



**GOVERNMENT OF ODISHA
DEPARTMENT OF WATER RESOURCES**

**OFFICE OF THE SUPERINTENDING ENGINEER
HYDROLOGY & INTERSTATE MATTER, BURLA**

e – Procurement Notice No. SEH&ISM - 03/2026-27

TENDER DOCUMENT

FOR THE WORK

**“Installation & Calibration of new River Gauge Post in the downstream
at Seorinarayan Barrage on river Mahanadi under Hirakud Dam
Project for the year 2026-27.”**

**SUPERINTENDING ENGINEER
HYDROLOGY & INTERSTATE MATTER,
BURLA**

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SECTION – 1

DETAILED TENDER CALL NOTICE



GOVERNMENT OF ODISHA
DEPARTMENT OF WATER RESOURCES
OFFICE OF THE SUPERINTENDING ENGINEER,
HYDROLOGY & INTERSTATE MATTER, BURLA
E-mail [id-sehydrologyismburla@gmail.com](mailto:sehydrologyismburla@gmail.com)
e-Procurement Notice No. SEH&ISM-03/2026-27 (Online)
Bid Identification No. SEH&ISM-03/2026-27 (Online)

Bid documents consisting of work, estimated amount put to tender, cost of tender paper, EMD, time of completion, class of contractor, the set of terms & conditions of contract and other necessary documents can be seen in e-procurement portal <https://tendersodisha.gov.in> complete online process only.

1.	Nature of Works	:	Installation & Calibration of new River Gauge Post in the downstream at Seorinarayan Barrage on River Mahanadi under Hirakud Dam Project for the year 2026-27.
2.	Nos. of works	:	1 (one) Nos.
3.	Bid Identification No.	:	SEH&ISM-03/2026-27
4.	Estimated Cost	:	38.52 Lakhs (Excluding GST)
5.	Class of Contractor	:	“B & C” Class
6.	Period of Completion	:	Referred to DTCN
7.	Date and Time of availability of Bid Document in the Portal	:	Dt: 11.09.2026 at 11.00 AM to Dt: 21.09.2026 up to 17.00 PM
8.	Last Date / Time for receipt of Bids in the Portal	:	Dt: 21.09.2026 up to 17.00 PM
9.	Date of opening of Bid	:	Dt: 22.09.2026 at 11.00 AM
10.	Name and Address of the Officer Inviting Bid	:	SUPERINTENDING ENGINEER, HYDROLOGY & INTERSTATE MATTER, BURLA AT/PO- BURLA DIST-SAMBALPUR ,768017 Email Id: - sehydrologyismburla@gmail.com

1. Any addendum/corrigendum/ cancellation/ erratum of tender can also be seen in the said website.
2. Further details can be seen from Government Website <http://tendersodisha.gov.in>.

Superintending Engineer,
Hydrology & Interstate Matter, Burla

**GOVERNMENT OF ODISHA
DEPARTMENT OF WATER RESOURCES
Office of the Superintending Engineer
Hydrology & Interstate Matter, Burla
“e” PROCUREMENT NOTICE NO.- SE H&ISM - 03/2026-27
BID IDENTIFICATION NO- SE H&ISM - 03/2026-27 (Online)**

(SUB-SECTION – 01)

The Superintending Engineer, Hydrology & Interstate Matter, Burla, PO-Burla, Dist-Sambalpur, Odisha, on behalf of Governor of Odisha invites **On-line percentage rate bids in single system through e-procurement method of bidding** for the works mentioned in the table below. The Bids should be submitted by the eligible class of contractors as mentioned below, registered with the State Governments and contractors of equivalent grade/class registered with Central Government / M.E.S./ Railways, through On-line in the Government website www.tendersodisha.gov.in. The bidders should have necessary portal enrolment (with own digital signature certificate). The proof of registration from the appropriate authority shall be enclosed along with the bid. The registered bidders outside of Odisha State can also participate in this on-line tender process after necessary portal enrolment but shall have to subsequently undergo registration with the appropriate authority of the Odisha State Government within one month of acceptance of bid. The bidders registered outside the state are required to submit an undertaking in the form of an affidavit, that they are not registered under the GST Act in the State of Odisha as they have not started any business in the State and they have no liabilities under the Act. But, the successful bidder registered outside the State has to produce GST Clearance Certificate in the form GST before signing of agreement.

Sl. No.	Name of the Work	Bid Identification No.	Approximate Cost of works (in Lakhs) Excluding GST	EMD (Amount in Rs.) (Online)	Cost of Tender Paper/ Bid Documents (Rs.) (Online)	Class of Bidder	Time Period of Completion
1	2	3	4	5	6	7	8
1	Installation & Calibration of new River Gauge Post in the downstream at Seorinarayan Barrage on river Mahanadi under Hirakud Dam Project for the year 2026-27.	SEH&ISM-03/2026-27	38.52	38528.00	6000.00	‘B & C’	Two Years (Six Monsoon months)

1. Cost of Tender Paper-The bidder shall deposit online the cost of bid document as mentioned in Column-06 of above table as part of its bid through a process as mentioned in the DTCN.

2. EMD Required: -The contractor shall be required to deposit 1% of the estimated cost of work tendered for as earnest money while offering tenders (Online) and 1% as initial security deposit / Bid security at the time of acceptance of tender provided in shape of N.S.C. / K.V.P./ B.G./ Post Office Saving Bank Account / Post Office Time Deposit Account issued by Nationalized Bank, Insurance Surety Bond issued by the Insurance Regulatory and Development Authority of India/

Term Deposit Receipt of any Schedule Bank or Nationalized Bank in India counter guaranteed by its local branch at Sambalpur duly pledged in favour of Superintending Engineer, Hydrology & Interstate Matter, Burla, under whom the work will be executed , without which the tender is liable for rejection. The scanned copy of E.M.D./ Bid security will be submitted in website at the time of submission of bid along with the tender paper.

3. Only those bidders who successfully remit their Cost of Tender Paper and EMD 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.

4. **Mode of Transmission of Tender:** - Tender should be submitted On-line in www.tendersodisha.gov.in. Bid documents consisting of qualification, information and eligibility criteria of bidders, plans, specification and schedule of quantities of the work are available in website www.tendersodisha.gov.in and the set of terms and conditions of contract and other necessary documents can be seen in the website till last date of sale and receipt of tender papers. Interested bidders may obtain further information at the website www.tendersodisha.gov.in.

5. **Period of availability of tender On-line:** - Details of followings Date & time of bidding On-line/ last date of seeking clarification/ date of opening of tender papers.

