



ODISHA CONSTRUCTION CORPORATION LTD.
(A Govt. of Odisha Undertaking)
Unit-VIII, Gopabandhu Nagar, Bhubaneswar-751012

e-Procurement Notice No.14 /OCCL/2026-27 (on-line)

Bid identification No. OCCL-MECH/ 02 /2026-27

(Cover-I)
Technical Bid

NAME OF WORK

SUPPLY,INSTALLATION,TESTING,COMMISSIONING WITH COMPLETE CLOUD-BASED AUTOMATION OF BARRAGE BAY AND HR GATES CONTROLLED THROUGH CENTRALISED REMOTE CONTROL AND IMPLEMENTATION OF REAL-TIME MANAGEMENT SYSTEM OF ANANDAPUR BARRAGE PROJECT, AT- ANANDAPUR, DIST. KEONJHAR, ODISHA.

(This tender document contains 116 (One Hundred & Sixteen) pages including this cover page)

**Managing Director,
O.C.C. Ltd., Bhubaneswar**

PARTICULARS OF TENDER

1	Name of work :	Supply, installation, testing, commissioning with complete cloud-based automation of Barrage Bay and HR gates controlled through centralised remote control and implementation of real-time management system of Anandapur Barrage Project, At - Anandapur, Dist. Keonjhar, Odisha.
2	E.M.D. required	Rs. 5,86,333.00 (Through on-line transfer system) / Procedure mentioned in the DTCN.
3	Period of Completion	90 (Ninety) days
4	Eligibility of Bidder	Reputed Instrumentation / Automation Panels (RTUs & PLCs) integrators
5	Cost of tender Document	Rs.11,800.00 including GST(Through on-line transfer system)Non Refundable
6	Availability of Tender in website	From 19.09.2026, 10.00 A.M. to 03.10.2026, 5.00 P.M.
7	Submission of Bid On-line	From 19.09.2026, 10.00 A.M. to 03.10.2026, 5.00 P.M.
8	Bidder's Seeking Clarification	From 19.09.2026, 10.00 A.M. to 23.09.2026, 5.00 P.M.
9	Date & Time of Opening of Technical Bid	05.10.2026 at 11.30 A.M. at Head Office, OCC Ltd, Bhubaneswar.
10	Date of opening of Financial Bid	To be intimated to qualified bidders after evaluation of Technical Bid through Govt. website www.tendersodisha.gov.in

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SECTION-I

NOTICE INVITING TENDER (NIT)
&
DETAILED TENDER CALL NOTICE (DTCN)

ODISHA CONSTRUCTION CORPORATION LTD.

(A Govt. of Odisha Undertaking)

Regd. Office : Unit-VIII, Gopabandhu Nagar, Bhubaneswar-751012(Odisha)

Dist.-Khordha, Tel-0674-2562020,

E-mail:theoccltd@odishaconstruction.com / gm.mech.ho@ odishaconstruction.com

(GSTIN-21AAACO2571K2ZM)

NOTICE INVITING TENDER (NIT)

e-Procurement Notice No. **14** /OCCL/2026-27 (on-line)

Bid identification No. OCCL-MECH./02/2026-27

The Managing Director, OCCL, Bhubaneswar on behalf of Odisha Construction Corporation Limited invites item rate bid in **double cover** system in online mode through e-Procurement Notice for execution of the following work. The bid may be submitted by reputed Instrumentation / Automation Panels (RTUs & PLCs) integrators for complete cloud-based automation of barrage bay vertical gates & canal head regulator vertical gates of Anandapur Barrage Project, At-Anandapur, Dist. Keonjhar, Odisha through on-line in the Govt. website www.tendersodisha.gov.in. The bidders should have necessary portal enrolment (with own Digital Signature Certificate).

Sl. No	Name of Work	Eligibility of Bidder	Period of completion	E.M.D. Required (Through on-line transfer system / Procedure mentioned in the DTCN.) (in Rs.)	Cost of Tender Document (Including GST) (Through on-line transfer system) (in Rs.)
1	2	3	4	5	6
1.	Supply, installation, testing, commissioning with complete cloud-based automation of Barrage Bay and HR gates controlled through centralised remote control and implementation of real-time management system of Anandapur Barrage Project, At - Anandapur, Dist. Keonjhar, Odisha.	Reputed Instrumentation / Automation Panels (RTUs & PLCs) integrators	90 (Ninety) days	5,86,333.00	11,800/- (Non-refundable)

2. The bidder shall transfer online the cost of tender documents for **Rs. 11,800.00** as shown in column 6 above through a process as mentioned in DTCN.

3. **Procurement Details:**

Procurement Officer	Availability of Tender in website	Submission of Bid (On-line)	Date & Time of opening of Bid(On-line)	
			Technical Bid	Financial Bid
1	2	3	4	5
Managing Director, OCCL, Bhubaneswar.	From 19.09.2026, 10.00 A. M. to 03.10.2026, 5.00 P.M.	From 19.09.2026, 10.00 A. M. to 03.10.2026, 5.00 P.M.	05.10.2026 at 11.30 A.M. at Head Office, OCCL, Bhubaneswar	To be intimated to qualified bidders after evaluation of Technical Bid.

4. Bid should be submitted On-line in www.tendersodisha.gov.in only. Tender document consisting of qualification, information and eligibility criteria of bidders, specification and Bill of Quantities(BoQ) of the works are available in the web-site www.tendersodisha.gov.in and the set of terms and conditions of contract and other necessary documents can be seen in the web-site till last date of submission of Bid.
5. Validity period of the Bid is for a period of **90 (Ninety) days** from the last date of submission of bid. Conditional bid is subjected to rejection of the bid. If any bidder withdraws his Bid before the said period or makes any modification in the terms and condition of the tender, the Bid shall stand rejected. Validity of Bids can also be extended if required without any monetary compensation.
6. The scanned copy(s) of (i) Online transfer of cost of tender document (ii) EMD/Bid Security in shape of online transfer/ in shape of N.S.C/Post Office Saving bank Account/ Post Office Time Deposit Account/ Kisan Vikas Patra/ Bank Guarantee in favour of OCCL from any Nationalised Scheduled Bank in India counter guaranteed by it's local branch at Bhubaneswar(Proof towards Bid Security shall be uploaded along with technical Bid (iii) Affidavit duly registered regarding authenticity of documents in prescribed proforma, (iv) Certificate of No Relationship, (v) GST Registration Certificate, (vi) PAN Card, (vii) EPF registration certificate, (viii) ESI registration certificate and all other required documents as per the relevant clause of DTCN and ITB should be uploaded in web-site www.tendersodisha.gov.in at the time of submission of Bid. The affidavit towards genuineness of all documents and no relationship Certificate must be as per the formats prescribed in the bid documents only. If the affidavit submitted in any other format, then the tender inviting officer may reject the bid. No Bid without EMD shall be accepted.

The bidders not registered under GST in Odisha are required to **submit an undertaking** in the form of an affidavit that, they are not registered under GST act in the state of Odisha as they have not started any business in the state and they have no liabilities under the said act. The successful bidders have to produce their documents regarding GST registration in the state of Odisha before drawl of the agreement.

7. The **technical bid** documents will be opened by the undersigned/authorized officer(s) on **dated 05.10.2026 at 11.30 A.M.** in the Head Office of the Odisha Construction Corporation Limited, Unit-VIII, Bhubaneswar in presence of the bidders or their authorized representatives who wish to attend. If the Office happened to be closed on the date of opening of the bids the same will be opened on the next working day at the same time and venue. After evaluation of the documents contained in technical bids, the financial bids of the technically responsive bidders will be opened. The date, time and place of opening the financial bids will be intimated to the eligible qualified bidders through Govt. website www.tendersodisha.gov.in
8. The bidder may be asked in email/letters to clarify on the uploaded documents provided in the Technical Bid. If necessary, with respect to any doubts or illegible documents, the authority inviting bids reserves the right to accept any additional document.
9. **Joint venture is not allowed.**
10. The bidders seeking clarification, if any regarding the bid can contact office of the undersigned during office hour on any working days from **19.09.2026 at 10.00 A.M. to 23.09.2026 up to 5.00 P.M.**
11. Authority reserves the right to reject / Cancel the Bid / tender without assigning any reason thereof.
12. Other details can be seen in the tender documents, which is available in web-site www.tendersodisha.gov.in.
13. Any dispute arising out of the above tender call notice shall be subject to Jurisdiction of Hon'ble High Court of Orissa at Cuttack and their subordinate Courts at Bhubaneswar only.

Managing Director

ODISHA CONSTRUCTION CORPORATION LTD.
(A Govt. of Odisha Undertaking)
Unit-VIII, Gopabandhu Nagar, Bhubaneswar-751012
DETAILED TENDER CALL NOTICE (DTCN)

1. The Managing Director, Odisha Construction Corporation Limited invites on-line Item rate bid through e-procurement in prescribed form. Reputed Instrumentation / Automation Panels (RTUs & PLCs) integrators can submit the bid. Interested bidders have to be registered in the state govt. portal and must possess compatible digital signature certificate for online bidding. The website for online bidding is www.tendersodisha.gov.in for the work **"Supply, installation, testing, commissioning with complete cloud-based automation of Barrage Bay and HR gates controlled through centralised remote control and implementation of real-time management system of Anandapur Barrage Project, At - Anandapur, Dist. Keonjhar, Odisha."**
2. The tender documents can be downloaded from the Govt. website www.tendersodisha.gov.in from date **19.09.2026 at 10.00 A.M. to 03.10.2026 up to 5.00 P.M.** for the work **"Supply, installation, testing, commissioning with complete cloud-based automation of Barrage Bay and HR gates controlled through centralised remote control and implementation of real-time management system of Anandapur Barrage Project, At - Anandapur, Dist. Keonjhar, Odisha."** on online transfer of **Rs.11,800/-** (Rupees eleven thousand eight hundred only) **through a process as mentioned in DTCN.** The bid will be received through e-procurement portal, www.tendersodisha.gov.in from dated **19.09.2026 at 10.00 A.M. to 03.10.2026 up to 5.00 P.M.** Each set of bid document contains **Technical bid (cover-I)** and **Price bid (cover-II)** i.e. an intelligent bill of quantity in MS Excel format. The bid cover-I will be opened on **05.10.2026 at 11.30 A.M.** in the Head Office of OCC Ltd, Unit-VIII, Bhubaneswar in presence of the bidders or their authorized agents. The bidders who participated in the on-line bidding can also witness opening of the bid from any system logging in to the portal away from opening place. The bids can only be opened by the pre-designated officials only after the opening time mentioned in the bid. In the event of the specified date of bid opening being declared a holiday the bid will be opened at the same time and same venue in the next working day. Date, time and place of opening of cover-II (price bid) shall be intimated separately to those bidders who will be found eligible after evaluation of cover-I (Technical bid). The intimation letter will be sent both through their e-mail address and postal address.
3. The bidders shall prepare the documents and upload the scanned typed document in PDF format and BOQ in Excel format (or as specified in the portal) in appropriate place. **Bid must be submitted on-line in the website www.tendersodisha.gov.in only.**
4. No bidder will be permitted to furnish their bid in their own manuscript.

5. **EMD/BID SECURITY:**

- (i) The Bidder shall transfer online the EMD / Bid security in shape of N.S.C/Post Office Saving bank Account/ Post Office Time Deposit Account/ Kisan Vikas Patra / Bank Guarantee in favour of **the Managing Director, OCCL, Bhubaneswar** from any Nationalised Scheduled Bank in India counter guaranteed by it's local branch at Bhubaneswar for the amount mentioned in the NIT. The detailed for transfer of EMD mentioned in Works Department of Govt. of Odisha O.M. No WORKS-FA-MISCSB-0003-2026-4909/W Dtd. 12.03.2026(As stipulated in Cl. No. **66** of DTCN).
- (ii) The Bid shall be declared non-responsive and shall be rejected, if submitted without an acceptable Bid Security.
- (iii) The Bid Security/EMD of the successful bidder will be discharged when the bidder has signed the Agreement and furnished the required Performance Security/Initial Security Deposit (ISD).

The Bid Security/EMD may be forfeited

- If value of EMD submitted by the bidder is less than **Rs. 5,86,333/-**(Rupees Five Lakh Eighty-Six Thousand Three Hundred & Thirty-Three)only
- If the bidder withdraws the bid after opening of the bid but within the period of validity.
- If the Bidder seeks any revision of rates or backs out of the bid claiming for not having referred to any or all documents provided in the Bid by the Officer Inviting the Bids.
- In the case of a successful bidder, if the bidder fails within the specified time limit to **(a)** Sign the Agreement; or **(b)** Furnish the required Performance Security/ISD if any.

6. A bidder can submit only one bid.

7. The bid is to be submitted on-line in the web-site www.tendersodisha.gov.in containing scanned copies of PAN card, GST Registration Certificate, Bank Credit facility, affidavit duly registered regarding authenticity of document & No-relationship certificate as per the relevant clauses of this DTCN and special conditions if any. The bidder shall only submit single copy of the document. He is required to check the documents uploaded with the requirement asked for in the bid. Only after satisfying that all the documents have been uploaded, he should activate submit button. His bids shall not be considered responsive and action as per relevant clauses shall be taken if he does not provide the required documents or provided illegible documents. Clarity of the documents may be ensured by taking out a sample print out.

8. If any further necessary information is required, the bidder can seek clarification on the tender within **19.09.2026 at 10.00 A.M.** up to **23.09.2026 at 5.00 P.M.** during office hours from the Managing Director / authorized officer of OCC Ltd at Head Office of the Odisha Construction Corporation Limited, Bhubaneswar.

9. The bid accepting authority will verify the originals of all the scanned documents of the successful lowest bidder only within 7 days of opening of the financial bid.
10. In the event of failure on the part of the bidder to produce the original documents, he will be debarred in future from participating in any tender for 3 years and will be blacklisted by the competent authority.
11. All charges towards quality control test will be borne by the Successful bidder.
12. The work is required to be completed in all respect within **90** (Ninety) **days** from the date of issue of Work Order. Failure to complete the work in due time without sufficient reason, the contract may be rescinded with penalty or as deemed proper by the competent authority.
13. The successful bidder will be required to submit a work programme and milestone basing on the financial achievement so as to complete the work within the stipulated time and in case of failure on the part of the agency to achieve the milestone, liquidated damage as applicable will be imposed
14. The date of commencement of the work shall be as notified in the work order.
15. The specification and scope for the work can be seen from the Govt. website www.tendersodisha.gov.in during the period of availability of the tender.
16. The bidders shall carefully study the BoQ., NIT & DTCN and specifications applicable to the contract and documents. The detailed standard specifications for Odisha and other said relevant specifications and drawings are available in the office of the **General Manager(Mech.), Head Office, Odisha Construction Corporation Ltd., Unit-VIII, Gopabandhu Nagar, Bhubaneswar-751012**. Complain at a future date that BoQ., NIT & DTCN and specifications have not been seen by the bidders will not be entertained.
17. Bidders are to submit only the original BOQ (in Excel format) uploaded by procurement Officer (Officer inviting Tender) after entering the relevant fields without any alteration/ deletion/ modification. Multiple BOQ submission by bidder shall lead to cancellation of bid.
18. Submission of Bids through the e-Procurement Portal i.e. www.tendersodisha.gov.in, the bidder can submit the scanned copy of the documents in the designated locations of Technical Bid and Financial Bid. Submission of document shall be effected by using DSC of appropriate class and thus shall be in encrypted form.
19. The online bidder shall digitally sign on all statements, documents, certificates uploaded by him, owning responsibility for their correctness/authenticity as per IT Act 2000, If any of the information furnished by the bidder is found to be false /fabricated/ bogus, his EMD/ Bid Security shall stand forfeited & their registration in the portal shall be blocked and the bidder is liable to be blacklisted.
20. The scanned copy(s) of (i) Online transfer of cost of tender document (ii) EMD/Bid Security in shape of online transfer/ in shape of N.S.C/Post Office Saving bank Account/ Post Office Time Deposit Account/ Kisan Vikas Patra/ Bank Guarantee in favour of OCCL from any Nationalised Scheduled Bank in India counter guaranteed by it's local branch at Bhubaneswar/e-Bank Guarantee executed on the National e-Governance Services Limited(NeSL) Digital Document

Execution Portal/Insurance Surety Bond issued by an Insurance Company authorized by the Insurance Regulatory and Development Authority of India(IRDAI). Proof towards Bid Security shall be uploaded along with technical Bid (iii) Affidavit duly registered regarding authenticity of documents in prescribed proforma, (iv) Certificate of No Relationship, (v) GST Registration Certificate, (vi) PAN Card, (vii) EPF registration certificate, (viii) ESI registration certificate and all other required documents as per the relevant clause of DTCN and ITB should be uploaded in web-site www.tendersodisha.gov.in at the time of submission of Bid.

21. The bid containing extraneous condition not covered by the tender call notice are liable for rejection and bid should be strictly in accordance with the tender call notice, any change in the wording will not be accepted.
22. Withdrawal of bid is allowed in the e-procurement portal. The bidder has to click on the "withdraw" button and record the necessary justification for the same in the space provided. In addition to this, he has to write a letter addressed to the Officer inviting the bid and upload the scanned document to portal in respective bid. The system shall not allow any withdrawal after expiry of the closure time of the tender.
23. On no account the contract work should be sublet to any sub contractor without the prior approval of the competent authority. In such an event the contract may be rescinded with penalty as will be deemed proper as per decision of the competent authority.
24. Letter etc, raising and lowering the rates or dealing with any point in connection with the tender will not be considered.
25. Schedule of Quantity accompanies tender notice:- It shall be definitely understood that the Corporation does not accept any responsibility for the correctness and completeness of this schedule and this schedule is liable for alternations or omissions, deductions or additions as set forth in the condition of contract and such omission, deductions additions or alternations shall in no way invalidate the contract and no extra monetary compensation will be entertained.
26. The authority reserves the right to make such increase or decrease in the quantity of items of works mentioned in the schedule attached to the tender notice as may be considered necessary for the satisfactory completion of the work. All such increase or decrease shall in no way invalidate the rates. The Successful bidder shall not be entitled for any compensation on this account, except extension of time where considered necessary.
27. **All taxes, such as income tax, labour Cess, fees and royalties payable under the local rule excluding GST as applicable will be borne by the successful bidder. GST will be paid to the successful bidder as per the prevailing rules.**
28. The Earnest Money Deposit submitted during participation of tender will be retained in the case of successful bidder and will be dealt with as per the terms and conditions of the O.P.W.D. code and will not carry any interest. The earnest money of the unsuccessful bidder will be automatically refunded through on-line process. **In case, the EMD submitted by the bidder is less than Rs. 5,86,333/- (Rupees Five Lakh Eighty-Six Thousand Three Hundred & Thirty-Three) only, the bid of the bidder shall be out rightly rejected and EMD deposited shall be forfeited.**

29. The Corporation reserves the right of authority to reject any or all bids received without assigning any reason whatsoever.
30. The bid inviting officer is not responsible for any failure, malfunction or breakdown of the electronic system used during the e-procurement process.
31. That for the purpose of jurisdiction in the event of any dispute if any the contract would be deemed to have been entered in to within the State of Odisha and it is agreed that neither party to the contract will be competent to bring a suit in regard to the matter by this contract at any place outside the State of Odisha.
32. The bidder whose bid is selected for acceptance shall within a period of seven days upon intimation being given to him for acceptance of his bid make an **Initial Security Deposit** in the form of Bank Guarantee in favour of OCCL from any Nationalised Scheduled Bank in India counter guaranteed by its local branch at Bhubaneswar, Demand Draft, Term Deposit Receipt of any Nationalized Schedule Bank. The TDR shall be duly pledged in favour of the Odisha Construction Corporation Limited and in no other form (which including the amount already deposited as earnest money) shall be **2%** of the value of the bidding amount and sign agreement in the required format for the fulfillment of the contract in the concerned office of OCC Ltd or as directed. Failure to enter in to the required agreement and to deposit the ISD as above shall entail forfeiture of the EMD. No bid shall be finally accepted until the required amount of ISD is deposited. The written agreement to be entered in between the successful bidder and the OCC Ltd shall be the foundation of the rights of both the successful bidder and the OCC Ltd and the contract shall be deemed to be incomplete until the agreement has first been signed by the successful bidder and then by the proper officer authorized to enter into the contract on behalf of the Odisha Construction Corporation Limited.
33. Under section 12 of contract labour (Regulation and Abolition Act 1970) the successful bidder who undertakes execution of work through labour, should produce valid license from licensing authority of labour department (Labour license) before commencement of the work.
34. The successful bidder shall be liable to fully indemnify the OCC Ltd of any compensation under workmen compensation Act VIII of 1993 on account of the workmen employed by the successful bidder and full amount of compensation paid will be recovered from the successful bidder
35. Bidders are required to abide by the fair wages clause as introduced by Govt. of Odisha and will not pay less than the fair wages fixed by Govt., to the labours engaged by him for the work.
36. In case of any complaint by the labourers working about the non-payment of wages as per prevailing minimum wages Act, the Senior Manager (Mech), OCCL, Anandapur Barrage Gate Works Project, Salapada, Dist. Keonjhar will have the right to investigate and if the successful bidder is found to be at fault, the Senior Manager (Mech) may recover such amount from the successful bidder's dues and pay such amount to the labourers directly under intimation to the local Labour Office of the Govt. The decision of the Senior Manager (Mech) OCCL, Anandapur Barrage Gate Works Project, Salapada, Dist. Keonjhar is final and binding on the successful bidder.

37. The successful bidder will have to submit the monthly return of labourer all categories employed by him on the work to the District Labour Officer & the Senior Manager (Mech) in charge of the work.
38. The successful bidder should keep himself in touch with the Engineer-in-charge for smooth execution of the work and arrange adequate labour depending on the workload and working space available. No claim for detention for labour on any account will be entertained.
39. No compensation will be paid by the OCC Ltd for any damage done by rain, flood, cyclone, tide or by any other natural calamities during the execution of the work.
40. It should be understood clearly that no claim what-so-ever will be entertained in regard to extra items of work or extra quantity of any item besides agreement quantity and amount, unless written order is obtained from the Engineer-in-charge.
41. The bidder shall have to abide by the C.P.W.D. safety code rules introduced by the Govt. of India, Ministry of works Housing and supply in their standing order No.44150 dt.25.01.1957, which can be seen in the Office of the Senior Manager (Mech) in charge of the office on working day, during office hours.
42. The successful bidder shall bear various incidentals sundries and contingencies necessitated by the work in full within the following or similar category.
43. The successful bidder has to arrange
- (a) Rent, Royalties and other charges of materials etc, all other taxes excluding GST as applicable, ferry tools, conveyance charges as well as housing of staff or other purpose of the work. No bidder will however be liable to pay for temporary occupation of land owned by Govt. at the site of the work.
 - (b) Labour camps or hutments necessary to a suitable scale including conservancy and sanitary arrangements there in to the satisfaction of the local health authorities.
 - (c) Suitable equipment and wearing apparatus for the labour engaged in risky operations and medical aid to the labourer engaged for the work.
 - (d) Suitable fencing, barriers, signals including paraffin and electric signals where necessary at work and approaches in order to protect public and employees from accident.
 - (e) Compensation including cost of any suit for injury to persons or property due to neglect of any precautions also becomes payable due to operation of the workmen compensation Act.
 - (f) The successful bidder has to arrange adequate lighting arrangement for the work wherever necessary at his own cost.
44. After the work is finished all surplus materials & debris should be removed clear away from the site of the work as directed by the Engineer-in-charge. Preliminary work such as platforms, scaffolding material etc. should be dismantled and all materials removed from the site and premises left neat and clean and this should be inclusive of the rates.

