



Government of India

Ministry of Jal Shakti

Department of Water Resources, River Development and Ganga Rejuvenation

Central Water & Power Research Station

Khadakwasla, Pune – 411 024

National Competitive Bidding

(E-PROCUREMENT MODE)

FOR

**Supply, Installation, Commissioning and Testing
of Servo Hydraulic System for Random Sea Wave
Generator (RSWG) for 120m Wave Flume at
CWPRS, Pune – 24**

[Two Envelope with e-Bidding]

December, 2020

INDEX

Sr. No.	Section No.	Particulars	Page No.
1	--	E-Notice Inviting Tender	03
	PART - I	Bidding Procedures	07
2	I	Instructions to Bidders (ITB)	08
3	II	Evaluation and Qualification Criteria	30
4	III	Bidding Forms	37
5	IV	Eligible Countries	48
	PART - II	Conditions of Contract and Contract Forms	49
6	V	General Conditions of Contract (GCC)	49
7	VI	Contract Forms	69
	PART - III	Work's Requirements	76
8	VII	Works Requirements	76



Government of India
Ministry of Jal Shakti
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Khadakwasla, Pune-411024

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e- Notice Invite Tender

No. CWPRS/CPC/AAO(P)/NIT-69/2020-21/

Dated: 09.12.2020

The Scientist-C, Construction and Procurement Cell, CWPRS, Pune, on behalf of President of India, invites online e-tenders through the website <http://eprocure.gov.in/eprocure/app> (CPP Portal) under **single stage two bids system** of item rate/percentage rate/Lump Sum bids for work mentioned below from eligible contractors/firms/companies/agencies of having experience of similar nature works.

NIT No.	69/2020-21
Name of the Item/Goods	Supply, Installation, Commissioning and Testing of Servo Hydraulic System for Random Sea Wave Generator (RSWG) for 120m Wave Flume at CWPRS, Pune – 24
Earnest Money Deposit (EMD)/Bid Security	Amount: Rs. 3,60,000/- Validity : 120 days + 45 days
Date of publishing of Bid Document through e-procurement Portal (CPP Portal) http://eprocure.gov.in/eprocure/app	09.12.2020 at 18.00 hrs.
Start Date of Downloading of Bid Document from CPP Portal	09.12.2020 from 18.00 hrs onwards
Start Date of Seeking clarifications (if any) through e-mail	10.12.2020 from 11.00 hrs onwards
Last date for seeking clarification if any. (online only i.e through e-mail)	23.12.2020 up to 14:00 hrs
Date of Pre bid Meeting and time	23.12.2020 at 15.30 hrs O/o The Scientist-C, CPC, CWPRS
Start date and Time for submission of bid documents (Technical and financial) through CPP Portal	04.01.2021 at 11.00 hrs onwards
End date and Time for submission of bid documents (Technical and financial) through CPP Portal	21.01.2021 up to 15.00 hrs (Server Time)
Date & time for opening of technical bid through CPP Portal	22.01.2021 at 15.00 hrs. (Server Time)
Date & time for opening of financial bid (online) through CPP Portal	Financial bids of those firms who are technically qualified will be opened online as early as possible.
Validity period of Bid	180 days from date of Technical bid opening
Completion Period of the works	180 days from date of issue of LOA/ contract order
Officer Inviting Bids	The Scientist – C, CPC, CWPRS, Pune-24

1. The Scientist – C, Construction & Procurement Cell (CPC), Central Water & Power Research Station, Khadakwasla, Pune-411024 (*Purchaser*) now invites online bids from eligible bidders for **Supply, Installation, Commissioning and Testing of Servo Hydraulic System for Random Sea Wave Generator (RSWG) for 120m Wave Flume at CWPRS, Pune – 24**
2. Bidding will be conducted through National Competitive Bidding procedures agreed with the government of India. Bidding is open to all eligible bidders as defined in the government of India, GFR 2017 and CPWD works manual Guidelines: Procurement of Goods, Works and Non-Consulting Services.
3. Bidding documents are available online on website : <http://www.eprocure.gov.in/eprocure/app> (**CPP Portal**). Bidders will be required to register in the website <http://eprocure.gov.in/eprocure/app>, which is free of cost. The bidder would be responsible for ensuring that any addenda available on the website is also downloaded and incorporated. **Bids in any other form sent through sealed cover/email/post/fax etc. will be rejected.**
4. The Construction & Procurement Cell (CPC), Central Water & Power Research Station (CWPRS), Khadakwasala, Pune – 411 024, Maharashtra State on behalf of the President of India, invites online bids for the turnkey works detailed below in the table. The bidders may submit bids for all of the works indicated therein.
5. For submission of the bid, the bidder is required to have Digital Signature Certificate (DSC) from one of the Certifying Authorities authorised by Government of India for issuing DSC.
6. ***Bids security/EMD of the amount Rs. 3,60,000/- in the form of Demand Draft/ Fixed Deposit Receipts (FDR of any Nationalized/Scheduled Bank drawn in favour of “Pay and Accounts Officer, CWPRS, Pune”, payable at Pune, must be submitted to the office of Scientist-C, CPC, CWPRS, Pune.*** The bidder should upload the scanned copy (.pdf) of the EMD along with Technical bid document. The Bid security shall have to be valid for **45** days beyond the validity of the bid. Bids must be submitted online on <http://eprocure.gov.in/eprocure/app> (website) on or before the date and time for receipt of bids, and will be opened online on the specified time and date for opening of bids, as given above. Any bid or modifications to bid (including discount) received outside e-procurement system will not be considered. 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. The electronic bidding system would not allow any late submission of bids.
7. **No EMD exemption is allowed for this work. Hence the EMD exemption by producing MSME / NSIC or any certificate is not to be considered for this particular work as the MSME firms registered in NSIC under PP policy exempted from payment of EMD for manufactures of goods and services provider only. Re-sealer or authorized agencies or traders are not eligible for EMD exemption.**
8. Bids must be submitted online on <http://eprocure.gov.in/eprocure/app> on or before **15.00 hours on 21.01.2021. (date)** and the ‘Technical Part’ of the bids will be opened online on **22.01.2021 (date) at 15.00 hours**. The bidders should upload the scanned copy of duly signed full bid documents (.pdf) along with compliance report/statement. The “Financial Part” shall remain unopened in the e-procurement system until the technical evaluation of bids is completed. Any bid or modifications to bid (including discount) received outside e-procurement system will not be considered. 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. The electronic bidding system would not allow any late submission of bids.

9. The bidder shall physically submit the documents are 1) **DD/ FDR of any Schedule Bank against EMD/Bid security** 2) **Affidavit vouching for the correctness of the information furnished** in original to Scientist – C, Construction & Procurement Cell (CPC), Central Water & Power Research Station, Khadakwasla, Pune-411024 before the opening of the Bid on **22.01.2021 at 13.00 hrs**, either by registered post/speed post/courier or by hand, failing which the bids will be declared non-responsive and will not be opened. 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.
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 5 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 (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 signed by the bidder.
14. A **pre-bid meeting** will be held on **23.12.2020 at 15.30 hrs**. at the office of Scientist 'C', Construction & Procurement Cell (CPC), Central Water & Power Research Station, Khadakwasala, Sinhgad Road, Pune – 411024 to clarify the issues and to answer questions on any matter that may be raised at that stage as stated in ITB Clause 7.4 of 'Instructions to Bidders' of the bidding document. Bidders are advised to download the bidding document prior to the pre-bid meeting in order for bidders to have a good understanding of the scope of work under this contract for discussion and clarification at the pre-bid meeting.
15. Other details can be seen in the bidding documents. The Employer 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 Employer shall not be liable for any information not received by the bidder. It is the bidders' responsibility to verify the website for the latest information related to this bid.
16. The following table shows the details of the turnkey work to be carried out.

TABLE

Sl. No	Description of Work	Quantity	Location	Duration
1	Supply, Installation, Commissioning and Testing of Servo Hydraulic System for Random Sea Wave Generator (RSWG) for 120m Wave Flume at CWPRS, Pune – 24	As per Schedule of Works	CWPRS, Pune	180 days

Warranty : The whole system shall have 12 months warranty from the date of successful commissioning and handing over system (RSWG) to CWPRS.

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.

For cover – I (Technical Bid)

- I. DD/ FDR of any Schedule 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 Manufacturer
- IV. Affidavit vouching for the correctness of the information furnished
- V. Duly signed full tender documents (.pdf) along with compliance report/statement
- VI. Technical literature (Brochures) in support of technical specifications
- VII. Scanned documents as per ITB 11

For cover – II (Financial Bid)

- I. Bill of Quantities (BoQ)
(Rates should be quoted in INR only)

Scientist-C
Construction and Procurement Cell

Copy to :

1. Shri V Prabhakar Chary, Sc-B, RSWG Division through Shri S D Ranade, Scientist – E for information
2. Notice board

PART 1 – Bidding Procedures

Section I. Instructions to Bidders

This Section of the Bidding Documents should provide the information necessary for bidders to prepare responsive bids, in accordance with the requirements of the Employer. It should also give information on bid submission, opening and evaluation, and on the award of Contract.

*Matters governing the performance of the Contractor, payments under the Contract, or matters affecting the risks, rights, and obligations of the parties under the Contract are not normally included in this Section, but rather under **Section V**, General Conditions of Contract(GCC), If duplication of a subject is inevitable in the different sections of the documents, care must be exercised to avoid contradictions between clauses dealing with the same matter.*

Section I – Instructions to Bidders

Table of Clauses

Sr. No.	Description	Page No.
A	General	11
1.	Scope of Bid	11
2.	Source of Funds	11
3.	Corrupt and Fraudulent Practices	11
4.	Eligible Bidders	11
5.	Eligible Materials, Equipment and Services	13
B.	Contents of Bidding Document	13
6.	Sections of Bidding Document	13
7.	Clarification of Bidding Document, Site Visit, Pre-Bid Meeting	14
8.	Amendment of Bidding Document	15
C.	Preparation of Bids	15
9.	Cost of Bidding	15
10.	Language of Bid	15
11.	Documents Comprising the Bid	16
12.	Process of Bid Submission	16
13.	Alternative Bids	17
14.	Bid Prices and Discounts	17
15.	Currencies of Bid and Payment	18
16.	Documents Comprising the Technical Proposal	19
17.	Documents Establishing the Qualifications of the Bidder	19
18.	Period of Validity of Bids	19
19.	Bid Security	19
20.	Format and Signing of Bid	20
D.	Online Submission and Opening of Bids	20
21.	Preparation of Bids	20
22.	Deadline for Submission of Bids	21
23.	Late Bids	22
24.	Withdrawal, Substitution, and Modification of Bids	22
E.	Online Opening of Technical Parts of Bids	22
25.	Online Opening of Technical Parts of Bids	22
F.	Evaluation of Bids – General Provisions	23
26.	Confidentiality	23
27.	Clarification of Bids	23
28.	Deviations, Reservations, and Omissions	23
29.	Nonconformities, Errors, and Omissions	24
G.	Evaluation of Technical Parts of Bids	24
30.	Evaluation of Technical Parts	24
31.	Determination of Responsiveness	24
32.	Qualification of the Bidder	25
33.	Subcontractors	25
H.	Online Opening of Financial Parts of Bids	26
34.	Online Opening of Financial Parts	26

I.	Evaluation of Financial Parts of Bids	27
35.	Evaluation of Financial Parts	27
36.	Correction of Arithmetical Errors	27
37.	Conversion to Single Currency	27
38.	Margin of Preference	27
39.	Comparison of Financial Parts	27
40.	Unbalanced or Front Loaded Bids	28
41.	Employer's Right to Accept Any Bid, and to Reject Any or All Bids	28
J.	Award of Contract	28
42.	Award Criteria	28
43.	Notification of Award	28
44.	Signing of Contract, Publication of award and Recourse to unsuccessful Bidders	28
45.	Performance Security	28

Section I – Instructions to Bidders

A. General	
1. Scope of Bid	<p>1.1 The Employer, The Scientist ‘C’, Construction & Procurement Cell (CPC), Central Water & Power Research Station (CWPRS), Khadakwasala, Sinhgad Road, Pune – 411024 Maharashtra, issues this Bidding Document for the procurement of the Works of “Supply, Installation, Commissioning and Testing of Servo Hydraulic System for Random Sea Wave Generator (RSWG) for 120m Wave Flume at CWPRS, Pune – 24 (Work’s Requirements) with NIT No. 69/2020-21</p>
	<p>1.2 Throughout this Bidding Document:</p> <p>(a) the term “in writing” means communicated in written form and delivered against receipt;</p> <p>(b) except where the context requires otherwise, words indicating the singular also include the plural and words indicating the plural also include the singular; and</p> <p>(c) “day” means calendar day.</p>
2. Source of Funds	<p>2.1 Funded by Government of India. The expenditure to be incurred for this intended work / supply will be met from the funds available with the purchaser</p>
3. Corrupt and Fraudulent Practices	<p>3.1 The government of India requires compliance with its policy in regard to corrupt and fraudulent practices.</p> <p>3.2 In further pursuance of this policy, Bidders shall permit and shall cause its agents (whether declared or not), sub-contractors, sub-consultants, service providers, or suppliers and any personnel thereof, to permit the CWPRS to inspect all accounts, records and other documents relating to any prequalification process, bid submission, and contract performance (in the case of award), and to have them audited by auditors appointed by the CWPRS.</p>
4. Eligible Bidders	<p>4.1 A Bidder may be a firm that is a private entity, or a government-owned entity subject to ITB 4.4</p>
	<p>4.2 A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this bidding process, if the Bidder:</p> <p>(a) directly or indirectly controls, is controlled by or is under common control with another Bidder; or</p> <p>(b) receives or has received any direct or indirect subsidy from another Bidder; or</p>

	<ul style="list-style-type: none"> (c) has the same legal representative as another Bidder; or (d) has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the bid of another Bidder, or influence the decisions of the Employer regarding this bidding process; or (e) participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all Bids in which such Bidder is involved. However, this does not limit the inclusion of the same subcontractor in more than one bid; or (f) any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the bid; or (g) any of its affiliates has been hired (or is proposed to be hired) by the Employer or Borrower as Project Manager (Engineer) for the Contract implementation; or (h) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the ITB, that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or (i) has a close business or family relationship with a professional staff of the Borrower (or of the project implementing agency) who: (i) are directly or indirectly involved in the preparation of the bidding documents or specifications of the contract, and /or the bid evaluation process of such contract; or (ii) would be involved in the implementation or supervision of such contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Bank throughout the procurement process and execution of the contract.
	<p>4.3 A Bidder may have the nationality of any country, subject to the restrictions pursuant to ITB 4.6. A Bidder shall be deemed to have the nationality of a country if the Bidder is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed sub-contractors or sub-consultants for any part of the Contract including related Services.</p>
	<p>4.4 Bidders that are Government-owned enterprises or institutions in the Employer's Country may participate only if they can establish that they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not dependent agencies of the Employer. To be eligible, a government-owned enterprise or</p>

	<p>institution shall establish to the satisfaction, through all relevant documents, including its Charter and other information may request, that it: (i) is a legal entity separate from the government (ii) does not currently receive substantial subsidies or budget support; (iii) operates like any commercial enterprise, and, inter alia, is not obliged to pass on its surplus to the government, can acquire rights and liabilities, borrow funds and be liable for repayment of its debts, and can be declared bankrupt; and (iv) is not bidding for a contract to be awarded by the department or agency of the government which under their applicable laws or regulations is the reporting or supervisory authority of the enterprise or has the ability to exercise influence or control over the enterprise or institution.</p>
	<p>4.5 A Bidder shall not be under suspension from bidding by the Purchaser as the result of the operation of a Bid–Securing Declaration.</p>
	<p>4.6 Firms and individuals may be ineligible if so indicated in Section IV and (a) as a matter of law or official regulations, the Borrower’s country prohibits commercial relations with that country, such exclusion does not preclude effective competition for the supply of goods or the contracting of works or services required; or (b) by an act of compliance with a decision of the United Nations Security Council, the Borrower’s country prohibits any import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country.</p>
	<p>4.7 Bidder shall provide such evidence of eligibility satisfactory to the Employer, as the Employer shall reasonably request</p>
<p>5. Eligible Materials, Equipment and Services</p>	<p>5.1 The materials, equipment and services to be supplied under the Contract may have their origin in any country subject to the restrictions specified in Section IV, Eligible Countries, and all expenditures under the Contract will not contravene such restrictions. At the Employer’s request, Bidders may be required to provide evidence of the origin of materials, equipment and services.</p>
<p>B. Contents of Bidding Document</p>	
<p>6. Sections of Bidding Document</p>	<p>6.1 The Bidding Document consist of Parts 1, 2, and 3, which include all the Sections indicated below, and should be read in conjunction with any Addenda issued in accordance with ITB 8.</p> <p>PART 1 Bidding Procedures Section I - Instructions to Bidders (ITB) Section II - Evaluation and Qualification Criteria Section III - Bidding Forms Section IV - Eligible Countries</p> <p>PART 2 Conditions of Contract and Contract Forms Section V - General Conditions of Contract (GCC) Section VI - Contract Forms</p>