Procurement Officer	Bid Identification No.	Availability of tender On-line bidding		Last date & time of seeking tender clarification	Date, Time & Place of opening of Tender	Date, Time & Place of lottery if required
		From	To			
1	2	3	4	5	6	7
Superintending Engineer, Hydrology & Interstate Matter, Burla	SEH&ISM-03/2026-27	Dt: 11.09.2026 at 11.00 AM	Dt: 21.09.2026 up to 17.00 PM	Dt: 18.09.2026 up to 17.00 PM	Dt: 22.09.2026 at 11.00 AM	To be intimated later

N.B. In the event, the specified date of bid opening being declared a holiday for the officer inviting the bid. The bids will be opened at the appointed time on the next working day.

6. The bid validity period of the tender is for a period of 90 days from the last date of receipt of the bids. If any bidder/ tenderer withdraws his bid/ tender before the said period or makes any modification in the terms and conditions of the bid, he/ she will be suspended for the time specified in the tender document.

7. Engineers of Gazetted rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of the State Government are not allowed to work as a contractor for a period of two years after his/her retirement from Government Service without Government permission.

Additional Performance Security: -Government has been pleased to abolish the extant provisions of threshold negative bid caps (14.99%) introduce in Appendix-IX, Clause 36 of OPWD Code Volume-II in the procurement of works undertaken by the Govt. of Odisha vide Office Memorandum No. 173 dtd:- 03.01.2026 of Works Department.

Additional Performance Security shall be taken on an incremental basis from the selected bidder for low bid prices in the project works as under: -

I. Where the bid price is below 0% but not below 10% of the project cost put to bid:

No additional performance guarantee/security percentage is required.

II. Where the bid price is below 10% but not below 20% of the project cost put to bid:

The additional performance guarantee/security percentage shall be incremented by 0.1% for every percentage of bid prices below 10% of the project cost put to bid starting at 11% with the additional bid performance guarantee being 0.1% and this additional performance guarantee shall be applied on bid price.

III. Where the bid price is 20% or more below the project cost put to bid:

The additional performance guarantee percentage shall be incremented by 0.2% for every percentage of bid prices below 20% of the project cost put to bid in addition to 1% of the bid price and this additional performance guarantee shall be applied on bid price.

IV. The additional performance guarantee percentage shall be rounded off to the next lower percentage based on whether the decimal point of the percentage of bid price is below 0.50% or next higher percentage based on whether the decimal point of the percentage of bid price is 0.5% or more.

V. The additional performance security shall be treated as part of the performance security.

VI. Justification for abnormally low bids shall be scrutinized by the Departmental Technical Committee and recommended to the competent authority of the Administrative Department for the approval of the Additional Performance Security (APS) An abnormally low bid is one in which the bid price. In combination with other elements of the Bid appears so low that it raises material concerns as to the capability of the bidder to perform the contract at the offered price. Procuring Entity may, in such cases, seek written relation clarifications from the Bidder, Including detailed price analyses of its Bid price in relation to scope, schedule, resource mobilization, allocation of risks and responsibilities, and any other requirements of the Bid Document. If, after evaluating the price analyses, the Procuring Entity determines that the Bidder has substantially failed to demonstrate its capability to deliver the contract at the offered price, the Procuring Entity may reject the Bid/ Proposal. However, it would not be advisable to fix a normative percentage below the estimated cost, which would automatically be considered as an abnormally low bid.

1. These amendments shall take effect from the date of issue of the O.M.

2. Accordingly, the relevant existing codal/contractual provision stands modified with effect from the date of issue of this O.M.

3. This has been concurred in by the Finance Department vide File No. **FIN-WF1-MISC-0102-2025**
8. Office Memorandum No. 173/W dated 03.01.2026 of the Works Department, Government of Odisha, along with the further clarifications issued vide Office Memorandum No. 632/W dated 09.01.2026, shall be invariably applicable while deciding the tender, as detailed below:

The following clarifications are issued on Works Department Office Memorandum No. 173 dated 03.01.2026

- The phrase “....to abolish the extant provisions of threshold negative bid caps (14.99%) introduced.....” in the first para of the Works Department OM No. 173 dated 03.01.2026 may be read as “.... to abolish the extant provisions of threshold negative bid caps of 15% introduced vide Works Department OM No. 12366/W dt. 08.11.2013 and amended vide Works Department OM No. 1437 dt, 31.01.202.....”
- If more than one bid is quoted (decimal up to two numbers will be taken for all practical purposes), either at the estimated cost put to tender or less than the estimated cost put to tender, the tender accepting Authority will finalize the tender through a transparent lottery system, where all the concerned bidders/their authorized representatives, the concerned SE/EE of the concerned Division and Divisional Accounts Officer (DAO) will remain present.
- If the rate quoted by the SC and ST Category Contractors comes to the rate quoted by the L1 bidder (decimal up to two numbers will be taken for all practical purposes) after availing 10% price preference as per Para 2 of Works Department Resolution No. 27748 dated 11.10.1977, the tender shall be finalized by the tender accepting authority through a transparent lottery system along with other categories of contractors.

Additional Performance Security (APS) in shape of NSC/ KVP/ BG/ Post Office Saving Bank Account/ Post Office Time Deposit Account issued by Nationalized Bank / Insurance Surety Bond issued by an Insurance Company Authorized by the Insurance Regulatory and Development Authority of India pledged in favour of **Superintending Engineer, Hydrology & Interstate Matter, Burla** from any Nationalized/ Scheduled Bank in India counter guaranteed by its local branch at Sambalpur within Seven (7) days of intimation by the Divisional Officer (by e-mail) to the successful bidder otherwise the successful bidder shall be cancelled and the Earnest Money Deposit / Bid Security shall be forfeited. Further proceeding of blacklisting shall be initiated against the bidder as per **Works Department Memorandum No. 14299 dt. 03.10.2017 and Amendment made vide Office Memorandum No. 14459 dt. 20.09.2018**. The time period of such APS deposit must be more than the duration of work.

9. Other details including details of Portal Registration, Submission of Bid, Resubmission and withdrawal of bid can be seen in the bidding document which is available in website www.tendersodisha.gov.in.

10. The bidder must have to register under CDMS portal as per O.M No-12934/W dated 23.08.2018 of Works Department, Govt. of Odisha with insertion of provision in Para -12.4 below Para-12 in Appendix-IX (A) of the OPWD Code, Volume – II.