45. If any further necessary information is required, Senior Manager (Mech) in charge of the work will furnish such, but it must be clearly understood that the bid must be received in order and according to instruction.
46. In case of delay in acquisition of land no compensation will be admissible but extension of time will be allowed on production of documentary evidence. However, the decision of OCCL is binding on the successful bidder.
47. Over and above these conditions including the Technical specifications the items conditions, rules and regulations and specification laid down in relevant IS codes are also binding on the part of the successful bidder.
48. For submission of bids through e-Procurement Portal www.tendersodisha.gov.in, the bidder shall upload the scanned copy/copies of PAN card, GST Registration Certificate, Affidavit regarding authenticity, genuineness of documents, Bank credit facility & 'No relationship' certificate in prescribed pro forma. If the bidder has not registered their GST in the State of odisha, they have to get themselves registered under GST in the Govt. of Odisha before drawal of agreement.
49. **No Relation Certificate.**
The successful bidder shall have to furnish certificate along with the bid to the effect that they are not related to any officer of Govt. of Odisha/OCCL in the rank to an Asst. Executive Engineer and above and any officer of the rank of Under Secy. and above in the W.R. Department. If the fact subsequently proved to be false the contract will be rescinded. The earnest money and the total security will be forfeited and shall be liable to make good the loss or damage, resulting from such cancellation. **(The proforma for no relation certificate is contained in a separate sheet of I.T.B. in Annexure-B, Page-30).**
50. The successful bidder shall sign as a token of final acceptance of the plans, sections and agreements for the work prior to take up the work for execution.
51. Under no circumstance, Interest chargeable for the dues or any additional dues if any payable for the work.
52. Conditional bid will not be taken into consideration.
53. The EMD will be forfeited, if the bidder backs out from tender before acceptance of the bid by the competent authority as concurred in by Law Dept & Finance Dept. in their UOR No. 848/L Dtd. 31.5.97 & UOR No. 202/WFD Dtd. 6.3.98 respectively (Works Dept. of Govt. of Odisha Memo No. 9101/Clt, dtd. 30.3.98) also the EMD will be forfeited if the bidder fails to sign the agreement after acceptance and not willing to deposit the required ISD and Performance Security, if any for the unbalance bid amount.
54. If L₁ bidder does not turn up for agreement after finalization of the tender, then they shall be debarred from participation in bidding for any other tender for three years and action will be taken to blacklist the Bidder. In that case, the L₂ bidder, if fulfils other required criteria would be called for drawing agreement for execution of work subject to the condition that L₂ bidder negotiates at par with the rate quoted by the L₁ bidder otherwise the tender will be cancelled. In case a Bidder is black listed, it will be widely published and intimated to all departments of Govt. and also to Govt. of India agencies working in the State.

55. When in response to a notice calling for bids, only a single bid is received in the first time, the tender shall be cancelled without opening of the bid and fresh bid be invited publicly. If single bid is received even after retendering then the approval of the next higher authority should be obtained, if the bid is otherwise in order and acceptable.
56. Protection against flood: The Bidder shall make his own arrangement at his cost to shift the machinery, equipments, materials, labourer and departmental machinery if hired by the Bidder to a safe place prior to flood. The work shall have to be resumed after the work site is normal after flood. No extension of time for the completion of the work may be considered by the Department/Corporation if the discontinuance of the work is beyond the reasonable attempts of the Bidder to such eventualities.
57. The debris, sand and other materials, accumulated in the work area during flood shall be removed by the Bidder as required for continuing the work at their own cost. By any chance, if any excavated portion that could not be filled up with concrete by the Bidder, gets filled up during the monsoon period with earth, such removal will not be paid again. The Bidder will have to re-excavate the same at their own cost.
- It shall be distinctly understood that, it is entirely the responsibility of the Bidder to make such arrangements may be required from time to time to protect the men, machinery, materials and the work under progress and work for which the measurements were recorded and payment made, against any damages either during working season or during the flood. The department accepts no liability, what so ever for any damage or loss of men, materials, machinery and type of hindrance caused to the progress of work.
- The Bidder should provide at his own cost adequate protection measures to the completed works at the end of working season or work in progress against such eventuality till completion and handing over the entire work to the Department/OCCL.
58. Dewatering from the foundation for dams, spillways, bridges, culverts, building work sites etc. and watering for consolidation in roads embankments wherever necessary during execution will have to be done by the Bidder and no extra payment will be made on that account. The terms dewatering shall mean the execution or operation of the items due to standing water as well as due to percolation water.
59. Tax deducted as source (Income Tax) as applicable over the gross amount of the bill is to be deducted from the Bidder bill towards income tax & as amended from time to time.
60. The amount of royalty of different materials as utilized by the Bidder in the work will be recovered from their bill, basing on the rate fixed by the Govt. or as amended from time to time during the period of execution.
61. The bidder may be asked in writing/online (in their registered e-mail ids) to clarify on the uploaded documents provided in the Technical Bid, if necessary with respect to any doubts or illegible documents. The authority inviting bid may reserve the right to accept any additional document.
62. **All the forms and Annexure attached to section II of this ITB (as per requirement) must be filled in properly along with the authenticated documentary evidence required therein, failing which the bid shall be treated as 'Non-responsive' and be rejected.**

63. If a Bidder removes any Govt. material or stores supplied to him from the site of the work in contravention of the provision of this clause with a view to dispose of the same dishonestly, they shall be in addition to any other liability civil or criminal arising out of this contract be liable to pay penalty equivalent to 5 (five) times of the price of the materials cost. The penalty so imposed shall be recoverable at any time from the sum that may be due then or at any time thereafter become due to the Bidder or from their security deposit or from their other available dues with the Department / OCCL.

64. GENERAL INSTRUCTION TO BIDDER as per DoWR letter No.20415 dt.14.09.2015

- (i) Any agency or Contractor/ Successful Bidder executing a work should be aware about the local festivals like Makar Sankranti, Raja Sankranti ,Chaiti Parab, Danda Nata or any such festivals which may effect the work schedule. Therefore, the Bidder should engage more work forces during working period available at their disposal to complete the work as per schedule.
- (ii) In the peak summer season, working hour is curtailed by the Labour Department to avoid exposure to personnel to the scorching sun and heat. It is the duty of the agency to increase the number of work force and to employ the existing work force during morning and afternoon hours as per Government orders.
- (iii) Rainfall is a normal occurrence during monsoon in Odisha. So, unless there is unusually heavy rainfall resulting in a declared calamity, the Bidder is not eligible for any extension of time. The Bidder should plan the deployment of workforce and machinery, so as to complete the work as per schedule considering ordinary vagaries of nature. The same applies for borrow area ponding also. The Bidder should foresee possible ponding of borrow area in monsoon and like wise lift more quantity of soil/ other materials during dry period, so as to complete the work as per schedule.
- (iv) The Bidder should take up the work with due diligence in the acquired land without waiting for acquisition of entire land. This should be completed in proportionally less period depending on the quantum of available work front.
- (v) The Bidder should plan his work programme and mobilize men and machinery considering the canal closure programme of a particular system or area. Khariff / Rabi closure can't be imposed arbitrarily on the farmers as per the convenience of the agency. Closure of canal for the interest of work will be solely at the discretion of the Engineer-in- charge and can't be claimed as a matter of right.
- (vi) There will be always be standing crop before harvesting season as per crop schedule and this fact has to be clearly understood by the Bidder. Extension of time on this ground may not be considered by the Division officer.
- (vii) Only the day(s) of elections to the Local Bodies / Assembly / Parliament will be treated as non working day(s)

65. Definitions

In the contract (as hereinafter defined) the following words and expressing will have the meanings here by assigned to them.

- a) Bidder- firm, Company or Corporation as eligible to participate in the tender.
- b) Successful Bidder - Shall mean the Bidder whose bid will be accepted by the Owner for the award of the Work and shall include such successful bidder's legal representatives, successors and permitted assignees.
- c) Digital Signature- Any electronic documents, which contains encrypted message digest using hash algorithm and Tenders public key is known as Digitally Signed Documents and the process of generating such document is called digitally signing it.
- d) Approved / Approval – Means approved / approval in writing.

- e) Construction Plant – Means all equipments, appliances or a thing of whatsoever nature required for the execution, or completion, maintenance of the works or temporary works but does not include materials or other things intended to form or forming part of the permanent work.
- f) Contract – Means the instruction and information for bidders, General and Special conditions of the contract, Technical specification, tender (including the schedule of quantities and tender prices) the formal agreement and all agenda and attachment related to the above.
- g) Contractor – Means the particular person, firm or corporation with whom the contract has been made for executing the work.
- h) Drawing – Means the drawing referred to in the specifications any modifications of such drawings approved in writing by the Senior Manager (Mech) in charge of the work and such other drawings are may from time to time be furnished or approved in writing by the Engineer-in- charge.
- i) Engineer-in-charge – Means the Senior Manager (Mech) -in-charge of the work specified or parts of the works under the contract or such other OCC Ltd. assistants of subordinates to whom the Senior Manager (Mech), may have delegated certain duties acting separately within the scope of particular duties entrusted to them.
- j) Government – Means Government of Odisha, Department of Water Resources.
- k) I.S.S./ B.I.S – Means Indian Standard Specification/ Bureau of Indian Standard.
- l) Temporary Works – Means all temporary works of every kind required for the performance of the contract.
- m) Specification – Whenever the term Specification is used, apart from a specified standard specification, it shall mean the specification or plan prepared for a particular site as instructed to the Bidder in executing that item of work.
- n) **Guarantee Period' /Maintenance Period'** shall mean the period during which the Bidder shall remain liable for repair or replacement of any defective part of the Works performed under the Contract.

66. Procedure for Electronic receipt, accounting and reporting of Cost of Tender Paper and Earnest Money Deposit on submission of bids. (Vide Works Department, Govt. of Odisha O.M. No WORKS-FA-MISCSB-0003-2026-4909/W Dtd. 12.03.2026)

- i. The State Government have formulated rules and procedures for Electronic receipt, accounting and reporting of the receipt- of Cost of Tender Paper and Earnest Money Deposit on submission of bids through the e-procurement portal of Government of Odisha i.e. "<https://tendersodisha.gov.in>".
- ii. Electronic receipt of cost of tender paper has been successfully tested through SBI payment gateway. Now it has been decided to introduce electronic receipt of Cost of Tender Paper and Earnest Money Deposit on submission of bids through payment gateway of designated banks such as SBI/ICICI Bank/HDFC Bank for all Government Departments, State PSUs. Statutory Corporations, Autonomous Bodies and Local Bodies etc. in phases (Annexure-1). The process outline as well as accounting and reporting structure are indicated below :
 - a) It will be carried out through a single banking transaction by the bidder for multiple payments like Cost of Tender Paper and Earnest Money Deposit on submission of bids.
 - b) Various payment modes like Internet banking/ NEFT/RTGS of Designated Banks and their Aggregator Banks as well can be accessed by the intending bidders.
 - c) Reporting and accounting of the e-receipts will be made from a single source.

d) Credit of receipts into the Government accounts and to the designated Bank account of the participating entities indicated in Para ii above would be faster.

- iii. Only those bidders who successfully remit their Cost of Tender Paper and Earnest Money Deposit on submission of bids would be eligible to participate in the tender/bid process. The bidders with pending or failure payment status shall not be able to submit their bid. Tender inviting authority, State Procurement Cell, NIC, the designated Banks shall not be held responsible for such pendency or failure.

iv. **Banking arrangement:**

a) Designated Banks (SBI/ICICI Bank/HDFC Bank) payment gateway are being integrated with e-Procurement portal of Government of Odisha (<https://tendersodisha.gov.in>)

b) The Designated Banks participating in Electronic receipt, accounting and reporting of Cost of Tender Paper and Earnest Money Deposit on submission of bids will nominate a Focal Point Branch called e-FPB, who is authorized to collect and collate all e-Receipts. Each such branch will act as the Receiving branch and Focal Point Branch notwithstanding the fact that the bidder might have debited his account in any of the bank's branches while making payment.

v. **Procedures of bid submission using electronic payment of tender paper cost and EMD by bidder:**

a) Log on to e-Procurement Portal: The bidders have to log onto the Odisha e-Procurement portal (<https://tendersodisha.gov.in>) using his/her digital signature certificate and then search and then select the required active tender from the "Search Active Tender" option. Now, submit button can be clicked against the selected tender so that it comes to the "My Tenders" section.

b) Uploading of Prequalification/Technical/Financial bid: The bidders have to upload the required Prequalification /Technical/Financial bid, as mentioned in the bidding document and in line with Works Department office memorandum no.7885, dt.23.07.2013

Electronic payment of tender paper cost and EMD:

Then the bidders have to select and submit the bank name as available in the payment options

- i. A bidder shall make electronic payment using his/her internet banking enabled account with designated Banks or their aggregator banks.
- ii. A bidder having account in other Banks can make payment using NEFT/RTGS facility of designated Banks. · Online NEFT/RTGS payment using internet banking of the bank in which the bidder holds his account, by adding the account number as mentioned in the challan as an interbank beneficiary.

Bid submission:

Only after receipt of intimation at the e-Procurement portal regarding successful transaction by bidder the system will activate the 'Freeze Bid Submission' button to conclude the bid submission process.

System generated acknowledgement receipt for successful bid submission:

System will generate an acknowledgement receipt for successful bid submission. The bidder should make a note of 'Bid ID' generated in the acknowledgement receipt for tracking their bid status.

Settlement of Cost of Tender Paper;

a) Cost of Tender Paper: In respect of Government receipts on account of Cost of Tender Paper, the e-Procurement portal shall generate a MIS for the State Procurement Cell (SPC). The MIS will contain an abstract of the cost of tender paper collected with reference to Bid Identification Number. The State Procurement Cell shall generate Bank-wise-head-wise challans separately for Cost of Tender Paper and instruct the designated Banks to remit the money to the State Government account under different heads. In respect of the cost of tender paper received through the e-procurement portal, the remittance to the Cyber Treasury account will be made to the Head of Account 0075-Misc, General Services-800-Other Receipts 0097-Misc. Receipts-02237-Cost of Tender Paper.

b) For the time being, the State Procurement Cell (SPC) will use over the counter payment facility of the Odisha Treasury portal. Thereafter, remittance through NEFT & RTGS will be facilitated through the Odisha Treasury portal.

c) Similarly, in case of State PSUs, Statutory Corporations, Autonomous Bodies and Local Bodies etc., Cost of Tender Paper, the e-Procurement portal shall generate a MIS for the State Procurement Cell (SPC). The MIS will contain an abstract of the cost of tender paper collected with reference to Bid Identification Number. The State Procurement Cell shall generate Bank-wise list of challans and instruct the designated Banks to remit the money through the Odisha Treasury portal. The cost of tender papers will be credited to the registered Bank account of the concerned State PSUs, Statutory Corporations, Autonomous Bodies and Local Bodies etc.

d) Bank will refund (in case the Tender Inviting Authority (TIA) issues such instructions) the tender fee, EMD to the bidder, in case the tender is cancelled before opening of Bid as per direction received from TIA through e-procurement system.

e) Back-end Transaction Matrix of Electronic receipt of Cost of Tender Paper and Earnest Money Deposit on submission of bids is enclosed in the Annexure. 1. Settlement of Earnest Money Deposit on submission of bids: a) The Bank will remit the Earnest Money Deposit on submission/cancellation of bids to respective bidders accounts as per direction received from TIA through e-procurement system.

Forfeiture of EMD :

Forfeiture of Earnest Money Deposit on submission of bid of defaulting bidder is occasioned for various reasons as follows.

a) In case the Earnest Money Deposit on submission of bid is forfeited, the e-Procurement portal will direct the Bank to transfer the EMD value from the Pooling Account of SPC to the registered account of the tender inviting authority.

b) The Tender inviting authorities of the Government Departments will deposit the forfeited Earnest Money Deposit on submission of bid, in the State Government Treasury under the appropriate head (8782-Cash Remittances and Adjustments between the officers rendering accounts to the same Accounts Officer-102P.W.Remittances-1683-Remittances-91028-Remittances into Treasury) after taking the amount as a revenue receipt in their Cash Book under the head 0075-Misc. General Services-00-101 -Unclaimed Deposits-0097Misc, Receipts-02080-Misc. Deposits and submit the detail account to DAG (Puri) as a deposit of the Division.

c) By clicking submit button, system will initiate the forfeiture of EMD. System will not allow the evaluator to edit the initiation after clicking the submit button. Forfeiture option can be carried out in phased manner like one bidder at a time.

Role of the Banks:

- a) Make necessary provision / customizations at their end to enable the provision for online payments / refunds as per this document.
- b) Provide necessary real-time message to bidders regarding successful or unsuccessful transactions during online payment processes and redirect them to e-Procurement website with necessary transaction reference details enabling them to submit their bids.
- c) The bank shall ensure transfer of funds from the pooling account to the Government Head/current account of PSUs/ULBs within the next bank working day as per the directions generated from e-Procurement portal.
- d) Bank should provide timely reports and reference details to NIC enabling them to carry out their role as stated below.
- e) Refund of amount to bidders as per the XML file provided by e-Procurement system on the next bank working day from the date of generation of the XML file and also provide a confirmation to NIC on the same.

Role of State Procurement Cell:

- a) Communicate requirements of Government departments/ State PSUs/ Autonomous Bodies/ ULBs online payment requirements to National Informatics Centre / the authorised Banks for mapping/ customization.
- b) In every working day, the State Procurement Cell shall generate MIS from the e-Procurement portal to ascertain the tender paper cost received in the e-Tendering process separately bank-wise for the Government Department and the PSUs/ULBs. The SPC shall generate bank-wise separate online challans from the Odisha Treasury portal and make the remittance through over the counter facility or NEFT/RTGS (as and when this functionality is available in Treasury portal) and issue instruction to the bank for remittance of the receipt to the State Government account.
- c) The State Procurement Cell shall be responsible for providing challan details and MIS in respect of the remittance towards tender paper cost to the Tender inviting authorities for their record.
- d) State Procurement Cell shall monitor the progress of e-Tendering by different Government departments / State PSUs/ Autonomous Bodies / ULBs through an MIS. State Procurement Cell shall monitor and send monthly progress reports to the Government.
- e) The e-Procurement system will generate a consolidated refund & settlement XML file as an end of the day activity.
- f) e-procurement system will provide a web service for payment gateway (PG) provider to pull the encrypted refund and settlement details in XML file against a day.
- g) Similarly, payment gateway (PG) provider will provide a web service to pull the refund and settlement status against a day
- h) e-procurement system will update the status accordingly for reconciliation report.

Role of National Informatics Centre:

- a) Customize e-Procurement software and web-pages of Government of Odisha (<https://tendersodisha.gov.in>) to enable the provision for electronic payment.
- b) The NIC, Odisha will modify / rectify the errors in electronic data relating to the Chart of Account.
- c) NIC will provide an interface to organisations to download the electronic receipt data.

d) Enable automatic generation of daily XML files from e-Procurement system and ensure delivery of the same to the authorised Banks for enabling automatic refund/settlement of funds.

e) NIC shall enable the e-Procurement portal to generate MIS as required for the State Procurement Cell in order to make remittance of the tender paper cost to the State Government account using the Odisha Treasury portal.

Role of Cyber Treasury :

a) The cost of the tender paper deposited by the SPC using the Odisha Treasury Portal which will be accounted for by the Cyber Treasury and it shall submit the accounts to A.G (O) as per the established process.

b) The Cyber Treasury will provide MIS as required to the SPC for the purpose of accounting and reconciliation of the electronic remittances made to the State Government account.

Redressal of Public grievances :

The State Procurement Cell, Odisha, National Informatics Centre, Odisha and the e-FPB will have an effective procedure for dealing with, public complaint for e-Receipt related matters. In case, any mistake is detected by any of the stakeholders in reporting of receipt of tender paper cost and EMD, either Suo Moto or on being brought to its notice, the State Procurement Cell, Odisha, National Informatics Centre, Odisha unit, Cyber Treasury and the bank will promptly take steps for rectification. The e-Focal Point Branch of the participating Banks, National Informatics Centre, Odisha and the State Procurement Cell, Odisha will notify the contact number and address of the Help Desk for resolution of any dispute regarding e-Receipt.

Applicability and modification of existing rules / orders:

The modalities prescribed in this Office Memorandum for downloading of tender paper, submission and rejection of bid, acceptance of Bids as well as refund and forfeiture of earnest deposit will be applicable for electronic submission of bids through e-procurement portal. Existing provisions regulating cost of tender paper, earnest money deposit in OPWD Code and OGFR would stand modified to the extent prescribed. 15. These arrangements would be made effective after signing of MoU between the designated Banks and the State Procurement Cell, firming up of Banking arrangements and technical integration between designated Bank and e-Procurement Portal.

Back-end Transaction Matrix of Electronic receipt and remittance of Cost of Tender Paper and Earnest Money Deposit on submission of bids.

	Cost of Tender Paper on submission of bids	Earnest Money Deposit on submission of bids
Government Departments	I. The payment towards the cost of Tender Paper, in case Government Departments, shall be collected in separate Pooling accounts opened in Focal Point Branch called e-FPB of respective designated banks [as stated in Para 2] at Bhubaneswar on T+1_day. II. With reference to the Notice Inviting Tender/ Bid Identification Number, the amount so realized is to be remitted to Government Account under the Head Of Account 0075-Misc. General Services-800-Other Receipts-0097Misc. Receipts-02237-Cost of Tender Paper through Odisha Treasury Portal after opening of the bid.	I. In case of tenders of Government Departments, amount towards Earnest Money Deposit on submission of bids shall be collected in a pooling account opened for this purpose at Focal Point Branch called e-FPB of respective designated banks at Bhubaneswar and the banks will remit the amount to respective bidder's account within two working days on receipt of instruction from TIA through refund and settlement of e-procurement system. II. In case of forfeiture of Earnest Money Deposit on submission of bids, the e-Procurement portal will direct the Bank to transfer the EMD value from the Pooling Account of SPC to the registered account of the tender inviting authority within two working days of receipt of instruction from TIA.
State PSUs Statutory Corporations, Autonomous Bodies and Local Bodies.	I. In case of State PSUs, Statutory corporations, Autonomous Bodies and Local Bodies etc. the amount towards Cost of Tender Paper, on submission of bids shall be collected in separated pooling accounts opened in Focal Point Branch called e-FPB of respective designated Banks at Bhubaneswar on T+1 days. II. The Paper cost will be transferred to the respective current accounts of concerned State PSUs, Statutory Corporation, Autonomous Bodies and Local Bodies etc. after opening of bid.	Statutory Corporations, Autonomous Bodies and Local Bodies. I. Amount towards EMD on submission of bids shall be collected in a separate pooling account of Focal Point Branch called e-FPB of respective designated banks at Bhubaneswar and the banks will remit the amount to respective bidder's account on receipt of instruction from TIA through refund and settlement of e-procurement system within two working days from receipt of such instruction. II. In case of forfeiture of Earnest Money deposit on submission of bids, the e-Procurement portal will direct the Bank to transfer the EMD value from the Pooling Account of SPC to the registered account of the tender inviting authority within two working days of receipt of instruction from TIA.

SECTION-II

INSTRUCTIONS TO BIDDERS(ITB)

INSTRUCTIONS TO BIDDERS

1 Preparation of bid Documents.

The intending bidder shall log in to the e-procurement portal identified as <https://www.tendersodisha.gov.in> and download the Technical Bid (Cover-I) in Pdf format and Financial bid (Cover-II) in shape of bill of quantity in an intelligent MS Excel Format. As per the requirement of the bid document, the bidder will fill up required information at required cell on the intelligent MS Excel sheet. The bidder is to scan his PAN card, Affidavit in prescribed proforma, Bank credit facility, No relation certificate in prescribed pro forma, GST Registration Certificate, EPF Registration Certificate, ESI Certificate issued by competent authorities required for fulfilling the minimum qualifying criteria specified in the bid document for the work.

