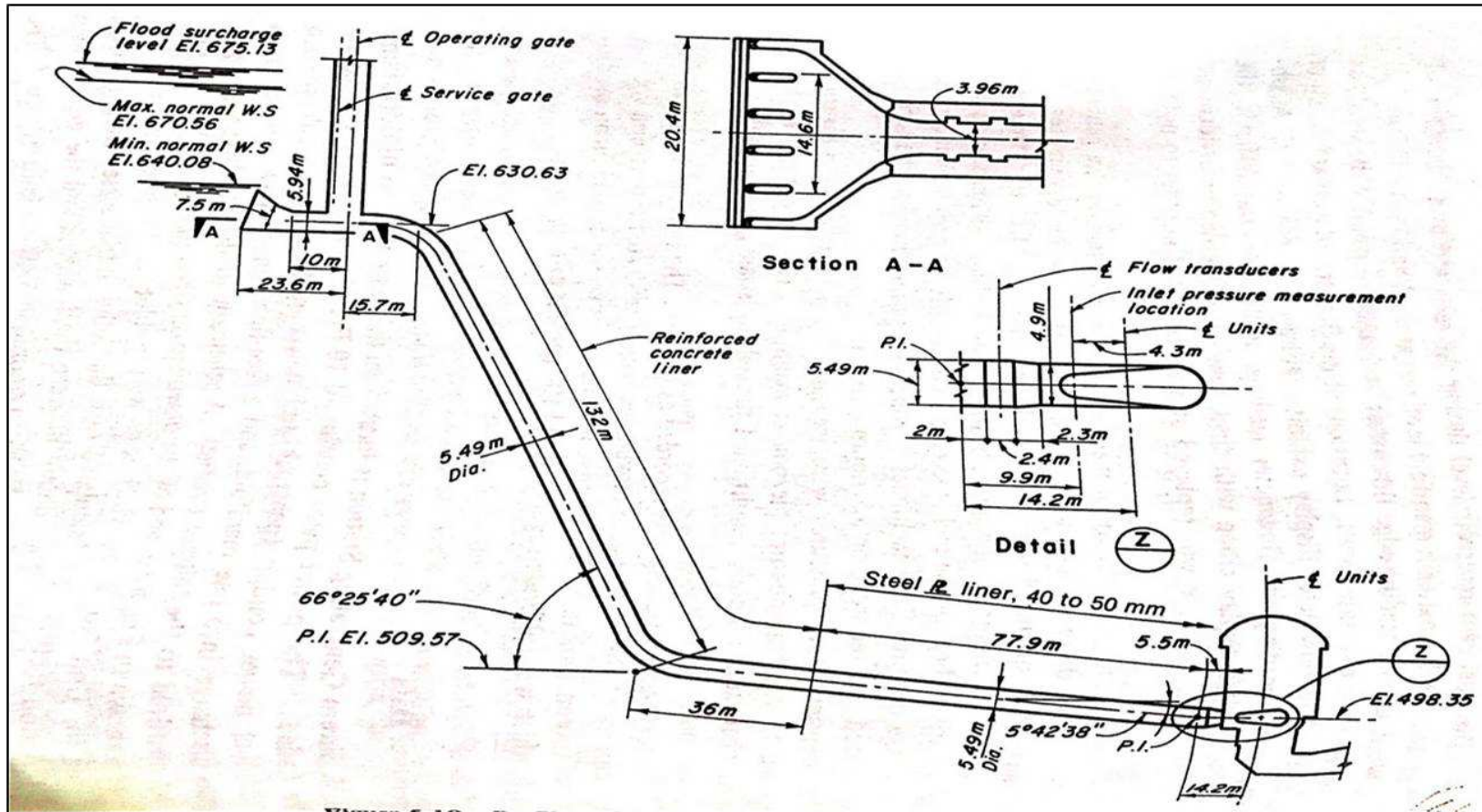


Fig. 2 Profile and details of G.M. Shrum Generating Station

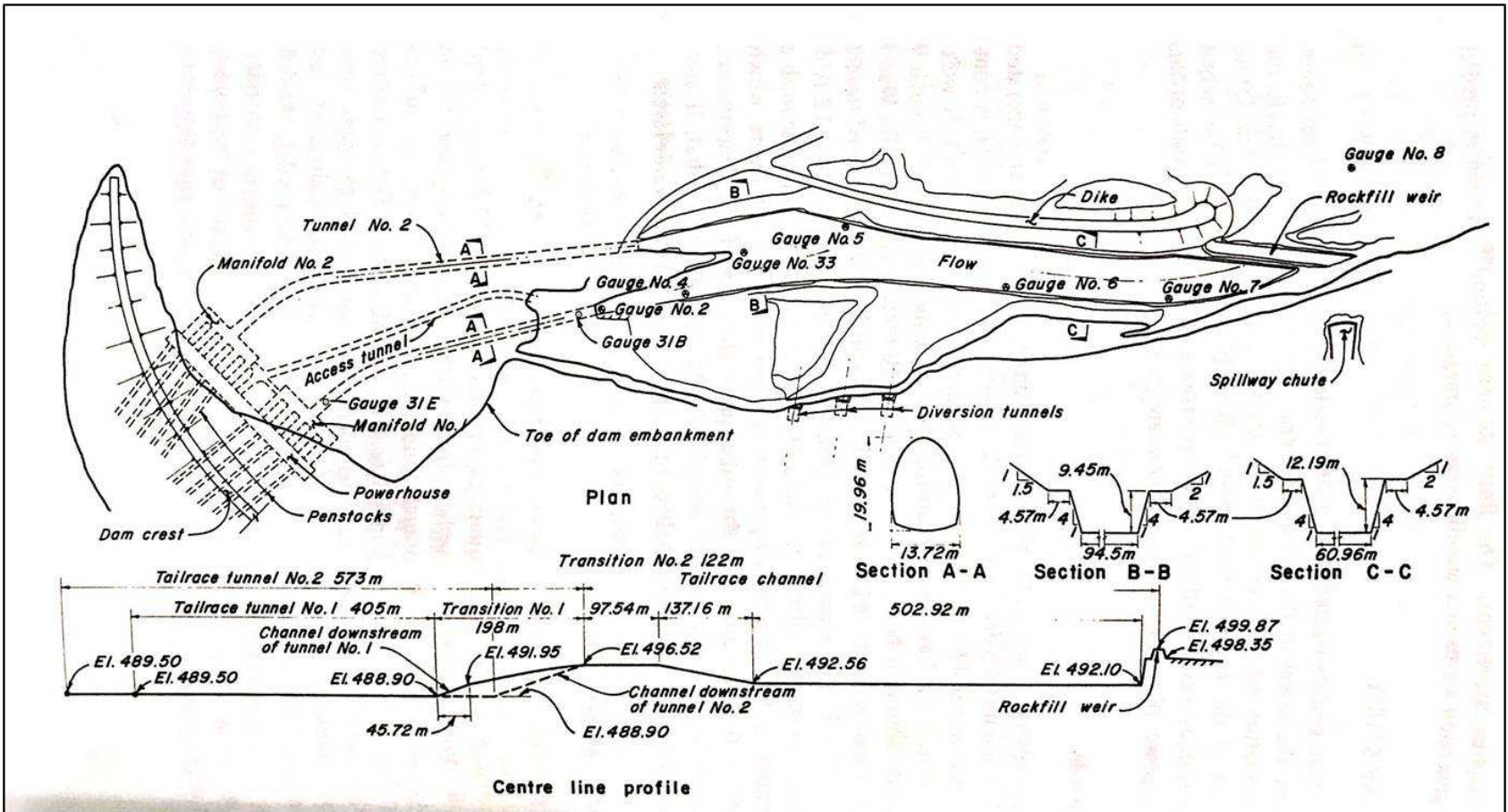


Fig. 3 Plan and Profile of tailrace system of G.M. Shrum Generating Station

Bidder's Signature

3. COMPLIANCE STATEMENT

for Advanced water hammer/surge analysis software

1. The software is for modelling and analysis of fluid transients such as 'pressure surge' and 'water hammer' in complex piping of any scale.
2. The scope of the work involves supply of advanced software for surge analysis of piping systems for working on a new design, up-gradation to an existing system or for the evaluation of a system before execution. The software should be capable to analyse piping systems and solve a wide range of complex problems where the flow and pressure loss throughout a pipe network must be determined in addition to surge analysis capability
3. The vendor has to compulsorily demonstrate the successful application of the software at CWPRS, Pune. The test cases chosen for demonstration are enclosed (Annexure-III) and the successfulness of the application will be decided by CWPRS.