	<p>PART 3 Work's Requirements Section VII - Works Requirements</p>
	<p>6.2 The Invitation for Bids issued by the Employer is part of the Bidding Document.</p>
	<p>6.3 The Employer is not responsible for the completeness of the Bidding Documents, responses to requests for clarification, the minutes of the pre-Bid meeting (if any), or Addenda to the Bidding Documents in accordance with ITB 8. In case of any contradiction, documents obtained directly from the Employer shall prevail.</p>
	<p>6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Documents and to furnish with its bid all information and documentation as required by the Bidding Documents.</p>
<p>7. Clarification of Bidding Document, Site Visit, Pre-Bid Meeting</p>	<p>7.1 The electronic bidding system http://www.eprocure.gov.in or through Email provides for online clarifications. A prospective Bidder requiring any clarification on the Bidding Document may notify the Employer online or raise his inquiries during the pre-bid meeting if provided for in accordance with ITB 7.4. Clarifications requested through any other mode shall not be considered by the Employer. The Employer will respond to any request for clarification, provided that such request is received prior to the deadline date for seeking clarifications. Description of clarification sought and the response of the Employer shall be uploaded for information of all Bidders without identifying the source of request for clarification. Should the clarification result in changes to the essential elements of the Bidding Documents, the Employer shall amend the Bidding Documents following the procedure under ITB 8 and ITB 22.2.</p>
	<p>7.2 The Bidder is advised to visit and examine the Site of Works and its surroundings and obtain for itself, on its own risk and responsibility, all information that may be necessary for preparing the bid and entering into a contract for execution of the procurement of goods/Works/services. The costs of visiting the Site shall be at the Bidder's own expense.</p>
	<p>7.3 The Bidder and any of its personnel or agents will be granted permission by the Employer to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the Bidder, its personnel, and agents will release and indemnify the Employer and its personnel and agents from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.</p>
	<p>7.4 The Bidder's designated representative is invited to attend a pre-bid meeting on 23.12.2020 at 15.30 hrs in the Office of The Scientist 'C', CPC, CWPRS, Pune. The purpose of the meeting will be to clarify issues and to answer questions on any</p>

	matter that may be raised at that stage.
	7.5 The Bidder is requested, to submit any questions only through Email/the e-procurement portal on or before 23/12/2020 up to 14.00 Hrs. Clarifications requested through any other mode shall not be considered by the Employer.
	7.6 Minutes of the pre-bid meeting, including the text of the questions raised without identifying the source, and the responses given, together with any responses prepared after the meeting, will be uploaded online on e-procurement system. Any modification to the Bidding Documents that may become necessary as a result of the pre-bid meeting shall be made by the Employer exclusively through the issue of an addendum pursuant to ITB 8 and not through the minutes of the pre-bid meeting. It is the bidder's responsibility to check on the e-procurement system, for any addendum/ amendment/ corrigendum to the bidding documents.
	7.7 Non attendance at the pre-bid meeting will not be a cause for disqualification of a Bidder.
8. Amendment of Bidding Document	8.1 At any time prior to the start date for submission of bids the Employer may amend the Bidding Documents by issuing corrigendum. The corrigendum will appear on the e-procurement system under "Latest Corrigendum".
	8.2 Any corrigendum thus issued shall be part of the Bidding Document
	8.3 To give prospective Bidders reasonable time in which to take an corrigendum into account in preparing their bids , the Employer may, at its discretion, extend the deadline for the submission of bids, pursuant to ITB 22.2
C. Preparation of Bids	
9. Cost of Bidding	9.1 The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Employer shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.
10. Language of Bid	10.1 The Bid, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Employer, shall be written in English.

<p>11. Documents Comprising the Bid</p>	<p>11.1 The Bid shall comprise two Parts, namely the Technical Part and the Financial Part. These two Parts shall be submitted simultaneously.</p> <p>11.2 The Technical Part shall contain the following:</p> <ul style="list-style-type: none"> (a) Letter of Bid – Technical Part; (b) completed Schedules, in accordance with ITB 12, (c) Bid Security, in accordance with ITB 19; (d) written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 20.2; (e) documentary evidence in accordance with ITB 17 establishing the Bidder’s qualifications to perform the contract, if its Bid is accepted; (f) Technical Proposal in accordance with ITB 16; (g) Construction methodology proposed as detailed in Para 1.1 of Section II Evaluation Criteria; and (h) Any other documents <p>11.3 The Financial Part shall contain the following:</p> <ul style="list-style-type: none"> (a) Bill of Quantities completed online in accordance with ITB 12 and ITB 14;- <p>11.4 The Technical Part shall not include any information related to the Bid price. Where material financial information related to the Bid price is contained in the Technical Part the Bid shall be declared non-responsive.</p>
<p>12. Process of Bid Submission</p>	<p>12.1 The Letter of Bid – Technical Part, Schedules and Bill of Quantities (BoQ), shall be prepared using the relevant forms in Section III (Bidding Forms). The forms must be completed without any alterations to the text, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested.</p> <p>12.2 Entire Bid including the Letter of Bid and filled-up Bill of Quantity shall be submitted online on e-procurement system specified in ITB 7.1. Details and process of online submission of the tender and relevant documents are given in the website mentioned above. Scanned copies of documents listed in ITB clauses 11 and 12.3 should also be uploaded on this website.</p> <p>12.3 Submission of Original Documents: The bidders are required to submit, 1). DD/ FDR of any Schedule Bank against EMD/Bid security 2). Affidavit vouching for the correctness of the information furnished in original in the office of Scientist ‘C’, CPC, CWPRS, Pune, before date of opening of the technical part of the Bid i.e 22.01.2021 at 13.00 hrs, either by registered/speed post/courier or by hand, failing which the bids will be declared non-responsive and will</p>

	not be opened. Hard copies of rest of the bid or any other document are not to be submitted.
13. Alternative Bids	13.1 Alternative/Conditional bids shall not be permitted.
14. Bid Prices	14.1 The prices in the Price Schedules (BoQ) shall conform to the requirements specified below.
	14.2 The Bidder shall submit a financial bid for the whole of the works described in ITB 1.1 by filling in prices for all items of the Works (in figures). The Bidder shall fill in rates for all items of the Goods/Works/services described in the Bill of Quantities. Items against which no rate or price is entered by the Bidder will not be paid for by the Employer when executed and shall be deemed covered by the rates for other items and prices in the Bill of Quantities. 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
	14.3 The price to be quoted in the Financial Part in accordance with ITB 12.1 , shall be the total price of the Bid,
	14.4 Prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract. A bid submitted with an adjustable price quotation shall be treated as nonresponsive and shall be rejected , pursuant to ITB 31 . 14.5 If so indicated in ITB 1.1 , bids are invited for individual lots (contracts) or for any combination of lots/contracts (packages). The 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.
	14.6 All duties, taxes excluding GST , and other levies payable by the Contractor under the Contract, or for any other cause, as applicable on the deadline for submission of Bids, shall be included in the rates and prices and the total bid price submitted by the Bidder. GST will be paid reimbursed as per actual according govt rule.
	14.7 Bidders may like to ascertain availability of excise/custom duty exemption benefits available in India to the contracts financed under government of India. They are solely responsible for obtaining such benefits which they have considered in their bid and in case of failure to receive such benefits for reasons whatsoever, the Employer will not compensate the bidder (contractor). The bidder shall furnish along with his bid a declaration to this effect in the Declaration Format provided in Section III of the bidding documents. 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.

	<p>Where the bidder has quoted taking into account such benefits, it must give all information required for issue of certificates in terms of the Government of India Central Excise Notification and Customs Notification as per form stipulated in Section III. In case the bidder has not provided the required information or has indicated to be furnished later on in the Declaration Format, the same shall be construed that the goods/construction equipment for which certificate is required is Nil.</p> <p>To the extent the Employer determines the quantity indicated therein are reasonable keeping in view the quantities in bill of quantities, construction program and methodology, the certificates will be issued within 60 days of signing of the contract and no subsequent changes will be permitted. In case of materials pertaining to Variation items and quantities the certificate shall be issued only on request from the contractor when in need and duly certified by the CWPRS, Pune.</p> <p>No certificate will be issued for items where no quantity/capacity of equipment is indicated in the statement.</p> <p>If the bidder has considered the customs/excise duty exemption for materials/construction equipment to be bought for the work, the bidder shall confirm and certify that the Employer will not be required to undertake any responsibilities of the Government of India Scheme or the said exemptions being available during the contract execution, except issuing the required certificate. The bids which do not conform to the above provisions or any condition by the bidder which makes the bid subject to availability of customs/excise duty exemption for materials/construction equipment or compensation on withdrawal of any variations to the said exemptions will be treated as non-responsive and rejected.</p> <p>Any delay in procurement of the equipment / machinery / goods / tools as a result of the above shall not be a cause for granting any extension of time.</p>
	<p>14.8 Unless otherwise specified in Technical Specifications, Bidders shall quote for the entire facility on a “single responsibility” basis such that the total bid price covers all the Contractor’s obligations mentioned in or to be reasonably inferred from the bidding documents in respect of the design, manufacture, including procurement and sub contracting (if any), delivery, construction, installation and completion of the facility. This includes all requirements under the Contractor’s responsibilities for testing and commissioning of the facility and, where so required by the bidding documents, the acquisition of all permits, approvals and licenses etc., the operation, maintenance and training services and such other items and services as many be specified in the bidding documents, all in accordance with the requirements of the Conditions of Contract.</p>
<p>15. Currencies of Bid</p>	<p>15.1 The Bidder shall quote in Indian Rupees only in the BoQ.</p>

and Payment	
16. Documents Comprising the Technical Proposal	<p>16.1 The Bidder shall furnish a Technical Proposal in the Technical Part of the Bid, including a statement of work methods, equipment, personnel, schedule and any other information as per details stipulated in Section III (Bidding Forms), in sufficient detail to demonstrate the adequacy of the Bidders' proposal to meet the work requirements and the completion time.</p> <p>16.2 The qualifications to perform the Contract in accordance will be done as per Section II (Evaluation and Qualification Criteria).</p>
17. Documents Establishing the Qualifications of the Bidder	<p>17.1 To establish Bidder's eligibility in accordance with ITB 4, Bidders shall complete the Letter of Bid – Technical Part, included in Section III Bidding Forms.</p> <p>17.2 To establish its qualifications to perform the Contract in accordance with Section II (Evaluation and Qualification Criteria) the Bidder shall provide the complete information as requested in the corresponding information sheets included in Section III (Bidding Forms).</p>
18. Period of Validity of Bids	<p>18.1 Bids shall remain valid for 180 days from the date of opening of Technical Bids. A bid valid for a shorter period shall be rejected by the Employer as non responsive.</p>
	<p>18.2 In exceptional circumstances, prior to the expiration of the bid validity period, the Employer may request Bidders to extend the period of validity of their bids. The request and the responses shall be made in writing. If a bid security is requested in accordance with ITB 19, it shall also be extended for forty five (45) days beyond the deadline of the extended validity period. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request shall not be required or permitted to modify its bid.</p>
19. Bid Security	<p>19.1 The Bidder shall furnish a bid security in the amount of INR 3,60,000/- as part of the Technical Part of its bid, in original form for this particular work.</p>
	<p>19.2 The bid security shall be a demand guarantee, at the Bidder's option, in any of the following forms:</p> <p>(a) Demand Draft/ Fixed Deposit Receipt issued by a Nationalized/Scheduled bank located in India;</p> <p>(b) Fixed Deposit / Demand Draft issued by a Nationalized or Scheduled Bank located in India for equivalent or higher values are acceptable as bid security provided it is pledged in favour of "Pay and Account Officer, CWPRS" and such pledging has been noted and suitably endorsed by the bank issuing the certificate.</p> <p>(c) No EMD exemption is allowed for this work. Hence the EMD exemption by producing MSME / NSIC or any certificate is not</p>

	<p>to be considered for this particular work as the MSME firms registered in NSIC under PP policy exempted from payment of EMD for manufactures of goods and services provider only. Re-sealer or authorized agencies or traders are not eligible for EMD exemption.</p>
	<p>19.3 If a Bid Security is specified pursuant to ITB 19.1, any bid not accompanied by a substantially responsive Bid Security shall be rejected by the Employer as non-responsive.</p>
	<p>19.4 If a bid security is specified pursuant to ITB 19.1, the bid security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's signing the contract and furnishing of the performance security pursuant to ITB 45.</p>
	<p>19.5 If a bid security is specified pursuant to ITB 19.1, the bid security 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.</p>
	<p>19.6 The bid security may be forfeited:</p> <ul style="list-style-type: none"> (a) if a Bidder withdraws /modifies / substitutes its bid during the period of bid validity specified by the Bidder on the Letter of Bid - Technical Part, or any extension thereto provided by the Bidder in accordance with ITB 18.2 or (b) if the Bidder does not accept the of its Bid Price pursuant to ITB 36 or (c) if the successful Bidder fails to: <ul style="list-style-type: none"> (i) sign the Contract in accordance with ITB 44; or (ii) furnish a performance security in accordance with ITB 45.
20. Format and Signing of Bid	<p>20.1 The Bidder shall prepare the Bid as per details given in ITB 21.</p>
	<p>20.2 The bid shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall be uploaded along with the Bid.</p> <p>The written confirmation of authorization to sign on behalf of the Bidder shall consist of:</p> <p>All the documents are required to be signed digitally by the bidder. After electronic on line bid submission, the system generates a unique bid identification number which is time stamped. This shall be treated as acknowledgement of bid submission.</p> <p>The return confirmation of authorization to sign on behalf of Bidder shall consist of: Power of Attorney Legally valid Power of Attorney is required to demonstrate the authority of</p>

	the signatory to sign the Bid.
D. Online Submission and Opening of Bids	
21. Preparation of Bids	<p>21.1 Bids, both Technical and Financial Parts, shall be submitted online on the e-procurement system only. Detailed guidelines for viewing bids and submission of online bids are given on the website. The Invitation for Bids under this work is published on this website. Any citizen or prospective bidder can login to this website and view the Invitation for Bids and can view the details of works for which bids are invited. A prospective bidder can submit its bid online; however, the bidder is required to have enrolment/registration in the website, and should have valid Digital Signature Certificate (DSC) of Class III in the form of smart card/e-token obtained from any certifying agency authorised by the Government of India. The bidder should register in the website using the relevant option available. Then the Digital Signature registration has to be done with the e-token, after logging into the website. The bidder can then login the website through the secured login by entering the password of the e-token & the user id/ password chosen during registration. After getting the bid schedules, the Bidder should go through them carefully and submit the specified documents, along with the bid; otherwise the bid will be rejected.</p> <p>A standard BOQ format (Excel format only) has been provided with the tender document to be filled by all the bidders. Bidders are requested to note that they should necessarily submit their financial bid in the format provided and no other format is acceptable. The bidders are required to download the BOQ file, open it and fill it (unprotected cells with their respective financial quotes and other details such as the name of the bidder). No other details should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the file name. If the BOQ file found to be modified by the bidder, the bid will be rejected.</p> <p>Kindly add scanned PDF of all relevant documents in a single PDF file of compliance sheet.</p>
	<p>21.2 The completed bid comprising of documents indicated in ITB 11, should be uploaded on the e-procurement portal along with scanned copies of requisite certificates as are mentioned in different sections in the bidding document and scanned copy of the bid security.</p>
	<p>21.3 All the documents are required to be signed digitally by the bidder. After electronic on line bid submission, the system generates a unique bid identification number which is time stamped as per server time. This shall be treated as acknowledgement of bid submission.</p>

	21.4	Physical, E-mail, Telex, Cable or Facsimile bids will be rejected as non-responsive.
22. Deadline for Submission of Bids	22.1	Bids (Technical and Financial) must be uploaded online no later than the date and time as mentioned below: The deadline for uploading of Technical and Financial bids is: Date: 21.01.2021 Time: 15.00 hrs
	22.2	The Employer may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Document in accordance with ITB 8 , in which case all rights and obligations of the Employer and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.
23. Late Bids	23.1	The electronic bidding system would not allow any late submission of bids after due date & time as per server time.
24. Withdrawal, Substitution, and Modification of Bids	24.1	Bidders may modify their bids by using the appropriate option for bid modification on e-procurement portal, before the deadline for submission of bids. For this the bidder need not make any additional payment towards the cost of bid document. For bid modification and consequential re-submission, the bidder is not required to withdraw his bid submitted earlier. The last modified bid submitted by the bidder within the bid submission time shall be considered as the bid. For this purpose, modification / withdrawal by other means will not be accepted. In online system of bid submission, the modification and consequential re-submission of bids is allowed any number of times. A bidder may withdraw his bid by using the appropriate option for bid withdrawal, before the deadline for submission of bids, however, if the bid is withdrawn, re-submission of the bid is not allowed.
	24.2	Bids requested to be withdrawn in accordance with ITB 24.1 shall not be opened.
	24.3	No bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Letter of Bid or any extension thereof. This will result in the forfeiture of the Bid Security pursuant to ITB 19.6 .
E. Online Opening of Technical Parts of Bids		
25. Online opening of Technical Parts of Bids	25.1	The Employer shall open Technical Parts of all bids received by the deadline, i.e on 22.01.2021 at 15.00 hrs in the O/o The Scientist-C, CPC, CWPRS, Pune – 24 and this could also be viewed by the bidders online. The Financial Parts of the bids shall remain unopened in the e-procurement system, until the subsequent opening, following the evaluation of the Technical Parts of the Bids. In all cases, original documents submitted as specified in ITB 12.3 shall be first scrutinized, and Bids that do not comply with the provisions of ITB 12.3 will be declared non-responsive and will not be opened.