2. Method of submission of bid Documents.

- 2.1 The bidder shall upload the scanned copy/ copies of the documents & information as per requirement of the bid document through the e-procurement portal. All documents & scanned copies are to be uploaded in the designated location of the Technical Bid (Cover-I) in pdf format except the price bid. The filled up intelligent Bill of Quantities in Excel Format will be uploaded in the designated location of Price Bid (Cover-II). The Bidder is required to upload the required documents in appropriate location of the Technical & Financial Bid failing which the Bid will be rejected. All the uploaded documents should be clear & legible. Before activating the submit button the clarity of the document may be ensured by taking out a sample copy. In the e-procurement tendering system, the bidder is required only to submit the required information as per Bid document instead of submitting the entire Technical Bid document. The online bidders shall digitally sign on the all statements, documents, clarification uploaded by them owning responsibility for their correctness /authenticity. If any of the information furnished by the bidder is found to be false/ fabricated/ bogus the bidder will be black listed & EMD / Bid Security will be forfeited.
- 2.2 The information required as per bid documents may be provided in the specified format annexed to the bid document.
- 2.3 If the intending bidder is an individual, the documents shall be signed by the individual above his full type written name and current address.
- 2.4 If the intending bidder is a proprietary firm, it shall be signed by the proprietor above his full name and with his current address.
- 2.5 If the intending bidder is a firm in partnership, it shall be signed by a partner holding the power of attorney for the firm in partnership in which case a certified copy of power of attorney shall accompany in the pre-qualification documents.
- 2.6 If the intending bidder is a limited company or Corporation, it shall be signed by a duly authorized person holding the power of attorney in which case certified copy of power of attorney shall accompany.
- 2.7 All witness and sureties shall be of person of status and probity and their full names, occupation and address shall be stated below their signatures.
- 2.8 As the Period of execution of the above work is **90 (Ninety) days, there is no provision for payment of Price Escalation.**

3. Opening of Technical Bid Document.

The technical bid documents will be opened on dated **05.10.2026 at 11.30 A.M.** in the Corporate office of Odisha Construction Corporation Limited, at Gopabandhu Nagar, Unit-VIII, Bhubaneswar in the presence of bidders or their authorized representative, who wish to be present.

4. Minimum Qualifying Criteria

- (a) The Bidder must have been registered as a **integrator of Instrumentation / Automation Panels (RTUs & PLCs)**
- (b) **SATISFACTORY COMPLETION OF SIMILAR WORK:**

The Bidder / company must have successfully completed (not less than 80% of contract value) as a prime Bidder, at least one similar work of Complete automation and Instrumentation work with SCADA in Irrigation sector of value not less than **Rs.4.69 crore** during last 5 years i.e. from 2021-22 to 2025-26 & Current Financial Year.

(Self attested copies of work order, copy of agreement and satisfactory completion certificate from the client are to be submitted). Weightage of 10% per year shall be given on cost of satisfactorily completed works of previous years to bring them to the current price level. Failure to submit proof in support will result in non-consideration of the tender.

- (c) **Certified Bidder must have ISO 9001:2000, ISO: 14001:2004 and ISO 27001:2013, failing which bids shall not be accepted.**
 - (d) **Must have technical proficient staffs with not less than five years of Electrical & Automation Works. List of staff/ manpower to be submitted by the bidder in Annexure-D**
 - (e) **The Bidder should furnish a brief write-up, backed with adequate data, explaining his available capacity and experience (both technical and commercial) for the manufacture and supply of the required equipment within the specified time of completion after the meeting all their current commitments.**
 - (f) **The firm must not have been debarred / blacklisted by any Govt. Dept, agency, PSUs / institution / agencies / autonomous organizations. The bidder shall submit a self certification by an authorized person duly notarized to this effect.**
 - (g) **The Bidders should submit the following documents (in addition to other documents, required as per other clauses) : -**
 - i) Documents as mentioned in **Clause No. (6) of NIT.**
 - ii) List of hydro mechanical gate automation projects completed as per **Annexure-C**
 - iii) Certificate confirming the availability of staff/manpower as per **Annexure-D**
 - iv) Attested Copies of Affidavit for Sole Proprietorship / Partnership Deed / Memorandum and Articles of Association along with the details pertaining to place of registration, principal place of business of the firm etc.
 - v) Certificate for availability of Machinery/ Equipment as per **Annexure-E**
 - vi) Affidavit for past contractual performances as per **Annexure-F**
 - vii) Indemnity Bond as per **Annexure-I**
 - viii) Power of attorney to authorized signatory as per **Annexure-J**
- Even though the Bidders meet the above qualifying criteria, they are liable to be disqualified, if**
- (i) They have made misleading or false representation in the forms, statements and attachments submitted in proof of the qualification requirements.
 - (ii) They have records of poor performance such as abandoning the work, not properly completing the contract, litigation history or financial failures etc.
 - (iii) Their business banned by Central/State Govt. Department/Public Sector Undertakings or Enterprises of Central/State Govt for any reason.

5. **Site Visit**

The bidder is advised to visit and examine the site of works and its surroundings and obtain for himself on his own responsibility all information that may be necessary for preparing the bid and entering into the Contract. The costs of any such visits shall be entirely at the bidder's own expense. The bidders are requested to satisfy themselves regarding availability of water, requirement of electricity, nature and location of work, confirmation of the ground character, quality and quantity of the materials, the character of equipment and logistic facilities needed preliminary to and during the progress of the works, law and order situation, hindrances and/or the general and local conditions, the labour conditions prevailing therein and all other matters which can in any way affect the works under the contract. The contractor will be fully responsible for considering the financial effect of any or all of the above factors at his rates. No compensation will be given on account of ignorance of any of the factors during execution of the works.

6. **Rates and Prices**

The prices quoted by the Bidder shall be in INR (Indian Rupee) and fixed for the contemplated completion period and shall not be subject to any escalation due to any account in this period. Prices shall also remain firm in case of variation of quantities and actual completion period. **The bidders have to quote the item rate including all taxes such as income tax, labour cess, EMF, royalties, DMF payable under the local rule etc. excluding GST (Goods and Service Tax). GST as applicable will be paid extra as per prevailing rules.**

7. **Joint Venture is not allowed**

8. **Final Decision making authority**

The **Managing Director** of the Corporation is the competent authority who reserves the right to accept or reject or disqualify any of the bid without assigning any reasons thereof and his decision shall be final and binding on all the bidders.

9. **ISSUE OF ADDENDA / CORRIGENDA/ CANCELLATION NOTICE:**

The Officer inviting the tender may publish any addendum / corrigendum/ cancellation of tender/bid in the notice board and in the web-site www.tendersodisha.gov.in and such notice shall form part of the bidding documents.

10. The bidder whose bid is accepted shall be required to submit stamp papers of appropriate value in his name for payment of stamp duty as per the provision of Indian Stamp Act within 7 days of the date of issue of Letter of Intent and shall be required to appear at the office of the OCCL in person, or through a duly authorized representative to execute the contract agreement within 15 days after receipt of the notice for signing the Contract Agreement. No payments shall be released to the Bidder until the agreement is signed. Failure to do so shall also constitute a breach of the agreement effected by the acceptance of the bid in which case the Letter of Intent for the contract can also be cancelled and the Earnest Money accompanying the bid is also liable to be forfeited by the OCCL.

11. **Court's Jurisdiction**

Any suit or application, arising out of any dispute or difference on account of this tender or any matter in relation to the Award of the contract or for the enforcement of Arbitration clause under the Contract, shall be filed in a Competent Court at Bhubaneswar, India only and no other court of any other District of the country shall have any jurisdiction in the matter. **It is to be noted that in all cases, if any, OCCL should be made as First Respondent.**

12. General

- 12.1 The Bidder's operations and proceeding in connection with the works shall at all times be conducted during the continuance of contract in accordance with the laws, ordinance, rules and regulations for the time being in force and the Bidder shall further observe and comply with the bye laws and regulations of the Government of India and State Government and of Municipal and other authorities having jurisdiction over area involved in connection with the works or site and over operations such as those as carried out by the Bidder (s) and shall give all notices required by such bye-laws and regulations. The hospital and medical regulations in force for the time being shall also be complied with by the Bidder / Bidders and his/their workmen.
- 12.2 No Engineer of Gazetted rank or other Gazetted Officer employed in Engineering or Administrative duties in any Department of the Government of India is allowed to work as a Bidder for a period of two years immediately after his retirement from Government service without the previous permission of the Government of India. This contract is liable to be cancelled if either the Bidder or any of his employees is found at any time to be such a person who had not obtained the permission of the Government of India as aforesaid before submission of the bid or engagement in the Bidder's service.
- 12.3 Should a Bidder have a relative employed in Managerial capacity in OCCL or in the case of partnership firm or company incorporated under the Indian Company Law, should a partner or relative of the partner or a shareholder be employed in responsible capacity in the OCCL, the authority inviting tenders shall be informed of the fact at the time of submission of bids, failing which the bid may be rejected. If such fact is suppressed at the time of tendering/bidding and comes to light at any time after the acceptance of bid the contract may be rescinded.
- 12.4 Site is available with owner for construction. Site for execution of the work will be made available as soon as the work is awarded.

FORM – A
STRUCTURE AND ORGANISATION

1. Name of Bidder
 2. Nationality of Bidder
 3. Office Address
 4. Telephone No.
 - Land phone
 - Mobile
 - Fax No
 - e-mail id
 5. Location of establishment
 6. The Bidder is
 - a. An individual
 - b. A proprietary firm
 - c. A limited company or limited corporation
 - d. A member of a group of companies (If yes, give names, address and present description of other companies.
 - e. A subsidiary of large organization
(If yes, give names, address of the present organization)
 - f. If the company is subsidiary state what involvement if any, will the parent company have in the project.
- Attach the organization chart showing the structure of the organization including the names of the Directors position of officer.
7. Number of year of experience
 - a. As a prime Contractor
 - I In own country
 - II Other country (specify country)

(AFFIDAVIT)

(To be submitted in original in legal stamp paper duly registered)

1. The undersigned (Name of the firm and full address of the registered office contact details) hereby certifies that, all the statements made in the required attachments are true and correct.
2. The undersigned also hereby certify that, neither our firm _____ nor any of its construction partners have abandoned any Automation Project Work in India nor any contract awarded to us for such works have been rescinded during the last five years prior to the date of this bid.
3. The undersigned hereby authorized and request (s) bank, firm or Corporation to furnish pertinent information as deemed necessary and as requested by the Corporation to verify this statement or regarding my (our) competency and general reputation.
4. The undersigned understands and agrees that further qualifying information may be requested and agree to furnish any such information at the request of the Corporation.

(Signed by an Authorized of the firm)

Title of Officer

Name of Firm

Date.

CERTIFICATE OF NO-RELATIONSHIP

I/We hereby certify that I/We am/are not related to any officer of Govt. of Odisha/OCC Ltd of the rank of Asst. Executive Engineer and above and any officer of the rank of Under Secretary and above in the W.R. Department. I/We am/are aware that if the facts subsequently proved to be false my/our contract will be rescinded with forfeiture of EMD & security deposit and I/We shall be liable to make good the loss or damage resulting from such cancellation.

I/We also note that, non-submission of this certificate will render my/our bid liable for rejection.

Signature of the Bidder

Name

Address

Date

: _____

**LIST OF HYDRO MECHANICAL GATE AUTOMATION PROJECTS COMPLETED FOR
LAST FIVE YEARS**

(From Financial Year 2021-22 to 2025-26 & Current Financial Year)

Sl. No.	Clients Name Address & Contact No.	Scope of Work	Agreement/ Letter of Award No.	Contract Value (Rs In Lacs)		Location	Date of Start	Date of Completion	
				Awarded	Actual			As per LOA	Actual

**RECORD OF HYDRO MECHANICAL GATE AUTOMATION PROJECTS UNDER
OPERATION & MAINTENANCE**

Sl.No.	Clients Name Address & Contact No.	Location	Type of Automation system	Brief Technical Details of Automation System	Date of Commissioning	Date of Commencement of Operation & Maintenance	Performance Record & Remarks

This is to certify that Automation System operated & maintained by self have not met with any fatal accident.

SEAL AND SIGNATURE OF THE BIDDER

Note:

1. In support of having completed above works attach self attested copies of the completion certificate from the owner/client indicating the name of work, the description of work done by the bidder, date of start, date of completion, value of contract and value of material supplied free of cost by client.
2. Information must be furnished for works carried out by the bidder in his own name as a prime contractor or proportionate share as member of a joint Venture. In the latter case details of contract value including extent of financial participation by partners in that work should be furnished.

CERTIFICATE CONFIRMING THE AVAILABILITY OF STAFF / MANPOWER

This is to certify that I/We shall deploy the essential staff/manpower as specified in the tender, if I/We am/are awarded the work of **“Supply, installation, testing, commissioning with complete cloud-based automation of Barrage Bay and HR gates controlled through centralised remote control and implementation of real-time management system of Anandapur Barrage Project, At - Anandapur, Dist. Keonjhar, Odisha.”** as per the details indicated below I/We agree that the staff/manpower indicated below is the minimum essential for the project execution and in addition to these, other staff/manpower necessary to complete the work successfully and in time, shall also be deployed by me/us.

Position	Name	Years of Experience (general)	Years of Experience in Proposed Position (Automation System)

SEAL AND SIGNATURE OF THE BIDDER

CERTIFICATE CONFIRMING THE AVAILABILITY OF MACHINERY AND EQUIPMENT

This is to certify that I/We shall deploy the essential machinery and equipment required for the work, if I/We am/are awarded the work of **“Supply, installation, testing, commissioning with complete cloud-based automation of Barrage Bay and HR gates controlled through centralised remote control and implementation of real-time management system of Anandapur Barrage Project, At - Anandapur, Dist. Keonjhar, Odisha”** as per the details indicated below. I/We agree that the equipment indicated below is the minimum essential for the project execution and in addition to these, other machinery and equipment necessary to complete the work successfully and in time, shall also be deployed by me/us

Item of Equipment	Make and Age (Years)	Condition (new, good, poor)	Owned

SEAL AND SIGNATURE OF THE BIDDER

PROFORMA FOR SUBMISSION OF PAST CONTRACTUAL PERFORMANCE

(Affidavit on non-judicial stamp paper of Rs 20/- duly attested by Notary/Magistrate)

This is to certify that We, M/s _____, in submission of this offer,

- i) Have not made any misleading or false representation in the forms, statements and attachments in proof of the qualification requirements;
- ii) Do not have records of poor performance such as abandoning the work, not properly completing the contract, litigation history, financial failures or fatal accident in self operated Automation System etc.
- iii) Business has never been banned with us by any Central/State Govt. Departments/Public Sector Undertakings or Enterprises of Central/State Govt.
- iv) Have submitted all the supporting documents and furnished the relevant details as per the prescribed format.
- v) The information and documents submitted with the tender by me/us are correct and I/we am/are fully responsible for the correctness of the information and documents submitted by me/us.

SIGNATURE AND SEAL OF THE BIDDER

CONTRACT AGREEMENT**FOR WORK AT ANANDAPUR BARRAGE PROJECT, ANANDAPUR, DIST. KEONJHAR**

CONTRACT AGREEMENT FOR THE WORK OF _____

dated _____ (day) _____ (month) _____ (year) _____
 _____ (in words) between M/s _____,
 having registered office at _____

hereinafter called the "BIDDER" (which term shall unless excluded by or repugnant to the subject or context include its successors and permitted assignees) of the one part and the Odisha Construction Corporation Ltd., Bhubaneswar having Central office at Bhubaneswar, India, acting through its Managing Director and includes his successors and assigns, hereinafter called "OWNER".

WHEREAS the Owner is desirous that certain works should be executed viz. **"Supply, installation, testing, commissioning with complete cloud-based automation of Barrage Bay and HR gates controlled through centralised remote control and implementation of real-time management system of Anandapur Barrage Project, At - Anandapur, Dist. Keonjhar, Odisha"** on item rate basis and has by Letter of Acceptance dated _____
 _ accepted a bid submitted by the BIDDER for the execution & completion of such works.

Now THIS AGREEMENT WITNESSETH as follows:

1. In this agreement, words and expressions shall have the same meaning as are respectively assigned to them in the conditions of contract hereinafter referred to.
2. The following documents in conjunction with Addendum/ Corrigendum to Tender Documents shall be deemed to form and be read and construed as part of the agreement viz:
 - a) This Form of Agreement.
 - b) The Letter of Acceptance.
 - c) The Price Bid (Cover 2).
 - d) The Technical Specifications.(Cover 1)
 - e) The Special Conditions of Contract (Cover 1)
 - f) The General Conditions of Contract (Cover 1)
 - g) The Instructions to Bidders (Cover 1)
3. The aforesaid documents shall be taken as complementary and mutually explanatory of one another, but in the case of ambiguities or discrepancies, shall take precedence in the order set out above.
4. In consideration of the payment to be made by the Owner to the Bidder as hereinafter mentioned, the Bidder hereby covenants with the Owner to execute, complete and maintain the works in conformity in all respects within the provisions of the contract.

5. The Owner thereby covenants to pay to the Bidder in consideration of the execution, completion of the works at contract price at the time and in the manner prescribed by the contract.
6. The several parts of the agreement has been read and fully understood.

In WITNESS whereof the parties hereto have caused their respective common seals to be hereinto affixed (or have herewith set their respective hands and seals) the day and year first above written.

SIGNED, SEALED AND DELIVERED BY

For and on behalf of
OWNER

For and on behalf of
BIDDER

Signature
Name
Designation
Witness

Signature
Name
Designation

1. Signature
Name
Address

Signature
Name
Address

2. Signature
Name
Address

Signature
Name
Address

FORM OF BANK GUARANTEE

(ON NON -JUDICIAL PAPER OF APPROPRIATE VALUE IN THE
NAME OF THE BANK)

To:

The Managing Director,
Odisha Construction Corporation Ltd.,
(Government Of Odisha Undertaking)
Regd. Office : Unit-VIII, Gopabandhu Nagar,
Bhubaneswar-751 012

Name of the work: _____

Dear Sir(s)

1. In consideration of Odisha Construction Corporation Ltd.. (Hereinafter called OCC) representing through its The Managing Director having the Central Office at Bhubaneswar, Odisha, India having agreed to exempt M/s. _____ hereinafter called "the said Contractor(s)" from the demand, under the terms and conditions of an agreement No. _____ dated _____ made between OCC, Bhubaneswar and the Contractor for _____ (name of work) (hereinafter called "the said agreement"), of security deposit for the due fulfillment by the said Contractor(s) of the terms and conditions contained in the said Agreement, on production of a Bank Guarantee for Rs. _____ only, we (hereinafter referred to as the bank) at the request of M/s. _____ (Contractor(s)) do hereby undertake to pay to the OCC an amount not exceeding Rs. _____ only against any loss or damage caused to or suffered or would be caused to or suffered by the OCC by reason of any breach by the said Contractor(s) of any of the terms & conditions contained in the said agreement.
2. We, _____ do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the OCC stating that the amount claimed is due by way of loss or damage caused to or would be caused to or suffered by the OCC by reason of breach by the said contractor(s) of any of the terms & conditions contained in the said agreement or by reason of the contractor(s) failure to perform the said agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____ (Rupees _____ only).
3. We, undertake to pay to the OCC any money so demanded notwithstanding any dispute or dispute raised by the contractor(s)/ Supplier(s) in any suit or proceeding pending before any court or Tribunal relating thereto our liability under this present being absolute and unequivocal.
4. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under the contractor(s)/supplier(s)/shall have no claim against us for making such payment.
5. We, _____ (name of the bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be

enforceable till all the dues of the OCC under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till The Managing Director, OCC., certified that the terms and conditions of the said agreement have fully and properly carried out by the said contractor(s) and accordingly discharges this guarantee is made on us in writing on or before _____, we shall be discharged from all liability under this guarantee thereafter.

6. We, _____ (name of the bank) further agree with the OCC that the OCC shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor from time to time or to postpone for any time or from time to time any of the powers exercisable by the OCC against the said contractor(s) and to forbear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said contractor(s) or for any forbearance, act or omission on the part of the OCC or any indulgence by the OCC to the said contractor(s) or any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

7. This guarantee will not be discharged due to the change in the constitution of the Bank or the contractor(s) /Supplier(s).

8. We, _____ (name of the bank) lastly undertake not to revoke this guarantee during its currency except with the previous consent of the OCC in writing.

9. Notwithstanding anything contained herein above our liability under this guarantee shall:

- a. be limited to a sum of Rs. _____ only).
- b. stand completely discharged and all your rights under this guarantee shall stand extinguished if no claim or demand made upon us in writing on or before _____.

For _____

(indicate the name of bank)

Bank Guarantee No. _____

Date _____

INDEMNITY BOND

Name of the work- (On Non-Judicial Stamp paper of appropriate value)

KNOW all men by these presents that I/we _____ (Name of Contractor with address) _____

_____ do hereby execute Indemnity Bond in favour of _____

(1) Odisha Construction Corporation Ltd.(OCC), Bhubaneswar, Odisha

THIS DEED WITNESSETH AS FOLLOWS:

I/we _____ (Name of Contractor) hereby do indemnify and save harmless OCC, Bhubaneswar from:

- 1) Any third party claims, civil or criminal complaints/liabilities site mishaps and other accidents or disputes and/or damages occurring or arising out of any mishaps at the site due to faulty work, negligence, faulty construction and/or for violating any law, rules and regulations in force, for the time being while executing/executed civil, electrical & mechanical works by me/us.
- 2) Any damages, loss or expenses due to or resulting from any negligence or breach of duty on the part of me/us or any sub contractors/s if any, servants or agents.
- 3) Any claims by an employee of mine/ours or of sub-contractors if any, under the workman compensation act and employers' Liability act, 1939 or any other law rules and regulations in force for the time being and any acts replacing and/or amending the same or any of the same as may be in force at the time and under any law in respect of injuries to persons or property arising out of and in the course of execution of the contract work and/or arising out of and in the course of employment of any workman/employee.
- 4) Any act or omission of mine/ours or sub-contractor/s if any, our/their servants or agent which may involve any loss, damage, liability, civil or criminal action.

IN WITNESS WHEREOF THE _____

HAS SET HIS/THEIR HANDS ON THIS DAY OF _____

SIGNED AND DELIVERED BY THE AFORESAID _____

IN THE PRESENCE OF WITNESS:

1 _____

2 _____

FORMAT FOR POWER OF ATTORNEY TO AUTHORISED SIGNATORY**POWER OF ATTORNEY**

(To be executed on non-judicial stamp paper of the appropriate value in accordance with relevant Stamp Act. The stamp paper to be in the name of the firm/company who is issuing the Power of Attorney).

We, M/s _____ (name of the firm/company with address of the registered office) hereby constitute, appoint and authorize Mr / Ms _____ (name and residential address) who is presently employed with us and holding the position of as our attorney, to do in our name and on our behalf all or any of the acts, deeds or things necessary or incidental to our bid for the work _____ (name of work) including signing and submission of applicable proposals, participating in the meetings, responding to queries, submission of information / documents and generally to represent us in all the dealings with OCCL or any other Government/Agency or any person, in connection with the works until culmination of the process of bidding till the Contract Agreement is entered into with OCCL and thereafter till the expiry of the Contract Agreement.

We hereby agree to ratify all acts, deeds and things lawfully done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall and shall always be deemed to have been done by us.

(Add in the case of a Consortium/Joint Venture)

Our firm is a Member / Lead Member of the Consortium of _____, _____ and _____.