11. Any company or organization participating in the bidding, the authorized person having proper Power of Attorney should have Registration Certificate, PAN No, GST Registration Certificate in his name shall sign the affidavit of authentication of documents and upload the same with the technical bid, otherwise bid will be treated as irresponsible.

12. Any bidder/bidders desire to appoint power of attorney holder should upload the genuine documents

regarding the same with the bid failing such a bid will be treated as irresponsible. Any claim in this regard shall not be entertained later on what so ever.

13. **The Bid** consisting of qualification, information and eligibility criteria of bidders, plans, specification are available in website **www.tendersodisha.gov.in** and should be submitted in **www.tendersodisha.gov.in** furnishing with self-attested documents such as (i) Original Contractor's Registration Certificate (CDMS), (ii) valid & active GST Registration Certificate, (iii) Original affidavit regarding authenticity of documents, (iv) No relation certificate, (v) valid & active PAN Card, (vi) EMD/Bid Security & (vii) All other required documents as per bid document along with the technical bid, otherwise his / her bid shall be declared as nonresponsive & shall be rejected. The lowest successful bidder only is required to produce documents viz Original Contractors Registration Certificate (CDMS), GST Registration Certificate, Original affidavit regarding authenticity of documents, No relation Certificate, PAN card for verification purpose.

14. If the 1st lowest bidder does not turn up for agreement after finalization of tender, then he shall be debarred from participation in bidding for three years and action will be taken to blacklist the contractor and 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 as per codal provision in Annexure-II of Amendment to Para-3.5.14 Note-I of OPWD Code Vol-1.

15. Amendment to Para 3.5.18. of OPWD code Vol-I & rule-29 of Appendix-IX of OPWD code Vol II "The single tender received in 1st call shall be cancelled without opening of the bid & fresh tender will be invited" as per Office Memorandum No. 16 dated. 01.01.2015 of Works Department Govt. of Odisha and as per "Works Department O.M. No. 16, dated. 01.01.2015 implies that single tender received in the first call shall be cancelled without opening of bid and in case when more than one tenderer have been received in the first call and only a single tender is found to be responsive, the same is also liable to be cancelled due to lack of competitive price bidding. (Vide Letter No. 4410 dt. 19.02.2018 of DoWR & Memo No. 4714 dt. 13.02.2018 of the E.I.C., W.R., Bhubaneswar.

16. The bidder should mention his/her **valid E-Mail Address / Phone No.** in the separate sheet for communication regarding the tender. The date of time of the lottery if required will be intimated to the qualified bidders through their **valid E-Mail Id / Contact Number** provided in the tender website.

17. All the existing provision of OPWD Code with amendment from time to time will be applicable is deciding the tender. All correspondence regarding the tender process will be communicated by **valid E-mail address** provided in the tender website. All bidders are requested to check their E-mail from time to time regarding the tender. **No claim whatsoever will be entertained for non-receipt of communication in hard copy.**

18. Agreement shall be drawn only after due verification of ISD & APS of the successful bidder. If any fake documents are detected, criminal proceedings will be initiated against the defaulting bidder and action will be initiated for black listing through the license issuing authority.

19. As Goods and Service Tax has come into force with effect from **01.07.2017**, GST as applicable will be paid extra after gross bill amount prepared vide Section-15 and Section-142 (11-C) of Odisha Goods and Service Tax Act-2017.

20. Other details can be seen in the bidding documents, which is available in website www.tendersodisha.gov.in.

21. Bids received online shall be opened in the office of the undersigned on **dtd:-21.09.2026 at 11.00 A.M.** to venue. Bidders who participated in the bid can also witness the opening of the bids after logging on to the site through their DSC.

22. Exemption of EMD to the Engineer Contractor will be allowed for a maximum of three works in a financial year and the fact of awarding a work with exemption of EMD should be entered in the Original Registration Certificate of the Engineer Contractor. Engineer contractor desirous to avail the exemption of EMD is required to submit an affidavit to the effect that He/ She has not yet availed the facility during the current financial year. Name of the two works and authority to which the tender is being submitted must be mentioned in affidavit failing which; the tender will be liable for rejection.

23. The On-Line bidder shall digitally sign on all statement, documents certification uploaded by him owning responsibility for their correctness/authenticity as per IT act 2000. If any of the information is found to be false/fabricated/bogus, his/her EMD/BID security shall stand forfeited and his/her registration in the portal shall be blocked and bidder is liable to be blacklisted.

24. Any **addendum / Corrigendum / Cancellation** of above tender will be published in the website. www.tendersodisha.gov.in, and in the notice board. The system shall generate a mail to those bidders who have already uploaded their tenders and those bidders if they wish, can modify their tenders.

25. If more than one bid is quoted (decimal up to two numbers will be taken for all practical purposes), either at the estimated cost put to tender or less than the estimated cost put to tender, the tender accepting Authority will finalize the tender through a transparent lottery system, where all the concerned bidders/their authorized representatives, the concerned SE/EE of the concerned Division and Divisional Accounts Officer (DAO) will remain present

26. The authority reserves the rights to reject any or all the tenders without assigning any reason thereof.

27. The authority will not be held responsible for any technical problem/ failure of network/ Malfunction or Interruption of server during the schedule dates of online bidding.

Additional Clause

1. The bidder must have experience in survey work including River discharge measurement using ADCP (Acoustic Doppler Current profile). Experience certificate in this regard must be submitted. Without the experience certificate the bid will be liable to be rejected.

28. Further details can be seen from the e-procurement portal <https://tendersodisha.gov.in>. Any addendum/ corrigendum/ cancellation of tender can also be seen in said website

Sd/-
**Superintending Engineer,
Hydrology & Interstate Matter, Burla**

**GOVERNMENT OF ODISHA
DEPARTMENT OF WATER RESOURCES
Office of the Superintending Engineer
Hydrology & Interstate Matter, Burla**