	<p>Thereafter bidder's names, and such other details as the Employer may consider appropriate will be notified online as Technical Part bid opening summary.</p> <p>In the event of the specified date of bid opening being declared a holiday for the Employer, the bids will be opened at the appointed time and location on the next working day.</p>
	<p>25.2 The electronic summary of the bid opening will be generated and uploaded online. The Employer will also prepare minutes of the Bid opening, including the information disclosed and upload the same for viewing online. Only Technical Parts of Bids that are opened at Bid opening shall be considered further for evaluation.</p>
<p>F. Evaluation of Bids – General Provisions</p>	
26. Confidentiality	<p>26.1 Information relating to the examination, evaluation, comparison, and post-qualification of bids and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with such process until information on Contract award is communicated to all Bidders in accordance with ITB 44.</p>
	<p>26.2 Any attempt by a Bidder to influence the Employer in the evaluation of the bids or Contract award decisions may result in the rejection of its bid.</p>
	<p>26.3 Notwithstanding ITB 26.2, from the time of bid opening to the time of Contract award, if any Bidder wishes to contact the Employer on any matter related to the bidding process, it may do so in writing.</p>
27. Clarification of Bids	<p>27.1 To assist in the examination, evaluation, and comparison of the bids, and qualification of the Bidders, the Employer may, at its discretion, ask any Bidder for a clarification of its bid including breakdown of unit rates, giving a reasonable time for response. Any clarification submitted by a Bidder that is not in response to a request by the Employer shall not be considered. The Employer's request for clarification and the response shall be in writing by mail/post. No change, including any voluntary increase or decrease in the prices or substance of the bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the bids, in accordance with ITB 36.</p>
	<p>27.2 If a Bidder does not provide clarifications of its bid by the date and time set in the Employer's request for clarification, its bid may be rejected.</p>

<p>28. Deviations, Reservations, and Omissions</p>	<p>28.1 During the evaluation of bids, the following definitions apply:</p> <p>(a) “Deviation” is a departure from the requirements specified in the Bidding Document;</p> <p>(b) “Reservation” is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Document; and</p> <p>(c) “Omission” is the failure to submit part or all of the information or documentation required in the Bidding Document.</p>
<p>29. Nonconformities, Errors, and Omissions</p>	<p>29.1 Provided that a bid is substantially responsive, the Employer may waive any non-conformities in the bid which do not constitute a material deviation, reservation or omission.</p>
	<p>29.2 Provided that a bid is substantially responsive, the Employer may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities in the bid related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any aspect of the price or substance of the bid. Failure of the Bidder to comply with the request may result in the rejection of its bid.</p> <p>29.3 Provided that a bid is substantially responsive, the Employer shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price may be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component in the manner specified below</p> <p>The adjustment shall be based on the highest price of the item or component as quoted in other substantially responsive Bids, subject to a maximum of the estimated price of the item. If the price of the item or component cannot be derived from the price of other substantially responsive Bids, the Employer shall use its best estimate.</p>
<p>G. Evaluation of Technical Parts of Bids</p>	
<p>30. Evaluation of Technical Parts</p>	<p>30.1 In evaluating the Technical Parts of each Bid, the Employer shall use the criteria and methodologies listed in this ITB and Section II, Evaluation and Qualification Criteria. No other evaluation criteria or methodologies shall be permitted.</p>
<p>31. Determination of Responsiveness</p>	<p>31.1 The Employer’s determination of a Bid’s responsiveness is to be based on the contents of the Bid itself, as defined in ITB 11.</p> <p>31.2 A substantially responsive Bid is one that meets the requirements of the bidding document without material deviation, reservation, or omission. A material deviation,</p>

	<p>reservation, or omission is one that:</p> <p>(a) if accepted, would:</p> <p>(i) affect in any substantial way the scope, quality, or performance of the Works specified in the Contract; or</p> <p>(ii) limit in any substantial way, inconsistent with the bidding document, the Employer's rights or the Bidder's obligations under the proposed Contract; or</p> <p>(b) if rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive Bids.</p>
	<p>31.3 The Employer shall examine the technical aspects of the Bid submitted in accordance with ITB 16, Technical Proposal, in particular, to confirm that all requirements of Section VII, Works' Requirements have been met without any material deviation, reservation or omission.</p>
	<p>31.4 If a Bid is not substantially responsive to the requirements of the bidding document, it shall be rejected by the Employer and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.</p>
32. Qualification of the Bidder	<p>32.1 The Employer shall determine to its satisfaction whether the eligible Bidders that have submitted substantially responsive Bid - Technical Parts meet the qualifying criteria specified in Section II, Evaluation and Qualification Criteria.</p>
	<p>32.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 17. The determination shall not take into consideration the qualifications of other firms such as the Bidder's subsidiaries, parent entities, affiliates, subcontractors (other than Specialized Subcontractors if permitted in the bidding document), or any other firm(s) different from the Bidder.</p>
	<p>32.3 If a Bidder does not meet the qualifying criteria specified in Section II, Evaluation and Qualification Criteria, its Bid shall be rejected by the Employer and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.</p>
	<p>32.4 Only Bids that are both substantially responsive to the bidding document, and meet all Qualification Criteria shall have the Financial Parts of their Bids opened through online only</p>
33. Sub contractors	<p>33.1 The Employer does not intend to execute certain specific parts of the Works by sub-contractors selected in advance.</p> <p>33.2 The Employer may permit subcontracting for certain specialized works. When subcontracting is permitted by the</p>

	<p>Employer, the specialized sub-contractor's experience shall be considered for evaluation.</p> <p>33.3 Bidders may propose subcontracting up to the percentage of total value of contracts or the volume of works as mentioned below. Subcontractors proposed by the Bidder shall be fully qualified for their parts of the Works.</p> <p>(a) Contractor's proposed subcontracting: Maximum percentage of subcontracting permitted is: <i>10% of the total contract amount</i>.</p> <p>(b) Bidders planning to subcontract more than 10% of total volume of work shall specify, in the Bid Submission Form, the activity (ies) or parts of the works to be subcontracted along with complete details of the sub-contractors and their qualification and experience. The qualification and experience of the sub-contractors must meet the minimum criteria for the relevant work to be sub-contracted failing which such sub-contractors will not be permitted to participate.</p> <p>(c) Sub-contractors' qualification and experience will not be considered for evaluation of the Bidder. The Bidder on its own (without taking into account the qualification and experience of the sub-contractor) should meet the qualification criteria.</p>
<p>H. Online Opening of Financial Parts of Bids</p>	
<p>34. Online Opening of Financial Parts</p>	<p>34.1 Following the completion of the evaluation of the Technical Parts of the Bids, the Employer shall publish online, the details of technical evaluation which can be viewed by all the bidders and containing the following information:</p> <p>(a) the grounds on which their Technical Part of Bid failed to meet the requirements of the bidding document;</p> <p>(b) their Financial Part of Bid shall not be opened; and</p> <p>(c) Financial Parts of the bids of the technically qualified bidders shall be opened online immediately.</p>
	<p>34.2 The Employer shall, simultaneously, publish online those Bidders whose Technical Part have been evaluated as substantially responsive to the bidding document and met all Qualifying Criteria, advising them of the following information:</p> <p>(a) their Bid has been evaluated as substantially responsive to the bidding document and met the Qualification Criteria;</p> <p>(b) The Employer will open their Financial Part of Bid online in the O/o Scientist-C, CPC, CWPRS, Pune immediately after completion of the evaluation of</p>

	the Technical Parts of the Bids
	<p>34.3 The Financial Part of the Bids shall be opened online and any bidder who chooses to view can do so online. The bidder's names, the Bid prices, the total amount of each bid, per lot (contract).</p> <p>In the event of the specified date of bid opening being declared a holiday for the Employer, the bids will be opened at the appointed time and location on the next working day.</p>
	<p>33.4 The electronic summary of the bid opening will be generated online. Only Financial Part of Bids that are opened shall be considered further for evaluation.</p>
I. Evaluation of Financial Parts of Bids	
35. Evaluation of Financial Parts	<p>35.1 To evaluate a Bid, the Purchaser shall consider the following:</p> <p>(a) Bids will be evaluated for the combined cost of all the items and services (AMC) mentioned in BoQ and the Contract will be awarded to the lowest evaluated (L1) Bidder.</p> <p>(b) An item not listed in the Price Schedule (BoQ) 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.</p> <p>(c) The lowest evaluated Price shall be arrived at up to Final Destination (i.e. CWPRS, Pune) by adding (i) price of Goods/Works quoted EXW (ii) customs duty, 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 (iv) charges for installation, erection including civil works, manpower, testing etc and (v) price for Related Services (AMC etc), if any.</p>
	<p>35.2 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in Bid evaluation.</p>
36. Correction of Arithmetical Errors	<p>36.1 The e-procurement system automatically calculates the total amount from unit rates and quantities and 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.</p>
37. Conversion to Single Currency	<p>37.1 Not used.</p>

38. Margin of Preference	38.1 Not used.
39. Comparison of Financial Parts	39.1 The Employer shall compare the evaluated prices of all substantially responsive bids established in accordance with ITB 35.1 to determine the lowest evaluated bid (L1).
40. Unbalanced or Front Loaded Bids	40.1 If the bid, which results in the lowest Evaluated Bid Price, is seriously unbalanced, front loaded or substantially below updated estimates in the opinion of the Employer, the Employer may require the Bidder to produce detailed price analyses (with breakdown of unit rates) for any or all items of the Bill of Quantities, to demonstrate the internal consistency and justification of those prices with the construction methods and schedule proposed. After evaluation of the price analyses, taking into consideration the schedule of estimated contract payments, the Employer may require that the amount of the performance security be increased at the expense of the Bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful Bidder under the Contract.
41. Employer's Right to Accept Any Bid, and to Reject Any or All Bids	41.1 The Employer 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. In case of annulment, all documents submitted and specifically, bid securities, shall be promptly returned to the Bidders.
J. Award of Contract	
42. Award Criteria	42.1 Subject to ITB 41, the Employer shall award the Contract to the successful Bidder that meets the Qualification Criteria, whose offer has been determined to be the lowest evaluated bid and is substantially responsive to the Bidding Document.
43. Notification of Award	43.1 Prior to the expiration of the period of bid validity, the Employer shall notify the successful Bidder, in writing, via the Letter of Acceptance included in the Contract Forms, that its bid has been accepted. The Letter of Acceptance shall specify the sum that the Employer will pay the Contractor in consideration of the execution and completion of the Works (hereinafter and in the Conditions of Contract and Contract Forms called "the Contract Price").
	43.2 Until a formal contract is prepared and executed, the notification of award shall constitute a binding Contract.
44. Signing of Contract, Publication of award and Recourse to unsuccessful	44.1 The Contract Agreement shall incorporate all agreements between the Employer and the successful Bidder. It shall be kept ready in the office of the Employer for the signature of the Employer and the successful Bidder, within 21 days following the date of Letter of acceptance. Within 21 days of receipt of Letter of acceptance, the successful Bidder shall sign the

Bidders	Agreement and furnish the performance security in accordance with ITB Clause 45.
	44.2 The Employer within 3 weeks of issue of notification of award shall publish in a national website (http://eprocure.gov.in/eprocure/app) or on the Employer's website www.cwprs.gov.in with free access if available, or in the official gazette, the results identifying the bid and lot numbers and the following information: (i) name of each bidder who submitted the bid; (ii) bid prices 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.
45. Performance Security	<p>45.1 Within twenty-one (21) days of the receipt of notification of award from the Employer, the successful Bidder shall furnish the performance security in accordance with the conditions of contract, subject to ITB 40.1</p> <p>45.2 Failure of the successful Bidder to submit the above-mentioned Performance Security or to sign the Contract Agreement shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security. In that event the Employer may award the Contract to the next lowest evaluated Bidder whose offer is substantially responsive and is determined by the Employer to be qualified to perform the Contract satisfactorily.</p> <p>45.3 Upon the successful Bidder's signing the Agreement and furnishing of the Performance Security pursuant to ITB Clause 45.1, the Employer shall promptly notify the name of the winning bidder to each unsuccessful bidder and shall discharge the Bid Securities of the bidders pursuant to ITB Clause 19.4 and 19.5.</p>

Section II - Evaluation and Qualification Criteria

*This section contains all the criteria that the Employer shall use to evaluate bids and qualify Bidders if the bidding was not preceded by a prequalification exercise and post qualification is applied. In accordance with ITB 32 and ITB 35, no other methods, criteria and factors shall be used. The Bidder shall provide all the information requested in the forms included in **Section III (Bidding Forms)**.*

Section II - Evaluation and Qualification Criteria

Table of Clauses

Sr. No.	Description	Page No.
1	Adequacy of Technical Proposal & Financial Proposal	32
2	Qualification	34
	2.1 Eligibility	34
	2.2 Financial Situation and Performance	35
	2.3 Experience	35

1. Adequacy of Technical Proposal & Financial Proposal:

1.1 A documentary evidence of the Bidder's qualifications to perform the contract if his bid is accepted shall establish Employer's satisfaction:

- (a) That the Bidder has the financial and technical capability and infrastructure necessary to perform the contract.
- (b) That the Bidder meets the qualification criteria listed in clause 1.5 as follows:

1.2 The Bidder shall have

The supplier shall have supplied the following systems within India.

- 1. Three closed loop servo hydraulic systems amounting to 40 % of estimated cost in the last seven years.
OR
- 2. Two closed loop servo hydraulic systems amounting to 50 % of estimated cost in the last seven years.
OR
- 3. One closed loop servo hydraulic systems amounting to 80 % of estimated cost in the last seven years.

Documentary proof of Complete user list with address, phone number and email ID, Name of the contact person shall be submitted along with the technical bid.

1.3 All bidders shall include the following information and documents with their bids as per prescribed forms given in section II - Evaluation and Qualification Criteria.

- (a) Copies of original documents defining the constitutions or legal status, place of registration and principal place of business, written power of attorney of signatory of the bid.
- (a) Total monetary value of work of similar nature as specified in clause 1.2, performed for each of the last seven years.
- (b) Experience in works of similar nature for the last seven years including details of works under way or contracted for further information on those contracts.
- (c) Qualifications and experience of key site management and technical personnel proposed for the contract.

1.4 To qualify for award of the contract each bidder in his name shall have

- (a) Achieved a minimum annual turnover of Rs. 100 Lakh in last Five financial years.

1.5 Even though the bidder meets the above qualification criteria, it is subject to be disqualified, if it has:

- (a) made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements and / or
- (b) record of poor performance such as abandoning the works, not properly completing the contracts, inordinate delays in completion, litigation history, financials failures etc.

1.6 Notwithstanding anything stated above, the Employer reserves the right to assess bidder's capability and capacity to perform the contract should circumstances warrant such an assessment in the overall interest of the Employer.

1.7. The bidder shall furnish a brief write-up supported by adequate data, explaining his available capacity and experience (both technical and commercial) for the design, fabrication supply, installation and commissioning of the required system and equipment within the specified time of completion after meeting all their commitments.

1.8 an assessment of the details of subcontracting elements of works amounting to more than 10% of the bid price; for each element proposed to be sub contracted furnish details whether the identified Sub-contractor possesses the required qualifications and experiences to execute that element satisfactorily. [**Work should not be split into small parts and sub-contracted**].