Dated this the Day of _____

(Signature and name of authorized signatory)

(Signature and name in block letters of all the remaining partners of the firm, Signatory for the Company)

Signature of the Power of Attorney Holder

Witness 1:

Witness 2:

Name:

Name:

Address:

Address:

Occupation:

Occupation:

PERFORMANCE GUARANTEE

To,
The Managing Director
Odisha Construction Corporation Limited
Bhubaneswar

Dear Sir,

M/s _____ have taken tender for the work of _____
_____ at the tender condition of contract provide that
the contractor shall pay a sum of Rs. _____ (Rupees _____
_____ only) as security deposit as performance guarantee in
the form therein mentioned. The form of payment of security deposit include guarantee executed
by Scheduled Bank, undertaking full responsibility indemnify **OCCL** in case of default. The said
_____ has approached us and at their request and in consideration of
their promises we Bank of _____ having its head
office

at have agreed to give such guarantee as hereinafter mentioned.

1. We, _____ hereby agreed and undertake that if in your opinion
any default is made by _____ in performing any of the terms
and or conditions of the agreement or if in your opinion he commits any breach of the contract or
there is any demand by you against M/s _____
_____ then on notice to us by you we will on demand
and without reference to M/s _____ immediately pay to you, in any
manner in which you may direct, the said amount of Rs. _____

_____ (Rupees _____ only) or such portion thereof as may
be demanded by you not exceeding the said sum and as you may be from time to time required.
Our liability to pay is not dependent or conditional on your proceeding against the contractor and
we shall be liable to pay the aforesaid amount as and when demanded by you merely on a claim
being raised by you and even before any legal proceedings are taken against the contractor.

2. You will have full liberty without reference to us and without effecting this guarantee,
postpone for any time or from time to time the exercise of the powers and rights conferred on
you under the contract with the said M/s. _____
_____ and to endorse or to forbear from
endorsing any power or rights or by reason of time being given to the said M/s
_____ which under law relating to the sureties would but for the provisions have the
effect releasing us.

3. The guarantee herein contained shall not be determined or affected by the liquidation or winding up, dissolution or charge of constitution or insolvency of the said M/s _____ but shall in all respects and for all purpose be binding and operative until payment of all money due to you in respect of such liability or liabilities.

4. Our liability under this guarantee is restricted to Rs _____ (Rupees _____ only). Our guarantee shall remain in force until _____ unless a suit or action to enforce a claim under Guarantee is filed against us within six months from _____ (which is date of expiry of guarantee) all your rights under the said guarantee shall be forfeited and we shall be relieved and discharged from all liabilities thereunder.

5. We have power to issue this guarantee in your favour under memorandum and articles of association and the undersigned has full power to do under the power of attorney dated _____ granted to him by the Bank. NOTWITHSTANDING ANYTHING herein before contained, OUR liability under the guarantee is restricted to Rs. _____ (Rupees _____ only).

Our guarantee shall remain in force until dated unless a suit or action to enforce a claim under the guarantee is filed against us within six months from the expiry date, all your rights under said guarantee shall be forfeited and we shall be released and discharged from all liabilities, thereunder.

FOR BANK OF

Chief Manager and Constituted Attorney

Dated: _____

BANK GUARANTEE TOWARDS EMD /BID SECURITY**[Bid Identification No. _____]**

Whereas (Name of Bidder) (Hereinafter called the "bidder") has submitted their offer dated for the work of (hereinafter called the "Bid") against the employer's Bid Identification No.KNOW ALL MEN by these presents that WE of (Name of Bank) having our registered office at are bound unto Managing Director, OCCL, (on behalf of OCC Ltd.) (hereinafter called the "employer") unconditionally & irrevocably for the sum of / (Rupees.....) for which payment will and truly to be made to the said employer, the Bank binds itself, its successors and assigns by the presents.

Sealed with the

Common Seal of the said Bank this day of20

THE CONDITIONS OF THIS OBLIGATION ARE:

(1) If the Bidder withdraws or amends, impairs or derogates from the bid in any respect within the period of validity of this bid.

(2) If the Bidder having been notified of the acceptance of his Bid by the employer during the period of its validity in accordance with Instruction to Bidders of the Bid document.

a) If the Bidder fails to furnish the initial Security Deposit for the due performance of the contract.

b) Fails or refuses to accept/execute the contract.

WE undertake to pay the employer up to the above amount upon receipt of its first written demand, without the employer having to substantiate its demand, provided that in its demand the employer will note that the amount claimed by it, is due to it, owing to the occurrence of one or both the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including 60 days after the period of tender validity as specified in DNIT and any demand in respect thereof should reach the Bank not later than the above date.

We (Name of Bank) hereby also undertake to have the signature of Branch Manager issuing Bank Guarantee verified from Local Branch of the Bank in Bhubaneswar, (address of Local Branch Bhubaneswar, Odisha) for due authentication.

Our..... branch at Bhubaneswar (Name & Address of the branch) is liable to pay the guaranteed amount depending on the filing of claim and any part thereof under this Bank Guarantee only and only if it is served upon us by the employer at our Bhubaneswar Branch, a written claim or demand and received by us at our Bhubaneswar branch on or before Dt. otherwise bank shall be discharged of all liabilities under this guarantee thereafter.

.....
(Signature of the authorized officer of the Bank)

.....
Name and designation of the officer

SECTION-III

GENERAL TERMS AND CONDITIONS

GENERAL TERMS AND CONDITIONS

1. Definition

The "**Contract**" means the documents forming the tender and acceptance thereof and the formal agreement executed between **OCCL** (OWNER) and the contractor, together with the documents referred to therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Owner and all these documents taken together shall be deemed to form one contract and shall be complementary to one another.

In the contract the following expressions shall, unless the context otherwise requires, have the meanings hereby respectively assigned to them.

- a) The **Employer/Owner** shall mean Odisha Construction Corporation Limited, Bhubaneswar (**OCCL**) who is the **Employer/Owner** for the works.
- b) The **'Contractor'** shall mean the individual, firm or company, whether incorporated or not, undertaking the works and shall include the legal representatives of such individual or the persons composing such firm or company or the successors of such firm or company and the permitted assignees of such individual or firm or firms or company.
- c) The expression **'Works'** or **'Work'** shall unless there be something either in the subject or context repugnant to such construction, be construed and taken to mean the works by or by virtue of the contract contracted to be executed whether temporary or permanent and whether original, altered, substituted or additional.
- d) The **'Site'** shall mean the land and/or other places on, into or through which work is to be executed under the contract or any adjacent land, path or street through which work is to be executed under the contract or any adjacent land, path or street which may be allotted or used for the purpose of carrying out the contract.
- e) The **'Owner' / 'Engineer'** means the Managing Director/ General Manager (Mech./ General Manager(Civil) / Senior Manager (Mech.) / Senior Manager(Civil) / Manager(Mech.) / Manager(Civil) / Asst. Manager(Mech./Civil), OCCL who shall be in-charge of execution of the work.
- f) **'Competent Authority / Accepting Authority'** shall mean the authority in consultation & duly authorized to act as such by OWNER for and on behalf of OCCL or authority in OCCL.
- g) **'Excepted Risk'** are risks due to riots (other than those on account of contractor's employees), war (whether declared or not), invasion, act of foreign enemies, hostilities, Civil war, rebellions, revolution, insurrection, military or usurped power, any acts of Government damages from aircraft, acts of God such as earthquake, lightening and unprecedented floods, avalanche and other causes over which the contractor has no control and accepted as such by the Accepting Authority.

- h) **'Tendered Value'** means the value of the entire work as stipulated in the letter of award.
- i) **'Contract Value'** means the value of the entire work as stipulated in the Letter of Award subject to such additions thereto or deductions there from as may be made under the provision hereinafter contained.
- j) **'Specifications'** means the specifications referred to in the Tender and any modifications thereof or additions thereto as may from time to time be furnished or approved in writing by the Owner.
- k) **'Market Rate'** shall be the rate as decided by the Owner on the basis of the cost of materials and labour at the site where the work is to be executed plus the percentage to cover all overheads and profits.
- l) **'Schedule(s)'** referred to in these conditions shall mean the relevant schedule(s) annexed to the tender papers or the standard schedule of rates of the government with the amendments thereto issued up to the date of receipt of the tender.
- m) **'Drawings'** means the drawings referred to in the contract and any modification of such drawings approved in writing by the Owner and such other drawings as may from time to time be furnished or approved in writing by the Owner.
- n) **'Month'** shall means the English Calendar month
- o) **'Supply, installation, Commissioning & testing'** shall mean pressing into the service for use of the supply, installation, commissioning of plant(s), equipment(s), on any other section or sub - Section of pertaining to the work of the contractor i.e. total Automation system after successful testing and trial runs up to the satisfaction of Engineer/ Owner for safe operation and use by public.
- p) **'Commercial Operation'** shall mean the successful operation of a system or subsystems for revenue earning purpose.

Where the context so requires, words imparting the singular only also include the plural and vice-versa.

Any reference to masculine gender shall whenever required include feminine gender and vice-versa.

2. Clauses of Contract

2.1 Initial Security Deposit

The contractor shall provide OWNER with an Initial Security Deposit for the due and faithful performance of the contract for a sum equal to **2%** (Two percent) of the accepted tendered amount. After receipt of full ISD, the EMD received along with the tender would be returned. If the bidder desires, so the EMD can be converted to ISD & the balance amount of ISD need to be deposited by the successful bidder. If the bidder does not deposit such ISD within the stipulated time, EMD would be forfeited.

2.2 Security Deposit

The Contractor shall permit the Owner / Client at the time of making any payment to him for work done under the Contract to deduct an amount of 5% of the gross amount of each running bill as a Security Deposit and this Deposit / Retention amount may be withdrawn when it becomes Rs.10.00 lakh same can be withdrawn against submission of equivalent amount of Bank Guarantee issued by a Scheduled Commercial Bank. **The Security Deposit / Bank Guarantee will be released after 03 (three) months from the date of completion of the guarantee period of the project.**

2.3 Withheld amount for EPF, FPF and ESI dues

2 (Two)% shall be deducted and kept withheld from R.A. bills of the "Contractor" towards EPF, FPF and ESI dues. If the "Contractor" produces clearance in support of deposit of EPF, FPF and ESI dues with the concerned authority within 3(Three) months from the end of each financial year, the above-withheld amount shall be released.

2.4 Compensation for Delay

If the contractor fails to maintain the required progress or to complete the work and clear the site on or before the contract or extended date of completion, without justification in support of the cause of delay, he may be called upon without prejudice to any other right or remedy available under the law to OWNER on account of such breach, to pay as compensation an amount calculated at the rates stipulated below or such smaller amount as the competent authority in OWNER (whose decision in writing shall be final and binding) may decide on the amount of contract value of the work for every completed day/week (as applicable) that the progress remains below that specified in Clause 2.4 or that the work remains incomplete. This will also apply to items or group of items for which a separate period of completion has been specified.

The decision of Owner shall be final and binding on the contractor under this clause.

Completion period (as @ 0.50% of the contract value per month originally stipulated) exceeding of delay to be computed on per day basis 3 months provided always that the total amount of compensation for delay to be paid under this condition shall not exceed 5% of the contract value of the work on the contract value of items of work for which separate period of completion is originally given.

The amount of compensation may be adjusted or set-off against any sum payable to the Contractor under this or any other Contract with Owner.

2.5 Time and Extension for Delay

The time allowed for execution of the Works as specified in the Notice Inviting Tender, shall be the essence of the Contract. The execution of the works shall commence from the 10th day of issue of Letter of Award of the work to the contractor. The date of commencement of work refers to date of receipt of Forest, Environment & other Clearance or handing over of site without any encumbrances, whichever is later. If the Contractor commits default in commencing the execution of the work within 10 days of the date of issuance of written orders to commence the work/issue of Letter of Award, OWNER shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the earnest money absolutely.

Within 15 days of the date of issue of the Letter of Award, the Contractor shall submit a Time and Progress Chart and get it approved by ENGINEER-IN-CHARGE. The

Chart shall be prepared in direct relation to the time stated in the Contract documents for completion of items of the works. It shall indicate the forecast of the dates of commencement and completion of various trades of sections of the work and may be amended as necessary by agreement between the Owner and the Contractor within the limitations of time imposed in the Contract documents, and further to ensure good progress during the execution of the work, the contractor shall in all cases in which the time allowed for any work, exceeds one month (save for special jobs for which a separate programme has been agreed upon) complete 1/8th of the whole of work before 1/4th of the whole time allowed in the contract has elapsed, 3/8th of the work before one half of such time has elapsed and 3/4th of the work before 3/4th of such time has elapsed.

If the works be delayed by:

- i) Force Majeure, or
- ii) Abnormally bad weather, or
- iii) Serious loss or damage by fire, or
- iv) Civil commotion, local commotion of workmen, strike or lockout, affecting any of the trades employed on the work, or
- vi) Any other cause which, in the absolute discretion of the competent authority is beyond the Contractor's control
- vii) Delay on the part of other contractors or tradesman engaged by Engineer- in-charge in executing work not forming part of the contract then upon the happening of any such event causing delay, the Contractor shall immediately give notice thereof in writing to the Owner but shall nevertheless use constantly his best endeavors to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Owner to proceed with the works.

Request for extension of time, to be eligible for consideration, shall be made by the Contractor in writing within fourteen days of the happening of the event causing delay on the prescribed form. The Contractor may also, if practicable, indicate in such a request the period for which extension is desired.

In any such case the competent authority in OWNER may give a fair and reasonable extension of time for completion of work. Such extension shall be communicated to the contractor by OWNER in writing within 3 months of date of receipt of such request. Non-accepting by the contractor for extension of time shall not be a bar for giving a fair and reasonable extension by the OWNER without prejudice to any other right/remedy available to OWNER and this shall be binding on the contractor.

2.6 Contractor liable for Damages, defects during maintenance period

Defect Liability Period shall be up to completion of Operation & Maintenance period from the date of Commission of the Automation System.

If the contractor or his working people or servants shall break, deface, injure or destroy any part of building in which they may be working, or any building, road, road curb, fence, enclosure, water pipe, cables, drains, electric or telephone post or wire, trees, grass or grassland, or cultivated ground contiguous to the premises on which the work or any part is being executed, or if any damage shall happen to the work while in progress, from any cause whatever or if any defect, shrinkage or other faults appear in the work **Operation & Maintenance period** from the date of commissioning or

otherwise of its completion shall have been given by the Owner as aforesaid arising out of defect or improper materials or workmanship the contractor shall upon receipt of a notice in writing on that behalf make the same good at his own expense or in default the Owner cause the same to be made good by other workmen and deduct the expense from any sums that may be due or at any time thereafter may become due to the contractor, or from his Financial guarantee for performance or the proceeds of sale thereof or of a sufficient portion thereof. Financial guarantee for performance of the contractor shall not be refunded before the expiry of **Twelve months** after Operation & Maintenance or otherwise, of completion of work, or till the final bill has been prepared and passed whichever is later.

In case the contractor fails to take aforesaid action within 15 days the OWNER shall have right to get the defective portion of work rectified or re-done at the risk and cost of the contractor and recover the amount from Financial guarantee for performance of the contractor. The determination of amount shall be final and binding on the contractor but it shall not exceed 5% of the contract value.

2.7 Work not to be sublet. Action in case of insolvency

The contract shall not be assigned or sublet without the written approval of the Owner. And if the contractor shall assign or sublet his contract, or attempt to do so, or become insolvent or commence any insolvency proceedings or make any composition with his creditors or attempt to do so, or if any bribe, gratuity, gift, loan perquisite, reward or advantage pecuniary or otherwise, shall either directly or indirectly, be given, promised or offered by the contractor, or any of his servants or agent to any public officer or person in the employ of OWNER in any way relating to his office or employment, or if any such officer or person shall become in any way directly or indirectly interested in the contract, the Owner on behalf of OWNER shall have power to adopt any of the courses specified in Clause 3 hereof as he may deem best suited to the interest of OWNER and in the event of any of these courses being adopted the consequences specified in the said Clause 3 shall ensue.

2.8 Execution of the work

All works to be executed under the contract shall be executed under the direction and subject to the approval in all respects of the Owner who shall be entitled to direct at what point or points and in what manner they are to be commenced, and from time to time carried on.

2.9 Settlements of Disputes by Arbitration

All questions and disputes of any kind whatsoever between the parties hereto arising out of or in connection with the contract or execution of the works, whether during the execution of the works or after cancellation, termination, determination, completion of abandonment or any dispute which cannot be settled by mutual discussion, the same will be settled by arbitration. One Arbitrator shall be appointed by each party and these two Arbitrators shall appoint an Umpire as provided under conciliation and Arbitration Ordinance, 1996.

The Jurisdiction of the Tender shall be the State of Odisha with the High Court at Cuttack.

2.10 Contractor to indemnify Govt. against Patent Rights

The contractor shall fully indemnify and keep indemnified OWNER against any action, claim or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay any royalties which may be payable in respect of any article or part thereof included in the contract. In the event of any claims made under or action brought against OWNER in respect of any such matters as aforesaid the

contractor shall be immediately notified thereof and the contractor shall be at liberty, at his own expense, to settle any dispute or to conduct any litigation that may arise there from, provided that the contractor shall not be liable to indemnify OWNER if the infringement of the patent or design or any alleged patent or design right is the direct result of an order passed by the Owner in this behalf.

2.11 Action where no Specification are specified

In the case of any class of work for which there is no such specifications as mentioned in the tender, such work shall be carried out in accordance with the Bureau of Indian Standards Specifications. In case there is no such specifications in Bureau of Indian Standards, the work shall be carried out as per manufacturers specifications, if not available then as per District Specifications. In case there are no such specifications as required above, the work shall be carried out in all respects in accordance with the instructions and requirements of the Owner.

2.12 Sub-contracting

The contractor may sub-contract with the approval of the Owner upto the ceiling specified in Contract data, but may not assign the contract without the approval of the Employer in writing. Subcontracting shall not alter the Contractor's obligations.

The owner should satisfy himself before recommending to the Employer whether:

- 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.

If the 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 that contract.

The contractor shall not be required to obtain any consent from the Employer for:

- a) The sub-contracting of any part of the Works for which the Sub-contracting 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.

2.13 Insurance

The contractor shall provide, in the joint names of the Employer/Owner and the Contractor, insurance cover from the Start date to the end of Defects Liability Period, in the amounts and deductibles stated in the tender for the following events:

- a) Loss of or damage to the Works, Plant and materials
- b) Loss of or damage to Equipment
- c) Loss of or damage to property(except the Works, Plant, Materials and Equipment) in connection with the Contract, and

d) Personal injury of death

Policies and certificates for insurance shall be delivered by the Contractor to the Owner/ Employer for approval before the Start date. All such insurances shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.

If the Contractor does not provide any of the policies and certificates required, the Owner may effect the insurance which the Contractor should have provided and recover the premiums the Employer has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt. due.

Alterations to the terms of insurance shall not be made without the approval of the Owner.

Both parties shall comply with any conditions of the insurance policies.

2.14 Measurement of work done

- a) Owner shall, except as otherwise provided, ascertain and determine by measurement the value in accordance with contract of work done. All measurements of all items having financial value shall be entered in Measurement Book and/or level field book so that a complete record is obtained of all works performed under the contract.
- b) All measurements and levels shall be taken jointly by the Owner or his authorized representative and by the contractor or his authorized representative from time to time during the progress of the work and such measurements shall be signed and dated by the Owner and the contractor or their representatives in token of their acceptance. If the contractor objects to any of the measurements recorded, a note shall be made to that effect with reason and signed by both the parties.
- c) If for any reason the contractor or his authorized representative is not available and the work of recording measurements is suspended by the Engineer-in-Charge or his representative, the Owner and the Department shall not entertain any claim from contractor for any loss or damages on this account. If the contractor or his authorized representative does not remain present at the time of such measurements after the contractor or his authorized representative has been given a notice in writing three (3) days in advance or fails to countersign or to record objection within a week from the date of the measurement, then such measurements recorded in his absence by the Owner or his representative shall be deemed to be accepted by the Contractor.
- d) The contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for measurements and recording levels.
- e) Except where any general or detailed description of the work expressly shows to the contrary, measurements shall be taken in accordance with the procedure set forth in the specifications notwithstanding any provision in the relevant Standard Method or measurement or any general or local custom. In the case of items which are not covered by specifications, measurements shall be taken in accordance with the relevant standard method or measurement issued by the Bureau of Indian Standards and if for any item no such standard is available then a mutually agreed method shall be followed.

- f) The contractor shall give not less than seven days' notice to the Owner or his authorized representative in charge of the work before covering up or otherwise placing beyond the reach of measurement any work in order that the same may be measured and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of measurement and shall not cover up and place beyond reach of measurement any work without consent in writing of the Owner or his authorized representative in charge of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of measurements without such notice having been given or the Owner's consent being obtained in writing the same shall be uncovered at the Contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.
- g) Owner or his authorized representative may cause either themselves or through another officer of the department to check the measurements recorded jointly or otherwise as aforesaid and all provisions stipulated herein above shall be applicable to such checking of measurements or levels.
- h) It is also a term of this contract that recording of measurements of any item of work in the measurement book and/or its payment in the interim, on account or final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period.

2.15 Materials supplied by OWNER

The OWNER will not supply or procure for the Contractor materials of any description including cement and steel and the contractor shall make his own arrangements thereof at his own cost.

2.16 Work to be executed in Accordance with Specifications, Drawings, Orders etc.

The contractor shall execute the whole and every part of the work in the most substantial and workmanlike manner both as regards materials and otherwise in every respect in strict accordance with the specifications. The contractor shall also conform exactly, fully and faithfully to the design, drawings and instructions in writing in respect of the work signed by the Owner and the contractor shall be furnished free of charge one copy of the contract documents together with specifications, designs, drawings and instructions as are not included in the standard specifications of Central Public Works Department or in any Bureau of India Standard or any other, published standard or code or, Schedule of Rates or any other printed publication referred to elsewhere in the contract.

The contractor shall comply with the provisions of the contract and with the care and diligence execute and maintain the works and provide all labour and materials, tools and plants including for measurements and supervision of all works, structural plans and other things of temporary or permanent nature required for such execution and maintenance in so far as the necessity for providing these, is specified or is reasonably inferred from the contract. The Contractor shall take full responsibility for adequacy, suitability and safety of all the works and methods of construction.

2.17 Deviations/Variations Extent and Pricing

The owner shall have power

- (i) to make alteration in, omissions from, additions to, or substitutions for the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, and
- (ii) to omit a part of the works in case of non-availability of a portion of the site or for any other reasons and the contractor shall be bound to carry out the works in accordance with any instructions given to him in writing signed by the Owner and such alterations omissions, additions or substitutions shall form part of the contract as if originally provided therein and any altered, additional or substituted work which the contractor may be directed to do in the manner specified above as part of the works, shall be carried out by the contractor on the same conditions in all respects including price on which he agreed to do the main work and nothing extra shall be admissible.

2.18 Levy/Taxes

All taxes and duties in accordance with the Laws / Rules / Regulations laid down by Central or State Government will be extra to be paid by the Owner at actual.

After submission of Bid if any new tax, levy & duty is imposed or increased in existing tax, levy duty by the State / Central Government the same shall be paid by the Owner at actual.

2.19 No Gazetted Engineer to work as Contractor within two years of retirement

No engineer of gazetted rank or other gazetted officer employed in engineering or administrative duties in an engineering department of the State Government & Central Govt of India shall work as a contractor or employee of a contractor for a period of two years after his retirement from government service without the previous permission of Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found at any time to be such a person who had not obtained the permission of Government of India as aforesaid, before submission of the tender or engagement in the contractor's service, as the case may be.