**DETAILED TENDER CALL NOTICE
BID IDENTIFICATION NO. SE H&ISM - 03/2026-27
(SUB-SECTION - 02)**

The **SUPERINTENDING ENGINEER, HYDROLOGY & INTERSTATE MATTER, BURLA** on behalf of Governor of Odisha invites **on-line percentage rate** bids through e-procurement **Single cover system** for execution of **Installation & Calibration of new River Gauge Post in the downstream at Seorinarayan Barrage on River Mahanadi under Hirakud Dam work** as detailed in the NIT. The bids should be submitted by concerned Class contractors registered / empanelled with state Government of Odisha & contractors of equivalent grade / class registered with other State Governments / central Government / Government undertakings / MES / Railways / other statutory authorities and must registered under CDMS portal for execution of works to be eventually drawn in P-1 form through on-line in the Government website www.tendersodisha.gov.in. The bidders should have necessary portal enrollment (with own digital signature certificate). The registered bidders outside of Odisha State can also participate in this on-line tender process after necessary portal enrollment but shall have to subsequently undergo registration with appropriate authority of the State Govt. within a month of acceptance of bid. The registered bidders outside of Odisha state can also participate in this on-line tender process after necessary portal enrollment but shall have to subsequently undergo registration with appropriate authority of the State Govt. within a month of acceptance of bid. The bidders registered outside of Odisha state can also participate in this on-line tender process after necessary portal enrolment but shall have subsequently undergo registration with the appropriate authority of the Odisha State Government within a month of acceptance of bid. The website for on-line bidding is www.tendersodisha.gov.in

The bids can be viewed from the website identified as www.tendersodisha.gov.in from **11.00 Hours of dt. 11.09.2026 to dt. 21.09.2026 up to 17.00 Hours**. The date for seeking clarification will be held on **from dt. 11.09.2026 to dt. 18.09.2026** during office hours in the Office of the SUPERINTENDING ENGINEER, HYDROLOGY & INTERSTATE MATTER, BURLA, SAMBALPUR Odisha. Availability for on line bidding of tender from the website identified as www.tendersodisha.gov.in **11.00 Hours of dt. 11.09.2026 to dt. 21.09.2026 up to 17.00 Hours**. The bidder for participation in on line bidding will have to transfer online the cost of bid paper (non-refundable) of **Rs. 6,000/- (Rupees Six thousand) only** for this work. The Bid will be received through e-procurement portal **11.00 Hours of dt. 11.09.2026 to dt. 21.09.2026 up to 17.00 Hours**. Each set of bid document contains technical bid and an intelligent bill of quantity. **The bid document will be opened on dt. 22.09.2026 at 11.00 hours in the office of SUPERINTENDING ENGINEER, HYDROLOGY & INTERSTATE MATTER, BURLA** in presence of the tenderers or their authorized representatives. The bidders who participated in the on line bidding can witness opening of the bid from any system logging on 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 appointed time and location in the next working day. Date, time and place of opening of (BOQ) shall be intimated separately to those tenderers who will be found eligible after evaluation of (Technical bid).

1. The value of the work tendered for is **mentioned in Col. 3 of NIT**.

2. PARTICIPATION IN BID:

- (a) **PORTAL REGISTRATION:** The Contractor/Bidder intending to participate in the bid is required to register in the Portal using his/her active personal/official e-mail ID as his/her Login ID and attach his/her valid Digital signature certificate (DSC) to his/her unique Login Id. He / She will enter relevant information as asked for about the firm/contractor. This is a onetime activity for registering in Portal.
 - (i) Any third party/company/person under a service contract for operation of e-procurement system in the State or his/her subsidiaries or their parent companies shall be in eligible to participate in the procurement processes that are undertaken through the e-procurement system irrespective of who operates the system.
 - (b) **LOGGING TO THE PORTAL:** The Contractor/Bidder is required to type his/her Login ID and password. The system will again ask to select the DSC and confirm it with the password of DSC as a second stage authentication. For each login a user's DSC will be validated against its date of validity and also against the Certificate Revocation List (CRL) of respective CA stored in system database. The system checks the unique. Login ID password and DSC combination and authenticates the login process for use of portal.
 - (c) **DOWNLOADING OF BID:** The bidder can download the tender of his choice and save it in his system to undertake necessary preparatory work off-line and upload the completed tender at his convenience before the closing date and time of submission.
 - (d) **CLARIFICATION ON BID:** The bidder may ask question online in the e-procurement portal using his/her DSC; provided the questions are raised within the period of seeking clarification as mentioned in tender call notice/Bid. The officer inviting the bid / Procurement Officer – Publisher will clarify queries related to the tender.
 - (e) **PREPARATION OF BID :**
 - (i) The bids may consist of general arrangements drawings or typical or any other drawings relevant to the work for which bid has been invited. Bidder may download these drawings and take out the print for detail study and preparation of his bid. Any other drawings and documents pertaining to the work available with the Officer Inviting the Bid will be open for inspection by the bidders.
 - (ii) The bidder shall go through the bid carefully and list the document those are asked for submission. He shall prepare all documents including cost of bid document, Bid Security, Declaration form price bid etc. and store in the system.
- 3. The e-procurement portal of the Government of Odisha is "<https://tendersodisha.gov.in>".
 - 4. Use of valid Digital Signature Certificate of appropriate class (Class II or Class III) issued from a registered Certifying Authority (CA) as stipulated by Controller of Certifying Authorities (CCA). Government of India such as n-Code, Sify, TCS, MTNL, e-Mudhra etc. is mandatory for all users.
 - 5. For all purposes, the server time displayed in the e-procurement portal shall be the time to be followed by all the users.
 - 6. The e-procurement shall be operated compliant to relevant provisions of OGFR/OPWD Code/Accounts Code/Government Statutes including any amendments brought from time to time to suit to the requirement of the best national practice.
 - 7. Registration in the e-procurement portal is without levy of any charges but Government reserves the right to levy any charges for such value added services in future.

8. Contractors not registered with Government of Odisha, can participate in the e-procurement after necessary enrollment in the portal but have to subsequently register themselves with the appropriate registering authority of the State Government before award of the work as per prevalent registration norms of the State.

9. **ELECTRONIC PAYMENT OF EMD/BID SECURITY AND COST OF BID DOCUMENTS:**

The bidders have to log onto the Odisha e-Procurement portal (<https://tendersodisha.gov.in>) using his/ her digital signature certificate and the 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.

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.788/W dt.23.07.2013.

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

- (i) A bidder makes electronic payment using his/her internet banking enabled account with designated Banks such as **SBI/ICICI Bank/ HDFC Bank** or either 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/her account, by adding the account number as mentioned in the challan as an interbank beneficiary.
 - Bank will refund (in case the Tender Inviting Authority (TIA) issues such instructions) the tender fee and EMD to the bidder, in case the tender is cancelled before opening of Bid as per direction received from TIA through e-procurement system.

Bid submission: Only after receipt of intimation at the e-procurement portal regarding successful transaction by the bidder the system will active 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.

The bid security shall be retained till finalization of financial evaluation, the EMD/ Bid security of other than L1 & L2 bidder (or as the case may be such as decision of preferred bidder through lottery system etc.) will be credited to their respective account as per instructions received from TIA through e-procurement portal.