COMPLIANCE STATEMENT

Sr. No.	Particulars	CWPRS Specifications	Compliance Yes / No and Deviations, if any
1	System types	The software should be able to analyze system types like single pumped main pipeline, Branched pumped systems which consist of multiple pipelines, Single gravity main pipeline, Branched gravity system which consist of multiple pipelines without pumps, Hydraulic power plant system transient studies.	
2	Events and phenomena	Valve operation, Pump shut-down (trip), Pump start-up, Vapour cavity formation, Filling and drainage, Gas release in the fluid, Trapped gas pockets, Surge suppression, Turbine start-up, Load acceptance by turbine, Load rejection by turbine etc.,	
3	Basic Physical Elements	<p><i>Flow elements:</i> Pipes (Cylindrical, Annular, Rectangular etc.), Bends (Circular, Circular mitre, Circular composite mitre, Rectangular with various aspect ratios, Rectangular mitre etc.), Control valves (Butterfly, Ball, Globe, Sluice, Angle, Y, Flow Control valve, Pressure Control valve, etc.), Reservoirs, delivery/distribution chambers, expansions, filters & strainers, contractions and Variable diameter conduit, Orifices (Sharp edged, Sharp edged conical, long and square etc.), Check valves (Simple, Clapper, Poppet etc.)</p> <p><i>Turbo machines:</i> Pumps, turbines, pump-turbine, turbine governor etc.,</p> <p><i>Junctions:</i> T junctions for 90°, 60°, 45° and 30°, Y junctions with same and different branch areas as through pipe area etc.,</p> <p><i>Surge suppression components:</i> Zero velocity valves, vacuum breakers, air admission and</p>	

		release valves, air cushion valves, surge tanks, feed tanks, surge shaft, stand-pipes and flexible pipes, air vessel and accumulators, relief and by-pass valves, pump flywheels etc.,	
4	Other requirements	Computation of flow reversal time and reverse rotation of pump in RPM, option to define the elevation profile Vs pipe length, create new components based on scripts or logical combinations of existing components, Inbuilt pipe schedule data where the length and internal diameter could be decided based on standards like ASME, DIN, JIS etc., User should have options to create his own pipe schedule database, An option to define extensive liquid property used in the simulation, Inbuilt fluid property database.	
5	Graphical user interface (GUI)	GUI to model the network schematics along with a library of all relevant fluid system elements which represents the physics corresponding to the component, all functionalities including steady state and transient simulations, The schematics built for steady state simulation should be able to be used for transient simulation with appropriate data inputs, windows native functionalities (cut, copy, and paste), layer functionality with options like hide and unhide as well as lock and unlock, part of the network should be able to assign each layer to hide or lock, Pipes and links should be able to represent as different colours, unlimited undo redo option for system modelling, Data entry and results should be in any custom unit's combination as well as user defined units, pressure representation should be in absolute, gauge, total and static.	
6	Simulation options	Steady state, Transient (Method of characteristics, for hydraulic transient computation, Cavity bubble formation and collapse at nodes and its corresponding effects on pressure, calculate appropriate time step based on user defined wave speed and reach length relaxation factors, Option to set restart point and restart transient simulations with different time steps and conditions), Priming simulation, Simulation of mixing multiple non-reacting fluids and track its composition across the network.	
7	Result visualisation	Plotting of results on the network as numbers or multiple parameter tables, Results for transient simulations should have the option to be plotted as graphs between time or any given parameters, Overlay and plot multiple graphs with different results, Compare results between any number of runs with any network, Hydraulic transient results should be plotted as maximum and minimum pressures along with	

		hydraulic gradient lines for a pipe chainage, Static pressure Vs pipe length Vs time plot for pipes.	
8	Data management	Save results in user defined time interval, Disable results for components, User defined controls on outputs to be saved, The network should be able reset to the input data used for any given result sets.	
9	License for software	The license for software to be supplied should be legal. The licensing cost should be quoted for one perpetual license for commercial use. The certificate of Authenticity / Authorization for supply of software should be provided. The licensing support should include free up-gradations during warranty period. The service after sale should be free during warranty period which includes installation on a new personal computer.	
10	Version of software	The cost of license fees should be quoted with the version of software. The serial or key number of license should be provided. The software should be supplied on CD media or USB Stick (2 sets preferably)	
11	License period of the software	The licensing cost should be quoted for one perpetual license (permanent license) for commercial use with technical support from the company. The duration of license for software use should be perpetual / permanent. There should not be any limit on licensing period. There should not be initial signup fees or re-signup fees for the same version without up gradation or enhancement.	
12	Testing Commissioning and Training	Testing, commissioning and training for software, if any, should be undertaken by the supplier within sixty days from the receipt of software at CWPRS. It would be open to the competent authority to take serious action against the supplier, if timely action is not taken by the supplier. The supplier shall be responsible for successful installation of the software on a PC with Microsoft Windows OS (operating system).	
13	Site Testing of Software	The software shall be tested by software owner for important parameters & enclosed test cases (Annexure-III) and test results are to be sent along with the supply	
14	Manuals	User's manual / technical manuals/ operation manuals explaining the details of input / output etc. and registration key (if any) used for registering the product (i.e. software) should be available with the software. All licensing documentations, license agreement, Invoices, purchase receipts and any other proofs of purchase for software should be supplied.	