2.20 Financial Guarantee

a. Financial Guarantee for performance-

The contractor shall provide Owner with a financial guarantee for the due & faithful performance of the contract for a sum equal to 5% (Five percent) of the accepted tendered amount.

Such guarantee shall be in the form of a Bank Guarantee from any scheduled bank in India on the format agreed upon. The Bank Guarantee shall be furnished within 30 days from the date of Letter of Award and shall be valid until completion of the guarantee period of the project plus 03(three) months.

b. Financial Guarantee for O & M-

The contractor shall provide Owner with a financial guarantee for the due & faithful performance of the O & M for a sum equal to 10% (Ten percent) of the accepted O & M value.

Such guarantee shall be in the form of a Bank Guarantee from any scheduled bank in India on the format agreed upon. The Bank Guarantee shall be furnished before release

of performance guarantee submitted against Clause No 2.21(a) and shall be valid till expiry of the O & M period.

3 MODEL RULES FOR THE PROTECTION OF HEALTH AND SANITARY ARRANGEMENTS FOR WORKERS EMPLOYED BY ITS CONTRACTORS

1. APPLICATION

These Rules shall apply to all buildings and constructions works in charge of **OWNER** in which twenty (20) more workers are ordinarily employed or are proposed to be employed in any day during the period during which the contract work is in progress.

2. DEFINITION

Work place means a place where twenty (20) or more workers are ordinarily employed in connection with construction work on any day during the period during which the contract work is in progress.

3. FIRST-AID FACILITIES

- i) At every work place there shall be provided and maintained, so as to be easily accessible during working hours, first-aid boxes at the rate of not less than one box for 150 contract labour or part thereof ordinarily employed.
- ii) The first-aid box shall be distinctly marked with a red cross on white background and shall contain the following equipment:-
 - a) For work places in which the contract labour employed does not exceed 50 - Each first aid box shall contain the following equipment:-
 - 6 small sterilized dressings.
 - 4 medium size sterilized dressings
 - 3 large size sterilized dressings.
 - 3 large sterilized burn dressings
 - 1 (30 ml) bottle containing a two per cent alcoholic solution of iodine.
 - 1 (30 ml) bottle containing salvolatile having the dose and mode of administration indicated on the label.
 - 1 snake-bite lancet1 (30 gms) bottle of potassium permanganate crystals.
 - 1 pair scissors.
 - 1 copy of the first-aid leaflet issued by the Director General, Factor Advise Service and Labour Institutes, Government of India.
 - 1 bottle containing 100 tablets (each of 5 gms) of aspirin.
 - Ointment for burns.
 - A bottle of suitable surgical antiseptic solution.
 - b) For work places in which the contract labour exceed 50. Each first aid box shall contain the following equipments:-
 1. 12 small sterilized dressings.
 2. 6 medium size sterilized dressings.
 3. 6 large size sterilized dressings.
 4. 6 large size sterilized burn dressings.
 5. 6 (15 gms) packets sterilized cotton wool.
 6. 1 (60 ml) bottle containing a two per cent alcoholic solution of iodine.
 7. 1 (60 ml) bottle containing salvolatile having the does and mode of administration indicated on the label.
 8. 1 rolls of adhesive plaster.
 9. 1 snake-bite lancet.
 10. 1 (30 gms) bottle of potassium permanganate crystals.
 11. 1 pair scissors.
 12. 1 copy of the first-aid leaflet issued by the Director General, Factor Advise Service and Labour Institutes, Government of India.
 13. 1 bottle containing 100 tablets (each of 5 Gms) of aspirin.
 14. Ointment for burns.
 15. A bottle of suitable surgical antiseptic solution.
- iii) Adequate arrangements shall be made for immediate recoupment of the equipment when necessary.
- iv) Nothing except the prescribed contents shall be kept in the First-aid box.

- v) The First-aid box shall be kept in charge of a responsible person who shall always be readily available during the working hours of the work place.
- vi) A person in charge of the First-aid box shall be a person trained in First-aid treatment, in the work places where the number of contract labour employed is 150 or more.
- vii) In work places where the number of contract labour employed is 500 or more and hospital facilities are not available within easy distance from the works First-aid posts shall be established and run by a trained compounder. The compounder shall be on duty and shall be available at all labours when the workers are at work.
- viii) When work places are situated in places which are not towns or cities, a suitable motor transport shall be kept readily available to carry injured person or persons suddenly taken ill to the nearest hospital.

4. DRINKING WATER

- i) In every work place there shall be provided and maintained suitable places easily accessible to labour, a sufficient supply of cold water fit for drinking.
- ii) Where drinking water is obtained from an intermittent public water supply, each work place shall be provided with storage where such drinking water shall be stored.
- iii) Every water supply or storage shall be at a distance of not less than 50 ft. from any latrine drain or other source of pollution. Where water has to be drawn from an existing well which is within such proximity of latrine, drain or any other source of pollution, the well shall be properly chlorinated before water is drawn from it for drinking. All such wells shall be entirely closed in and be provided with a trap door which shall be dust and water proof.
- iv) A reliable pump shall be fitted to each covered well, the trap door shall be kept locked and opened only for cleaning or inspection which shall be done at least once a month.

5. WASHING FACILITIES

- i) In every work place adequate and suitable facilities for washing shall be provided and maintained for the use of contract labour employed therein.
- ii) Separate and adequate cleaning facilities shall be provided for the use of male and female workers.
Such facilities shall be conveniently accessible and shall be kept in clean and hygienic condition.

6. LATRINES AND URINALS

- i) Latrines shall be provided in every work place on the following scale namely:-
 - a) Where female are employed there shall be at least one latrine for every 25 females.
 - b) Where males are employed there shall be at least one latrine for every 25 males.

Provided that where the number of males or females exceeds 100, it shall be sufficient if there is one latrine for 25 males or females or females as the case may be up to the first 100 and one for every 50 thereafter.

- ii) Every latrine shall be under cover and so partitioned off as to secure privacy and shall have a proper door and fastenings.
- iii) Construction of latrines: The inside walls shall be constructed of masonry or some suitable heat resisting non absorbent materials and shall be cement washed inside and outside at least once a year. Latrines shall not be of a standard lower than bore hole system.
- iv)
 - a) Where workers of both sexes are employed, there shall be displayed outside each block of latrine and urinal, a notice in the language understood by the majority of the workers "For Men only" or "For Women only" as the case may be.
 - b) The notice shall also bear the figure of a man or of a woman, as the case may be.
- v) There shall be at least one urinal for male workers upto 50 and one for female workers up to 50 employed at a time provided that where the number of male or female workmen, as the case may be exceeds 500, it shall be sufficient if there is one urinal for every 50 males or females up to the first 500 and one for every 100 or part thereafter.
- vi)
 - a) The latrines and urinals shall be adequately lighted and shall be maintained in clean and sanitary conditions at all times.
 - b) Latrines and urinals other than those connected with a flush sewage system shall comply with the requirements of Public Health Authorities.
- vii) Water shall be provided by means of tap or otherwise so as to be conveniently accessible in or near the latrines and urinals.
- viii) Disposal of excreta: - Unless otherwise arranged for by the local sanitary authority, arrangements for proper disposal of excreta by incineration at the work place shall be made by means of suitable incinerator. Alternately excreta may be disposed of by putting a layer of night soil at the bottom of a pucca tank prepared for the purpose and covering it with a 15 cm. Layer of waste or refuse and then covering it with a layer of earth for a fortnight (when it will turn to manure).
- ix) The contractor shall at his own expense, carry out all instructions issued to him by the Engineer-in-Charge to effect proper disposal of night soil and other conservancy work in respect of the contractors workmen of any charges which may be levied by Municipal or Cantonment Authority for execution of such on his behalf..

7. PROVISION OF SHELTER DURING REST

At every place there shall be provided, free of cost, four suitable sheds, two for meals and the other two for rest separately for the use of men and women labour. The height of each shelter shall not be less than 3 meters (10 ft.) from the floor level to the lowest part of the roof. These shall be kept clean and the space provided shall be on the basis of 0.6 sq.m. (6 sq.ft.) per head.

Provided that the Engineer-in-Charge may permit subject to his satisfaction, a portion of the building under construction or other alternative accommodation to be used for the purpose.

8. CRECHES

- i) At every work place, at which 20 or more women worker are ordinarily employed, there shall be provided two rooms of reasonable dimensions for the use of their children under at the age of 6 years. One room shall be used as a play-room for the children and other as their bedroom. The rooms shall be constructed with specification as per clause 19H (ii) a, b & c.
- ii) The rooms shall be provided with suitable and sufficient openings for light and ventilation. There shall be adequate provisions of sweepers to keep the place clean.
- iii) The contractor shall supply adequate number of toys and games in the play room and sufficient number of cots and beddings in the bedroom.
- iv) The contractor shall provide one ayah to look after the children in the creche when the number of women workers does not exceed 50 and two when the number of women workers exceeds 50.
- v) The use of the rooms earmarked as creches shall be restricted to children, their attendants and mothers of the children.

9. CANTEENS

- (i) In every work place where the work regarding the employment of contract labour is likely to continue for six months and where in contract labour numbering one hundred or more is ordinarily employed, an adequate canteen shall be provided by the contractor for the use of such contract labour.
- ii) The canteen shall be maintained by the contractor in an efficient manner.
- iii) The canteen shall consist of at least a dinning hall, kitchen store room pantry and washing places separately for workers and utensils.
- iv) The canteen shall be sufficient lighted at all times when any person has access to it.
- v) The floor shall be made of smooth and impervious materials and inside wall shall be lime washed or colour washed at least once in each year.
- vi) The premise of the canteen shall be maintained in a clean and sanitary condition.
- vii) Waste water shall be carried away in suitable covered drains and shall not be allowed to accumulate so as to cause a nuisance.
- viii) Suitable arrangements shall be made for the collection and disposal of garbage.
- ix) The dining hall shall accommodate at a time 30 per cent of the contract labour working at a time.
- x) The floor area of the dining hall, excluding the area occupied by the service counter and any furniture except tables and chairs shall not be less than one square meter (10 sft) per diner to be accommodated as prescribed in Sub Rule 9.
- xi)
 - a) A portion of the dining hall and service counter shall be partitioned off and reserved for women workers in proportion to their number.
 - b) Washing places for women shall be separate and screened to secure privacy.

- xii) Sufficient tables stools, chair or benches shall be available for the number of diners to be accommodated as prescribed in sub Rule-9.
- xiii) a) (1) There shall be provided and maintained sufficient utensils, crockery, furniture and any other equipment necessary for the efficient running of the canteen.
 - (2) The furniture utensils and other equipment shall be maintained in a clean and hygienic condition.b) (1) Suitable clean clothes for the employees serving in the canteen shall be provided and maintained.
 - (2) A service counter, if provided, shall have top of smooth and impervious material.
 - (3) Suitable facilities including an adequate supply of hot water shall be provided for the cleaning of utensils and equipments.
- xiv) The food stuffs and other items to be served in the canteen shall be in conformity with the normal habits of the contract labour.
- xv) The charges for food stuffs, beverages and any other items served in the canteen shall be based on 'No Profit, No Loss' and shall be conspicuously displayed in the canteen.
- xvi) In arriving at the price of foodstuffs, and other article served in the canteen, the following items shall not be taken into consideration as expenditure namely:
 - a) The rent of land and building,
 - b) The depreciation and maintenance charges for the building and equipments provided for the canteen.
 - c) The cost of purchase, repairs and replacements of equipment including furniture, crockery, cutlery and utensils.
 - d) The water charges and other charges incurred for lighting and ventilation.
 - e) The interest and amounts spent on the provision and maintenance of equipments provided for the canteen.
- xvii) The accounts pertaining to the canteen shall be audited once every 12 months by registered accountants and auditors.

10. ANTI-MALARIAL PRECAUTIONS

The contractor shall at his own expense, conform to all anti-malarial instructions given to him by the Engineer-in-Charge including the filling up of any borrow pits which may have been dug by him.

11. The above rules shall be incorporated in the contracts and in notices inviting tenders and shall form an integral part of the contracts.

12. AMENDMENTS

Government may, from time to time, add to or amend these rules and issue directions - it may consider necessary for the purpose of removing any difficulty which may arise in the administration thereof.

CONTRACTOR'S LABOUR REGULATIONS

1. SHORT TITLE

These regulations may be called the **OWNER** Contractors Labour Regulations.

2. DEFINITIONS

Workman means any person employed by **OWNER** or its contractor directly or indirectly through a subcontractor with or without the knowledge of **OWNER** to do any skilled, semiskilled or unskilled manual, supervisory, technical or clerical work for hire or reward, whether the terms of employment are expressed or implied but does not include any person :-

- a) who is employed mainly in a managerial or administrative capacity: or
 - b) **Who** being employed in a supervisory capacity draws wages exceeding five hundred rupees per mensem or exercises either by the nature of the duties attached to the office or by reason of powers vested in him, functions mainly of managerial nature : or
 - c) **Who** is an out worker that is to say, person to whom any article or materials are given out by or on behalf of the principal employers to be made up, cleaned, washed, altered, ornamental finished, repaired, adopted or otherwise processed for sale for the purpose of the trade or business of the principal employers and the process is to be carried out either in the home of the out worker or in some other premises, not being premises under the control and management of the principal employer.
- ii) **Fair Wages** means wages whether for time or piece work fixed and notified under the provisions of the Minimum Wages Act from time to time.
 - iii) **Contractors** shall include every person who undertakes to produce a given result other than a mere supply of goods or articles of manufacture through contract labour or who supplies contract labour for any work and includes a sub-contractor.
 - iv) **Wages** shall have the same meaning as defined in the Payment of Wages Act.
3. i) Normally working hours of an adult employee should not exceed 9 hours a day and in case of child 4 1/2 hours a day. The working day shall be so arranged that inclusive of interval for rest, if any, it shall not spread over more than 12 hours on any day.
- ii) When an adult worker is made to work for more than 9 hours on any day or for more than 48 hours in any week, he shall be paid over time for the extra hours put in by him at double the ordinary rate of wages. Children shall not be made to work extra hours.
- iii)a) Every worker shall be given a weekly holiday normally on a Sunday in accordance with the provisions of the Minimum Wages (Central) Rules 1960 as amended from time to time irrespective of whether such worker is governed by the Minimum Wages Act or not.
- b) Where the minimum wages prescribed by the Government under the Minimum Wages Act are not inclusive of the wages for the weekly day of rest, the worker shall be entitled to rest day wages at the rate applicable to the next preceding day, provided he has worked under the same contractor for a continuous period of not less than 6 days.
- c) Where a contractor is permitted by the Engineer-in-Chief to allow a worker to work on a normal weekly holiday, he shall grant a substituted holiday to him for the whole day on one of the five days immediately before or after the normal weekly holiday and pay wages to such worker for the work performed on the normal weekly holiday at overtime rate.

4. DISPLAY OF NOTICE REGARDING WAGES ETC.

The Contractor shall before he commences his work on contract, display and correctly maintain and continue to display and correctly maintain in a clear and legible condition in conspicuous places on the work, notices in English and in the local Indian languages spoken by the majority of the workers giving the minimum rates of wages fixed under the Minimum Wages Act, the actual wages being paid, the hours of work for which such wage are earned, wages period, dates of payments of wages and other relevant information as per Appendix 'III'.

5 PAYMENT OF WAGES

- i) The contractor shall fix wages periods in respect of which wages shall be payable.
- ii) No wage period shall exceed one month.
- iii) The wages of every person employed as contract labour in an establishment or by a contractor where less than one thousand such persons are employed shall be paid before their expiry of seventh day and in other cases before the expiry of tenth day after the last day of the wage period in respect of which the wages are payable.
- iv) Where the employment of any worker is terminated by or on behalf of the contractor the wages earned by him shall be paid before the expiry of the second working day from the date on which his employment is terminated.
- v) All payment of wages shall be made on a working day at the work premises and during the working time and on a date notified in advance and in case the work is completed before the expiry of the wage period, final payment shall be made from within 48 hours of the last working day.
- vi) Wages due to every worker shall be paid to him direct or to other person authorised by him on his behalf.
- vii) All wages shall be paid in current coin or currency or in both.
- viii) Wages shall be paid without any deductions of any kind except those specified by the Central Government by general or special order in this behalf or permissible under the Payment of Wages Act 1956.
- ix) A notice showing the wages period and the place and time of disbursement of wages shall be displayed at the place of work and a copy sent by the contractor to the Engineer-in-Chief under acknowledgment. It shall be the duty of the contractor to ensure the disbursement of wages in the presence of any other authorized representative of the Engineer-in-Charge who will be required to be present at the place and time of disbursement of wages by the contractor to workmen.
- xi) The contractor shall obtain from any authorized representative of the Engineer-in-Chief as the case may be, a certificate under his signature at the end of the entries in the register of Wages" or the "Wage-cum-Muster Roll" as the case may be in the following form :

"Certified that the amount shown in column Nohas been paid to the workman concerned in my presence on.....at

.....

6. FINES AND DEDUCTIONS WHICH MAY BE MADE FROM WAGES

(i) The wages of a worker shall be paid to him without any deduction of any kind except the following:-

- a) Fines.
- b) Deductions for the absence from duty i.e. from the place or the places where by the terms of his employment he is required to work. The amount of deduction shall be in proportion to the period for which he was absent.
- c) Deduction for damage to or loss of goods expressly entrusted to the employed person for custody, or for loss of money or any other deduction which he is required to account, where such damage or loss is directly attributable to his neglect or default.
- d) Deduction for recovery of advances or for adjustment of overpayment of wages, advances granted shall be entered in a register.
- e) Any other deduction which the Central Government may from time to time allow.

(ii) No fines should be imposed on any worker save in respect of such acts and omissions on his part as have been approved by the Chief Labour Commissioner.

Note: An approved list of Acts and Omissions for which fines can be imposed is enclosed at Appendix-I.

(iii) No fine shall be imposed on a worker and no deduction for damage or loss shall be made from his wages until the worker has been given an opportunity of showing cause against such fines or deductions.

7. LABOUR RECORDS

(i) The contractor shall maintain a **Register of persons employed** on work on contract in Form XIII of the CL (R&A) Central Rules 1971 (Appendix-IV).

The contractor shall maintain a **Muster Roll** register in respect of all workmen employed by him on the work under Contract in Form XVI of the CL (R&A) Rules 1971 (Appendix-V).

(iii) The contractor shall maintain a **Wage Register** in respect of all workmen employed by him on the work under contract in Form XVII of the CL (R&A) Rules 1971 (Appendix-VI).

(iv) **Register of accident** - The contractor shall maintain a register of accidents in such form as may be convenient at the work place but the same shall include the following particulars:

- (a) Full particulars of the labourers who met with accident,
- (b) Rate of wages,
- (c) Sex,
- (d) Age,
- (e) Nature of accident and cause of accident,
- (f) Time and date of accident,

- (g) Date and time when admitted in Hospital,
 - (h) Period of treatment and result of treatment,
 - (i) Percentage of loss of earning capacity and disability as assessed by Medical Officer.
 - (j) Claim required to be paid under Workmen's Compensation Act,
 - (k) Date of payment of compensation,
 - (m) Amount paid with details of the person to whom the same was paid.
 - (n) Authority by whom the compensation was assessed, and
 - (o) Remarks.
- (v) The contractor shall maintain a **Register of Fines** in the Form XII of the CL (R&A) Rules 1971 (Appendix-XI).
- The contractor shall display in a good condition and in a conspicuous place of work the approved list of acts and omissions for which fines can be imposed (Appendix-X).
- (vi) The contractor shall maintain a **Register of deductions** for damage or loss in Form XX of the CL (R&A) rules 1971 (Appendix-XII).
- The contractor shall maintain a **Register of Advances** in Form XXIII of the CL (R&A) rules 1971 (Appendix-XI II).
- (viii) The contractor shall maintain a **Register of Overtime** in Form XXIII of the CL (R&A) rules 1971 (Appendix-XIV).

8. ATTENDANCE CARD-CUM-WAGE SLIP

- (i) The contractor shall issue an **Attendance card-cum-wage slip** to each workman employed by him in the specimen form at (Appendix- VII).
- (ii) The card shall be valid for each wage period.
- (iii) The contractor shall mark the attendance of each workman on the card twice each day, once at the commencement of the day and again after the rest interval, before he actually starts work.
- (iv) The card shall remain in possession of the worker during the wage period under reference.
- (v) The contractor shall complete the wage slip portion on the reverse of the card at least a day prior to the disbursement of wages in respect of the wage period under reference.
- (vi) The contractor shall obtain the signature or thumb impression of the worker on the wage slip at the time of disbursement of wages and retain the card with himself.

9. EMPLOYMENT CARD

The Contractor shall issue an **Employment Card** in Form XIV of the CL (R&A) Central Rules 1971 to each worker within three days of the employment of the worker (Appendix-VIII).

10. SERVICE CERTIFICATE

On termination of employment for any reason whatsoever the contractor shall issue to the workman whose services have been terminated, a **service certificate** in Form XV of the CL(R&A) Central rules 1971 (Appendix-IX).

11. PRESERVATION OF LABOUR RECORDS

All records required to be maintained under Regulations Nos. 6 & 7 shall be preserved in original for a period of three years from the date of last entries made in them and shall be made available for inspection by the Engineer-in-Charge or Labour Officer or any other officers authorised by the Ministry of Urban Development in this behalf.

12. POWER OF LABOUR OFFICER TO MAKE INVESTIGATIONS OR ENQUIRY

The Labour Officer or any person authorised by Central Government on their behalf shall have power to make enquiries with a view to ascertaining and enforcing due and proper observance of Fair Wage Clauses and the Provisions of these Regulations. He shall investigate into any complaint regarding the default made by the contractor or subcontractor in regard to such provision.

13. REPORT OF LABOUR OFFICER

The Labour Officer or other persons authorised as aforesaid shall submit a report of result of his investigation or enquiry to the **OWNER** indicating the extent, if any, to which the default has been committed with a note that necessary deductions from the contractor's bill be made and the wages and other dues be paid to the labourers concerned. In case an appeal is made by the contractor under Clause 12 of these regulations, actual payment to labourers will be made by the **OWNER** after given his decision on such appeal.

- (i) The **OWNER** shall arrange payments to the labour concerned within 45 days from the receipt of the report from the Labour Officer.

14. APPEAL AGAINST THE DECISION OF LABOUR OFFICER

Any person aggrieved by the decision and recommendations of the Labour Officer or other person so authorised may appeal against such decision to the **OWNER** within 30 days from the date of decision, forwarding simultaneously a copy of his appeal to the **OWNER** but subject to such appeal, the decision of the officer shall be final and binding upon the contractor.

15. PROHIBITION REGARDING REPRESENTATION THROUGH LAWYER

- (i) A workman shall be entitled to be represented in any investigation or enquiry under these regulations by:
 - (a) An officer of a registered trade union of which he is a member.
 - (b) An officer of a federation of trade unions to which the trade union referred to in clause (a) is affiliated.
 - (c) Where the employer is not a member of any registered trade union, by an officer of a registered trade union, connected with the industry in which the worker is employer or by any other workman employed in the industry in which the worker is employed.
- ii) An employer shall be entitled to be represented in any investigation or enquiry under these regulations by:
 - (a) An officer of an association of employers of which he is a member.

An officer of a federation of associations of employers to which association referred to in clause (a) is affiliated.

- (b) Where the employer is not a member of any association of employers, by an officer of association of employer connected with the industry in which the employer is engaged or by any other employer engaged in the industry in which the employer is engaged.

- iii) No party shall be entitled to be represented by a legal practitioner in any investigation or enquiry under these regulations.