2. Qualification

Eligibility and Qualification Criteria			Compliance Requirements	Documentation
No.	Subject	Requirement	Single Entity	Submission Requirements

2.1 Eligibility

2.1.1	Nationality	Nationality in accordance with ITB Sub-Clause 4.3.	Must meet requirement	Forms ELI -1.1 With attachments
2.1.2	Conflict of Interest	No conflicts of interest in ITB Sub-Clause 4.2.	Must meet requirement	Letter of Bid
2.1.3	Government Owned Entity	Bidder to meet conditions of ITB Sub-Clause 4.5. The entity should not be a dependent agency of the borrower or sub-borrower or Employer.	Must meet requirement	Forms ELI -1.1 with attachments
2.1.4	United Nations resolution or Borrower's country law	Not having been excluded as a result of prohibition in the Borrower's country laws or official regulations against commercial relations with the Bidder's country, or by an act of compliance with UN Security Council resolution, both in accordance with ITB 4.7 and Section IV.	Must meet requirement	Forms ELI -1.1 with attachments

Eligibility and Qualification Criteria			Compliance Requirements	Documentation
No.	Subject	Requirement	Single Entity	Submission Requirements

2.2 Financial Situation and Performance

2.2.1	Financial Capabilities	(a) The audited balance sheets or, if not required by the laws of the Bidder's country, other financial statements acceptable to the Employer, for the last five years(i.e. April 2015 to Mar 2020) shall be submitted and must demonstrate the current soundness of the Bidder's financial position and indicate its prospective long-term profitability.	Must meet requirement	Form FIN - 3.1 with attachments
2.2.2	Annual Turnover	Achieved minimum annual financial turnover 100 lakh (<i>Rs hundred lakh</i>), in the last Five financial years automation turnkey work calculated as total certified payments received for contracts in progress or completed-	Must meet requirement	Form FIN - 3.2

2.3 Experience

2.3.1	Specific Experience	The supplier shall have supplied the following systems within India. Three closed loop servo hydraulic systems amounting to 40 % of estimated cost in the last seven years. OR Two closed loop servo hydraulic systems amounting to 50 % of estimated cost in the last seven years. OR One closed loop servo hydraulic systems amounting to 80 % of estimated cost in the last seven years. Documentary proof of Complete user list with address, phone number and email ID, Name of the contact person shall be submitted along with the technical bid.	Must meet requirements	Form EXP-4.2(a)
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Section III - Bidding Forms

Letter of Bid – Technical Part

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 use in preparing these forms and shall be deleted from the final products.

Date: _____

To:
The Scientist 'C'
Construction & Procurement Cell (CPC),
Central Water & Power Research Station (CWPRS),
Khadakwasala, Sinhgad Road,
Pune – 411024 (Maharashtra)

Ref : NIT No.: **69/2020-21**

We, the undersigned, hereby submit our bid, in two parts, namely:

- (a) the Technical Part, and
- (b) the Financial Part

In submitting our Bid, we make the following declarations:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (ITB 8);
- (b) We meet the eligibility requirements and have no conflict of interest in accordance with ITB 4;
- (c) We offer to execute in conformity with the Bidding Documents the following Works: **Supply, Installation, Commissioning and Testing of Servo Hydraulic System for Random Sea Wave Generator (RSWG) for 120m Wave Flume at CWPRS, Pune – 24**
- (d) Our bid shall be valid for a period of **180 days** from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (e) If our bid is accepted, we commit to obtain a performance security in accordance with the Bidding Document;
- (f) We are not participating, as a Bidder, in more than one bid in this bidding process in accordance with ITB 4.2,

-
- (g) We are not a government owned entity / We are a government owned entity but meet the requirements of ITB 4.5¹;
- (h) 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 fraud and corruption.
- (i) We also 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 on date namely "Prevention of Corruption Act 1988."
- (j) 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;
- (k) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive; and
- (l) If awarded the contract, the person named below shall act as Contractor's Representative:

Name of the Bidder* **[insert complete name of person signing the Bid]**

Name of the person duly authorized to sign the Bid on behalf of the Bidder** **[insert complete name of person duly authorized to sign the Bid]**

Title of the person signing the Bid **[insert complete title of the person signing the Bid]**

Signature of the person named above **[insert signature of person whose name and capacity are shown above]**

Date signed **[insert date of signing]** day of **[insert month]**,
[insert year]

*: In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder

** : Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid Schedules.

¹Use one of the two options as appropriate.

Appendix to Technical Part

Form SC-Sub Contracting

SCHEDULE OF SUBCONTRACTORS

Item	Element of Goods/Work/Services	Approximate value of sub-contract	% of bid price	Name and address of sub-contractor	Qualification and experience of sub-contractor on similar works of the elements executed

The Bidder shall enter in this schedule a list of the major sections and appropriate value of the Goods/Work/Services for which he proposes to use subcontractors [for those costing more than 10% of the bid price for each element], together with the names, addresses and experiences of the proposed subcontractors.

The capability of the sub-contractor will also be assessed (on the same lines as for the main Contractor) before according approval to him.

(Work should not be split into small parts and sub-contracted; but, sub-contracting specialized elements of Goods/Works/Services is acceptable).

Appendix to Technical Part

Form-ELI -1.1: Bidder Information Form

Date: **09.12.2020**

NIT/NCB No. **69/2020-21**

Name of work: **Supply, Installation, Commissioning and Testing of Servo Hydraulic System for Random Sea Wave Generator (RSWG) for 120m Wave Flume at CWPRS, Pune – 24**

1.1 Bidder Information			
Bidder's legal name			
Bidder's country of constitution			
Bidder's year of constitution			
Bidder's legal address in country of constitution			
Bidder's authorized representative (name, address, telephone numbers, fax numbers, e-mail address)			
Attached are copies of the following original documents. <ol style="list-style-type: none">1. In case of single entity, articles of incorporation or constitution of the legal entity names above, in accordance with ITB 4.1.1 and 4.3.2. Authorization to represent the firm or JV named in above, in accordance with ITB 20.2.3. In case of JV, letter of intent to form JV or JV agreement: in accordance with ITB 4.1.2 read with BDS4. In case of government-owned entity, documents establishing legal and financial authority and compliance with the principles of commercial law in accordance with ITB 4.5 read with Sub-clause 2.1.4 of Qualification Criteria.5. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.			

Appendix to Technical Part Financial Situation

FORMAT 3.1 Historical Financial Performances

Bidder's Legal Name: _____ Date: _____
 JV Member Legal Name: _____ Bidding No.: _____
 Page _____ of _____ pages

To be completed by the Bidder and, if JV, by each member

SUMMARY OF FINANCIAL STATEMENTS							
Name of bidder/JV Member:							
(Rs. Lakhs)							
S.No.	Financial Information in Rupee equivalent with exchange rate at the end of concerned year	Actuals for Previous five years excluding the current financial year					Ref. of Page Nos. of Balance Sheets
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	Total Assets						
2.	Total Turnover						
3.	Current Assets						
4.	Current Assets + Loan & Advances						
5.	Total Liabilities						
6.	Current Liabilities						
7.	Current liabilities & provision						
8.	Profit before Interest and Tax						
9.	Profit before Tax						
10.	Profit after Tax						
11.	Shareholder's Funds (Net Worth)=(Paid up equity +Reserves)-(revaluation reserves + Miscellaneous expenditure not written off) Depreciation						
12.	Current Ration (2)/(5)						
13.	Net cash accruals= Profit after Tax + depreciation						
14.							

This information should be extracted from the Annual Financial Statements/ Balance sheets, which should be enclosed. Year 1 will be the latest year for which audited financial statements are available. Year 2 shall be the year immediately preceding year 1 and year 3 shall be the year immediately preceding Year 2.

2. Financial documents

The Bidder and its parties shall provide copies of the balance sheets and / or financial statements for 5 years pursuant Section II, Qualifications Criteria and Requirements, Sub-factor 2.3.1. The financial statements shall:

- (a) reflect the financial situation of the *Bidder* or member to a JV, and not sister or parent companies.
 - (a) be audited by a certified Chartered Accountant.
 - (c) be complete, including all notes to the financial statements.
 - (d) Correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted).
- Attached are copies of financial statements (balance sheets, including all related notes, and income statements) for the *[number]* years required above; and complying with the requirements (If the most recent set of financial statements is for a period earlier than 12 months from the date of bid, the reason for this should be justified)

Appendix to Technical Part

Form FIN - 3.2

Annual Turnover

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

Bidder's/Joint Venture Member's Legal Name: *[insert full name]*

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

JV Party Legal Name: *[insert full name]*

NCB No. and title: **69/2020-21 Supply, Installation, Commissioning and Testing of Servo Hydraulic System for Random Sea Wave Generator (RSWG) for 120m Wave Flume at CWPRS, Pune – 24**

Annual turnover data		
Year	Amount in Rupees	
<i>[indicate year]</i>	<i>[insert amount]</i>	

Page ...of.....Pages

Appendix to Technical Part

Form EXP - 4.2(a) Experience in Work

[The following table shall be filled in for contracts performed by the Bidder, each member of a Joint Venture, and specialist sub-contractors]

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

Date:[insert day, month, year]

NCB No. and title: **69/2020-21**

Name of the work: Supply, Installation, Commissioning and Testing of Servo Hydraulic System for Random Sea Wave Generator (RSWG) for 120m Wave Flume at CWPRS, Pune – 24

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

- (b) **Work performed as prime Contractor or Sub-Contractor or Management Contractor** (in the same name and style) on construction works of a similar nature and volume over the last five years². [Attach certificate from the Engineer-in-charge.]

Project Name	Name of Employer	Description of work	Contract No.	Value of contract	Date of Issue of Work Order	Stipulated Date of Completion	Actual Date of Completion	Remarks explaining reasons for Delay, if any

² Immediately preceding the financial year in which bids are received.

Appendix to Technical Part

Supply, Installation, Commissioning and Testing of Servo Hydraulic System for Random Sea Wave Generator (RSWG) for 120m Wave Flume at CWPRS, Pune – 24

(Declaration regarding customs / excise duty exemption for materials/ construction equipment bought for the work)

(Bidder's Name and Address)

To:
**Scientist 'C',
 Construction & Procurement Cell (CPC)
 Central Water & Power Research Station,
 Khadakwasala, Sinhgad Road,
 Pune – 411024 (Maharashtra), India**

Dear Sir:

Re: **Supply, Installation, Commissioning and Testing of Servo Hydraulic System for Random Sea Wave Generator (RSWG) for 120m Wave Flume at CWPRS, Pune – 24** Certificate for Import/Procurement of Goods/Equipments

1. We confirm that we are solely responsible for obtaining customs/excise duty waivers which we have considered in our bid and in case of failure to receive such waivers for reasons whatsoever, the Employer will not compensate us.
2. We are furnishing below the information required by the Employer for issue of the necessary certificates in terms of the Government of India Central Excise Notification No.108/95 read alongwith all subsequent amendments including the amendment dated 01-03-2008 and Customs Notification No. 85/99.
3. The goods/equipments for which certificates are required are as under:

Items <i>(modify the list suitably for each specific work)</i>	Make/ Brand Name	Capacity <i>[where applicable]</i>	Quantity	Value	State whether it will be procured locally or imported <i>[if so from which country]</i>	Remarks regarding justification for the quantity and their usage in works.
Goods						
Equipment						

Material/Tool						

4. We agree that no modification to the above list is permitted after bids are opened.
5. We agree that the certificate will be issued only to the extent considered reasonable by the Employer for the work, based on the Bill of Quantities and the construction program and methodology as furnished by us alongwith the bid.
6. We confirm that the above goods and construction equipment will be exclusively used for the construction of the above work and the construction equipment will not be sold or otherwise disposed of in any manner for a period of five years from the date of acquisition.

Date: _____
Place: _____

(Signature) _____
(Printed Name) _____
(Designation) _____
(Common Seal) _____

[This certificate will be issued within 60 days of signing of contract and no subsequent changes will be permitted.]

**** Modify the above to suit the requirements given in Central Excise/Customs Notification as current of date of bidding.***

Section IV - Eligible Countries

Eligibility for the Provision of Goods, Works and Non Consulting Services

In reference to ITB 4.7 and ITB 5.1, for the information of the Bidders, at the present time firms, goods and services from the following countries are excluded from this Bidding process:

Under ITB 4.7 and ITB 5.1: As per the latest directives issued by Government of India

PART 2 – Conditions of Contract and Contract Forms

Section V. General Conditions of Contract

These General Conditions of Contract (GCC), and other documents listed therein, should be a complete document expressing fairly the rights and obligations of both parties.

These General Conditions of Contract have been developed on the basis of considerable international experience in the drafting and management of contracts, bearing in mind a trend in the industry towards simpler, more straightforward language.

Section V – General Conditions of Contract

Table of Clauses

Sr. No.	Description	Page No.
A	General	52
1.	Definitions	52
2.	Interpretation	53
3.	Language and Law	54
4.	Project Manager's Decisions	54
5.	Delegation	54
6.	Communications	55
7.	Subcontracting	55
8.	Other Contractors	56
9.	Personnel and Equipment	56
10.	Contractor's Risks	57
11.	Insurance	58
12.	Site Data	58
13.	Contractor to Construct the Works including protection of environment and assurance of public health and safety	58
14.	The Works to Be Completed by the Intended Completion Date	58
15.	Approval by the Project Manager	58
16.	Safety	59
17.	Discoveries	59
18.	Possession of the Site	59
19.	Access to the Site	59
20.	Instructions, Inspections and Audits	59
21.	Settlement of Disputes	60
B.	Time Control	60
22.	Program	60
23.	Extension of the Intended Completion Date	60
24.	Delays Ordered	61
25.	Management Meetings	61
26.	Early Warning	61
C	Quality Control	61
27.	Quality Assurance	61
28.	Tests	61
29.	Identifying and Correction of Defects	62
30.	Uncorrected Defects	62
D	Cost Control	62
31.	Contract Price	62
32.	Variations	62
33.	Cash Flow and Forecasts	63
34.	Payment Certificates	63

35.	Terms of Payments	64
36.	Tax	64
37.	Currencies	64
38.	Liquidated Damages	64
39.	Performance Security	65
40.	Cost of Repairs	65
41.	Defects Liability (Warranty) Period	65
E.	Finishing the Contract	66
42.	Completion	66
43.	Taking Over	66
44.	Final Account	66
45.	Operating and Maintenance Manuals	67
46.	Termination	67
47.	Payment upon Termination	68
48.	Property	68
49.	Release of Performance Security	68

General Conditions of Contract (GCC)

A. General

1. Definitions	<p>1.1 Boldface type is used to identify defined terms.</p> <ul style="list-style-type: none">(a) The Accepted Contract Amount means the amount accepted in the Letter of Acceptance for the execution and completion of the Works and the remedying of any defects.(b) Bill of Quantities means the priced and completed Bill of Quantities forming part of the Bid.(c) Compensation Events are those defined in GCC Clause hereunder.(d) The Completion Date is the date of completion of the Works,(e) The Contract is the Contract between the Employer and the Contractor to execute, complete, and maintain the Works. It consists of the documents listed in GCC Sub-Clause below.(f) The Contractor is the party whose Bid to carry out the Works has been accepted by the Employer.(g) The Contractor's Bid is the completed bidding document submitted by the Contractor to the Employer.(h) The Contract Price is the Accepted Contract Amount stated in the Letter of Acceptance(i) Days are calendar days; months are calendar months.(j) A Defect is any part of the Works/Supply not completed in accordance with the Contract.(k) The Defects Liability Certificate is the certificate issued by Scientist 'C', CPC, CWPRS, Pune upon correction of defects by the Contractor.(l) The Defects Liability Period / warranty is the period of 12 Months and calculated from the Completion Date.(m) Drawings means the drawings of the Works, as included in the Contract, and any additional and modified drawings issued by (or on behalf of) the Employer in accordance with the Contract, include calculations and other information provided or approved by the CWPRS, Pune for the execution of the Contract.(n) The Employer is the party who employs the Contractor to carry out the Works, as Director, CWPRS, Pune.(o) Equipment is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.(p) "In writing" or "written" means hand-written, type-written, printed or electronically made, and resulting in a permanent
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	<p>record;</p> <p>(q) The Initial Contract Price is the Contract Price listed in the Employer’s Letter of Acceptance.</p> <p>(r) The Intended Completion Date is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date may be revised only by the Director, CWPRS, Pune by issuing an extension of time or an acceleration order.</p> <p>(s) Materials are all supplies, including consumables, used by the Contractor for incorporation in the Works.</p> <p>(t) Plant is any integral part of the Works that shall have a mechanical, electrical, chemical, or biological function.</p> <p>(u) The Project Manager i.e Scientist ‘C, CPC, CWPRS, Pune is (or any other competent person appointed by the Employer and notified to the Contractor, to act in replacement of the Project Manager) who is responsible for supervising the execution of the Works and administering the Contract.</p> <p>(v) The Site is the area : 120 m Wave Flume, CWPRS, Pune.</p> <p>(w) Site Investigation Reports are those that were included in the bidding documents and are factual and interpretative reports about the surface and subsurface conditions at the Site.</p> <p>(x) Specification means the Specification of the Works, materials, Goods included in the Contract and any modification or addition made or approved by the Project Manager.</p> <p>(y) The Start Date is the date starts from 15 days issue of Notification Award to Contractor shall commence execution of the Works. It does not necessarily coincide with any of the Site Possession Dates.</p> <p>(z) A Subcontractor is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract, which includes work on the Site.</p> <p>(aa) Temporary Works are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Works.</p> <p>(bb) A Variation is an instruction given by the Project Manager which varies the Works.</p> <p>(cc) The Works are what the Contract requires the Contractor to Supply, install, testing and commissioning of Name of the Work</p>
<p>2. Interpretation</p>	<p>2.1 In interpreting these GCC, words indicating one gender include all genders. Words indicating the singular also include the plural and words indicating the plural also include the singular. Headings have no significance. Words have their normal</p>