After signing of Agreement with the preferred Bidder by the concerned Authority on submission of required Initial Security Deposit (ISD) or Performance Security (as per OPWD guideline) in the specified financial format and on uploading of the fact of award of contract (AOC) by the TIA in the e-procurement portal, the EMD of L1 & L2 bidder (or as the case may be) will be refunded to their respective account as per the instructions received from TIA through e-procurement portal.

For any technical related queries please call at Help Desk numbers of State Procurement Cell (SPC), Govt. of Odisha-1800 3456 765, 0674-2530998/ 2530996.

- (iii) Contractor exempted from payment of EMD will be able to participate in the tender directly by uploading documentary evidences towards his eligibility for such exemption.
- (iv) Government of Odisha has been actively considering integration e-payment gateway into the portal for payment of Cost of Bid and Bid Security / Earnest Money Deposit. The process of using e-payment gateway shall be issued separately after it is established.

- (v) The Engineer contractor willing to avail the Exemption of E.M.D will submit the affidavit on-line to avail the exemption along with bid document. Affidavit should contain how many times such facility have been availed by him prior to this during the current financial year, failing which the tender will liable for rejection.
- (vi) The ST/SC contractors willing to avail the facilities as fixed by Government will submit the affidavit on-line for the same along with tender document. Otherwise they will not be entitled to avail the facilities.

10. SUBMISSION OF BID.

- a. The bidder shall carefully go through the tender and prepare the required documents. The Bid shall have a Technical Bid & a Financial Bid. The Technical Bid generally consist of cost of Bid documents, GSTIN registration certificate, PAN, Registration Certificate, Affidavits, Profit Loss statement, list of similar nature works, work in hand, list of machineries and any other information required by OIT. The Financial Bid shall consist of the Bill of Quantities (BOQ) and any other price related information/undertaking including rebates.
- b. The Protected Bill of Quantities (BOQ) uploaded by the Procurement Officer-Publisher for the Bid is the authentic BOQ. Any alternation or deletion or manipulation in BOQ shall lead to cancellation of Bid.
- c. The Bidder shall up load the scanned copy/copies of document in support of eligibility criteria and qualification information in prescribed format in Portable Document Format (PDF) to the portal in the designated locations of Technical Bid.
- d. The bidder shall write his name in the space provided in the specified location in the Protected Bill of Quantities (BOQ) published by the Officer Inviting Tender. The bidder shall type percentage rates in figure only at the appropriate location. The total in words and the total amount of percentage rate tender shall be calculated automatically and shall be visible to the bidder.
- e. The bidder shall log on to the portal with his / her DSC and move to the desired tender for uploading the documents in appropriate place one by one simultaneously checking the documents.
 - i. Bids cannot be submitted after due date and time. The bids once submitted cannot be viewed, retrieved or corrected after the date line. The Bidder should ensure correctness of the bid prior to uploading and take print out of the system generated summary of submission to confirm successful uploading of bid. The bids cannot be opened even by the OIT or the Procurement Officer-Publisher/ Opener before the due date and time of opening.
 - ii. Each process in the e-procurement is time stamped and the system can detect the time of log in of each user including the Bidder.
 - iii. The Bidder should ensure clarity/ legibility of the document uploaded by him to the portal.
 - iv. The system shall require all the mandatory forms and fields filled up by the contractor during the process of submission of the bid/tender.
 - v. The bidder should check the system generated confirmation statement on the status of the submission.

- vi. The Bidder should upload sufficiently ahead of the bid closure time to avoid traffic rush and failure in the network.
- vii. The Tender inviting Officer is not responsible for any failure, malfunction, or breakdown of the electronic system used during the e-procurement process.
- viii. The Bidder is required to up load documents related to his eligibility criteria and qualification information and Bill of Quantities duly filled in. It is not necessary for the part of the Bidder to up-load the drawing and other Bid documents (after signing) while up-loading his bid. It is assumed that the bidder has referred all the drawings and documents uploaded by the Officer inviting the Bid.
- ix. Seeking any revision of rates or backing out of the bid claiming for not having referred to any or all documents provided in the Bid by the Officer inviting the Bid will be construed as plea to disrupt the bidding process and in such cases the bid security shall be forfeited.
- x. The bidder will not be able to submit his bid after expiry of the date and time of submission of Bid (server time). The date & time of bid submission shall remain unaltered even if the specified date for the submission of bids declared as a holiday for the Officer inviting the Bid.
- f. **SIGNING OF BID:** 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 and the bidder is liable to be blacklisted.

11. **SECURITY OF BID SUBMISSION:**

- a. All bid uploaded by the Bidder to the portal will be encrypted.
- b. The encrypted Bid can only be decrypted / opened by the authorized openers on or after the due date and time.

12. **RESUBMISSION AND WITHDRAWAL OF BIDS:**

- a. Resubmission of bid by the bidder for any number of times before the final date and time of submission is allowed.
- b. Resubmission of bid shall require uploading of all documents including price bid afresh.
- c. If the bidder fails to submit his modified bids within the pre-defined time of receipt, the system shall consider only the last bid submitted.
- d. The bidder should avoid submission of bid at the last moment to avoid system failure or malfunction of internet or traffic jam or power failure etc.
- e. The Bidder can withdraw his bid before the closure date and time of receipt of the bid by uploading scanned copy of a letter addressing to the Procurement Officer-Publisher (Officer Inviting tender) citing reasons for withdrawal. The system shall not allow any withdrawal after expiry of the closure time of the bid.

13. **OPENING OF THE BID:**

- a. Bid opening date and time is specified during tender creation or can be extended through corrigendum. Bids cannot be opened before the specified date & time.
- b. All bid openers have to log on to the portal to decrypt the bid submitted by the bidders.
- c. The bidders & guest users can view the summary of opening of bids from any system. Contractors are not required to be present during the bid opening at the

opening location if they so desire.

- d. In the event of the specified date of bid opening being declared a holiday for the Officer inviting the Bid, the bids will be opened at the appointed time on the next working day.
- e. In case bids are invited for more than one package, the order for opening of the "Bid" shall be that in which they appear in the "Invitation for Bid".
- f. During bid opening, the covers containing original financial instruments towards Cost of bid and Bid Security in the form specified in the DTCN / ITB valid for the period stated in the Bid, received after last date of receipt of bid and before opening of the bids shall be opened and declared. The Procurement Officer-Opener shall continue opening of other documents if he is satisfied about the appropriateness of the cost of Bid and the Bid security.
- g. Combined bid security for more than one work is not acceptable.
- h. The electronically submitted bids may be permitted to be opened by the predefined Bid opening officer from their new location if they are transferred after the issue of Notice inviting Bid and before bid opening. Further action on bid documents shall be taken by the new incumbent of the post.