16. INSPECTION OF BOOKS AND SLIPS

The contractor shall allow inspection of all the prescribed labour records to any of his workers or to his agent at a convenient time and place after due notice is received or to the Labour Officer or any other person, authorised by the Government on his behalf.

17. SUBMISSIONS OF RETURNS

The contractor shall submit periodical returns as may be specified from time to time.

18. AMENDMENTS

The Central Government may from time to time add to or amend the regulations and on any question as to the application/interpretation or effect of those regulations the decision of the **OWNER** shall be final.

REGISTER OF MATERNITY BENEFITS

(Clause 19F of the Condition of Contract) Name and

Name and Address of the Contractor(s) _____

Name and location of the work: _____

Name of the Employee	Father's / Husband's Name	Nature of Employment	Period of Actual Appointment	Date on which notice of confinement given
1	2	3	4	5

Date on which Maternity Leave Commenced and Ended

Date of Miscarriage	In Case of Delivery		In case of Miscarriage	
	Commenced	Ended	Commenced	Ended
6	7	8	9	10

Leave pay paid to Employee

In case of Delivery		In case of Miscarriage		Remarks
Rate of Leave Pay	Amount Paid	Rate of Leave Pay	Amount Paid	Remarks
11	12	13	14	15

**SPECIMEN FORM OF THE REGISTER REGARDING
MATERNITY BENEFIT ADMISSIBLE TO THE CONTRACTOR'S
LABOUR**

Name of the work			Name of the Contractor	
1	Name of the woman and her husband's name			
2	Designation			
3	Date of appointment			
4	Date with months & years in which she is employed			
5	Date of discharge/dismissal if any			
6	Date of production of certificates in respect of pregnancy			
7	Date on which the woman informs about the expected delivery			
8	Date of delivery/miscarriage/death			
9	Date of production of certificate in respect of delivery/miscarriage			
10	Date with the amount of Maternity/death benefit paid in Advance of expected delivery.			
11	Date with the amount of subsequent payment of maternity benefit			
12	Name of the person nominated by the woman to receive the payment of the maternity benefit of after her death			
13	If the woman dies, the date of her death, the name of the person to whom maternity benefit amount was paid, the month thereof and the date of payment. Signature of the contractor authenticating entries in the register.			
14	Remarks column for the use of Inspecting Officer.			

LABOUR BOARD

Name of Contractor	
Address of Contractor	
Name and address of Principal Employer	
Name of Labour Enforcement Officer	
Address of Labour Enforcement Officer	
Date	

Sl. No.	Category	Minimum Wage Fixed	Actual Paid	Wage	Number Present	Remarks

Weekly holiday	
Wage period	
Date of payment of wages	
Working hours	
Rest Interval	

REGISTER OF WORKMEN BY CONTRACTOR

Name and address of Contractor	
Name and address of Establishment in / under which contract is carried on	
Name and Location of Work	
Name and Address of Principal Employer	

S No	Name and Signature of Worker	Age and Sex	Father's / Husband's Name	Nature of Employment / Designation	Permanent Home address of Workmen	Local Address	Date of commencement of Employment	Signature or Thumb Impression of Workmen	Date of Termination of Employment	Reasons for Termination	Remarks
1	2	3	4	5	6	7	8	9	10	11	12

Form XVI [Schedule 78 (2) (a)]

SPECIMEN PROFORMA MUSTER ROLL

Name and address of Contractor			
Name and address of Establishment in / under which contract is carried on			
Name and Location of Work			
Name and Address of Principal Employer		For the month or Fortnight	

SI No	Name of Workman	Father's / Husband's Name	Sex			Date			Remarks
				1	2	3	4	5	6
1	2	3	4						

Form XVI [Schedule 78 (2)(d)]

SPECIMEN PROFORMA FOR REGISTER OF WAGES

Name and address of Contractor			
Name and address of Establishment in / under which contract is carried on			
Name of work and Location of Work		Is carried on	
Name and Address of Principal Employer		Wage Period : Monthly/ Fortnightly	

SI No	Name of Workman	SI No in the Register of Workman	Designation and Nature of work done	No of days worked	Units of work done	Daily rate of Wages / Piece rate	Basic Wages	Dearness Allowance	Overtime	Other Cash Payment (nature of payment to be indicated)	Total	Deductions if any (indicate nature)	Net Amount Paid	Signature or Thumb Impression of Workman	Initial of Contractor or his representative
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

SPECIMEN PROFORMA FOR WAGE CARD

Name and Address of Contractor		Date of Issue	
Nature and Location of Work		Designation	
Name of Workman		Month / Fortnight	
Rate of Wages			

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

Morning

Rate

Evening

Amount

Initial

Received from _____ the sum of Rs. _____ on account of my wages.

Signature _____

This card is valid for month from the date of issue

Appendix-VII
(Reverse)

Form XIX[See Rule 78(2)9b]]

SPECIMEN PROFORMA FOR WAGES SLIP

Name and Address of Contractor _____

Name and Father's / Husband's name of workman _____

Name and location of the work _____

For the week/fortnight/month ending _____

Number of days worked _____

Number of units worked in case piece rate workers _____

Rate of daily wages / Piece rate _____

Amount of Overtime wages _____

Gross wages payable _____

Deduction, if any _____

Net Amount of wages aid _____

_____ Initials of the contractor or his representative

FORM XIV
(See Rule 76)

SPECIMEN PROFORMA FOR EMPLOYMENT CARD

Name and Address of Contractor	
Name and address of establishment in / under which contract is carried on	
Name of work and location of work	
Name and address of principal employer	
Number of days worked	
SI No in the register of workman employed	
Nature of employment / designation	
Wage rate (with particulars of unit in case of piece work)	
Wage period	
Tenure of employment	
Remarks	

Signature of Contractor

**Form XV
(See Rule 77)**

SPECIMEN PROFORMA FOR SERVICE CERTIFICATE

Name and Address of establishment in/under which contract is carried on	
Nature and Location of Work	
Name and Address of Principal Employer	
Name and address of workman	
Age or date of birth	
Identification works	
Father's/Husband's name	

SI No	Total Period for which Employed		Nature of Work Done	Rate of Wage (with particulars of unit in case of pieces work)	Remarks
	From	To			
1	2	3	4	5	6

LIST OF ACT & OMISSIONS FOR WHICH FINES CAN BE IMPOSED

In accordance with rule 5(d) of the Contractor's Labour Regulations to be displayed prominently at the site of work in both English and local language.

- Willful insubordination or disobedience, whether alone or in combination with other.
- Theft, fraud or dishonesty in connection with the contractors beside a business or property of the Employer.
- Taking or giving bribes or any illegal gratifications.
- Habitual late attendance.
- Drunkenness fighting, riotous or disorderly or indifferent behavior.
- Habitual negligence.
- Smoking near or around the area where combustible or other materials are locked.
- Habitual indiscipline.
- Causing damage to work in the progress or to property of the Employer or of the Contractor. Sleeping on duty.
- Malingering or slowing done work.
- Giving of false information regarding name, age, father's name etc.
- Habitual loss of wage cards supplied by the employers.
- Un authorized use of employer's property of manufacture or making of unauthorized articles at the work place.
- Bad workmanship in construction and maintenance be skilled workers which is not approved by the Deptt. and for which the contractors are compelled to undertake rectifications.
- Making false complains and/or misleading statements.
- Engaging on trade within the premises of the establishment.
- Any unauthorized divulgence of business affairs of the employers.
- Collection or canvassing for the collection of any money within the premises of an establishment unless authorized by the employer.
- Holding meeting inside the premises without previous sanction of the employers.
- Threatening or intimidating any workmen or employer during the working hours within the premises.

Form XIII [Schedule 78 (2) (d)]

SPECIMEN PROFORMA FOR REGISTER OF FINES

Name and Address of Contractor

Name and Address of establishment in/under
which contract is carried on

Nature and location of work

Name and address of Principal Employer

SI No	Name of Workman	Father's / Husband's Name	Designation and Nature of Employment	Act / Occasion for which fine imposed	Date of Offence	Whether workman showed cause against fine	Name of the person in whose presence explanation was heard	Wage period and wages payable	Amount of fine imposed	Date of which fine realized	Remarks
1	2	3	4	5	6	7	8	9	10	11	12

REGISTER OF DEDUCTION FOR DAMAGE OR LOGS

Name and Address of Contractor

Name and Address of establishment in/under
which contact is carried on

Nature and location of work

Name and address of Principal Employer

SI No	Name of Workman	Father's / Husband's Name	Designation and Nature of Employment	Particulars of Damage or loss	Date of Damage or Loss	Whether workman showed cause against	Name of the person in whose presence employee's explanation was heard	Amount of Deduction Imposed	No of Installments	Date of Recovery		Remarks
										First Installment	Last Installment	
1	2	3	4	5	6	7	8	9	10	11	12	13

REGISTER OF ADVANCES

Name and Address of Contractor

Name and Address of establishment in/under which contact is carried on

Nature and location of work

Name and address of Principal Employer

Sl. No.	Name	Father's/ Husband's Name	Nature of employment/ Designation	Wage period and wages payable	Date of amount of advance	Purpose (s) for which advance made	No. of installments by which advance to be repaid	Date & amount of each installment repaid	Date on which last installment was repaid	Remarks
1	2	3	4	5	6	7	8	9	10	11

REGISTER OF OVERTIME

Name and Address of Contractor

Name and Address of establishment in/under which contract is carried on

Nature and location of work

Name and address of Principal Employer

1	2	3	4	5	6	7	8	9	10	11	12
Sl. No.	Name of workman	Father's/Husband's name	Sex	Designation/nature of employment	Date on which	Total over time worked or production in case of piece rate	Normal rate of wages	Over time rate of wages	Over time of earnings	Rate on which overtime	Remarks

SECTION-IV

SPECIAL TERMS AND CONDITIONS

SPECIAL TERMS AND CONDITIONS

1. Object & limits of Supply and installation

The broad objective of the project is monitoring and control of water flow through the Spillway Vertical Gates(25 Nos.), Under Sluice Vertical Gates (08 Nos.), Left Canal Head Regulator Vertical Gate(05 Nos.) & Right Canal Head Regulator Vertical Gate(02 Nos.) of Anandapur Barrage Project, At- Anandapur, Dist. Keonjhar through complete cloud based automation system from a remote place initially from the Control Room, Office of the Superintending Engineer & Chief Construction Engineer, Anandapur Barrage Project, Salapada, Dist. Keonjhar, Odisha, which in future can be shifted to any place as per requirement of Department of Water Resources(DoWR.), Govt.of Odisha.

- All the gates are to be remotely lowered, raised & stopped whenever required.
- Water Level is to be monitored and recorded and discharge to be calculated.
- Real time remote control and Monitoring.
- Centralized control with manual override facility.
- User Friendly system.
- Ease of fault location and maintenance.
- System is self and remotely diagnostic.
- Power saving.
- 99.999% equipment uptime with online redundancy (hot standby).

Further, the gates are required to be operated remotely from MASTER CONTROL ROOM as per requirement and as per direction of Gate operating authority.

2. Contractor's Obligations

To achieve this objective, an agency will be engaged for the following-

Complete Cloud Based Automatic Control of 25 Nos. of Spillway Vertical Gate, 08 Nos. Under-Sluice Vertical Gate, 05 Nos. Left Canal Head Regulator Vertical Gate & 02 Nos. Right Canal Head Regulator Vertical Gate of Anandapur Barrage Project. Besides Automatic Control through Barrage Monitoring and Control, Manual operation of Gates from Master Control Room through Microprocessor Intelligent Controller at Superstructure and also through manually operated Hand Drive. Automation of the Spillway Gates, Under-sluice Gates, Head Regulator Gates by installing a suitable SCADA system with remote viewing facility and to view & control the parameters on line from the MCR.

2.1 The scope of Contractor shall be as follows:

- a) The control system along-with SCADA Software shall be provided in the Master control room (MCR) and the information available at control room (MCR) should also be available on three client PCs which shall have licensed monitoring software installed in it having all features for real time monitoring of data from MCR. The Data provided in MCR should be displayed in complete explicit way and can be extracted in different formats it shall have capability of monitoring the real time data of MCR & trend analysis etc.
- b) The Bidder will provide all required technical / non-technical / skilled workmen for execution of the work with unloading, shifting of materials, fabricated, machined & assembled jobs transported to the work site / nearby accessible area and onward shifting to the sites of work.

- c) Also through web server, all reports (hourly, daily, weekly, monthly, quarterly, half yearly & yearly etc.) shall be available at any PC/Laptop and on mobile App located at any place through web with user name & password protection.
- d) The Contractor shall supply, install & commission all instruments, terminal boxes, cabling & conduits etc. necessary to make the tendered services complete and ready for operation even if these are not indicated explicitly in this document.
- e) He will provide all power cables from Master Control Facility to Hoist Motor Control Cubicle(s) MCC and MCC to each motor of Spillway Gate Hoists, Under-sluice Gate Hoists & Head Regulator Gate Hoists.
- f) He will provide Motor Raise/ Lower / Stop Controllers (both remote and manually) housed in sheet metal enclosures near each individual gate installations having interfacing with Master Control Facility on wireless radio communication with redundancy for operation for operation of all gates.
- g) He will provide Wireless line of sight/Non line of sight Radio Modem communication wherever required depending on the site condition with redundancy for controlling and monitoring Spillway Gates, Under-sluice Gates and Left and Right Canal Head Regulator Gates from master control facility.
- h) He has to provide Master Control Facility (MCF) i.e. PC based intelligent motor control & monitoring through redundant wireless radio modem communication to Spillway Gates, Under-sluice Gates, Left Canal Head Regulator Gates, Right Canal Head Regulator Gates control system of Anandapur Barrage Project.
- i) He has to provide the MCF through SCADA with automated real time data management system for the following functions:
 - Automatic Control of Barrage Spillway Gates, Under-sluice Gates, Left & Right Canal Head Regulator Gates of Anandapur Barrage Project. Besides Automatic Control through Automatic Pond Monitoring and Control (APMAC), provision for Manual operation of Gates shall be provided at site within RTU/PLC panel & through push buttons.
 - Monitoring of gate positions & various site operations & safety aspects of the Barrage structures via. CCTV system at MCR.
 - On Line Measurement & Display of water Level/discharge and real time inflow in SCADA system.
 - Recording of all the above parameters on line & storage of records for analysis.
 - Generation of customized reports as per the input of Engineer in Charge.
 - Reporting of all acquired/calculated variables on web pages for information sharing with all authorized personnel.
- j) He will provide four industrial PCs Two no. located at Anandapur Barrage Project Control room and other two operating as monitoring stations at office of the SE & CCE.
- k) Individual Gate position is constantly monitored using gate position sensors, logged in the gate control console displayed and reported to MCF.

- l) Barrage water level monitoring device with accessories comprising of Radar type non contact water level sensor and shaft Encoder type/ Intelligent or equivalent Gate position sensor. One such system at each of the following locations is to be provided i.e., Near Gates and will be connected to master control facility to log water level data. To monitor the water level in canal two Radar type water level sensors along with required accessories shall be provided and shall be connected to Master Control Facility to log the water level data.
- m) Customized user friendly software for control, operation, monitoring and data logging. This Software will be loaded on PC at Master Control Facility.
- n) High resolution CC TV cameras with 360 swivel and capable of focusing 500 Mtr. range for PTZ camera and 50 Mtr. range for Bullet camera in any direction should be installed to monitor all the gates.
- o) 10 KVA Solar Power system with 48 hours backup system for only SCADA system & Instrumentation in case failure of power for more than 4 hours.
- p) Comprehensive O & M for five years.
- q) Power back up for 48 Hrs for the system.
- r) The contractor shall provide the Maintenance Tracking Application for monitoring and tracking of the maintenance activities during warrantee and maintenance period.
- s) Supply of Maintenance spares, tools & tackles for five years trouble free operation of the Automation systems (**Un-Priced list to be furnished in Technical Bid**)

All the Equipment shall be standard-type from well-known manufacturers and proven in field for same applications. Decision of the Engineer-in-Charge regarding scope of work of the Contractor shall be final and bindings on him. The Contractor will execute the items in the price schedule for the work as per direction of Engineer-in-Charge or his authorized representative.

2.2 Design Criteria

The spillway, under-sluice & HR operation shall be based on a strategy of balancing the Reservoir inflow and outflow by checking and comparing measurements taken at suitable interval of time. The specified measuring system shall provide the data(reservoir level, gate position and barrage discharge and inflow) to determine the three above mentioned parameters by the main computer in the MCR.

2.3 Equipment for Remote Control System

All the real-time data from all instruments specified above shall be provided and incorporated in the control system located at barrage control room.

The Operator station shall have Master PLC controller with firm ware based hot redundancy so that the failure of one of the controller shall not cause any discontinuity in the control system and shall ensure that no loss of data takes place during change over. The bidder shall also provide A3 size colour printer for printing various logs, instructions and reports.

At any time individual gates shall be allowed to be switched over from the automatic mode to local mode of operation, and vice versa, however the operation from the local panel cannot be overruled by the remote/automatic operation stage once the selector switch is set on the local position. Manually adjusted gates shall, when returned to automatic mode of

operation, be adapted to their normal functioning in the automatic mode. The automatic system shall work independent of the number of available gates with the same characteristic. If all gates have been changed over to MANUAL, the master controller shall be reset so as to permit a smooth switching-over to MANUAL operation.

All the input display from field including water level of Pond shall be displayed at the Screen. The system shall continuously monitor the Barrage level and depending upon this level it shall be able to calculate the input discharge in to the Barrage depending upon the profile made available by the user . In addition to this the gate opening of spillway gates should be displayed in the form of graphic display. The system shall be able to display the output discharge through spillway gates so that operation of spillway gates can be carried out in auto mode.

Formats for various reports & screen displays will be finalized during the detailed engineering stages and bidder shall submit their reporting and screen formats for prior approval from Engineer in charge along with Schematic & control methodology. The software supplied by the bidder should allow modifications at site without involvement of any other special software.

2.4 Control of the Barrage Spillway Vertical Lift Gates, Under-sluice Vertical Lift Gates and Left & Right Canal Head Regulator Vertical Lift Gates of Anandapur Barrage Project.

Input Parameters : (Technical Data of Gate)

SI No.	Type of Gate (Vertical)	Size of Gate (in mm)	Type of Hoist (Electrically Operated)	Electric Motor Rating	Qty. (in Nos.)
1	Spillway Gate	12000 x 9000	Rope drum hoist (90 Ton capacity)	15 KW, 3Ø., 965 RPM, 50Hz, Squirrel Cage Induction Motor.	25
2	Under-sluice Gate	12000 x 10000	Rope drum hoist (100 Ton capacity)	15 KW, 3Ø., 965 RPM, 50Hz, Squirrel Cage Induction Motor.	08
3	Left Canal Head Regulator Gate	6000 x 4000	Rope drum hoist (15 Ton capacity)	2.2 KW, 3Ø., 720 RPM, 50Hz, Squirrel Cage Induction Motor.	05
4	Right Canal Head Regulator Gate	3500 x 1700	Screw Hoist (03 Ton capacity)	2.2 KW, 3Ø., 720 RPM, 50Hz, Squirrel Cage Induction Motor.	02
5	DG Set	125 KVA			02

Barrage Parameters

a) Spillway Gate

Item	Value
HFL	RL 44.40 Mtr.
Sill EL	RL 35.00 Mtr.
Top of gate EL	RL 44.20 Mtr.
Pond Level	RL 44.00 Mtr.
Top of pier & Road bridge EL	RL 47.50 Mtr.
Top of trestle EL	RL 59.00 Mtr.
Type of Gate / Hoist	Vertical lift(12.000 M X 9.000 M) / 90 T capacity electrically operated rope drum hoist
No of gates	25 Nos.

b) Under-sluice Gate

Item	Value
HFL	RL 44.40 Mtr.
Sill EL	RL 34.00 Mtr.
Top of gate EL	RL 44.20 Mtr.
Pond Level	RL 44.00 Mtr.
Top of pier & Road bridge EL	RL 47.50 Mtr.
Top of trestle EL	RL 60.00 Mtr.
Type of Gate/Hoist	Vertical lift (12.000 M X 10.000 M) / 100 T capacity electrically operated rope drum hoist
No of gate	08 Nos.

c) Left Canal Head Regulator Gate

Item	Value
HFL	RL 44.40 Mtr.
Sill EL	RL 40.00 Mtr.

Top of gate EL	RL 44.20 Mtr.
Pond Level	RL 44.00 Mtr.
Top of pier & Road bridge EL	RL 47.50 Mtr.
Top of trestle EL	RL 53.00 Mtr.
Type of Gate/Hoist	Vertical lift (6.000 M X 4.000 M) / 15 T capacity electrically operated rope drum hoist.
No of gate	05 Nos.

d) Right Canal Head Regulator Gate.

Item	Value
HFL	RL 44.40 Mtr.
Sill EL	RL 42.30 Mtr.
Top of gate EL	RL 44.20 Mtr.
Pond Level	RL 44.00 Mtr.
Top of pier & Road bridge EL	RL 47.50 Mtr.
Top of trestle EL	RL 51.00 Mtr.
Type of Gate/Hoist	Vertical lift (3.500 M X 1.700 M) / 03 T capacity electrically operated screw hoist
No of gate	02 Nos.

Minimum Control Inputs:03 for each gate(RAISE, LOWER and STOP)

Note:- In case of any problem with the control of the automated system, it should be possible to revert to the manual system of Gate immediately.

- **Data Acquisition from Spillway,under-sluice & head regulator Site**

The system will acquire the following parameters at specified intervals and store them in a data base. The parameters will be displayed in wide screen monitor.

- **Gate Position and Gate Status (Moving UP/Moving Down/Static) of the following:**
 - a) Spillway Gates-25 Nos.
 - b) Under-sluice Gates – 08 Nos.
 - c) Left Canal HR Gates – 05 Nos.
 - d) Right Canal HR Gates – 02 Nos.

- **Video Surveillance System:**

40 Nos. of 4 MP night vision IR Bullet camera(Fixed Type) and 4 Nos. of PTZ cameras are to be provided for the surveillance purpose of the Spillway gates, Under-sluice gates & HR gates. However, the quantity may vary depending as per the site requirement. The location of the each camera should be decided in consultation with Engineer-in-charge of the purchaser such that operation of each gate is clearly visible.

- **In general, while designing the SCADA system, the Bidder will conform to:**

- Use of state of the art and reliable technology suitable for 24x7 operations.
Modular design and ease of maintenance.

It is mandatory that the Successful bidder will submit a detailed description of the proposed system in each location complete with Block Diagram clearly indicating individual subsystems /units /instruments /sensors and their interconnections and how the proposed system will address the requirements referred in the technical specifications and features.

3. (i) Owner/ Client's Obligations

Suitable accommodation, storage and necessary facilities like electricity, water etc. at site shall be provided by OCCL/ Client during execution of work.

(ii) Contractor's Obligations

Watch & ward for storage of electronic equipments at site shall be provided by the Contractor during automation of gates.

4. Guarantees for the Equipment and Work

All items are warranted against any manufacturing defect / defects for a period of 12(Twelve) months from the date of Issuance of Final acceptance certificate from Engineer in Charge. This guarantee is against faulty workmanship and does not cover any damage due to accidents.

The cost of replacement of defective parts during guarantee period as well service shall be borne by the contractor.

5. Quality Control

Quality Assurance

- a) 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 Owner.
- b) Compliance with the QA/QC systems shall not relieve the Contractor of any of his duties obligations or responsibilities under the Contract.

Tests

- a) The Contractor shall provide all apparatus, assistance, documents and other information, electricity, equipment, fuel, consumables, instruments, labour, materials and suitably qualified and experienced staff, as are necessary to carry out the specified tests efficiently.
- b) If the Engineer-in-charge 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.