	<p>meaning under the language of the Contract unless specifically defined. The Project Manager shall provide instructions clarifying queries about these GCC.</p> <p>2.2 The Completion Date and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works).</p> <p>2.3 The documents forming the Contract shall be interpreted in the following order of priority:</p> <ul style="list-style-type: none"> (a) Agreement, (b) Notification of Award (c) Priced Bill of Quantities, (d) General Conditions of Contract including Appendices, (e) Specifications, (f) Drawings, and (g) Any other document as forming part of the Contract.
3. Language and Law	<p>3.1 The language of the Contract is English and the law that applies to the Contract is the laws of Union of India.</p> <p>Salient features of major labour and other laws that are applicable as per industry in India to these General Conditions of Contract.</p> <p>3.2 Throughout the execution of the Contract, the Contractor shall comply with the import of goods and services prohibitions in the India when</p> <ul style="list-style-type: none"> (a) as a matter of law or official regulations, India prohibits commercial relations with that country; or (b) by an act of compliance with a decision of the United Nations Security Council taken under the Charter of the United Nations, India prohibits any import of goods from that country or any payments to any country, person, or entity in that country.
4. Project Manager's Decisions	<p>4.1 Except where otherwise specifically stated, the Project Manager shall decide contractual matters between the Employer and the Contractor in the role representing the Employer.</p> <p>However, if the Project Manager is required, under the rules and regulations and orders of the Employer, to obtain approval of some other authorities for specific actions, he will so obtain the approval. Provided further that any requisite approval shall be deemed to have been given by the Employer for any such authority exercised by the Project Manager.</p>
5. Delegation	<p>5.1 The Project Manager may delegate any of his duties and responsibilities to other people after notifying the Contractor,</p>

	and may revoke any delegation after notifying the Contractor.
6. Communica-tions	6.1 Communications between parties that are referred to in the Conditions shall be effective only when in writing. A notice shall be effective only when it is delivered. All oral instructions shall be confirmed in writing in seven working days .
7. Subcontracting	<p>7.1 The Contractor may subcontract with the approval of the Project Manager up to a ceiling of 10% value of work, but may not assign the Contract without the approval of the Employer in writing. Subcontracting shall not alter the Contractor's obligations.</p> <p>7.2 The Project Manager should satisfy himself before recommending to the Employer whether:</p> <ul style="list-style-type: none"> a) the circumstances warrant such sub-contracting; and, b) the sub-Contractor so proposed for the Work possesses the experience, qualifications and equipment necessary for the job proposed to be entrusted to him in proportion to the quantum of Works to be sub-contracted. <p>7.3 If payments are proposed to be made directly to that sub-contractor, this should be subject to specific authorization by the prime contractor so that his arrangement does not alter the contractor's liability or obligations under the contract.</p> <p>7.4 The Contractor shall not be required to obtain any consent from the Employer for:</p> <ul style="list-style-type: none"> (a) the sub-contracting of any part of the Works for which the Sub-Contractor is already named in the contract; (b) the provision for labour, or labour component, and, (c) the purchase of materials which are in accordance with the standards specified in the contract. <p><i>(Note: 1. All bidders are expected to indicate clearly in the bid, if they proposed sub-contracting elements of the works amounting to more than 10 percent of the Bid Price. For each such proposal the qualification and the experience of the identified sub-contractor in the relevant field should be furnished alongwith the bid to enable the Employer to satisfy himself about their qualifications before agreeing for such sub-contracting and include it in the contract. In view of the above, normally no additional sub-contracting should arise during execution of the contract.</i></p> <p><i>2. However, [a] sub-contracting for certain specialized elements of the work is not unusual and acceptable for carrying out the works more effectively; but vertical splitting of the works for sub-contracting is not acceptable. [b] in any case, proposal for sub-contracting in addition to what was</i></p>

	<p><i>specified in bid and stated in contract agreement will not be acceptable if the value of such additional sub-contracting exceeds 25% of value of work which was to be executed by Contractor without sub-contracting.</i></p> <p><i>3. Assignment of the contract may be acceptable only under exceptional circumstances (such as insolvencies/liquidation or merger of companies etc.)</i></p>
8. Other Contractors	8.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Employer between the dates given in the Schedule of Other Contractors. The Contractor shall also provide facilities and services for them as described in the Schedule. The Employer may modify the Schedule of Other Contractors, and shall notify the Contractor of any such modification.
9. Personnel and Equipment	9.1 The Contractor shall employ the key personnel and use the equipment identified in its Bid, to carry out the Works or other personnel and equipment approved by the Project Manager. The Project Manager shall approve any proposed replacement of key personnel and equipment only if their relevant qualifications or characteristics are substantially equal to or better
	9.2 Other than those proposed in the Bid.
	9.3 The Project Manager may require the Contractor to remove from the Site of Works, a member of the Contractor's staff or his work force, who: <ul style="list-style-type: none"> (a) persists in any misconduct or lack of care, (b) carries out duties incompetently or negligently, (c) fails to conform with any provisions of the Contract, or (d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment
	9.4 If the Employer, Project Manager or Contractor determines, that any employee of the Contractor be determined to have engaged in corrupt, fraudulent, collusive, coercive, or obstructive practice during the execution of the Works, then that employee shall be removed in accordance with Clause 9.3 above
	9.5 In all the above cases, the contractor shall ensure that the person leaves the site within seven days and has no further connection with the work in the contract. The Contractor shall appoint a suitable replacement within 10 days or earlier as may be agreed to between the Project manager and the Contractor.
	9.6 The Contractor shall not employ any retired Gazetted officer who has either not completed two years after the date of retirement or has not obtained permission from the Government authorities for employment with the Contractor
	9.7 The Contractor shall, unless otherwise provided in the Contract,

	<p>make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport. The Contractor shall, if required by the Project Manager, deliver to the Project Manager a return in detail, in such form and at such intervals as the Project Manager may prescribe, showing the staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such other information as the Project Manager may require.</p>
	<p>9.8 During continuance of the Contract, the Contractor and his Sub-Contractors shall abide at all times by all existing labour enactments and rules made there under, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour laws (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law prevailing on the Base Date either by the State or the Central Government or the local authority. The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contraventions including amendments. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications / bye laws / Acts / Rules/regulations including amendments, if any, on the part of the Contractor, the Project Manager / Employer shall have the right to deduct any money due to the Contractor including his amount of performance security. The Employer / Project Manager shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer</p>
	<p>9.9 The employees of the Contractor and the Sub-Contractor in no case shall be treated as the employees of the Employer at any point of time.</p>
	<p>9.10 The Contractor shall duly comply with the provisions of the Apprentices Act 1961 (III of 1961) and the rules made there under, and comply, failure or neglect to shall be subject to all liabilities and penalties provided in the said Act and Rules.</p>
<p>10. Contractor's Risks</p>	<p>10.1 From the Starting Date until the Defects Liability Certificate has been issued, the risks of personal injury, death, and loss of or damage to property (including, without limitation, the Works, Plant, Materials, and Equipment) are Contractor's risks.</p>

<p>11. Insurance</p>	<p>11.1 The Contractor shall made sufficient insurance cover from the Start Date to the end date of completion of work, in accordance with the statutory requirements applicable in India for the following events which are due to the Contractor's risks:</p> <ul style="list-style-type: none"> (a) loss of or damage to the Works, Plant, Equipment, Instruments, Tools and Materials [which are incorporated in works]; (b) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract; and (c) personal injury or death.
<p>12. Site Data</p>	<p>12.1 The Contractor shall be deemed to have examined Site i.e. CWPRS, Pune, supplemented by any information available to the Contractor.</p>
<p>13. Contractor to Construct the Works including protection of environment and assurance of public health and safety</p>	<p>13.1 The Contractor shall construct and install the Works in accordance with the Specifications and Drawings and as per instructions of Project Manager.</p> <p>13.2.1 The Contractor shall take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other cause arising as a consequence of his methods of operation.</p> <p>13.2.2 During continuance of the contract, the contractor and his sub-contractors shall abide at all times by all existing enactments on environmental protection and rules made there under, regulations, notifications and by-laws of the Sate or Central Government, or local authorities and other law, bye-law, regulations that may be passed or notification that may be issued in this respect in future by the State or Central Government or the local authority.</p>
<p>14 The Works to Be Completed by the Intended Completion Date</p>	<p>14.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the Program submitted by the Contractor, as updated with the approval of the Project Manager, and complete them by the Intended Completion within 180 days.</p>
<p>15 Approval by the Project Manager</p>	<p>15.1 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Project Manager, for his approval.</p> <p>15.2 The Contractor shall be responsible for design of Temporary Works.</p> <p>15.3 The Project Manager's approval shall not alter the Contractor's responsibility for design of the Temporary Works.</p> <p>15.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works, where required.</p> <p>15.5 All Drawings prepared by the Contractor for the execution of the</p>

	temporary or permanent Works, are subject to prior approval by the Project Manager before this use.
16 Safety	16.1 The Contractor shall be responsible for the safety of all activities on the Site.
17 Discoveries	17.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site shall be the property of the Employer. The Contractor shall notify the Project Manager of such discoveries and carry out the Project Manager's instructions for dealing with them.
18 Possession of the Site	18.1 The Employer shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date, the Employer shall be deemed to have delayed the start of the relevant activities, and this shall be a Compensation Event.
19 Access to the Site	19.1 The Contractor shall allow the Project Manager and any person authorized by the Project Manager access to the Site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.
20 Instructions, Inspections and Audits	<p>20.1 The Contractor shall carry out all instructions of the Project Manager which comply with the applicable laws where the Site is located.</p> <p>20.2 The Contractor shall keep, and shall make all reasonable efforts to cause its Subcontractors and sub-consultants to keep, accurate and systematic accounts and records in respect of the Works in such form and details as will clearly identify relevant time changes and costs.</p> <p>20.3 The Contractor shall permit and shall cause its Subcontractors and sub-consultants to permit, the CWPRS and/or persons appointed by the CWPRS to inspect the Site and/or the accounts and records relating to the performance of the Contract and the submission of the bid, and to have such accounts and records audited by auditors appointed by the CWPRS if requested by the CWPRS.</p>

<p>21 Settlement of Disputes</p>	<p>21.1 The Employer (Project Manager) and the Contractor (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.</p> <p>21.2 If, after twenty-eight (28) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Project Manager or the Contractor (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 Director, CWPRS. Arbitration may be commenced prior to or after delivery of the Works and Goods under the Contract. Arbitration proceedings shall be conducted in accordance with the rules of procedure specified in Arbitration and Conciliation Act 1996.</p> <p>21.3 Notwithstanding any reference to arbitration herein, the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and the Project Manager shall pay the Contractor any monies due the Contractor.</p>
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B. Time Control

<p>22. Program</p>	<p>22.1 The Letter of Acceptance (LOA), the Contractor shall submit the program of schedule works to Scientist-C, CPC, CWPRS, Pune for approval by showing the general methods, arrangements, order, and timing for all the activities in the Works alongwith monthly cash flow forecasts.</p> <p>22.2 The Scientist-C, CPC approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Scientist-C, CPC again at any time. A revised Program shall show the effect of Variations.</p>
<p>23. Extension of the Intended Completion Date</p>	<p>23.1 The Director, CWPRS shall extend the Intended Completion Date including milestones if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date as per agreed milestones without the Contractor taking steps to accelerate the remaining work, which would cause the Contractor to incur additional cost.</p> <p>23.2 The Director, CWPRS shall decide whether and by how much to extend the Intended Completion Date/milestones within 21 days of the Contractor asking the Scientist-C, CPC for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor</p>

	has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date/milestones.
24. Delays Ordered	24.1 The Scientist-C, CPC may instruct the Contractor to delay the start or progress of any activity within the Works.
25. Management Meetings	<p>25.1 Either the Scientist-C, CPC or the Contractor may require the other to attend a management meeting. (Which will be held at the place indicated in the O/o Scientist-C, CPC, CWPRS, Pune). The periodicity to be fixed by Scientist-C, CPC/ Contractor jointly). The business of a management meeting shall be to review the progress of work with reference to the execution program given in accordance with GCC 22.1, the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.</p> <p>25.2 The Scientist-C, CPC shall record the business of management meetings and provide copies of the record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken shall be decided by the Scientist-C, CPC either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.</p>
26. Early Warning	<p>26.1 The Contractor shall warn the Scientist-C, CPC at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract Price, or delay the execution of the Works. The Scientist-C, CPC may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate shall be provided by the Contractor as soon as reasonably possible.</p> <p>26.2 The Contractor shall cooperate with the Scientist-C, CPC in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Scientist-C, CPC.</p>

C. Quality Control

27. Quality Assurance	<p>27.1 The Contractor shall institute Quality Assurance (QA) and Quality Control (QC) systems in accordance with Quality Assurance Plan to demonstrate compliance with the requirements of the Contract as approved by the Project Manager.</p> <p>27.2 Compliance with the QA/QC systems shall not relieve the Contractor of any of his duties obligations or responsibilities under the Contract.</p>
28. Tests	28.1 The Contractor shall provide all apparatus, assistance, documents and other information, electricity, equipment, fuel,

	<p>consumables, instruments, labour, materials, and suitably qualified and experienced staff, as are necessary to carry out the specified tests efficiently.</p> <p>28.2 If the Project Manager instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect, the test shall be a Compensation Event.</p>
29. Identifying and Correction of Defects	<p>29.1. The Project Manager shall check the Contractor's work and notify the Contractor of any defects that are found specifying a time by which it should be corrected. The Project Manager may instruct the Contractor to search for a Defect and to uncover and test any work that the Project Manager considers may have a Defect.</p> <p>29.2 The contractor shall permit the Employer's Technical auditor to check the contractor's work and notify the Project Manager and Contractor of any defects that are found.</p> <p>29.3 The Project Manager shall give notice to the Contractor of any Defects [specifying a time limit by which it should be corrected] before the end of the Defects Liability Period (12 months), which begins at Completion in all respective. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.</p> <p>29.4 Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Project Manager's notice.</p>
30. Uncorrected Defects	<p>30.1 If the Contractor has not corrected a Defect within the time specified in the Project Manager's notice, the Project Manager shall assess the cost of having the Defect corrected and the Contractor shall pay this amount.</p> <p><i>Note: 1. Where the failure to correct a particular defect within the specified time is considered as a fundamental breach of contract a notice should be given to the contractor as stated in GCC</i></p>

D. Cost Control

31. Contract Price	<p>31.1 The Bill of Quantities shall contain priced items for the Works to be performed by the Contractor. The Bill of Quantities is used to calculate the Contract Price. The Contractor will be paid for the quantity of the work accomplished at the rate in the Bill of Quantities for each item or lumpsum.</p>
32. Variations	<p>32.1 All Variations shall be included in updated Programs, produced by the Contractor.</p> <p>32.2 The Contractor shall provide the Project Manager with a quotation (with breakdown of unit rates) for carrying out the Variation when requested to do so by the Project Manager. The Project Manager shall assess the quotation, which shall</p>

	<p>be given within seven (7) days of the request or within any longer period stated by the Project Manager and before the Variation is ordered.</p> <p>32.3 If the work in the Variation corresponds to an item description in the Bill of Quantities and if, in the opinion of the Project Manager, or the timing of its execution do not cause the cost per unit of quantity to change, the rate in the Bill of Quantities shall be used to calculate the value of the Variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the Variation does not correspond with items in the Bill of Quantities, the quotation by the Contractor shall be in the form of new rates for the relevant items of work.</p> <p>32.4 If the Contractor's quotation is unreasonable, [<i>or if contractor fails to provide the Project Manager with a quotation within a reasonable time specified by Project Manager in accordance with GCC32.2.</i> the Project Manager may order the Variation and make a change to the Contract Price, which shall be based on the Project Manager's own forecast of the effects of the Variation on the Contractor's costs</p> <p>32.5 If the Project Manager decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the work, no quotation shall be given and the Variation shall be treated as a Compensation Event.</p> <p>32.6 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.</p>
33. Cash Flow and Forecasts	<p>33.1 When the Program, is updated, the Contractor shall provide the Scientist-C, CPC with an updated cash flow forecast. The cash flow forecast shall be in Indian Rupees.</p>
34. Payment Certificates	<p>34.1 The Contractor shall submit to the Project Manager value of the work executed (bill) less the cumulative amount certified previously alongwith details of measurement of the quantity of works executed in a tabular form approved by the Project Manager.</p> <p>34.2 The Project Manager shall check the details given in the Contractor's bill and within 30 days certify the amounts to be paid to the Contractor after taking into account any credit or debit.</p> <p>34.3 The value of work executed shall be determined by the Project Manager after due check measurement of the quantities claimed as executed by the contractor</p> <p>34.4 The value of work executed shall comprise of the value of the quantities of work in the Bill of Quantities that have been completed;</p> <p>34.5 The value of work executed shall include the valuation of Variations and Compensation Events.</p> <p>34.6 The Project Manager may exclude any item certified in a</p>

	previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.
35. Terms of Payment	<p>35.1 Payment in respect of the Works/Goods shall be made in the following manner:</p> <ul style="list-style-type: none"> (a) 70% of the contract amount excluding AMC (if any) shall be paid to the bidder/agency after delivery of entire system at CWPRS, Pune or on production of bill thereof within 45 days. (b) 20% of the contract amount excluding AMC (if any) shall be paid after successful commissioning and testing of entire system including training etc or on production of bill thereof within 45 days. (d) 10% of the contract amount excluding AMC (if any) shall be paid after successful functioning of entire system for three month or on production of bill thereof within 45 days. (e) Payment towards Annual Maintenance Contract (AMC) shall be made in yearly instalments within thirty (30) days at the end of each year from the date of completion of the Defects Liability (warranty) period, subject to satisfactory service rendered as specified in the bidding document and upon receipt of bill supported by a certificate issued by the Employer's representative that the satisfactory service has been rendered by the Contractor. (f) There is no recovery for water charges. (g) All other mandatory taxes will be deducted as per applicable rate from the bill (h) The Goods and Services Tax (GST) will be reimbursed to the bidder as per prevailing government of India rates along with bill. (i) The payments shall be made in Indian Rupees to the Bidder under this Contract. <p>35.2 Payments shall be adjusted for deductions for in terms of contract & taxes to be deducted at source [TDS] as per applicable law. The Employer shall pay the Contractor the amounts certified by the Project Manager within 30 days of the date of each certificate.</p> <p>35.3 Items of the Works for which no rate or price has been entered in BoQ shall not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.</p>