		CD/USB Stick provided of the software will have a company serial number of the software copy given on the company letterhead. The catalogues describing the governing equations solved and solution methods etc., should be provided with the quotation.	
15	Demonstration kit for the software	The quotation should include demonstration kit showing typical applications of the software, graphical output etc. and MS Power Point presentation on a CD/USB Stick.	
16	Warranty	The supplier of software should mention the period of warranty of software, minimum being two years . The reckoning of " <i>commencement of warranty period</i> " will begin from either <i>date of purchase of software</i> or from <i>date of activation or commissioning of software</i> or <i>after successful completion of training</i> , whichever is subsequent/later time.	
17	Customer support	Should be free within the warranty period. [Customer support means problems related to registration, download or activation of software, account, password, compliance error, service pack or any issue with product support].	
18	Technical support	Should be available free within the warranty period. It should not be fee-based service. (Technical support refers to range of services by which software supplier will provide assistance to users of software to solve specific problems. Technical support may be delivered over the telephone or online by e-mail or a web site or a tool where users can log a call/incident.)	
19	Training	The software supplier will provide free training . All training should be provided in CWPRS, PUNE. The minimum period of training will be of three days . Soft Copy of the training presentations will be made available by the trainer to CWPRS	
20	After sales service	The terms & conditions and scope of after sales services, maintenance, installation, commissioning etc. may be indicated	
21	Single supplier	The total system satisfying above specifications from a single supplier	
22	List of users	The address of the users of the quoted software in India may be given. Any relevant document which would support the credibility, competence of the bidder may be submitted	
23	Hardware and platforms for operating system	The software should work on Intel multi-core [CPUs] processors (for PC hardware) with Windows Operating System. The software should be supported in 32/64-bit architecture and supporting 32/64-bit operating systems. The software will be installed on PC based on Intel second generation processors or higher	

		such as Intel Core i5:(dual or quad core processor) or Core i7: (quad core processor) with operating system Microsoft WINDOWS 2007 or higher available version.	
24	List of Items Supplied	A complete list of items supplied as accompaniments, may be furnished.	
25	Whole and Standard Software	The software should be standard software having worldwide acclaim	
26	Demonstration of software	Vendor has to compulsorily demonstrate the successful application of the software at CWPRS, Pune for technical evaluation before opening financial bid.	

Bidder's Signature

4. DRAWINGS

These Bidding Documents includes--- drawings namely Drawing as detailed below:

[If documents shall be included, insert the following List of Drawings]

List of Drawings	
DRAWING NR.	Drawing Name
Fig.1	Pipeline Profile
Fig.2	Profile and details of G.M.Shrum Generating Station
Fig.3	Plan and Profile of tailrace system of G.M.Shrum Generating Station

5. INSPECTIONS AND TESTS

The following inspections and tests shall be performed:

- The vendor has to compulsorily demonstrate the successful application of the software for the given test cases at CWPRS, Pune.
- After that the User's manual / technical manuals/ operation manuals explaining the details of input / output etc. and registration key (if any) used for registering the product (i.e. software) shall be handed over to CWPRS in the form of CD/USB Stick and Booklets.
- Free training shall be provided by the software supplier / vendor. All training should be provided in CWPRS, PUNE. The minimum period of training will be of three days. Soft Copy of the training presentations will be made available by the trainer to CWPRS

PART 3 – CONTRACT & CONTRACT FORMS

Section 4 - General Conditions of Contract

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Section 4 - General Conditions of Contract

1. Definitions

The following words and expressions shall have the meanings hereby assigned to them:

- (a) “Bank” means the World Bank and refers to the International Bank for Reconstruction and Development (IBRD) or the International Development Association (IDA).
- (b) “Contract” means the Contract Agreement entered into between the Purchaser and the Supplier, together with the Contract Documents referred to therein, including all attachments, appendices, and all documents incorporated by reference therein.
- (c) “Contract Documents” means the documents listed in the Contract Agreement, including any amendments thereto.
- (d) “Contract Price” means the price payable to the Supplier as specified in the Contract Agreement, subject to such additions and adjustments thereto or deductions there from, as may be made pursuant to the Contract.
- (e) “Day” means calendar day.
- (f) “Completion” means the fulfillment of the Related Services by the Supplier in accordance with the terms and conditions set forth in the Contract.
- (g) “GCC” mean the General Conditions of Contract.
- (h) “Goods” means all of the commodities, raw material, machinery and equipment, and/or other materials that the Supplier is required to supply to the Purchaser under the Contract.
- (i) “Purchaser’s Country” is India.
- (j) “Purchaser” means the entity purchasing the Goods and Related Services, as specified in the Contract Agreement.
- (k) “Related Services” means the services incidental to the supply of the goods, such as insurance, installation, start-up, training and initial maintenance and other such obligations of the Supplier under the Contract.
- (l) “Subcontractor” means any natural person, private or government entity, or a combination of the above, to whom any part of the Goods to be supplied or execution of any part of the Related Services is subcontracted by the Supplier.

- (m) "Supplier" means the natural person, private or government entity, or a combination of the above, whose bid to perform the Contract has been accepted by the Purchaser and is named as such in the Contract Agreement.
 - (n) "The Project Site," where applicable, means the place named in the Contract Agreement.
- 2. Fraud and Corruption**
- 2.1 If the Purchaser determines that the Supplier has engaged in corrupt, fraudulent, collusive, coercive or obstructive practices, as defined in the Bank's Procurement Guidelines, in competing for or in executing the Contract, then the Purchaser may, after giving 14 days' notice to the Supplier, terminate the Supplier's employment under the Contract and cancel the contract without prejudice to the other sanctions established in law.
- 3. Governing Law**
- 3.1 The Contract shall be governed by and interpreted in accordance with the laws of the Union of India.
- 4. Settlement of Disputes**
- 4.1 The Purchaser and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.
- 4.2 If, after twenty-eight (28) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration by a sole arbitrator not below the level of retired Chief Engineer /Superintending Engineer (not connected in part or whole with this project in his service) to be appointed by Purchaser. Arbitration may be commenced prior to or after delivery of the Goods under the Contract. Arbitration proceedings shall be conducted in accordance with the rules of procedure specified in Arbitration and Conciliation Act 1996.
- 4.3 Notwithstanding any reference to arbitration herein, the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and the Purchaser shall pay the Supplier any monies due the Supplier.
- 5. Scope of Supply**
- 5.1 The Goods and Related Services to be supplied shall be as specified in the Contract Agreement.

- 6. Delivery** 6.1 The Delivery of the Goods and Completion of the Related Services shall be in accordance with the Delivery and Completion Schedule specified in the Schedule of Requirements.
- 7. Supplier's Responsibilities** 7.1 The Supplier shall supply all the Goods and Related Services included in the Scope of Supply in accordance with GCC Clause 5, and the Delivery and Completion Schedule, as per GCC Clause 6.
- 8. Contract Price** 8.1 Prices charged by the Supplier for the Goods supplied and the Related Services performed under the Contract shall not vary from the prices quoted by the Supplier in its bid.
- 9. Terms of Payment** 9.1 The Contract Price shall be paid, **for domestic goods** as specified in the Contract Agreement as under:
- (a) **The contract price (100%) shall be paid to the supplier within thirty (30) days from the date of successful supply, installation, testing and commissioning of goods in all respect or the Acceptance Certificate issued by the Purchaser's representative whichever is later.**
 - (b) The Supplier's request for payment shall be made to the Purchaser in writing, accompanied by invoices describing, as appropriate, the Goods delivered and Related Services performed, and by the dispatch documents, **including payment receipt/challan of GST**, packing list, Manufacturer's/Supplier's warranty certificate, and upon fulfillment of all other obligations stipulated in the Contract.
 - (c) Payments shall be made promptly by the Purchaser, within thirty (30) days after submission of an invoice or request for payment by the Supplier, and after the Purchaser has accepted it.
 - (d) **The payments shall be made in Indian Rupees to the Supplier under this Contract.**
- 9.2 The Contract Price shall be paid, **for imported goods** as specified in the Contract Agreement as under:
- 90%** of the contract price of Indian Rupee (INR) shall be paid in **convertible currencies** through irrevocable **letter of credit** established in favour of the foreign supplier in a scheduled commercial bank in the supplier's country acceptable to the purchaser, upon submission of the following documents:
- a) Certified copy of the fax sent by the supplier to the purchaser
 - b) Supplier's signed commercial invoice showing

contract number, description of the supplier goods, corresponding quantity, unit price and the total value and name(s) of the name(s) of the consignee(s) for the supplied goods.