- c) The Engineer-in-charge shall check the Contractor's work and notify the Contractor of any defects that are found. Such checking shall not affect the Contractor's responsibilities. The Engineer-in-charge may instruct the Contractor to search for a Defect and to uncover and test any work that the Engineer-in-charge considers have a Defect.
- d) The contractor shall permit the Owner's Technical Auditor to check the contractor's work and notify the Engineer-in-charge and Contractor of any defects that are found. Such a check shall not affect the Contractor's or the Engineer-in-charge's as defined in the agreement.
- e) The Owner shall give a notice to the Contractor of any defects before the end of the Defects Liability Period, which begins at completion. The Defect Liability Period shall be extended for as long as Defects remain to be corrected.
- f) Every time notice of a defect is given, the Contractor shall correct the notified defect within the length of time specified by the Engineer-in-charge's notice.
- g) If the contractor has not corrected a Defect within the time specified in the Engineer-in-charge's notice, the Engineer-in-charge shall assess the cost of having the Defect corrected and the Contractor shall pay this amount.

6. Handing Over of the System

The Contractor first complete all works satisfactorily as per the Scope of the Work and commission all the equipments after carrying out all adjustments/settings of the equipments and system as a whole. Before handing over the system, trial run and testing of the complete system meeting the design parameters including safety needs to be conducted by the contractor.

In case of any conflict, the decision of "Engineer-in-Charge" shall be final and binding on the "Contractor".

SECTION-V

TECHNICAL SPECIFICATIONS

TECHNICAL SPECIFICATIONS

COMPUTER, UPS & PRINTER:

Computer shall be industrial grade PC with USB, RS232/RS485, Ethernet Ports, OS Windows 8 or higher compatible to SCADA System. Control Room shall have Master controller server with SCADA Software.

Two Industrial grade computer required, with the Master Controller (PLC) placed at the Barrage Control room. This Computer is expected to operate the SCADA software as well as all software required for the project. The computers shall be managed and operated by the successful bidder and his skilled trained experienced operators/engineers. The minimum specifications for the Industrial PC are given below. Specifications higher than specified shall be acceptable subject to availability at the time of supply.

Mother board AIMB 705G2 or higher, Processor Intel core i3, 7th generation, 2.0 GHz or higher; 8 GB Memory; 2 x 10/100/1000 Mbps (RJ-45); 2 x RS232; 1x RS232/ RS422/ RS485; 4 x USB2.0; 1 x D-SUB VGA port; 1 x PS/2 Mouse & 1 x keyboard interface; 2.5" x 1 TB SATA HDD; 15" Touch monitor with all accessories etc. complete.

UNINTERRUPTABLE POWER SUPPLY:

For Barrage control room equipments, bidder shall provide a 10 KVA online UPS system with 4 hours back up. Ups shall have minimum following specifications.

Make		Transtech /Emerson/ APC/ Equivalent
Type	:	On Line
Input	:	240 VAC +/- 15 %
Output	:	240 VAC +/- 1 %
Power factor	:	0.8 Lag
Power capacity	:	10.0 KVA/ 3.0 KVA
Frequency	:	50 Hz +/- 0.5 Hz.
Wave form	:	Pure sine wave
Total Harmonic Distortion	:	< 4 % on linear load
Inverter	:	IGBT based high freq PWM

Inverter efficiency	:	> 85 %
Duty	:	Continuous
Transfer time	:	Zero secs.
Battery Voltage	:	168 VDC
Battery Type	:	Sealed Maintenance Free
Protection	:	Out put high / Out put Low/ Out put Short Ckt/ Batt. Low Trip
Alarm	:	Battery Low
Indicators	:	Mains ON, Inverter ON, Battery Low, Fault
Metering	:	Out put voltage

BLACK & WHITE LASER PRINTER:

A4 size black & white LaserJet printer shall be provided in the Barrage control room for taking hard copies of reports/ trends. Printer shall have minimum following specifications.

Make	:	HP/ CANON or equivalent
Paper size	:	A4
Print Speed	:	Up to 14 ppm (letter)
First page Out	:	Less than 10 seconds
Resolution	:	1200 dbi effective output quality
Duty Cycle	:	5000 pages per month
Connectivity	:	Hi-speed USB 2.0 port
Interface	:	Host – based printing
Languages & fonts	:	Ethernet
Power Supply	:	Voltage – 220 -240 V ac 50 Hz. Approx. 335 W

RADAR WATER LEVEL SENSOR:

A Non contact type radar water level shall be provided for measurement of water level in the **Pond** as per technical specifications given under. Sensor shall be provided with all necessary mounting arrangements, safety enclosure required for installation. Location of the sensor shall be selected such that it can measure deepest level.

Sensor Type	:	Microwave non contact Radar
Operationf frequency	:	27 Ghz
Input supply	:	12/24 VDC
Measuring Range	:	35 Mtr
Out Put	:	4-20mA / SDI 12/ RS 485 compatible with data logger / PLC
Accuracy	:	+/- 3 mm or better
Resolution	:	+/- 1 mm
Display	:	Sensor should have local display with keys for programming
Antenna Type	:	Horn Antenna
Beam angle	:	less than 10 degree
Operating temperature	:	-20 to 60oC
Storage temperature	:	-30 to 80oC
Humidity	:	5 to 100%
Material	:	Corrosion resistant metal (Stainless Steel /Aluminum/ PVC)
Ingress Protection	:	IP-67 or better
Manuals	:	Full documentation & maintenance manual in English

GATE MEASUREMENT SENSOR:

The gate position scanner should sense any modification in position of the gate even in power failure condition. The controller should have facility to interface the limit switches for the gate. The controller should display the status of gate i.e. moving up, moving down or gate steady along with the current position of the gate. The controller should have facility to program the maximum height of the gate. Necessary flexible couplings shall be used during installation while coupling the Shaft Encoder with Motor/ Gear Shaft. It shall have minimum specifications as follows.

Sensor Type	:	Shaft Encoder type
Input supply	:	12/24 VDC
Measuring Range	:	20 Mtr
Output interface	:	4-20mA / SDI 12/ RS 485
Accuracy	:	0.025% FSO
Resolution	:	1 mm
Sensor ingress Protection	:	IP 65 or better
Display Read out	:	LCD display for digital read out
Operating temperature	:	-20 to 60oC
Storage temperature	:	-30 to 80oC
Humidity	:	5 to 100% RH
Material	:	Corrosion resistant metal (Stainless Steel /Aluminum/ PVC)
Ingress Protection	:	IP-65 or better
Manuals	:	Full documentation & maintenance manual in English

RADIO MODEM:

For wireless communications between master PLC and Slave PLC/RTU panel line of sight/ non line of sight redundant wireless radio modem shall be provided. Purpose of redundant radio is to provide redundancy in communication i.e. in case of failure of any of the radio other radio automatically comes in to operation without disturbing the functionality.

Proposed wireless radio modems shall work in license free band, and shall have minimum following specifications.

Type	:	Line of Sight
Input supply	:	10-30 VDC
Aerial range	:	Up to 1.5 KM with clear line of sight
Frequency band	:	5 GHz (4910- 5970 MHz)

Channel width	:	5/10/20/40 Khz
Ethernet interface	:	10/100/1000 base T Ethernet
Protocols used	:	IPV4/IPV6, UDP, TCP, ICMP, SNMPv2c, NTP, STP, IGMP, SSH
Network management	:	IPV4/IPV6/HTTPS/SNMPV2c/SSH
Transmit power range	:	-17 to 30 dBm
Antenna Peak gain	:	16 dBi
Environmental	:	IP55
Temperature	:	-30 to 60 degrees
Antenna Peak gain	:	16 dBi
Encryption	:	128 bit AES (CCMP mode)

MASTER PLC PANEL:-

PLC at master station shall have hot swappable redundant central processing unit (CPU) and redundant power supply. The central controller shall be based on modular PLC. The central controller shall be of the same make as the controller in the Field PLC/RTU. The central controller shall have a colored HMI of 12" for indicating the diagnostic & other information. It should be possible to view detailed information by using buttons on the screen, to drill-down to the appropriate page. The Field PLC /RTU shall pass-on all the I/O information directly to the central controller, and shall act as a slave. PLC shall have at least 20% extra I/Os. The controller should be able to communicate an open protocol such as Industrial Ethernet/ CC link etc. with minimum speed of 100 Mbps. The communication port should be integrated or seamlessly attached to the CPU. It should be possible to view, control, & troubleshoot the PLC without requiring any software, from any PC, using web based protocols. Data logs should be stored inside the CPU and should be downloadable in CSV format using a web browser. It should be possible to increase the I/O handling capacity of the PLC, without changing the CPU, by the addition of appropriate I/O cards. The central controller should have a non-volatile memory of at least 2 MB expandable up to 12 MB and should be tested for operation from -20 to 55 degrees Celsius. The central controller shall have high immunity to electro-magnetic interference according to IEC 61000-6-2 and vibrations according to EN 60068-2-6. The central PLC shall have necessary ports for interfacing with, GSM/GPRS modem, and other ancillary etc.

Master PLC panel shall be fabricated in CRCA sheet duly powder coated in approved shed with proper lock & key arrangement and appropriate gaskets along with necessary hardware like terminals, switches, wiring, relay boards, 24 VDC power supply, fan & Filter, Surge protection devices, isolation transformers etc. complete.

Master PLC shall have wired communication with Industrial PC for exchange of data & commands from the application software. Master PLC shall accept the commands from application software and send it to respective Field PLC/RTU for further action. Field PLC will operate the gates as per command received from the Master PLC and update instant feedback to master PLC.

Master PLC panel shall have facility to operate gates in Auto/ semi-auto / manual mode. In auto mode gates shall be automatically operated as per instructions received from Application software and in Manual mode gates shall be operated manually from Remote push buttons installed on the Master PLC panel. Master PLC panel shall have gate wise separate push buttons for raising & lowering of gates & gate opening display for operation ease during manual operation of gates from master control room in case of emergency.

Line of sight redundant radio modems as per system requirement shall be housed in master PLC panel for seamless communication between central controller & Field Panel/RTU.

FIELD PLC/ RTU PANEL:-

PLC at field/slave station shall have central processing unit (CPU) and power supply with necessary I/O. The PLC controller shall be standalone in structure. The PLC controller shall be of the same make as the controller in the central PLC. The Field PLC /RTU shall pass-on all the I/O information directly to the central controller, and shall act as a slave. Field PLC shall have at least 20% extra I/Os. The controller should be able to communicate an open protocol such as Industrial Ethernet/ CC link etc. with minimum speed of 100 Mbps. The communication port should be integrated or seamlessly attached to the CPU. It should be possible to increase the I/O handling capacity of the PLC, without changing the CPU, by the addition of appropriate I/O cards. The controller should be tested for operation from -20 to 55 degrees Celsius. The controller shall have high immunity to electro-magnetic interference according to IEC 61000-6-2 and vibrations according to EN 60068-2-6. The PLC shall have necessary communication ports for interfacing with master PLC & radio modem. PLC shall have necessary I/O for interfacing the gate sensors and Radar water level sensors.

Line of sight redundant radio modems as per system requirement shall be housed in each field PLC/RTU panel for seamless communication between Field Panel/RTU & central controller.

Each Field PLC/ RTU panel shall have VFD starters rated for 3HP/ 5HP/10 HP / 15 HP and capable of operation at up to 55 degrees Celsius. The RTU equipment shall be housed in a properly sized, weather-proof panel.

Field PLC/ RTU panel shall be fabricated in CRCA sheet duly powder coated in approved shed with proper lock & key arrangement and appropriate gaskets along with VFD Starter panel, necessary hardware like terminals, Pushbuttons, Selector switches, Emergency stop switch, wiring, relay boards, 24 VDC power supply, fan & Filter, Signal Isolators, Surge protection devices, SPP's, isolation transformers, Over load relays, Fuses, SFU's, etc. complete. Ratings of the equipments/ current carrying capacity of wires used shall be as per electrical standards. All cable ends shall be terminated with appropriate lugs and duly labeled for ease of maintenance.

Surge Protection Device shall be provided inside each Field PLC/ RTU shall as per the following, to safeguard against transient & lightening surges.

- Class B + C on mains input

- Class D, for 24 V DC Supply

Field PLC/RTU shall have facility for wired & wireless communication with Master PLC for exchange of data & commands from the application software. Wireless communication shall be redundant UHF radio based. In each panel Two Line of sight radios shall be provided in case of failure of priority radio other stand by radio shall comes in operation without affecting the system performance. Field PLC/RTU shall accept the commands from Master PLC and operate the gate accordingly. Field PLC will operate the gates as per command received from the Master PLC and update instant feedback to master PLC and further to Application software installed on Industrial PC.

Field PLC/ RTU panel shall have facility to operate gates in Remote / Local mode. In Remote mode gates shall be automatically operated as per instructions received from Application software through Master PLC. In Local mode gates shall be operated manually from Local push buttons installed on the Field PLC /RTU panel. Field PLC/RTU panel shall have gate wise separate selector switch for selection of Local/Remote mode, push buttons for raising & lowering of gates. Gate openings shall be locally displayed on field PLC panel for operational ease during local operation of gates from Field PLC/ RTU panel installed at Motor end.

Field PLC/ RTU panel shall be provided with emergency switch having interlocking with control circuit so that in case of emergency complete operation can be stopped by pressing single button. In addition to above gate inoperative/ under maintenance switch shall be provided for each gate on front panel so that in case of gate under maintenance signal can be taken to PLC and no gate operation shall be allowed from Master/ Field PLC unless gate under maintenance signal goes off.

Field PLC shall generate alarms in case of following

1. Gate fail
2. Gate over travel
3. Overload trip
4. Drive trip
5. Gate inoperative
6. Gate sensor not responding
7. Level sensor not responding
8. RTU door open
9. Communication fail

Alarms generated at field PLC/ RTU panel shall be transmitted to master PLC and Application software for necessary viewing & storage. Operator sitting in Master Control room shall take due care of these alarms for smooth functioning of the system.

Slave PLC/ RTU Panel inside Climatic Conditioning:

The Slave PLC/RTU panel shall be fitted with a space heater mounted in the panel bottom with sufficient Space clearance. The heater shall be protected with the MCB along with auxiliary signaling contact. The panel shall be fitted with two cooling Fan's with adequate flow capacity with filters, and protection, for better control of internal temperature.

Analogue Inputs

- Analogue inputs shall be capable of accepting current signals of, (4-20) mA, with over range capabilities and support for 2/4 wire communications
- All components used in measuring circuits that affect accuracy shall be of high stability and low temperature coefficient.
- A/D conversion shall be provided on each analogue module. The module scan cycle shall be rapid so as to satisfy the overall analogue response time specified to the master workstations.
- It shall be possible by means of the PLC/RTU configuring software, to modify the signal dead-band, so that fluctuating signals are not continuously reported to the Master Station.

Digital Inputs

- Digital input modules shall be optically isolated. Digital filtering to suppress contact bounce shall be provided. In addition, software filtering of two successive cycles shall enable confirmation of state.
- To reduce data transmission, time tagging shall be selectively applied. Only some inputs shall be time tagged at the PLC/RTU, but other inputs shall be time tagged on arrival at the Master Station.

Digital Outputs

- The digital output modules shall support isolated outputs in, latched and BCD mode. Individual LEDs will indicate the status of each output. The outputs shall be isolated to at least 500V dc. Controls transmitted between the control station and the PLC shall comprise a select, check-back, execute sequence (or other means of providing high message security). On receipt of a select message, the PLC shall prepare to operate the output relay, and then return confirmation of correct selection of the relay to the Control Station. This signal shall be obtained as far as possible and shall be generated locally, not derived from the incoming signal. On receipt of the execute command, the output relay shall operate and confirmation of execution shall be returned to the Control Station.
- Not more than one digital output shall be possible at a time. Selection of two or more contacts simultaneously or in quick succession without one having been completed, shall result in cancellation of both requests and return an alarm to the Master Station
- Software interlocking schemes shall be applied with reference to process requirements.

Automatic Restart

- Upon Power interruption and /or communications failure, the PLC/RTU shall be arranged to restart automatically. This may be accomplished by retaining memory in non-volatile store.

PLC/RTU Panel:

- Factory fabricated to requirements, lockable doors, dead-front, self-supporting
- Cabinets shall consist of a rigid self-supporting structure constructed of not lighter than 1.6 mm thick, cold rolled, stretcher leveled sheet steel, braced rigidly where required with structural members. Panels and doors shall be constructed of the same weight and type of material as the housing. Housings, including doors and panels, shall show no evidence of warping, weaving, or distortion upon completion of installations.
- All cable entry in to the panel shall be from bottom using cable glands of adequate size.
- The panel shall be provided with forced fan cooling system as a standard
- internal panel layout must be designed considering proper approach to the PLC/RTU, instruments, relays, terminals and other accessories for maintenance
- The Cubicles should in sheet steel construction, free floor mounting with front and back access. The doors and side covers should be of 2- mm thick sheet and all load-bearing members are 2 mm thick.
- Arrange doors with minimum 105 degrees open position and with stops. Construct doors so that they neither weave nor warp; provide stiffening members where necessary to ensure rigidity.
- Provide ample duct space for adding and removing wiring from the top.
- Dimensions – As per site requirement & as approved by Engineer In charge.
- Lock System: Slam lock /Screw Fixed - with common key or unique key.
- The cabin shall be provided with power distribution units with sufficient number of sockets to provide power to equipment's hosted inside the cabin
- Provide channel base for mounting.

Equipment Arrangement:

- Wiring ducts to provide easy access for inspection and maintenance.
- Design and arrange ducts and terminal blocks to accommodate bottom entry to cabinet for control, alarm, status, power, and instrumentation cables, as required.

Ground Bus

- Panel shall be supplied with appropriate grounding stud for earthing

Nameplates

- Engraved labels drilled for screw mounting with round head screws shall be provided.
- Provide nameplates for all equipment, instruments, power supplies, relays, circuit breakers, fuses and other devices furnished and mounted in the cabinet. Provide nameplates for each device on panel interior door.
- Submit size, type, and wording for AUTHORITY's approval. All nameplates shall be in English.

Terminal blocks

- Terminal blocks for switchboard control wiring shall be DIN rail mounted screw clamp type.
- Make no more than two connections at each terminal point.
- Confine switchboard internal wiring to one side only of the terminal block. The other side shall be reserved for incoming leads.
- Ten percent of terminal points in each panel section shall have no connections and shall be designated as spare terminals.
- Form control wire bundles without sharp bends and support adequately.

INDICATING LAMPS

- The indicating lamp assemblies shall be a heavy-duty type with color caps. Indicating lamps shall be suitable for AC/DC power supplies, utilizing long life incandescent type lamps.

LIGHTED PUSHBUTTONS

- Each lighted pushbutton shall be mechanically interlocked, illuminated type. Lighted buttons shall be the recessed guarded type to preclude inadvertent operation. Gate control lighted pushbuttons shall be furnished with a flasher so the lamps will blink at a 1-second on and off rate when the maintained pushbutton is operated.

PUSHBUTTONS

- Each unit shall be a maintained contact type. Pushbuttons shall be the recessed guarded type to preclude inadvertent operation.

RELAYS

- **Auxiliary relays:** The auxiliary relays shall be in accordance with IS standards and shall be machine tool or industrial type. The relays shall have convertible contacts and shall be self-resetting. A minimum of two spare contacts shall be furnished on each relay.

SPECIAL TOOLS

- The bidder shall furnish any special tools that may be required to allow proper connections of wiring to devices and all terminal blocks

SURFACE FINISH

- Cabinet has to be nano-ceramic/epoxy powder coated with ral 7035 after proper pre-treatment as per the best industry practice, with thickness of 80 to 120 microns. shop inspection and testing

TEST PROCEDURE

After the cabinets are completely assembled and wired, perform the following tests and procedures

- i. Dielectric test on all circuits in accordance with standard test requirements. Instruments or other devices that cannot withstand test voltage shall be disconnected.
- ii. Circuit continuity test to verify connections.
- iii. Functional tests of all control switches and indicating lamps.
- iv. Verify operation of Operator Interface Unit on cabinets.

VFD STARTERS PANELS

- 3Phase VFD Starter panel shall consists of S.P.P, MCB, OLR, safety fuses, Pushbuttons, VFDs, and Main Switch. Equipments used in the panel shall be of Siemens / Schneider/L&T / Delta/ Mitsubishi/ Technique / Atonics make.
- The Employer reserves the right to reject any or all of such proposed manufacturers including manufacturers named above.

Barrage Monitoring and Control Software:-

Application software proposed shall be self intelligent and capable for automatic control operation of the Barrage gates based on the inputs from the local sensors and pre-defined procedure included in the application software. Software shall perform operations of the Barrage and head regulator gates as per the commands from the operator in Barrage Control Room. Software shall always checks the parameters and commands received periodically as programmed. Application software shall be capable of generating various reports, alarms, trends, and event logs as per the employer's requirements. Proposed Software shall also capable to receive & display inputs from remote Hydro-meteorological stations installed in the catchment. Proposed software shall be proven in the field for similar application for not less than 3 years. Proposed software should not have any limitations for number of tags and Screens.

Remote Control system at Barrage shall collect the data from various sensors like Gate position sensors, Level sensors, limit switches, etc. and transmit the same to Barrage gate control software. Barrage Gate control Software shall continuously monitor & display Levels, Gate openings, Inflow, Discharges through Spillway/under-sluice /HR gates, percentage Storage, Live storage, Gross Storage, Time to reach FPL & MWL. This historical data shall be continuously logged in to database server for further analysis & display. Actual inflow reaching to the Pond shall be calculated using area-capacity table for the reservoir and change in the level against time and discharge shall be electronically calculated using gate opening and upstream level.

At any time individual gates shall be allowed to be switched over from the automatic mode to manual mode of operation, and vice versa, however, the operation from the local panel cannot be overruled by the remote/automatic operation stage. Manually adjusted gates shall, when returned to automatic mode of operation, be adapted to their normal functioning in the automatic mode. The automatic system shall work independent of the number of available gates with the same characteristic. In the event of major changes in required size of opening, the gates shall be moved successively in steps. Step sizes shall be predefined in the application software. Necessary tolerance band should be provided to prevent continuous hunting of hoist.

Gate Operation Spillway/Under-sluice :

Spillway gates /Under-sluice gates shall be operated in following modes.

Automatic Mode:

The gates shall be operated automatically as per the demands of situation and pre-defined operation procedure. The operation of gates shall be strictly as per the provided reservoir operation schedule and gate operation schedule by the competent authority. While operating spillway gates & under-sluice gates, situation in the river downstream of the barrage shall be taken into consideration.

In the event, when any gate causes mechanical or electrical failure, an alarm shall be generated for non-functionality of the particular gate.

Semi-Automatic Mode:

The facility shall be provided to operate gates as per the current instructions from the authorities by over-riding the automatic operation shall be provided in the barrage gate control software. This option has following various modes of operation-

- Set level mode
- Gate openings mode

- Discharge mode

Set Level Mode:

In this mode of operation, operator shall able to enter the particular barrage water level to be maintained automatically and period for retaining the set level in the barrage by releasing excess water. This operation is over-ride to the barrage operation schedule set-out.

Gate openings mode:

In this mode of operation, operator shall able to set opening for particular gate for defined time period and gate shall be adjusted to the desired gate opening. After expiry of the time period, gate shall be automatically set to its original position or as per the requirement of situation in automatic mode of operation.

Discharge mode:

In this mode of operation the operator shall be able to set the discharge rate and quantum of water to be released or the discharge rate for the defined period and dam gate control software system shall calculate and adjust the opening of gates to let out the desired flow. After completion of time period the system shall automatically reposition the gate to its original position or as per the demands of situation in automatic mode.