14. **EVALUATION OF BIDS:**

- a. All the opened bids shall be down loaded and printed for taking up evaluation. The Procurement Officer-Openers shall sign on each page of the documents downloaded and furnish a certificate that the documents as available in the portal for the tender have been down loaded.
- b. The Procurement Officer-Evaluators shall take up evaluation of bids with respect to the qualification information and other information furnished subject to confirmation of the bid security by the issuing institutions.
- c. After receipt of confirmation of the bid security, the bidder may be asked in writing to clarify on the documents provided in the Technical Bid, if necessary, with respect to any doubts or illegible documents. The Officer inviting tender may ask for any other document of historical nature during technical evaluation of the tender. Provided in all such cases, furnishing of any document in no way alters the Bidder's price bid, Non-submission of legible documents may render the bid non-responsive.
- d. The bidders will respond in not more than 7 days of issue of the clarification letter, failing which the bid of the bidder will be evaluated on its own merit.
- e. Technical evaluation of all bids shall be carried out as per information furnished by Bidders. But evaluation of Bids does not exonerate bidders from checking their original documents at later date. If the bidder is found to have misled the evaluation through wrong information action as per relevant clause of DTCN/ITB shall be taken against the bidder/contractor.
- f. The procurement Officer-Evaluators; will evaluate bids and finalize list of responsive bidders.
- g. The financial bids of the technically responsive bidders shall be opened on the due date of opening. The Procurement Officer-Openers shall log on to the system in sequence and open the financial bids.
 - i. The Financial Bid will be opened on the notified date & time in the presence of bidders or their authorized representative who wish to be present.
 - ii. At the time of opening of "Financial Bid", bidders whose technical bids were found responsive will be opened.

- iii. The responsive bidder's name, bid prices, percentage above or less tenders will be announced.
- iv. Procurement Officer-Openers shall sign on each page of the downloaded BOQ and the Comparative Statement and furnish a certificate to that respect.
- v. Bidder can witness principal activities and view the documents / summary reports for that particular work by logging on to the portal with his DSC from anywhere.

16. NEGOTIATION OF BIDS:

- a. For examination, evaluation and comparison of bids, the officer inviting the bid may, at his discretion, ask the lowest bidder for clarification of his rates including reduction of rate on negotiation and breakdown of unit rates.

17. NOTIFICATION OF AWARD AND SIGNING OF AGREEMENT:

- a. The Employer / Engineer-in-Charge shall notify acceptance of the work prior to expiry of the validity period by cable, telex or facsimile or e-mail confirmed by registered letter. The Letter of Acceptance will state the sum that the Engineer-in-Charge will pay the contractor in consideration of the execution and completion of the works by the contractor as prescribed by the contract & the amount of Performance Security and additional Performance Security required to be furnished. The issue of the letter of acceptance shall be treated as closure of the Bid process and commencement of the contract.
 - b. The Contractor after furnishing the required acceptable performance security & additional performance security, "Letter of Proceed" or "Work Order" shall be issued by the Engineer-in-Charge with copy thereof to the Procurement Officer-Publisher. The Procurement Officer-Publisher shall up load the summary and declare the process as complete.
18. 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.
19. No tenderer will be permitted to furnish their tender in their own manuscript.
20. As bidder shall transfer the Earnest Money deposit / Bid Security @1% of the amount put to tender i.e. as mentioned in Col. 5 in NIT by online through process as mentioned in DTCN.
21. The work is to be completed in all respect within **Two years (06 Monsoon Months)** as **mentioned in Col. 7 of NIT** from the date of issue of work order.
22. The plans specifications and scope for the work can be seen in the office of the **SUPERINTENDING ENGINEER, HYDROLOGY & INTERSTATE MATTER, BURLA** during any working hours.
23. The tenderers shall carefully study the tentative drawings and specifications applicable to the contract and all documents which form part of the agreement to be entered into by the accepted tenderer and detailed specifications for Odisha and other relevant specifications and drawings which are available with the tender document or with the Superintending Engineer, Hydrology & Interstate Matter, Burla. Complaint at a future date that plans and specifications have not been seen by the tenderers cannot be entertained.
24. The bidder can resubmit his bid through online e-procurement mode out of which the system shall consider only the last bid submitted to the portal.
25. Every tenderer is expected before quoting his rates to inspect the site of the proposed work. He should also inspect the quarries and approach road to quarries and locality of the work and satisfy himself about the quality and availability of materials including the medical aids, labour and foodstuff etc. In every case the materials must comply with the relevant specifications. The contractors would, however, be responsible for procurement of materials

from authorized sources and voluntarily disclose the source of procurement for the purpose of billing. Besides, the bidder would be required to submit the details of quarry for procurement while submitting the bids.

The tenderer will be deemed to have satisfied himself that the rates quoted by him in the tender will be adequate to complete the work according to the specifications and conditions attached to and that he has taken into account all conditions, difficulties that may be encountered during its progress and to have quoted labour rates and materials, entry tax and other duties, leads, lifts, loading and unloading and freight for materials and all other charges necessary for the completion of the work to the entire satisfaction of the Engineer-in-charge of the work and his authorized subordinates. In the course of awarding a work, the Department may desire the analysis of the rate arrived for against any item(s) of work. The estimated cost is excluding GST. The rate of items basing on which estimate cost has been derived are excluding GST or different components to arrive such rates.

26. If any further necessary information is required the bidder can seek clarification from **concerned Superintending Engineer, Hydrology & Interstate Matter, Burla.**
27. All rates should be for finished items of work unless otherwise mentioned in the tender schedule.
28. BOQ in MS Excel format shall be made available to the bidder through e-procurement portal. The bidder shall download that particular excel sheet and fill in the rates in figures at the appropriate locations. The total amounts shall be calculated automatically and shall be visible to the bidder. The bidder is not supposed to change or modify the format of the excel sheet in any form. Bidders are to submit only the original BOQ updated by publisher after entering the relevant fields without any alteration/ deletion/modification. Multiple BOQ submission shall lead to cancellation of bid. If the bidder does not fill rates for any items, it will be considered that he has quoted the rates combinedly in some other items. In case of item rate tender, bidders shall fill in their rates other than zero value in the specified cells. In the percentage rate tender the bidder quoting zero value is valid and will be taken as schedule of rates.