- c) Original clean on board bill of lading marked freight pre-paid consigned to the interim/ port consignee evidencing description of these goods, quantities, relevant details about the contract number etc.
 - d) Packing list, identifying contents of each package.
 - e) Insurance policy or certificate in duplicate endorsed in blank with claims payable in India in the currency of the letter of Credit.
 - f) Manufacturer's/supplier's warranty certificate and supplier's factory inspection report.
 - g) Pre-dispatch inspection certificate issued by the purchaser's nominated inspection agency, if so specified.
 - h) Certificate of origin.
 - i) Supplier's certificate confirming that the required documents have been sent to all concerned.
 - j) Supplier's certificate confirming that the amounts shown in the invoice are correct in terms of the contract and that all the terms and conditions of the contract have been complied with for claiming this payment.
 - k) Any other document(s) and/or modification of above documents specified in the **terms and condition of the contract**.
- ii) The remaining 10% of the contract price of goods shall be paid in INR within 30(thirty) days of receipt of goods on submission of the claim supported by the acceptance / installation / commissioning certificate issued by the purchaser or the purchaser's nominated representative.

9.3

~~Cost of AMC shall be paid on yearly basis, after expiry of 2 years of onsite manufacturer warranty period along with GST as per actuals on production of receipt/challan along with bill for AMC.~~

- 10. Taxes and Duties**
- 10.1 The Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Purchaser (**i.e up to CWPRS, Pune**).
- 11. Performance Security**
- 11.1 **The Supplier shall, within ten (10) days of the notification of contract award, provide a performance security for the performance of the Contract for an amount of 10 % of the contract value, valid up to 60 days beyond the date of completion of all contractual obligations of the supplier including warranty period and AMC period (if any).**
- 11.2 The Performance Security shall be in the form of FDR or a Bank Guarantee in favour of **“Pay and Account Officer, CWPRS, Pune”** payable at Pune, which shall be issued by any Nationalized/Scheduled bank in India.
- 11.3 The Performance Security shall be discharged by the Purchaser and returned to the Supplier not later than twenty-eight (28) days following the date of Completion of the Supplier’s performance obligations under the Contract, including **warranty period and AMC period (if any)..**
- 12. Specifications and Standards**
- 12.1 Technical Specifications and Drawings
- (a) The Goods and Related Services supplied under this Contract shall conform to the technical specifications and standards mentioned in Section 3, Schedule of Requirements and, when no applicable standard is mentioned, the standard shall be equivalent or superior to the official standards whose application is appropriate to the Goods’ country of origin.
- 13. Inspections and Tests**
- 13.1 The inspections and tests shall be conducted by the Purchaser at the Goods final destination.
- 13.2 The Purchaser may reject any Goods or any part thereof that fail to pass any test and/or inspection or do not conform to the specifications. The Supplier shall either rectify or replace such rejected Goods or parts thereof or make alterations necessary to meet the specifications at no cost to the Purchaser.
- 14. Liquidated Damages**
- 14.1 If the Supplier fails to deliver any or all of the Goods by the Date(s) of delivery or perform the Related Services within the period specified in the Contract, the Purchaser may deduct from the Contract Price, as liquidated damages, a sum equivalent to **0.5%** of the price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of **10%** of the Contract value.

15. Warranty

- 15.1 The Supplier warrants that the Goods shall be free from defects arising from any act or omission of the Supplier or arising from design, materials, and workmanship, under normal use in the conditions prevailing in the country of final destination.
- 15.2 The warranty shall remain valid for **Two years** after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination/ Project site indicated in the Contract Agreement.
- 15.3 Upon receipt of such notice, the Supplier shall, within 30 days, expeditiously repair or replace the defective Goods or parts thereof, at no cost to the Purchaser.

16. Extensions of Time

- 16.1 If at any time during performance of the Contract, the Supplier or its subcontractors should encounter conditions impeding timely delivery of the Goods or completion of Related Services, the Supplier shall promptly notify the Purchaser in writing of the delay, its likely duration, and its cause. As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may at its discretion extend the Supplier's time for performance, in which case the extension shall be ratified by the parties by amendment of the Contract.
- 16.2 Any delay by the Supplier in the performance of its Delivery and Completion obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 14, unless an extension of time is agreed upon, pursuant to GCC Sub-Clause 16.1.