Manual Mode:

The spillway & under-sluice gates shall be operated in manual mode for discharge regulation. In this case, the barrage gate control software will act as monitoring system and operation shall be carried out by the engineer / operator at site. This facility shall be provided for regulation of flood/canal discharges even when the some component of the remote control system is not functioning properly.

Event log:

Each and every event at the dam site shall be logged by the software system along with the password of the operator in encrypted form. The data collected from the field stations, calculated by the system shall also be logged in the system along with the date and time stamp at predefined time interval. This data shall be used to refine the operation and analysis.

Head Regulator Gate Operation:**Automatic Mode:**

The head regulator gates shall be operated automatically as per the demands of situation and pre-defined operation procedure for canal regulation. The operation of gates shall be strictly as per the gate operation schedule approved by the competent authorities. While operating gates, max discharge capacity of the channel shall be taken into consideration.

In the event, when any gate causes mechanical or electrical failure, an alarm shall be generated for non-functionality of the particular gate.

Semi-Automatic Mode:

The facility to operate gates as per the current instructions from the authorities by over-riding the automatic operation shall be provided in the control and monitoring software. This option shall have following various modes of operation-

Gate openings mode

Discharge mode

Gate openings mode:

In this mode of operation, operator shall be able set opening for particular gate for defined time period and gate shall be adjusted to the desired gate opening. After expiry of the time period, gate shall be automatically set to its original position or as per the requirement of situation in automatic mode of operation.

Discharge mode: In this mode of operation the operator shall be able to set the discharge rate and quantum of water to be released or the discharge rate for the defined period and dam control software system shall calculate and adjust the opening of gates to let out the desired discharge. After completion of time period the system shall automatically reposition the gate to its original position or as per the demands of situation in automatic mode.

Manual Mode

The canal gates shall be operated in manual mode for water distribution. In this case, the system software shall act as monitoring system and operation shall be carried out by the engineer / operator at site. This facility shall be provided for operation of gates even when the some component of the control system is not functioning properly.

Event log

Each and every event at the site shall be logged by the dam gate control software system along with the password of the operator in encrypted form.

Discharge Calculation

The discharge rate per gate & total discharge is to be computed by electronic means. Water level measurement and measurement of the gate position serve as input variables for discharge calculations. Discharge shall be calculated using appropriate formulae provided by purchaser for discharge calculations.

Real time Inflow Calculation

Inflow shall be calculated based on the rate of change of level against time. For inflow calculations area capacity curve shall be provided by purchaser. Water level measurement serves as input variables for inflow calculations.

WIRING/CABLING REQUIREMENTS

The cabling system design criteria shall be as follows.

The term cable shall always include necessary type of connectors at both the ends for connecting between two equipment. The connectors shall be properly anchored with protective sheathing of the cable in such a way that the loads due to pulling and twisting shall be borne by the protective sheathing and the conductors shall not be subjected to any stress.

The connectors shall be so fixed on the individual components of the system that the metal/ plastic connector shall always transfer the loads due to pulling and twisting directly to the protective body of the component and the internal interface cards/ connections shall not be subjected to any load.

Laying of necessary data and power supply cables for connecting various components and embedding them or protecting them with necessary conduits shall be carried out as per directions of engineer-in-charge.

Wherever the cables are to be laid indoors and the length of the individual cable run exceeds 1 meter, the cable shall be housed in a protective conduit made of electrical supply grade conduit of appropriate diameter and the conduit shall be fixed with the wall at a height not less than 1 meter above the floor surface. Whenever the indoor cable is required to cross the floor, it shall be housed in a HDPE /GI flexible conduits pipe of 25 mm internal diameter and the pipe shall be fixed to the floor with suitable protective covering to avoid tripping of personnel using the area or disturbance to the pipe due to such movement.

Wherever cables are to run through open ground including the public road and pathways, the cable shall be armored and shall be water ingress proof up to static water pressure of 5 kg/cm². All joints made in cable shall also meet the water proofing criteria. In addition, the cable shall be protected by housing the same in 25 mm galvanized iron pipe embedded at a depth of not less than 0.5 meter below the ground surface with a warning brick on the same. A sketch of the cable layout with respect to the identifiable marks of the area shall be prepared and handed over to the Engineer-in-charge for each such cable run on completion of the work of cable laying operation.

The joints in the cable connecting between the sensor and data collection unit shall be avoided by measuring the appropriate length of the cable required and attaching the same in one piece. If the cable joints become necessary, prior permission of the Engineer-in-charge shall be obtained before executing the same. The joint fabricated through a splicing and jointing kit shall be stronger than the parent cable.

The cable carrying data and electrical power shall be housed separately in different conduits separated by adequate distance to prevent leakage currents. The data cables shall also be laid out in such a way that the data integrity is not compromised due to mutual interference.

SCADA SYSTEM FOR BARRAGE AUTOMATION

General

The Barrage control room will have Industrial PC for monitoring & control applications. The Customized cloud based SCADA software will accept information sent by all the remote PLC/RTU, store the information in a data base, display the information in appropriate mimic displays, analyze past data and trends, will have the authentication feature by way of user name and password for operating the software; Updating of parameters of the PLC/RTU along with instrument can be done interactively from this software.

The development of software has to be customized with end user.(As per the data provided in Annexure I,II & III)

The control room will have main PLC system with IOs, main SCADA system with PC, software, wireless radio modem & UPS etc.

The control system along-with SCADA Software shall be provided in the Barrage Control Room and the information available at control room can be pass on to remote monitoring stations using GSM/GPRS/VSAT data communication network. The Data provided in Control room should be displayed in complete explicit way and can be extracted in different formats.

The local control and computing system for the gates shall be able to calculate the actual spillway & HR discharge depending on reservoir water level and gate opening.

A master controller shall define the required total gate opening. The positioner shall compare the required value with the total actual opening found by adding up the individual opening values, if the deviation of one or more gates from the required value is large enough, an 'Open'- or 'Close'- instruction shall be given to the respective gate(s). However to prevent hunting of hoist the deviation should be beyond the preselected tolerance band.

In a selection circuit the 'open'- instruction shall be transferred to that gate, which at the time of the comparison controls the smallest opening. Similarly, a 'close' - instruction shall be given to the gate controlling the largest opening.

For the gate selection, only the gates shall be considered, of which the mode selector switches are in the 'Automatic' position, and where no alarm signal has been received from, the 'open'- or 'close'- instruction shall remain with the selected gate, unless any of the following conditions is met:

- The required and actual openings agree and the positioner cancels the instruction, or
- The gate had previously reached its limit position, or,
- The max. Permissible deviation (pre-set difference in position between controlled gate and average of all gates available) has been reached previously.
- The selected gate is not in operating condition.

In the event of major changes in required size of opening, the gates shall be moved successively one step each, i.e. after re-setting all gates again agree within the pre-set margin in size of opening. After all available gates have reached their limit positions a corresponding signal shall be given.

At any time individual gates shall be allowed to be switched over from the automatic mode to manual mode of operation, and vice versa, however, the operation from the local panel cannot be overruled by the remote/automatic operation stage. Adjustments made manually are to be automatically compensated for with the other gates by the automatic control system.

Manually adjusted gates shall, when returned to automatic mode of operation, be adapted to their normal functioning in the automatic mode. The automatic system shall work independent of the number of available gates with the same characteristic. If all gates have been changed over to MANUAL, the master controller shall be reset so as to permit a smooth switching-over to AUTO operation.

The system is to be designed to monitor the duration of the instruction. The monitoring is to prevent, that an instruction is maintained over a period, that is longer than a pre-select e.g. in the event of a malfunction of a gate selected by the controller, if the monitoring system is actuated, the particular gate is to be cancelled from the group of gates available for selection.

Electronic attenuation is to be included to provide against unsteady level signals.

Manufacturer

Only CE/UL certified Sensors, RTU/PLC shall be used. The Remote Control system is to be sourced from a reputed designer cum manufacturer.

Following names are given as reference for PLC & SCADA system

- a) Allen Bradley/Rockwell
 - b) Mitsubishi
 - c) Siemens
 - d) Schneider electric
 - e) ABB
- Or equivalent

If the bidder proposes alternative sourcing from an equally reputed and expert Remote-Control System manufacturer, he can propose the same with complete details, references, lists of successful Remote-Control Systems supplied/installed for prior approval from Engineer-In- Charge before placement of order with any of the manufacturer.

The Employer reserves the right to reject any or all of such proposed manufacturers including manufacturers named above.

SPARE PARTS AND TOOLS

All spare parts to be supplied shall be interchangeable with the corresponding parts of all the Works supplied under these Specifications and shall be of the same material and workmanship. They shall be replaceable without cutting or destruction of adjacent components. Before issue of the Taking-Over Certificate the spare parts shall be checked and tested at the Site by the Contractor In presence of the Engineer.

Acceptance of any spare parts will not take place before the Contractor has submitted the complete final detailed list of all spare parts and tools. All spare parts, tools and materials shall be delivered in marked boxes of sufficient sturdy construction to withstand long term storage cum maintenance.

- a) Mandatory Spare Parts
- b) Recommended Spare Parts

SCHEDULE OF WORK AND PROGRESS REPORTS

Schedule of Work

The time and the date of completion of work as stipulated shall be deemed to be the essence of the contract. The Supplier shall submit a detailed programme for all the activities to perform the work as per the Contract. The schedule will be in the form of a detailed PERT network consisting of adequate number of activities covering various key phases of the works such as designs and drawings, procurement, manufacturing, shop assembly and shop painting. This network shall also indicate the interface facilities to be provided by the Purchaser, if any, and the dates by which such facilities are needed.

The Supplier shall so organize his resources and perform his work as to complete it not later than the date agreed to by him. The time for completion of the supplies contracted for, shall be reckoned from the date of award of supplies to the Supplier.

During the performance of the contract, if in the opinion of the Engineer-in-Charge proper progress is not maintained suitable changes shall be made in the schedule to ensure proper progress.

Progress Reports

The above PERT network shall be reviewed and periodic reports shall be submitted by the Supplier as directed by the Engineer-in-Charge before initiating the procurement/fabrication, the Supplier shall submit a detailed list of items/materials to be bought out from outside agencies/fabricated at his or any other supplies. The list should be exhaustive and should serve as a check list for reviewing the progress from time to time. It shall be obligatory on the part of the Supplier to submit a detailed monthly report by 7th of every month (for the previous month) giving the progress of the following activities:

- a. Designs and Drawings of complete assembly for its prior approval by Engineer in charge, within one month of issue of letter of acceptance.
- b. Procurement of materials and bought out items
- c. Fabrication of various assemblies and sub-assemblies indicating detailed status of fabrication of critical items involved and expected date of completion.
- d. Stages of shop assembly.
- e. Shop testing
- f. Dispatch of materials.

DRAWING SUBMISSION

The complete General Arrangement Drawing along-with each components drawing and complete architecture of SCADA shall be submitted within 30 days from the issue of letter of intent for its approval to Engineer-in-Charge. Failure in submitting drawing in stipulated time shall amount to breach of the Contract. The Contractor shall also submit brief architect of SCADA architecture in their Bid mandatorily.

TECHNICAL RESPONSIVENESS:

Bidders are requested to confirm that all requirements of technical specifications have been met without any material deviation or reservation by submitting duly signed and stamped bid documents & in case of any deviation, it shall be clearly stated in deviation sheet failing which offer of the firm may consider unresponsive.

DELIVERY AND COMPLETION SCHEDULES

The delivery and installation schedules are described in Schedule of Requirements. The maximum time period from the date of issue of Letter of Award to Final Acceptance is (03) three months followed by (01) one year standard Warranty period and comprehensive annual operation & maintenance of 5 years after expiry of one year standard warranty period. The bidder must comply with the milestones indicated in the delivery schedule and schedule for installation and commissioning.

TRAINING COMPONENT

Training Programme

The Bidder is required to provide an extensive training programme for the system. The training set forth in the following paragraphs is a minimum requirement and the bidder should propose any additional training that he considers critical for long term success of the system operations.

The Bidder is expected to provide an outline or table indicating the contents of each of the required courses. The table shall describe the specific topics to be covered for each day of the training period.

The Bidder is responsible for the salaries of the training instructors and all training materials. The costs of travel, transportation and daily allowances for the trainees shall be borne by the Client / Purchaser.

Training in General Operation--Training shall be provided by the bidder in several phases. The training shall include both classroom and field trainings and will be continued during all five years. The bidder is required to have hydro-meteorological equipment specialists.

The training course will take place at Barrage site / Bhubneswar or as decided by the Client / Purchaser. In case of formal training, the Client / Purchaser will provide classroom and other logistics. The Bidder will facilitate the professional and the training materiel. On-the-job training will be provided by the Bidder in conjunction with the

installation of hydro-meteorological stations and during the course of maintenance as required.

The Bidder shall prepare a training course plan and include the same in the Bid Document. These trainings will be repeated every year during warranty and Operation & Maintenance periods for refreshing the trained staff and training additional staff.

AFTER SALES SERVICE

LOCAL PARTNER

The Bidder is required to be an Indian firm or Indian arm of an international firm so as to develop an in-country technical support base during and after the project implementation phase.

Warranty and O&M Period

The Bidder shall be responsible for one year onsite warranty of all stations/ components after installation, commissioning & site acceptance and operational test, All associated cost shall be part of contract price and bid price for evaluation.

During whole period (i.e. **1 year standard Warranty period and 5 year Operation & Maintenance period**), the bidder shall also responsible for make the system operative if any problem/non-function of the system arises due to theft, vandalism, manual tampering, lightening, storm, fire or any natural disaster with his own cost. All associated cost shall be part of contract price and bid price for evaluation.

This warranty includes proper functioning of SCADA and the hardware and software components. Assistance and troubleshooting will be provided for all necessary maintenance, servicing, testing, and recalibration operations.

Warranty shall include free of cost repairs/ replacement of hardware and Software necessary to keep the system functional for the period from supply, installation, testing, commissioning up to completion of Operation & maintenance(Comprehensive Annual Maintenance) period from Date of Issuance of Final acceptance certificate from Engineer in Charge

Bidder shall provide a minimum one no. of Service engineer for up keeping of SCADA system at Barrage from commissioning stage till completion of 05 years of Operation and Maintenance period from commencement of work.

The Service Engineer shall have well versed with Operation and Maintenance aspects of SCADA systems.

Overview on Water Resources and Hydrology of Anandapur Barrage :

Surface Water:

The surface run-off is a produce of basin characteristic, channel characteristic and climatic parameters, which are precipitation, evaporation and transpiration. The present project proposes to utilise surface run off of Baitarani River only.

River Baitarani :

The river Baitarani rises in the hills of Gupta ganga in the district of Keonjhar of Odisha State and after flowing 360 Km first in the south westerly and then in the Easterly direction joins the river Brahmani and combined stream known as Dhamara falls into Bay of Bengal.

The river flows through out Odisha State except for about 1.00 Km near Champua, where it forms the boundary between Keonjhar district of Odisha State and Singhbhum district of Bihar State.

From Champua to Nuapara (142 Km from source) the river descends from +375m to +310m the average bed fall in this reach is 0.75km/km. From Nuapara to village Balijore (bed level +267m) the average beds fall is 2.20m/km.

Approximately 1km Balijore the river suddenly falls by 6.70m. This fall is popularly known as 'Bhimkund Falls'. In the next 29Km the river descends to plain at Kolabari village by a series of rapid. The bed level at Kodabari in +45.70m and from Kodabari to Akhuapada in 0.47m/km.

At Akhuapada (257km from from source) the river throws off the first branch Burrah and 11.25km downstream the next branch Genguti takes off. River Burrah after flowing for 24 km falls into river Kharsuan (a branch of Brahmani).

Description of Catchment:

The Baitarani has a compact and roughly oval shaped catchment area of 10,000 sqkm above. The catchment intercepted at the Barrage is 8570 Sqkm. The entire Catchment lies in the State of Odisha. The catchment is fairly oval shaped. It is surrounded by stiff hills, mostly covered with dense forest sloping into the valley. The catchment basin is approximately 2/3rd hilly and 1/3rd plain. It is a typical vagarious catchment with occasional high intensity o rainfall and quick runoff. The catchment can be considered as a good one.

Rain fall :

There are Five(5) rain gauge stations within and around the catchment of river Baitarani. The availability of data and type of these rain gauge stations are given below in Table -1

Table-1

Sl. No.	Name of the station	Type of rain gauge station	Availability of data
1	Keonjhar	ORG	1982 to 1999
2	Karanjia	ORG	1982 to 1999
3	Thakurmunda	ORG	1982 to 1999
4	Champua	ORG	1982 to 1999
5	Jasipur	ORG	1982 to 1999

There are seven(7) rain gauge stations within and adjacent to the proposed ayacut of Anandapur Barrage project. The availability of data, type of rain gauge station and the influence factor for all the seven stations are given below in the Table-2

Table-2

Rainfall Network

Sl. No.	Name of the station	Type of rain gauge station	Influence factor	Availability of data
1	Balasore	ORG	0.0668	1982 to 1999
2	Basudevpur	ORG	0.140	1982 to 1999
3	Bhadrak	ORG	0.1955	1982 to 1999
4	Bhandaripokhari	ORG	0.1364	1982 to 1999
5	Anandapur	ORG	0.0996	1982 to 1999
6	Oupada	ORG	0.1752	1982 to 1999
7	Simulia	ORG	0.1865	1982 to 1999

Salient Features of Anandapur Barrage Project: :**I. LOCATION :**

1. STATE	ODISHA
2. DISTRICT	KEONJHAR
3. SUB-DIVISION	ANANDAPUR
4. VILLAGE	ANANDAPUR
5. RIVER	BAITARANI
6. BASIN	BAITARANI
7. LATITUDE	21 ⁰ 13 N
8. LONGITUDE	86 ⁰ 8 E

II. HYDROLOGY :

1. CATCHMENT AREA	8570 SQKM.
2. 75 % DEPENDABLE YIELD	88791 HAM.

III. FLOOD :

1. DESIGN FLOOD AT BARRAGE SITE	
(100 YEARS)	12172 CUMECS.
(500 YEARS)	15520 CUMECS.

IV. PRINCIPAL LEVEL :

POND LEVEL	44.00 M.
CREST LEVEL	
BARRAGE BAY /UNDER SLUICE	35.00 M / 34.00 M
DEEPEST BED LEVEL	30.40 M
TOP OF AFFLUX BUNDH	47.50 M

V. LENGTH OF BARRAGE : 491.60 M**VI. NUMBER OF BAYS :** 33 Nos.

RIVER BAYS : 25 Nos.

UNDER SLUICES 8 Nos.

VII. SIZE OF GATES :

RIVER BAYS 25 NOS (12 M X 9 M)

UNDER SLUICE 8 NOS(12 M X 10 M)

VIII. TYPES OF GATE :

VERTICAL LIFT GATE

IX. DETAILS OF COMMAND AREA :

G.C.A 67500 HA.

C.C.A 60000 HA.

X. IRRIGATION :

KHARIFF 56720 HA.

ANNUAL 56720 HA.

XI. HOISTING ARRANGEMENT :

SPILLWAY BAY ROPE DRUM HOIST CAPACITY-90T(15 HP MOTOR)

UNDER SLUICE BAY ROPE DRUM HOIST CAPACITY-100T(15 HP MOTOR)

LEFT HR ROPE DRUM HOIST CAPACITY-15T(5 HP MOTOR)

RIGHT HR MOTORISED SCREW HOIST

XII. STOPLOG

BARRAGE GATE 33 NOS. OF SIZE 12 M X 1.15 M (4 SETS)

LEFT HR 4 NOS. OF SIZE 6 MX 1.05 M (1 SET)

ANANDAPUR BARRAGE PROJECT (PHASE-II)**SALIENT FEATURES****I. GENERAL**

1. State	Odisha
2. District	Keonjhar
3. Sub-Division	Anandapur
4. Village	Anandapur
5. River	Baitarani
6. Basin	Baitarani

II. HYDROLOGY

1. Catchment Area	8570 SqKm.
2. 75% Dependable yield	88797 Ham.

III. FLOOD

1. Design Flood at Barrage site	
(100 years)	12172 Cumecs.
(500 years)	15520 Cumecs.

IV. PRINCIPAL LEVEL

1. Pond level	44.00 m
2. Crest level	
(Barrage bay/Under Sluice)	35.00 m / 34.00 m
3. Deepest bed level	30.40 m.
4. Top of Afflux Bundh	47.50 m.

V. BARRAGE

1. Location	Lat. 21 ° 13 N Long 86 ° 8 E Village Anandapur
2. Length of barrage	491.60 M
3. No. of Bays	River Bays : 25

- | | |
|--------------------|----------------------------|
| 4. Under sluices : | 8 Nos. |
| 5. Size of Gates | River Bays 25 Nos(12mx 9m) |
| 6. Under Sluice | 8 Nos(12 m x 10 m) |
| 7. Types of Gate | Vertical Lift Gate |

VI. DETAIL OF COMMAND AREA

- | | |
|---------------|-----------|
| 1. G..C.A | 67500 Ha. |
| 2. C.C.A | 60000 Ha. |
| 3. Irrigation | |
| 3.1. Khariff | 56720 Ha. |
| 3.2. Annual | 56720 Ha. |

VII. CANAL DETAILS

Sl. No.	Canal Details	Length (Km.)	Head Discharge (Cumecs)	Bed Width (m)	FSL (M)	CCA (Ha)
1.	Baitarani Left Bank Canal	28.50	165	25.50	43.70	2221
2.	Baitarani Right Bank Canal	9.00	10.00	8.00	43.70	1229
3..	Salandi Main Canal	73.003	96.70	36.55	39.62	56550

SECTION-VI

PAYMENT SCHEDULE

The quoted price shall be inclusive of

- i) All taxes such as income tax, labour cess, fees, royalties payable under the local rule excluding GST (Goods and Service Tax) as applicable i.e. @ 18 % .

No extra payment shall be considered on what so ever ground except reimbursement of GST

STAGES OF PAYMENT

Sl. No.	DESCRIPTION OF WORK	Percentage of Billing amount
1.	Supply of all field equipments for Automation work as per BoQ.	Maximum 25% of gross value of contract (Excluding value of 5 years O&M) as per DTCN & agreement
2	Supply of all field equipments for Electrical work as per BoQ.	Maximum 25% of gross value of contract (Excluding value of 5 years O&M) as per DTCN & agreement
3	Installation of all field equipments for Automation work & Electrical work as per BoQ.	Maximum 15% of gross value of contract (Excluding value of 5 years O&M) as per DTCN & agreement
4.	Installation of Master Control Room equipments, PLC for Master Control Room, synchronization with radio modems of spillway/under-sluice and head regulators as per BoQ.	Maximum 15% of gross value of contract (Excluding value of 5 years O&M) as per DTCN & agreement.
5.	Installation of Solar power system, UPS for power back-up as per BoQ	Maximum 10% of gross value of contract (Excluding value of 5 years O&M) as per DTCN & agreement
6.	Trial run, testing & Commissioning and handing over of the project to the Client/OCCL as per BoQ..	Maximum 10% of gross value of contract (Excluding value of 5 years O&M) as per DTCN & agreement
7.	Warranty, Operation & Maintenance(Post 1 year standard Warranty) as per BoQ.	Billing will be made as per instruction of the Senior Manager(Mech.), DTCN & agreement .

NOTE

- i) Bidder shall submit the detailed billing schedule for various activities/ works immediately after signing of Contract Agreement for approval by the owner, within the overall ceiling percentages specified above.
- ii) Payment to the contractor shall be limited to the measurements taken as per actual work executed. Contractor can not raise any dispute over the measurements allowed by the Engineer-in-Charge for the purpose of payment.