36. Tax	36.1 The rates quoted by the Contractor shall be deemed to be excluding Goods & Service Tax (GST) and also any other taxes that the Contractor will have to pay for the performance of this Contract. The Employer will perform such duties in regard to the deduction of such taxes at source [TDS] as per applicable law.
37. Currencies	37.1 All payments shall be made in Indian Rupees.
38. Liquidated Damages	<p>38.1 The Contractor shall pay liquidated damages to the Employer at the rate per day @ 0.05% of the Contract Price excluding AMC cost for each day that the Completion Date is later than the Intended Completion Date (for the whole of the works). The total amount of liquidated damages shall not exceed the amount is 10% of the final contract price excluding AMC cost. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's liabilities.</p> <p>Time is the essence of the contract and payment or deduction of liquidated damages shall not relieve the contractor from his obligation to complete the work as per agreed construction program and milestones, or from any of the Contractor's other obligations and liabilities under the contract.</p> <p>38.2 If the Intended Completion Date including milestones is extended after liquidated damages have been paid, the Project Manager shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate.</p>
39. Performance Security	39.1 The Performance Security shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount 3% of contract price including Annual Maintenance Contract (AMC), in the form of FDR/BG issued by a Nationalized or Schedule bank in India, and denominated. The FDR / Bank Guarantee for Performance Security shall be valid until a date 60 days from the date of issue of the Defects Liability period (warranty period).
40. Cost of Repairs	40.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.
41. Defects Liability (Warranty Period)	41.1 The Contractor shall warrant that the Goods supplied under this Contract are new, unused and that they incorporate all recent improvements in design and materials unless provided otherwise in the Contract. The Contractor shall further warrant that all Goods supplied under this Contract shall have no defect arising from design, materials or workmanship or from any act or omission of the Contractor that may develop under normal use of the supplied Goods in the conditions prevailing

	in the country of final destination
	<p>41.2 This warranty period (Defects Liability period) shall remain valid for 12 months after the date of successful commissioning and testing of the entire system.</p> <p>a) If, for reasons attributable to the Contractor, the warranty is not attained in whole or in part, the Contractor shall make such changes, modifications, and/ or additions to the Goods or any part thereof as may be necessary in order to attain the Contractual guarantees specified in the Contract at its own cost and expense and to carry out further performance tests specified in the bid document</p>
	41.3 The Employer shall promptly notify the Contractor in writing of any claims arising under this warranty.
	41.4 All Goods supplied and installed shall be as per specifications. If any Goods is found to be defective due to faulty material, faulty design, or inferior quality or material shall be repaired and or replaced at site free of charge by the Contractor at his own cost during the Defects Liability (Warranty) Period. The warranty shall cover damage or failure of any part or complete installation.
	<p>41.5 Upon receipt of such notice, the Contractor shall, within the specified period, repair or replace the defective Goods or parts thereof, free of cost at the ultimate destination. The Contractor shall take over the replaced parts/Goods at the time of their replacement. No claim whatsoever shall lie on the Employer for the replaced parts/Goods thereafter.</p> <p>41.6 In the event of any replacement of defective equipment/material during the Defects Liability Period, the warranty for the replaced equipment/material shall be extended to a further period of 12 months. The Performance Guarantee for a proportionate value shall be extended 28 days over and above the extended Defects Liability Period.</p> <p>41.7 If the Contractor having been notified, fails to remedy the defect(s) within 7 (seven) days, the Employer may proceed to take such remedial actions as may be necessary, at the Contractor's risk and expense and without prejudice to any other rights which the Employer may have against the Contractor under the Contract. The Warranty for the particular defective item will be deemed to have been extended by the period that is equal to the number of additional days for which the particular item remains non-functional</p>

E. Finishing the Contract

42. Completion	42.1 The Contractor shall request the Project Manager to issue a Certificate of Completion of the Works, and the Project
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	Manager shall do so upon deciding that the whole of the Works is completed.
43. Taking Over	43.1 The Project Manager (or representative) shall take over the Complete System (Site) and the Works from the contractor within fifteen days from the date of successful supply, installation, commissioning and testing of complete RSWG system in all respects
44. Final Account	44.1 The Contractor shall submit to the Project Manager with a detailed account of the total amount that the Contractor considers payable under the Contract at the end of the Defects Liability Period. The Project Manager shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor's account if it is correct and complete. If it is not, the Project Manager shall issue within 56 days a schedule that states the scope of the corrections or additions that are necessary including corrections and additions to comply with the applicable Laws/ Rules/ Regulations for protection of environment, public health and safety, and the applicable parts of the Environment Management Plan of the project. If the Final Account is still unsatisfactory after it has been resubmitted, the Project Manager shall decide on the amount payable to the Contractor and issue a payment certificate within 56 days of receiving the contractor's revised account.
45. Operating and Maintenance Manuals	45.1 If "as built" Drawings [including a compact disk/Pen drive containing digitized drawings] and/or operating and maintenance manuals are required, the Contractor shall supply them along with final bill / after completing the work in all respectively. . 45.2 If the Contractor does not supply the Drawings [including a compact disk/pen drive containing digitized drawings] and/or manuals pursuant to GCC Sub-Clause 44.1 , or they do not receive the Scientist 'C', CPC, CWPRS approval, the Scientist 'C', CPC, CWPRS shall withhold the amount Rs. 1,00,000/- from payments due to the Contractor.

<p>46. Termination</p>	<p>46.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract after giving fourteen (14) days written notice.</p> <p>46.2 Fundamental breaches of Contract shall include, but shall not be limited to, the following:</p> <ul style="list-style-type: none"> (a) the Contractor stops work for 28 days when no stoppage of work is shown on the current Program and the stoppage has not been authorized by the Scientist 'C', CPC, CWPRS (b) the Scientist 'C', CPC, CWPRS instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within 28 days; (c) The Contractor goes bankrupt or goes into liquidation other than for a reconstruction or amalgamation; (d) the Scientist 'C', CPC, CWPRS gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Scientist 'C', CPC, CWPRS (e) the Contractor has delayed the completion of the Works for which the maximum amount of liquidated damages can be paid. (f) if the Contractor, in the judgment of the Employer, has engaged in corrupt or fraudulent practices in competing for or in executing the Contract, then the Employer may, after giving fourteen (14) days written notice to the Contractor, terminate the Contract and expel him from the Site. (g) The contractor has contravened Clauses 7 and 9 of GCC. (h) The contractor fails to carry out of the instructions of the Scientist 'C', CPC, CWPRS within a reasonable time determined by the Scientist 'C', CPC, CWPRS in accordance with GCC Clause 15.1 and 22. <p>46.3 If the Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible.</p>
<p>47. Payment upon Termination</p>	<p>47.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Scientist 'C', CPC, CWPRS shall issue a certificate for the value of the work done upto the date of the issue of the certificate less other recoveries due in terms of contract, less taxes to be deducted at source [TDS] as per applicable law, and less the percentage to apply to the value of the work not completed. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be a debt payable to the Employer.</p> <p>47.2 If the Contract is terminated for the Employer's convenience or</p>

	because of a fundamental breach of Contract by the Employer, the Scientist 'C', CPC, CWPRS shall issue a certificate for the value of the work done up to the date of the certificate less other recoveries due in terms of the contract and less taxes due to be deducted at source [TDS] as per applicable law
48. Property	48.1 All Materials on the Site, Plant, Equipment, Temporary Works, and Works shall be deemed to be the property of the Employer if the Contract is terminated because of the Contractor's default.
49. Release of Performance security	<p>49.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor, the Scientist 'C', CPC, CWPRS shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which a commitment was made.</p> <p>49.2 The Performance Security shall be discharged by the Employer and returned to the Bidder/agency not later than Thirty (30) days following the date of Completion of the warranty period (Defects Liability period) and including AMC period under the Contract.</p>

Section VI - Contract Forms

This Section contains forms which, once completed, will form part of the Contract. The forms for Performance Security shall only be completed by the successful Bidder after contract award.

1. Notification of Award

[On letter head of the Purchaser]

To: *[Date]*
[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 work ***Supply, Installation, Commissioning and Testing of Servo Hydraulic System for Random Sea Wave Generator (RSWG) for 120m Wave Flume at CWPRS, Pune – 24*** ***[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 15 days of the date of Notification of Award, along with the Performance Security for an amount of INR..... ***[Insert amount equivalent to 3% 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 **Supply, Installation, Commissioning and Testing of Servo Hydraulic System for Random Sea Wave Generator (RSWG) for 120m Wave Flume at CWPRS, Pune – 24** and has accepted a Bid by the Supplier for the supply of those Goods and Services at the Project Site(s), namely **CWPRS, 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)

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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]

Performance Security - Bank Guarantee

[Including Additional Performance Security for unbalanced bids]

[Guarantor letterhead or SWIFT identifier code]

Performance Guarantee No.....*[insert guarantee reference number]*

Date.....*[insert date of issue of the guarantee]*

To:

The Scientist 'C'
Construction and Procurement Cell
Room no. 201, OCL Building,
Central Water & Power Research Station (CWPRS),
Khadakwasala, Sinhgad Road,
Pune – 411024 - Maharashtra

WHEREAS _____ *[name and address of Contractor³]*
(hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. _____
dated _____ to execute **Supply, Installation, Commissioning and Testing
of Servo Hydraulic System for Random Sea Wave Generator (RSWG) for 120m Wave
Flume at CWPRS, Pune – 24** (hereinafter called "the Contract");

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee;

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of _____ *[amount of guarantee⁴]* _____ *[in words]*, such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum

³*In the case of a JV, insert the name of the Joint Venture*

⁴*An amount shall be inserted by the Guarantor, representing the percentage of the Contract Price specified in the Contract less provisional sum if any, plus additional performance security for unbalanced bids if any, and denominated in Indian Rupees.*

or sums within the limits of _____ *[amount of guarantee]* as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed thereunder or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee shall be valid until (i.e.) 30 days from the date of expiry of the Defects Liability Period, and any demand for payment under it must be received by us at this office on or before that date.

Signature and seal of the guarantor _____

Name of Bank _____

Address _____

Date _____

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

PART 3 – Works Requirements

Section VII - Works Requirements

TECHNICAL SPECIFICATIONS

Name of the Work : Supply, Installation, Commissioning and Testing of Servo Hydraulic System for Random Sea Wave Generator (RSWG) for 120 m Wave Flume at CWPRS, Pune – 24

Sr No	Name of the Goods/Work/Service	CWPRS Specifications	Quantity
I	Servo - Actuator System		
	a) Servo Valve [Moog or MTS Make]	TYPE : 4 way two Stage Supply Pressure: 210 bars Servo valve should be compatible with the hydraulic actuator and should be fitted directly on the hydraulic actuator The drive signal generated by CWPRS software is $\pm 5V$ maximum, the controller should accept the signal in voltage form and convert to current form for driving the wave board. Rated Flow: 150LPM	1.0 No

	b) Servo Hydraulic Actuator [Moog or MTS Make]	<p><u>Force</u>: Maximum of 25 K N stall for 4 m width of wave board</p> <p><u>Velocity</u>: Maximum of 0.95 m/sec</p> <p><u>Acceleration</u>: Maximum of 2.5 m/s²</p> <p><u>Supply Pressure</u>: Maximum of 210 bars</p> <p><u>Mounting</u>: End mounting with rod end of male clevis</p> <p>Magnetostrictive type of built-in axially mounted position transducer.</p> <p><u>Type</u>: Double acting single ended</p> <p><u>Stroke</u>: 1000mm</p> <p><u>Bore dia</u>: 63mm</p> <p><u>Rod dia</u>: 45mm</p> <p>Hanging portion of actuator should be supported with suitable arrangement</p>	1.0 No
	c) Servo Controller (Latest model should be quoted)	<p><u>Digital Input</u>: Type PID with external command signal, position feedback signal and set point.</p> <p><u>Command Input Range</u> : Pre-settable between 4 to 20 mA</p> <p><u>Feed Back Input Range</u> : Pre-settable between 4 to 20 mA</p> <p><u>Set Point Input Range</u> : to cover full stroke of servo actuator</p> <p><u>Controller Output</u> : Suitable current to drive servo valve</p> <p><u>Gain</u> : Pre-settable.</p> <p><u>Controller Frequency Response Update Rate</u>: Controller scan time of 1 ms.</p> <p><u>Cable Length</u>: Approx. 150 m each for valve drive and feed back</p> <p>Following facility may be simulated on front panel of the controller by hardware/software</p> <p>(i) Digital display and Graph to monitor position feedback and command signals in the system on SCADA screen.</p> <p>(ii) Span control display on SCADA screen</p> <p>(iv) Set point control display on SCADA screen</p> <p>(v) Hardware Test points on front panel of controller to monitor valve current, command signal and position feedback signal.</p>	1.0 No
II	Hydraulic Power Pack System		
	a) Oil Reservoir and Hydraulic Oil	<p><u>Capacity</u>: 1500 liters (excluding breathing space) with hydraulic oil ISO VG 46 grade (the hydraulic oil should be pre-filtered to NAS grade 6 cleanliness level).</p> <p><u>Reservoir Details</u>: Stainless steel reservoir duly painted with epoxy paint from inside and anti-corrosion water resistant paint from outside having sloped bottom design with</p>	1.0 Set

		baffle plate, drain valve, diffuser, main hole, oil level indicator, air breather-cum-filter, suction filter, pressure gauge and temperature sensors. <u>Mobile Facility:</u> casters with jack up screws and anti-vibration mountings.	
	b) Pump Station With Electrical Motor. (Make MOOG/ MTS/Oilgear)	<u>Hydraulic Oil Pump:</u> <u>Hydraulic Oil Pump:</u> Pressure compensating type variable flow axial piston pump (PVG-100) having flow capacity of 43GPM with maximum volume stop and non-return valve (a ball valve should be provided at the suction side of the main pump for isolating the same during maintenance).	1.0 Set
	Starter (Make L&T/ Siemens/ABB/Schneider)	<u>Electric Motor:</u> Three phase squirrel, TEFC AC induction motor of 100HP suitable for above pump, continuous duty, rated for 415 V and 50 Hz power input, PF 0.8 lagging, class F insulation. <u>Starter :</u> Fully automatic star-delta FASD starter with no volt coil provided with overload protection switch (starter should be accommodated in main electrical control panel of hydraulic power pack unit).	
	c) Enclosure for Minimum Noise Level for Hydraulic Power Pack Unit (Canopy)	Mild steel framed enclosure be provided to give noise level less than 90dB at 1 m from the hydraulic power pack unit.	1.0 No
	d) Off Line Oil Cooling and Filtration System	<u>Heat exchanger:</u> to maintain the temperature of oil between 40°-45° C. Cooling pond and water will be provided by CWPRS. Any additional equipment needed, the same shall be born by the bidder. <u>Low pressure filter:</u> 5 micron filtration capacity and beta ratio > 200 <u>On-off facility:</u> on main and remote panel be provided. Heat exchanger out let line (hot water) should be laid into a cooling pond along with by passing arrangement to the location out- side the pond	1.0 Set
	e) Accumulator station	<u>Accumulator:</u> Bladder type of 10 liters (2 Nos.) capacity in pressure line with isolator valves, drain valves, pressure gauge. These should be mounted on manifold block on a separate frame	1.0 Set
	f) Service Manifolds	<u>Service Manifold Assembly:</u> with bladder type accumulator, pressure line filter, return line filter, dial type glycerin filled pressure gauge, non-return valve and reducing valve (manifold stand be provided along with hooks for lifting the manifold and dripping tray).	1.0 No
	g) Pressure Selection System	<u>Pressure Selection Arrangement:</u> for selection of low pressure of no load condition, medium pressure of 160-180bars and high pressure of 200-210 bars (the selected pressure should be attained gradually without jerk).	1.0 Set