Each tenderer must quote a definite percentage up-to two decimal points. Tenders containing indefinite terms such as 'as estimated rates or schedule of rates or percentage basis will not be considered.

Bills for percentage rate tenders shall be prepared at the tender rates for individual items only and the percentage excess or less shall be added or subtracted from the gross amount of the bill.

29. The bidder shall submit the documents in the designated locations of **bid** document. Submission of bid documents shall be effected by using DSC of appropriate class and thus shall be in encrypted form. 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 bid shall not be considered responsive and action as per relevant clause shall be taken if he does not provide the required document or provides illegible documents. Clarity of the document may be ensured by taking out a sample printing.
30. Bidders desirous to hire machineries or equipments from outside the State are required to furnish 2% (Two percent) of the amount put to tender as bid security. Tender not accompanied with bid security and security for hired machineries as specified above shall be liable for rejection. (Deleted as per O.M No 18138 dated 05.12.2018 of Works Department, Govt of Odisha)
31. All royalties payable Income taxes & Surcharges as applicable will be borne by the contractor as admissible. It is implied that the quoted rates are inclusive of such elements.

Labour Welfare Cess @ 1% will be deducted from the work bill of the contractor as

per resolution No. 12653 dt. 15.12.2008 of Labour & Employment Department, Government of Odisha.

32. It is allowed to modify the bid through the e-procurement portal. The bidder shall have to log in the system and resubmit the documents as asked for by the system including the price bid. In doing so, the bids already submitted by the bidder will be removed automatically from the system and latest bid only will be admitted. But the bidder should avoid modification of the bid at the last moment to avoid system failure or malfunction of the internet or traffic jam. If the bidder fails to submit his modified bids within the designated time of receipt, the bids already in the system shall be taken for evaluation.
33. Withdrawal of bid is also 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 officer inviting the bid and upload the scanned document from portal in respective bid. The system shall not allow any withdrawal after expiry of the closure of the bid.
34. The e-procurement portal system shall reject submission of any bid through portal after closure of the receipt time. For all purpose the portal time displayed in the system shall be the time to be followed by the bidder.
35. All tenders received will remain valid for 90 days from the date of receipt of tenders and validity of tenders can also be extended if required without any monetary compensation.
36. **No Relation Certificate:**

The contractor shall have to furnish certificate along with the tender to the effect that he is not related to any officer in the rank of an Assistant Engineer and above in the State P.W.D. or Under Secretary and above in the Water Resources 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.
37. While determining the validity of tenders the following points shall be taken in to consideration by the authority empowered to accept tenders and his decision in the matter shall be final.
 - (a) Any special condition which does not find place in the tender notice and which are not acceptable.
 - (b) Indefinite conditions which will make it difficult for access to the financial implications.
 - (c) Tenders being incomplete in some important respects.
 - (d) Incomplete schedule of time for completion of the work.
 - (e) Failure to furnish the specified bid security.
 - (f) Tendered rates being unduly low and unworkable.
 - (g) Rates in different items of a tender being irrational.
 - (h) Non-submission of Bid documents i.e. Valid RC, PAN, Valid GSTIN, Affidavits, EMD & other documents as specified in DTCN
 - (i) Bid documents and accompanying papers must be submitted before the Tender Inviting Authority only.
 - (j) Request for raising and lowering the rates or dealing with any point in connection with the tender will not be considered.
 - (k) Conditional tenders will not be taken into consideration.

- (l) The tender containing extraneous conditions not covered by the tender notice are liable for rejection and quotations should be strictly in accordance with the tender call notice. Any change in the wording will not be accepted.
38. The Department reserves the right of authority to reject any or all tenders received without assigning any reason whatsoever.
39. The tender may not (at the discretion of the competent authority) be considered unless accompanied by attested true copies of Registration of Firms / S.S.I. unit / EPM rate contract holder certificate, PAN Card, GSTIN Registration certificate as the case may be and the original certificates are to be produced if required in any subsequent date during processing of tender. Attested true copy of work done certificate is to be furnished along with the tender obtaining from the SUPERINTENDING Engineer concerned.
40. **The EMD will be forfeited in any of the following cases.**
- a) If the bidder withdraws the bid after bid opening during the period of bid validity.
 - b) If the bidder does not accept the correction of the bid price.
 - c) In the case of a successful bidder if the bidder fails within the specified time limit to
 - (i) Sign the agreement or
 - (ii) Furnish the required performance security.
 - d) If any of the statements, documents, certificate uploaded by the bidder through e-procurement portal, is found to be false / fabricated / bogus; the bidder will be black listed and his EMD / Bid Security forfeited.
41. The bidder whose tender is selected for acceptance the “Security for the due fulfillment of the contract should invariably be taken. The security may be taken in shape of NSC/ Post Office Time Deposit Account/ Kisan Vikas Patra/ Insurance Surety Bond issued by the Insurance Regulatory and Development Authority of India/ Bank Guarantee in favour of Divisional Officer (i.e. **Superintending Engineer, Hydrology & Interstate Matter, Burla**) from any Nationalized/Scheduled Bank in India counter guaranteed by its local branch at Bhubaneswar/ e-Bank Guarantee on the National e-Governance Service Limited (NeSL) Digital Document Execution portal towards E.M.D/ initial security deposit/ any other security deposit from the contractor or Supplier” as per OM No: 07554600032022-1499/W dt 01.02.2023 of Works Deptt., Govt of Odisha.
- The security deposit together with the earnest money, Initial Security money and the amount withheld according to the provision of P1 agreement shall be retained as Security for the due fulfillment of this contract. Failure to enter into the required agreement and to make the security deposit as above shall entail forfeiture of the earnest money. The written agreement to be entered into between the contractor and the Govt. shall be the foundation of the rights of both the contractor and the Govt. and the contract shall be deemed to be incomplete until the agreement has first been signed by the contractor and then by the proper officer authorized to enter into the contract on behalf of the Govt.
42. “Additional Performance Security: -Government has been pleased to abolish the extant provisions of threshold negative bid caps (14.99%) introduce in Appendix-IX, Clause 36 of OPWD Code Volume-II in the procurement of works undertaken by the Govt. of Odisha vide Office Memorandum No. 173 dtd:-03.01.2026 of Works Department.

Additional Performance Security shall be taken on an incremental basis from the selected bidder for low bid prices in the project works as under: -

I. Where the bid price is below 0% but not below 10% of the project cost put to bid:

No additional performance guarantee/security percentage is required.