17. Termination

- 17.1 Termination for Default
- (a) The Purchaser, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate the Contract in whole or in part:
- (i) if the Supplier fails to deliver any or all of the Goods within the period specified in the Contract, or within any extension thereof granted by the Purchaser pursuant to GCC Clause 16;
 - (ii) if the Supplier fails to perform any other obligation under the Contract; or
 - (iii) if the Supplier, in the judgment of the Purchaser has engaged in fraud and corruption, as defined in GCC Clause 3, in competing for or in executing the Contract.

- (b) In the event the Purchaser terminates the Contract in whole or in part, pursuant to GCC Clause 17.1(a), the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or Related Services similar to those undelivered or not performed, and the Supplier shall be liable to the Purchaser for any additional costs for such similar Goods or Related Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

18. Assignment

- 18.1 Neither the Purchaser nor the Supplier shall assign, in whole or in part, their obligations under this Contract, except with prior written consent of the other party.

Section 5 – Contract Forms

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1. NOTIFICATION OF AWARD

[On letter head of the Purchaser]

..... *[Date]*

To:

[Name and address of the Supplier]

Subject: Notification of Award for Contract No.

This is to notify you that your Bid dated ***[Insert date]***for execution of the ***[Insert name of the contract and identification number]***for the Accepted Contract Amount of ***[Insert amount in numbers and words in Rupees]***, as corrected and modified in accordance with the Instructions to Bidders is hereby accepted by the Purchaser.

Contract Agreement to be executed is attached. You are requested to sign it with date and return it to the Purchaser within 10 days of the date of Notification of Award, along with the Performance Security for an amount of INR..... ***[Insert amount equivalent to 10% of the Contract value]*** valid up to..... ***[Insert date]*** in one of the forms stipulated in the GCC.

This concludes the Contract.

Authorized Signature: _____

Name and Title of Signatory: **B. Suresh Kumar, Scientist 'C', CPC**

Name of Agency: **Central Water and Power Research Station, Pune-24**

Attachment: Contract Agreement complete with Conditions of Contract

2. CONTRACT AGREEMENT

[The successful Bidder shall fill in this form in accordance with the instructions indicated]

THIS CONTRACT AGREEMENT is made

the *[insert: number]* day of *[insert: month], [insert: year]*.

BETWEEN

- (1) ***The Scientist ‘C’ Construction and Procurement Cell, Central and Power and Research Station, Khadakwasla, Pune-24*** an Office under the Ministry of Water Resources, River Development and Ganga Rejuvenation, Government of India and having its principal place of business at Sinhagad Road, Khadakwasla, Pune-24 *[insert address of Purchaser]* (hereinafter called “the Purchaser”), and
- (2) *[Insert name of Supplier]*, a corporation incorporated under the laws of *[insert: country of Supplier]* and having its principal place of business at *[insert: address of Supplier]* (hereinafter called “the Supplier”).

WHEREAS the Purchaser invited bids for certain Goods and ancillary services, viz., **Supply, installation, testing and commissioning of Advanced water hammer/surge analysis software under NHP for CWPRS, Pune -24** and has accepted a Bid by the Supplier for the supply of those Goods and Services at the Project Site, namely **CWPRS, Khadakwasla, Pune-24**, in the sum of *[insert Contract Price in words and figures, expressed in Indian Rupees]* (hereinafter called “the Contract Price”).

[Purchase should insert a Table here giving complete details of Goods and Related Services, quantities ordered, their prices and the accepted delivery schedule.]

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.
2. The following documents shall constitute the Contract between the Purchaser and the Supplier, and each shall be read and construed as an integral part of the Contract:
 - (a) This Contract Agreement
 - (b) The Purchaser’s Notification of Award

- (c) Letter of Bid and original Price Schedules
 - (d) General Conditions of Contract
 - (e) Technical Requirements (including Schedule of Requirements and Technical Specifications)
3. This Contract shall prevail over all other Contract documents. In the event of any discrepancy or inconsistency within the Contract documents, then the documents shall prevail in the order listed above.
 4. In consideration of the payments to be made by the Purchaser to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Purchaser to provide the Goods and Services and to remedy defects therein in conformity in all respects with the provisions of the Contract.
 5. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the Goods and Services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of *[insert the name of the Contract governing law country]* on the day, month and year indicated above.