III	Hydraulic Oil Filtering System		
	a) Pressure Line Filter Assemblies for Hydraulic Power Unit	15 microns	2.0 Nos
	b) Pressure Line Filter Assemblies for Service Manifold	7 microns	2.0 Nos
	c) Return Line Filter Assemblies for Hydraulic Power Unit	5 microns	1.0 No
	d) Return Filter Assemblies for Service Manifold	10 microns	2.0 Nos
	e) Air Breather cum Filter	5 microns	1.0 No
	f) Strainer	130 microns replaceable from out side	1.0 No
IV	Electrical System		
	a) Main Electrical Control Panel	<p>Main panel should have the following facilities:</p> <p><u>Main switch</u>: for putting power on-off</p> <p><u>Emergency stop</u>: be provided.</p> <p><u>Indicators</u>: for R,Y,B phase conditions</p> <p><u>Push Switches and Indicators</u> : for low, medium and high pressure selection</p> <p><u>On-Off Push Switches and Indicators</u>: for off line cooling and filtration system</p> <p><u>On-Off Push Switches and Indicators</u>: for digital temperature indicator of 'two and ½' digits with temperature controller for tripping of hydraulic power pack when temperature rises beyond 50° C.</p> <p><u>Temperature limit set point</u>: should be accessible on the front panel of the temperature controller.</p> <p><u>Filter clog trip indicators</u>: be provided.</p> <p><u>Over-temperature trip indicator</u>: be provided.</p> <p><u>Hour totalizer</u>: electrically operated on 230V, 50 Hz supply</p> <p>Following Interlocks be provided in the main control panel circuit:</p> <p>i) The main motor should start in "No Load" condition only.</p> <p>ii) High temperature trip off should occur when oil temperature in the tank goes beyond set point which is settable on the SCADA screen.</p> <p>iii) Low level trip off should occur when oil level in the tank goes below specified limit.</p>	1.0 Set

		v) When strainer isolation valve is “off”, the main pump should not get “on”. All push switches of main control panel should be of glowing type. One bulb point and one three pin 5 ampere outlay should be provided inside the main panel.	
	b) Remote Electrical Control Panel	This panel at approx. 150 m away from hydraulic power pack. It should have all the facilities as on the main panel , except with the following changes: - Single phase indicator is required for the `Power On' condition - Trip indicators for all filters should be incorporated in SCADA screen. The wiring between main and remote electrical consoles should be carried out using LAN cable. The wiring should run along the vertical wall / trench using PVC conduit pipes or flexible Corrugated conduit	1.0 Set
V	SCADA and PLC (Embedded in Servo Controller / Separate Installation)		
	a) Supervisory Control And Data Acquisition (SCADA) System	<u>SCADA System capable of controlling entire system process with following sub systems</u> Suitable user interface such as Human Machine Interface Extended Human Machine Interface panel in control room. Supervisory computer for data collection, process and control with following configuration : CPU INTEL Core i7 or latest, 2.8 GHz or higher, 8GB RAM, Hard Disk 1TB , DVD drive, Color LED monitor 24”, key board and mouse, latest windows operating system along with license copy of MS office, offline UPS 800 VA or higher for 30 minutes backup (Qty 2 No). In case SCADA or equivalent software installed on same computer In case RTU - Remote Terminal Unit for interfacing sensors to the SCADA system In case PLC - Programmable Logic Controller for configuring inputs and outputs of the supervisory system In case Communication system – To connect RTUs and PLCs to the supervisory system <u>Following activities should be incorporated in SCADA</u> <ul style="list-style-type: none"> • Motor (Main/Cooling/Filteration etc.) ON/OFF • Low, Medium and High pressure selection • Command multiplication • PID tuning of closed loop control • Test parameter control- source input (internal and external), Frequency and set point • Check points/ Safety interlocks 	1.0 Set

		<ul style="list-style-type: none"> • Alarm history recording • Hydraulic mimic viewing • Master and slave servo controller with PLC <p>The SCADA screens should display entire hydraulic details that can be displayed for diagnosis such as;</p> <ol style="list-style-type: none"> 1. Aux Main Power Supply Cut Off (Not PLC) 2. Aux Single Phase Power Supply (Not PLC) 3. DC Cut off for PLC Signals & Solenoids <p>with real time measurement (digital display) of physical parameters such as temperature, pressure, at various points in the circuit.</p> <p>Similarly manual setting of PID gain values and threshold values such as over temperature alarm setting, low or high pressure and flow alarm settings, lower and upper limit of actuator displacement settings should be provided on the screen.</p>	
VI	Personal Computer for wave simulation and wave data acquisition	Personal computer for wave simulation and wave data acquisition with following configuration : CPU INTEL Core i7 or latest, 2.8 GHz or higher, 8GB RAM, Hard Disk 1TB, DVD drive, Color LED monitor 24", key board and mouse, offline UPS 800 VA or higher for 30 minutes backup. Latest windows operating system along with licensed copy of MS Office	1.0 No
VII	Printer (Branded HP/Canon etc)	A3 size B/W Laser Duplex two sided print speed 25 ppm, Print resolution 1200x1200 dpi Black,	1.0 No
VIII	Fabrication and Installation of Wave board assembly		
	a) Wave board with supporting and strengthening arrangements	Piston type wave board of Width 4m x Depth 2m The entire assembly should be painted with marine paint. Wave board should be strengthened by suitable strengthening arrangements to get a smooth reciprocating motion.	1.0 No
IX	High Pressure N₂ Gas Cylinder and Portable Hydraulic Power Unit for Nitrogen Charging		
	a) High Pressure N ₂ Cylinder	i).N ₂ Gas cylinder with working pressure 200Kg/cm ² and capacity 50 liters along with suitable adaptor for cylinder valve.	2.0 Nos
	b). Portable Hydraulic Power Unit for Nitrogen Charging	ii).Portable Hydraulic Power Unit for Nitrogen Charging. Specifications: Electric Motor: 1.5 hp, 415 V, 50 Hz. Radial Piston Pump: 1.5 L/ min. Working Pressure: 210 bar. Oil	1.0 Set

		Tank Capacity: 30 L. Type : Portable. (Mounted on Wheels). Intensifier Capacity: 5 L.	
X	Annual Maintenance Contract	Annual Maintenance Contract (Non-comprehensive) for a period of three years after expiry of warranty period as described and detailed in PART 3	3.0 Years
XI	Eligibility Criteria for Bidders		
	<p>a) The supplier shall have supplied the following systems within India.</p> <p>Three closed loop servo hydraulic systems amounting to 40 % of estimated cost in the last seven years. OR Two closed loop servo hydraulic systems amounting to 50 % of estimated cost in the last seven years. OR One closed loop servo hydraulic systems amounting to 80 % of estimated cost in the last seven years. Documentary proof of Complete user list with address, phone number and email ID, Name of the contact person shall be submitted along with the technical bid.</p>		Must Meet the requirements
	<p>b) For bidders those who are technically qualified; technical demonstration (at nearest location of installation within India in stipulated time) of the similar systems (closed loop servo hydraulic systems) is compulsory to verify technical competency of the bidders before opening of their financial bids, as per terms and conditions of the bid document. Information will be communicated by this office to technically qualified bidders for technical competency demonstration of their systems (closed loop servo hydraulic systems). (It is applicable on the type of goods and same will be decided by the Purchaser). If he is unable to demonstrate or the demonstration is not as per specifications/Terms and Conditions of Bid, his bid will be treated as non responsive.</p>		Must Meet the requirements

Note: i). All above items should be compatible to each other and integrated to function in a single Servo Hydraulic system fully to achieve the objective of “To generate Random sea wave conditions at the test section”

Maximum water depth = 120cm

Maximum Hs to be generated = 20cm

(With Pierson Moskowitz/JONSWAP/any user defined spectrum)

Frequency Range = 0.3 Hz to 3 Hz

Maximum wave Height = 40cm

ii). DISCLAIMER

The tentative design of the complete RSWG system has been provided by CWPRS, however the supplier shall verify the correctness of the design and suggest modifications if any. Thereafter detailed design drawings of components, hydraulic circuit

diagrams, electrical & PLC circuit diagrams should be provided by the supplier. The additional designs / modifications should be got approved from CWPRS. The successful commissioning of the entire system will be responsibility of the bidder.

XII. ANNUAL MAINTENANCE CONTRACT

Annual maintenance contract (non comprehensive) for **three years** should commence after warranty period of one year.

Following points will be incorporated in the AMC.

1. Visit of service Engineer in each quarter for preventive maintenance. Following checks will be carried out during visit.
 - Pressure
 - Oil Level
 - Leaks
 - Filter
 - Interlock Devices
 - hydraulic oil
 - Console Air Filter
 - Cables and Connectors
 - Panel Air Filter
 - HPU Operating Pressure and Temperature
 - Control and Relief Valves
 - Inspect Heat Exchanger
 - Accumulators charging
 - Electric Motors and Pumps
 - Wave Board
 - Software updates
 - PID Tuning and overall system operation

2. Breakdown Maintenance: Response time of 48 hours Engineer Visit and servicing in three working days.

XIII).Safety Measure:

Hydraulic system for wave flume should incorporate following safety measures.

1. Tripping / interlocks of systems for following conditions.

- Low oil level in oil tank
- Oil temperature rise more than 50° C
- Main suction filter, pressure line, return line and offline filter clogging
- Single phasing
- Strainer isolation valve is `Off`

Alarm should be generated for following conditions

- Dry run of cooling water pump
- Line overloading
- Falling of pre charge pressure of accumulator
- Emergency shutdown of the Hydraulic Power Pack system
- Starting of main motor on `No load condition`

2. Heavy-duty poly-propylene clamps should be used after regular intervals to give vibration free and rigid pipe routing.

3. The work shall be carried out under supervision of CWPRS officers. The work progress report is to be submitted to CWPRS periodically which will be inspected by CWPRS officers.

4. Four copies of operation manual along with electrical circuit diagram of control panel and hydraulic circuit diagram with display charts, demonstration material should be provided.

5. The SCADA software and application software should be provided on separate CDs.

-
6. Proper training of PID tuning and calibration process should be provided along with manual.
 7. Guarantee cards of components used in the system like motors , pumps etc , or whenever applicable be submitted.
 8. The sub-assemblies for the entire system are to be transported by supplier to the site at CWPRS
 9. Suitable training for operation and maintenance be provided to CWPRS staff at CWPRS, Pune, for smooth running of the systems.
 10. The following will be provided by CWPRS :
 - i) Cooling water sump of recommended capacity : 1 set
 - ii) Wave simulation and Random wave generation software : 1 set
 - iii) Electrical connections to main control panel and remote panel
 11.
 - i). Painting of the wave board and support frame assembly with marine paint
 - ii). Necessary couplings/dampers should be used for assembly of servo actuators with wave board
 - iii). Smooth operation of the wave board should be ensured.

Bidder's Signature

Compliance Statement

Name of the Work: Supply, Installation, Commissioning and testing of Servo hydraulic system for Random Sea Wave Generator (RSWG) for 120m wave flume at CWPRS, Pune - 24

Sr No	Name of the Goods/Work/Service	CWPRS Specifications	Quantity	Compliance (Yes / No) Deviations if any & Descriptive values
I	Servo - Actuator System			
	a) Servo Valve [Moog or MTS Make]	TYPE : 4 way two Stage Supply Pressure: 210 bars Servo valve should be compatible with the hydraulic actuator and should be fitted directly on the hydraulic actuator The drive signal generated by CWPRS software is $\pm 5V$ maximum, the controller should accept the signal in voltage form and convert to current form for driving the wave board. Rated Flow: 150LPM	1.0 No	

	b) Servo Hydraulic Actuator [Moog or MTS Make]	<u>Force</u> : Maximum of 17K N stall for 3 m width of wave board <u>Velocity</u> : Maximum of 0.95 m/sec <u>Acceleration</u> : Maximum of 2.5 m/s ² <u>Supply Pressure</u> : Maximum of 210 bars <u>Mounting</u> : End mounting with rod end of male clevis Magnetostriptive type of built-in axially mounted position transducer. <u>Type</u> : Double acting single ended <u>Stroke</u> : 1000mm <u>Bore dia</u> : 63mm <u>Rod dia</u> : 45mm Hanging portion of actuator should be supported with suitable arrangement	1.0 No	
	c) Servo Controller (Latest model should be quoted)	<u>Digital Input</u> : Type PID with external command signal, position feedback signal and set point. <u>Command Input Range</u> : Pre-settable between 4 to 20 mA <u>Feed Back Input Range</u> : Pre-settable between 4 to 20 mA <u>Set Point Input Range</u> : to cover full stroke of servo actuator <u>Controller Output</u> : Suitable current to drive servo valve <u>Gain</u> : Pre-settable. <u>Controller Update Rate</u> : Controller scan time of 1 ms. <u>Cable Length</u> : Approx. 150 m each for valve drive and feed back Following facility may be simulated on front panel of the controller by hardware/software (i) Digital display and Graph to monitor position feedback and command signals in the system on SCADA screen. (ii) Span control display on SCADA screen (iv) Set point control display on SCADA screen (v) Hardware Test points on front panel of controller to monitor valve current, command signal and position feedback signal.	1.0 No	
II	Hydraulic Power Pack System			
	a) Oil Reservoir and Hydraulic Oil	<u>Capacity</u> : 1500 liters (excluding breathing space) with hydraulic oil ISO VG 46 grade (the hydraulic oil should be pre-filtered to NAS grade 6 cleanliness level).	1.0 Set	

		<p><u>Reservoir Details:</u> Stainless steel reservoir duly painted with epoxy paint from inside and anti-corrosion water resistant paint from outside having sloped bottom design with baffle plate, drain valve, diffuser, main hole, oil level indicator, air breather-cum-filter, suction filter, pressure gauge and temperature sensors.</p> <p><u>Mobile Facility:</u> casters with jack up screws and anti-vibration mountings.</p>		
	<p>b) Pump Station With Electrical Motor. (Make MOOG/MTS/Oilgear)</p>	<p><u>Hydraulic Oil Pump:</u> Hydraulic Oil Pump: Pressure compensating type variable flow axial piston pump (PVG-100) having flow capacity of 43GPM with maximum volume stop and non-return valve (a ball valve should be provided at the suction side of the main pump for isolating the same during maintenance).</p>	1.0 Set	
	<p>Starter (Make L&T/ Siemens/ABB/Schneider)</p>	<p><u>Electric Motor:</u> Three phase squirrel, TEFC AC induction motor of 100HP suitable for above pump, continuous duty, rated for 415 V and 50 Hz power input, PF 0.8 lagging, class F insulation.</p> <p><u>Starter :</u> Fully automatic star-delta FASD starter with no volt coil provided with overload protection switch (starter should be accommodated in main electrical control panel of hydraulic power pack unit).</p>		
	<p>c) Enclosure for Minimum Noise Level for Hydraulic Power Pack Unit (Canopy)</p>	<p>Mild steel framed enclosure be provided to give noise level less than 90dB at 1 m from the hydraulic power pack unit.</p>	1.0 No	
	<p>d) Off Line Oil Cooling and Filtration System</p>	<p><u>Heat exchanger:</u> to maintain the temperature of oil between 40°-45° C. Cooling pond and water will be provided by CWPRS. Any additional equipment needed, the same shall be born by the bidder.</p> <p><u>Low pressure filter:</u> 5 micron filtration capacity and beta ratio > 200</p> <p><u>On-off facility:</u> on main and remote panel be provided.</p> <p>Heat exchanger out let line (hot water) should be laid into a cooling pond along with by passing arrangement to the location out- side the pond</p>	1.0 Set	
	<p>e) Accumulator station</p>	<p><u>Accumulator:</u> Bladder type of 10 liters (2 Nos.) capacity in pressure line with isolator valves, drain valves, pressure gauge. These should be mounted on manifold block on a separate frame</p>	1.0 Set	

	f) Service Manifolds	<u>Service Manifold Assembly</u> : with bladder type accumulator, pressure line filter, return line filter, dial type glycerin filled pressure gauge, non-return valve and reducing valve (manifold stand be provided along with hooks for lifting the manifold and dripping tray).	1.0 No	
	g) Pressure Selection System	<u>Pressure Selection Arrangement</u> : for selection of low pressure of no load condition, medium pressure of 160-180bars and high pressure of 200-210 bars (the selected pressure should be attained gradually without jerk).	1.0 Set	
III	Hydraulic Oil Filtering System			
	a) Pressure Line Filter Assemblies for Hydraulic Power Unit	15 microns	2.0 Nos	
	b) Pressure Line Filter Assemblies for Service Manifold	7 microns	2.0 Nos	
	c) Return Line Filter Assemblies for Hydraulic Power Unit	5 microns	1.0 No	
	d) Return Filter Assemblies for Service Manifold	10 microns	2.0 Nos	
	e) Air Breather cum Filter	5 microns	1.0 No	
	f) Strainer	130 microns replaceable from out side	1.0 No	
IV	Electrical System			
	a) Main Electrical Control Panel	Main panel should have the following facilities: <u>Main switch</u> : for putting power on-off <u>Emergency stop</u> : be provided. <u>Indicators</u> : for R,Y,B phase conditions <u>Push Switches and Indicators</u> : for low, medium and high pressure selection <u>On-Off Push Switches and Indicators</u> : for off line cooling and filtration system	1.0 Set	

		<p><u>On-Off Push Switches and Indicators:</u> for digital temperature indicator of 'two and ½' digits with temperature controller for tripping of hydraulic power pack when temperature rises beyond 50°.</p> <p><u>Temperature limit set point:</u> should be accessible on the front panel of the temperature controller.</p> <p><u>Filter clog trip indicators:</u> be provided.</p> <p><u>Over-temperature trip indicator:</u> be provided.</p> <p><u>Hour totalizer:</u> electrically operated on 230V, 50 Hz supply</p> <p>Following Interlocks be provided in the main control panel circuit:</p> <p>i) The main motor should start in "No Load" condition only.</p> <p>ii) High temperature trip off should occur when oil temperature in the tank goes beyond set point which is settable on the SCADA screen.</p> <p>iii) Low level trip off should occur when oil level in the tank goes below specified limit.</p> <p>v) When strainer isolation valve is "off", the main pump should not get "on".</p> <p>All push switches of main control panel should be of glowing type. One bulb point and one three pin 5 ampere outlay should be provided inside the main panel.</p>		
	b) Remote Electrical Control Panel	<p>This panel at approx. 150 m away from hydraulic power pack. It should have all the facilities as on the main panel , except with the following changes:</p> <ul style="list-style-type: none"> - Single phase indicator is required for the 'Power On' condition - Trip indicators for all filters should be incorporated in SCADA screen. <p>The wiring between main and remote electrical consoles should be carried out using LAN cable. The wiring should run along the vertical wall / trench using PVC conduit pipes or flexible Corrugated conduit</p>	1.0 Set	
V	SCADA / PLC / Digital Servo Controller			
	a) Supervisory Control And Data Acquisition (SCADA) System	<p><u>SCADA System capable of controlling entire system process with following sub systems</u></p> <p>Suitable user interface such as Human Machine Interface Extended Human Machine Interface panel in control room. Supervisory computer for data collection, process and control with following configuration : CPU INTEL Core i7 or latest, 2.8 GHz or</p>	1.0 Set	

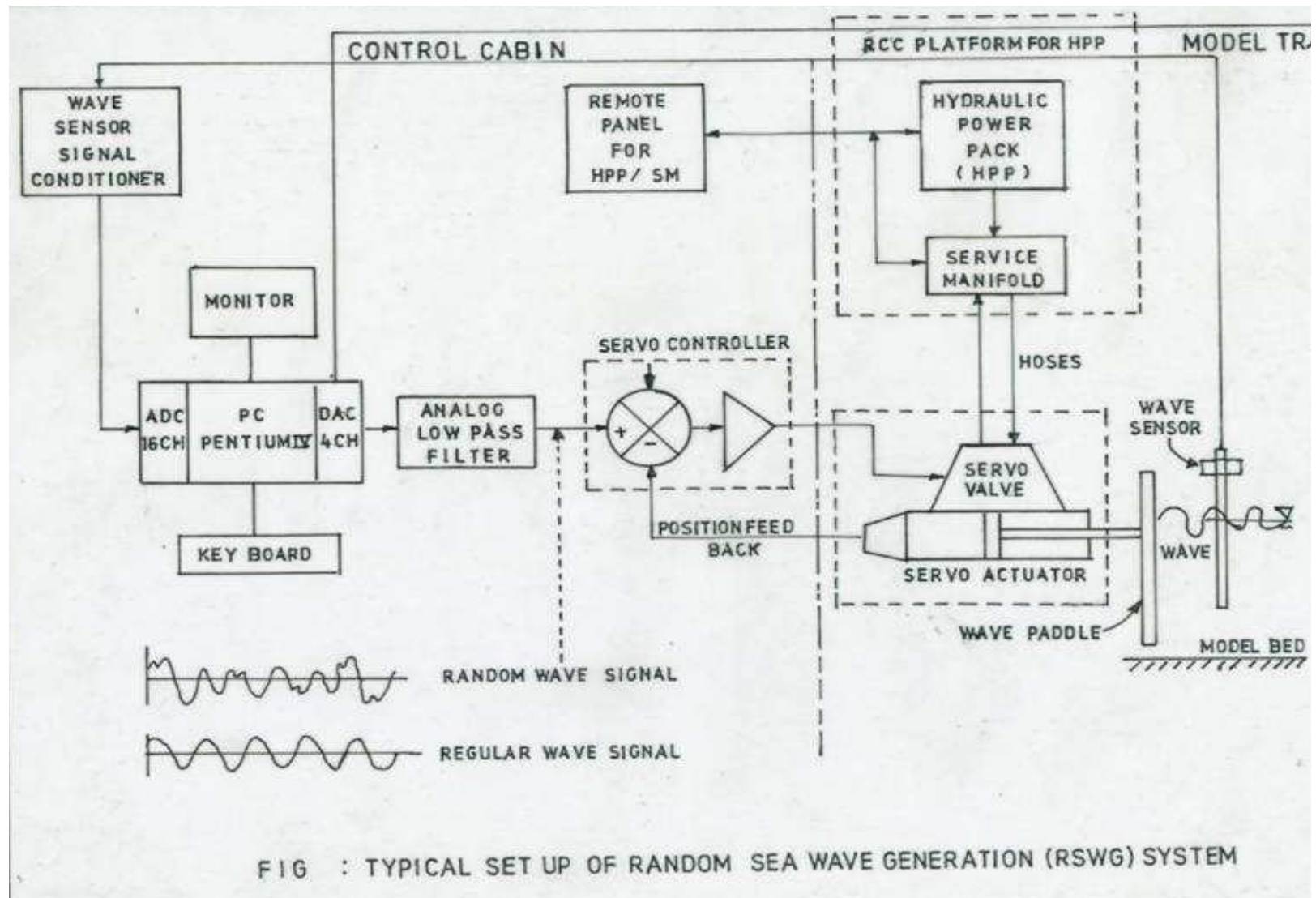
		<p>higher, 8GB RAM, Hard Disk 1TB , DVD drive, Color LED monitor 24", key board and mouse, latest windows operating system along with license copy of MS office , offline UPS 800 VA or higher for 30 minutes backup (Qty 2 No).</p> <p>In case SCADA or equivalent software installed on same computer</p> <p>In case RTU - Remote Terminal Unit for interfacing sensors to the SCADA system</p> <p>In case PLC - Programmable Logic Controller for configuring inputs and outputs of the supervisory system</p> <p>In case Communication system – To connect RTUs and PLCs to the supervisory system</p> <p><u>Following activities should be incorporated</u></p> <ul style="list-style-type: none"> • Motor (Main/Cooling/ Filtration etc.) ON/OFF • Low, Medium and High pressure selection • Command multiplication • PID tuning of closed loop control • Test parameter control- source input (internal and external), Frequency and set point • Check points/ Safety interlocks • Alarm history recording • Hydraulic mimic viewing • Master and slave servo controller with PLC <p>The SCADA screens should display entire hydraulic details that can be displayed for diagnosis such as;</p> <ol style="list-style-type: none"> 1. Aux Main Power Supply Cut Off (Not PLC) 2. Aux Single Phase Power Supply (Not PLC) 3. DC Cut off for PLC Signals & Solenoids <p>with real time measurement (digital display) of physical parameters such as temperature, pressure, at various points in the circuit.</p> <p>Similarly manual setting of PID gain values and threshold values such as over temperature alarm setting, low or high pressure and flow alarm settings, lower and upper limit of actuator displacement settings Should be provided on the screen.</p>		
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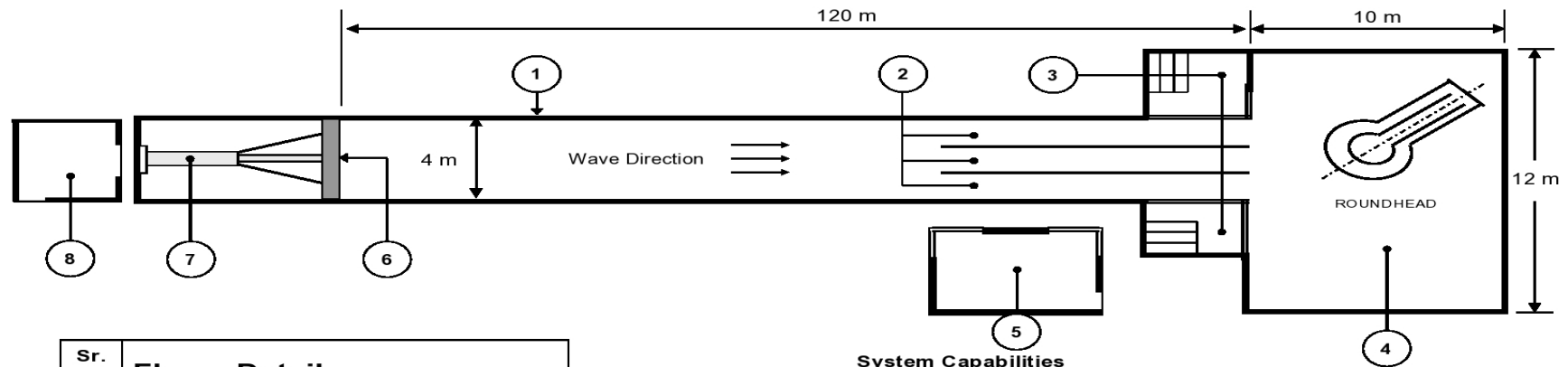
VI	Personal Computer for wave simulation and wave data acquisition	Personal computer for wave simulation and wave data acquisition with following configuration : CPU INTEL Core i7 or latest, 2.8 GHz or higher, 8GB RAM, Hard Disk 1TB, DVD drive, Color LED monitor 24", key board and mouse, offline UPS 800 VA or higher for 30 minutes backup. Latest windows operating system along with licensed copy of MS Office	1.0 No	
VII	Printer (Branded HP/Canon etc)	A4 size Color Laser Printer/ A3 size color Laser Duplex two sided print speed 25 ppm, Print resolution 1200x1200 dpi Black, 2400x600 dpi Color	1.0 No	
VIII	Fabrication and Installation of Wave board assembly			
	b) Wave board with supporting and strengthening arrangements	Piston type wave board of Width 4m x Depth 2m The entire assembly should be painted with marine paint. Wave board should be strengthened by suitable strengthening arrangements to get a smooth reciprocating motion.	1.0 No	
IX	High Pressure N₂ Gas Cylinder and Portable Hydraulic Power Unit for Nitrogen Charging			
	a) High Pressure N ₂ Cylinder	i).N ₂ Gas cylinder with working pressure 200Kg/cm ² and capacity 50 liters along with suitable adaptor for cylinder valve.	2.0 Nos	
	b). Portable Hydraulic Power Unit for Nitrogen Charging	ii).Portable Hydraulic Power Unit for Nitrogen Charging. Specifications: Electric Motor: 1.5 hp, 415 V, 50 Hz. Radial Piston Pump: 1.5 L/ min. Working Pressure: 210 bar. Oil Tank Capacity: 30 L. Type : Portable. (Mounted on Wheels). Intensifier Capacity: 5 L.	1.0 Set	
X	Annual Maintenance Contract	Annual Maintenance Contract (Non-comprehensive) for a period of three years after expiry of warranty period as described and detailed in PART 3	3.0 Years	
XI	Eligibility Criteria for Bidders			
	a) The supplier shall have supplied the following systems within India. Three closed loop servo hydraulic systems amounting to 40 % of estimated cost in the last seven years. OR Two closed loop servo hydraulic systems amounting to 50 % of estimated cost in the last seven years.		Must Meet the requirements	

	<p style="text-align: center;">OR</p> <p>One closed loop servo hydraulic systems amounting to 80 % of estimated cost in the last seven years. Documentary proof of Complete user list with address, phone number and email ID, Name of the contact person shall be submitted along with the technical bid.</p>		
	<p>b) For bidders those who are technically qualified; technical demonstration (at nearest location of installation within India in stipulated time) of the similar systems (closed loop servo hydraulic systems) is compulsory to verify technical competency of the bidders before opening of their financial bids, as per terms and conditions of the bid document. Information will be communicated by this office to technically qualified bidders for technical competency demonstration of their systems (closed loop servo hydraulic systems). (It is applicable on the type of goods and same will be decided by the Purchaser). If he is unable to demonstrate or the demonstration is not as per specifications/Terms and Conditions of Bid, his bid will be treated as non responsive.</p>	<p style="text-align: center;">Must Meet the requirem ents</p>	

Bidder's Signature

DRAWINGS





Sr. No.	Flume Details	
1	Wave Flume	120m(L) x 4m(W) x 2m(D)
2	Test Portions	Partitioned as required
3	Observation Pits	With Glass panels
4	Diffraction Basin	10m x 12m
5	Control Room	9m x 4.5m
6	Wave Board	4m x 2m
7	Servo-Actuator	1m dynamic stroke
8	HPS Room	4m x 4m

System Capabilities

- Model Scales used : 1:30 to 1:60 (G.S.)
- Maximum water depth : 1.2m
- Spectrum generation : PM / User defined spectrum
- Significant Wave height : Up to 25cm
- Model period range : 0.3 – 3.0 Sec
- Maximum Wave height : 0.5m

Inspections and Tests Procedures

Inspection will be carried in three stages i.e. stage wise and Pre-dispatch inspection at firm's works site, final performance testing at CWPRS after successful installation and commissioning of complete system. CWPRS officers may visit firm's works site to inspect stage wise fabrication/manufacturing of components like wave board, power pack etc. and to observe progress of work. Supplier should assemble necessary system components like hydraulic power pack, servo-valve, actuator, SCADA etc approximately similar to the final system to offer a pre-dispatch inspection at their works site. The pre-dispatch inspection for the specified performance check under no load condition will be conducted at firm's works site as follows.

- i).Maximum actuator velocity as specified in tender document will be checked.
- ii).Random signal for Maximum wave parameters (viz. frequency Vs amplitude) will be tested for command and actuator position feedback.

Final testing of RSWG System at CWPRS will be performed to generate Random as well as regular waves.

Random wave Generation:

A random signal for following input parameters will be given to servo valve and Iterations will be carried out to obtain spectral match using data acquired from in house developed water level sensor with following test conditions,

Depth of water: **1.2 m** near the wave board
Pierson-Moskowitz, SCOTT, JONSWAP or any user defined spectrum with
Maximum wave height , $H_{max} = 40$ cm ,
Significant wave height, $H_s = 20$ cm
Frequency Range = 0.3Hz to 3.0Hz

Command and feedback signals will be plotted in superimposed manner. Perfect Matching of command and feedback signals will be observed.

Regular Wave Generation:

A sinusoidal signal with frequencies ranging between 0.3Hz to 3Hz will be given to the servo valve to generate regular waves in flume having depth of water up to 1.2m. Command and feedback signals will be plotted in superimposed manner. Perfect Matching of command and feedback signals will be observed.

Endurance test

- (i) Regular Wave test without water:

Full stroke i.e. 1000 mm displacement of wave board at 0.3 Hz for 30minutes.

- ii) Random Wave test for wave basin :

The matched spectrum obtained above will run continuously for Two hours.
The depth of water will be 1.2 m near the wave board.

Bill of Quantities (BoQ)

Tender Inviting Authority: **The Scientist C CPC CWPRS Pune**

Name of Procurement: **Supply, Installation, Testing and Commissioning of “ Supply, Installation, Commissioning and testing of Servo hydraulic system for Random Sea Wave Generator (RSWG) for 120m wave flume” at CWPRS, Pune - 24.**

NIT No: **69/2020-21**

Name of the Bidder/ Bidding Firm /
Company :

PRICE SCHEDULE										
(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)										
NUMBER #	TEXT #	NUMBER #	TEXT #	TEXT	TEXT	NUMBER #	NUMBER	NUMBER #	NUMBER #	TEXT #
Sl. No.	Description of work/Goods	Quantity	Units	installation and testing in all respects (Time limit) at site	Country of Origin	Rate per Unit (excluding GST)	Customs, (if any) and Price for Equipment transportation, charges for handling, insurance, and other services required to convey the goods to their final destination. (excluding GST)	Total price (Col. 3x7) Rs. P	Grand Total item in Col. (8+9) Rs. P	GRAND TOTAL In Words
1	2	3	4	5	6	7	8	9	10	11
1	For Goods: supply Installation Testing and commissioning of									
1.01	Servo Hydraulic System for Random Sea Wave Generator (RSWG) for 120m Wave Flume at CWPRS, Pune – 24 (As per technical specifications, testing etc)	1.0	Unit	180 days						
1.02	Annual maintenance contract (non comprehensive) (As per technical specifications etc)	3.0	Year	Period of 3 years after completing one year warranty period						
Total in Figures										
Quoted Rate in Words										
INR Zero Only										

1. The amount is **excluding** of GST and all other taxes.
2. Rate per Unit is including of charges for equipments, transportation of equipments, insurances, man power and other charges etc (**excluding** of GST)