For and on behalf of the Purchaser

Signed: *[insert signature]*

in the capacity of **Scientist 'C', CPC, CWPRS, Khadakwasla, Pune-24***[insert title or other appropriate designation]*

in the presence of *[insert identification of official witness]*

For and on behalf of the Supplier

Signed: *[insert signature of authorized representative(s) of the Supplier]*

in the capacity of *[insert title or other appropriate designation]*

in the presence of *[insert identification of official witness]*

Attachment: Contract Conditions

[Purchaser should attach the GCC]

3. Performance Security (Bank Guarantee)

[The bank, as requested by the successful Bidder, shall fill in this form in accordance with the instructions indicated]

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: “Pay and Account Officer, CWPRS, Pune” *[insert name and Address of Purchaser]*

Date: *_ [Insert date of issue]*

PERFORMANCE GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that *_ [insert name of Supplier, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with the Beneficiary, for the supply of *_ [insert name of contract and brief description of Goods and related Services]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures] (_____)* *[insert amount in words]*,¹ such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself

¹ *The Guarantor shall insert an amount representing the percentage of the Accepted Contract Amount specified in the Letter of Acceptance, and denominated either in the currency(ies) of the Contract or a freely convertible currency acceptable to the Beneficiary.*

or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

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

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

[signature(s)]

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

² *Insert the date sixty days after the Completion Date of the Supply or Completion of Warranty in case Warranty is applicable. The Purchaser should note that in the event of an extension of this date for completion of the Contract or the Warrant obligations, the Purchaser would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Purchaser might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months]/[one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."*

PART 4 – Bank Policy - Corrupt and Fraudulent Practices

Section - 6 Bank Policy - Corrupt and Fraudulent Practices

Guidelines for Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, dated January 2011, revised July 2014.

“Fraud and Corruption:

1.16 It is the Bank’s policy to require that Borrowers (including beneficiaries of Bank loans), bidders, suppliers, contractors and their agents (whether declared or not), sub-contractors, sub-consultants, service providers or suppliers, and any personnel thereof, observe the highest standard of ethics during the procurement and execution of Bank-financed contracts.¹ In pursuance of this policy, the Bank:

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

- (i) “corrupt practice” is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;²
- (ii) “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;³
- (iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;⁴
- (iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;⁵

¹ In this context, any action to influence the procurement process or contract execution for undue advantage is improper.

² For the purpose of this sub-paragraph, “*another party*” refers to a public official acting in relation to the procurement process or contract execution. In this context, “*public official*” includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

³ For the purpose of this sub-paragraph, “party” refers to a public official; the terms “benefit” and “obligation” relate to the procurement process or contract execution; and the “act or omission” is intended to influence the procurement process or contract execution.

⁴ For the purpose of this sub-paragraph, “parties” refers to participants in the procurement process (including public officials) attempting either themselves, or through another person or entity not participating in the procurement or selection process, to simulate competition or to establish bid prices at artificial, non-competitive levels, or are privy to each other’s bid prices or other conditions.

- (v) "obstructive practice" is:
 - (aa) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or
 - (bb) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 1.16(e) below.
- (b) will reject a proposal for award if it determines that the bidder recommended for award, or any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- (c) will declare misprocurement and cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement or the implementation of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- (d) will sanction a firm or individual, at any time, in accordance with the prevailing Bank's sanctions procedures,⁶ including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded a Bank-financed contract; and (ii) to be a nominated⁷;

⁵ For the purpose of this sub-paragraph, "party" refers to a participant in the procurement process or contract execution.

⁶ A firm or individual may be declared ineligible to be awarded a Bank financed contract upon: (i) completion of the Bank's sanctions proceedings as per its sanctions procedures, including, inter alia, cross-debarment as agreed with other International Financial Institutions, including Multilateral Development Banks, and through the application the World Bank Group corporate administrative procurement sanctions procedures for fraud and corruption; and (ii) as a result of temporary suspension or early temporary suspension in connection with an ongoing sanctions proceeding. See footnote 14 and paragraph 8 of Appendix 1 of these Guidelines.

⁷ A nominated sub-contractor, consultant, manufacturer or supplier, or service provider (different names are used depending on the particular bidding document) is one which has either been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

- (e) will require that a clause be included in bidding documents and in contracts financed by a Bank loan, requiring bidders, suppliers and contractors, and their sub-contractors, agents, personnel, consultants, service providers, or suppliers, to permit the Bank to inspect all accounts, records, and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed by the Bank.”