II. Where the bid price is below 10% but not below 20% of the project cost put to bid:

The additional performance guarantee/security percentage shall be incremented by 0.1% for every percentage of bid prices below 10% of the project cost put to bid starting at 11% with the additional bid performance guarantee being 0.1% and this additional performance guarantee shall be applied on bid price.

III. Where the bid price is 20% or more below the project cost put to bid:

The additional performance guarantee percentage shall be incremented by 0.2% for every percentage of bid prices below 20% of the project cost put to bid in addition to 1% of the bid price and this additional performance guarantee shall be applied on bid price.

IV. The additional performance guarantee percentage shall be rounded off to the next lower percentage based on whether the decimal point of the percentage of bid price is below 0.50% or next higher percentage based on whether the decimal point of the percentage of bid price is 0.5% or more.

V. The additional performance security shall be treated as part of the performance security.

VI. Justification for abnormally low bids shall be scrutinized by the Departmental Technical Committee and recommended to the competent authority of the Administrative Department for the approval of the Additional Performance Security (APS). An abnormally low bid is one in which the bid price, in combination with other elements of the Bid, appears so low that it raises material concerns as to the capability of the bidder to perform the contract at the offered price. Procuring Entity may, in such cases, seek written relation clarifications from the Bidder, including detailed price analyses of its Bid price in relation to scope, schedule, resource mobilization, allocation of risks and responsibilities, and any other requirements of the Bid Document. If, after evaluating the price analyses, the Procuring Entity determines that the Bidder has substantially failed to demonstrate its capability to deliver the contract at the offered price, the Procuring Entity may reject the Bid/ Proposal. However, it would not be advisable to fix a normative percentage below the estimated cost, which would automatically be considered as an abnormally low bid.

1. These amendments shall take effect from the date of issue of the O.M.

2. Accordingly, the relevant existing codal/contractual provision stands modified with effect from the date of issue of this O.M.

3. This has been concurred in by the Finance Department vide File No. **FIN-WF1-MISC-0102-2025**

43. The contractor 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.

44. The date of commencement of work shall be as notified in work order.

45. On signing the agreement, the site will be handed over to the contractor for execution and completion of works in all respect.

46. On no account, the contract work should be sublet to anybody. In such an event the contract may be rescinded.

47. The authority reserves the right to make such increase or decrease in quantity of items of works mentioned in the scheduled attached to the tender notice as may be necessary for the satisfactory completion of the contract work. All such increase or decrease shall in no way invalidate/ vitiate the contract rates. The contractor shall not be entitled for any compensation on this account, except grant of extension of time where considered necessary.

The quantity mentioned can be increased or reduced to the extent of 10% for individual items subject to a maximum of 5% over the estimated cost. If it exceeds the limit stated above prior approval of competent authority is mandatory before making any payment.

48. The work may be splitted up and distributed among several contractors if considered necessary on the exigency of the circumstances of the work and the contractor is not entitled to any compensation on this account.
49. That for the purpose of jurisdiction in the event of any dispute if any, the contract would be deemed to have been entered into 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.
50. Under section 12 of contract labour (Regulation and Abolition Act 1970) the contractor who undertakes execution of work through labour, should produce valid license from licensing authority of labour department (labour license) to start the work before signing of Agreement.
51. The contractor shall be liable to fully indemnify the Department of any compensation under workmen compensation Act VII of 1993 on account of the workmen employed by the contractor and full amount of compensation paid will be recovered from the contractor. In the event of any claim sub-judice before any court of law, the claim amount shall be kept withheld till final disposal.
52. Contractor is required to abide by the fair wages clauses as introduced by Govt. of Odisha and will not pay less than the Fair wages fixed by Govt. to the labourers engaged by him for the work.
53. In case of any complaint by the labourer about the non-payment of his wages as per latest minimum wages Act., the SUPERINTENDING Engineer will have the right to investigate and if the contractor is found to be at fault, SUPERINTENDING Engineer may recover such amount due in any form from the contractor and pay such amount to the labourer directly under intimation to the local labour office of the Govt. The decision of the SUPERINTENDING Engineer is final and binding on the contractor.
54. The contractor will have to submit the **Superintending Engineer, Hydrology & Interstate Matter, Burla** monthly return of labour both skilled and unskilled employed by him on the work.
55. The contractor 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.
56. No compensation will be paid by the Department for any damage done by rain, flood, cyclone & earthquake tide or by any other natural calamities during the execution of the work. The contractor shall make his own arrangement to shift men and machineries at his own cost before, during and after natural calamities.
57. It should be understood clearly that no claim whatsoever will be entertained in regard to extra items of work or extra quantity of any item besides estimated amount, unless written order is obtained from the Engineer-in-charge and rates settled before the extra items of work or extra quantity of any item of work is taken up.

58. The tenderer 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 dated 25.1.1957.
59. The tenderer shall bear various incidentals, sundries and contingencies necessitated by the work in full within the following or similar category.
- (a) Rent, royalties and other charges of materials & all other taxes including ferry tolls, conveyance charges and other cost on account of land and buildings including temporary building and temporary electric connection to work site as well as construction of coffer dam, haul road and its maintenance till completion of work required by the tenderer for collection of materials, storage housing of staff other purpose of the work. No tenderer will however be liable to pay for temporary occupation of land owned by Govt. at the site of the work. GST on works contract as applicable at the time of payment of R/A bill shall be paid extra over the gross amount of R/A bill.
 - (b) Labour camps or hutments including conservancy and sanitation arrangements up to the satisfaction of the local health authorities should be arranged by the contractor.
 - (c) Suitable water supply including pipe water supply wherever available for the staff and labour as well as for the work.
 - (d) Fees and duties levied by the municipal canal or water supply authorities.
 - (e) Suitable equipment and wearing apparatus for the labour engaged in risky operations and medical aid to the labourer engaged for the work.
 - (f) Suitable fencing, barriers, signals including paraffin and electric signals where necessary at work and approaches in order to protect public and employees from accident.
 - (g) Compensation including cost of any suit for injury to persons or property due to neglect of any major precautions also becomes payable due to operation of the workmen compensation Act.
 - (h) The contractor has to arrange adequate lighting arrangement for the work wherever necessary at his own cost.
60. In case of delay in acquisition of land handling over possession of work site no compensation will be admissible but extension of time will be allowed if applied in prescribed format within due time to keep the contract in force.
61. The department will have the right to supply at any time in the interest of the work and departmental material to be used in the work and the contractor shall use such materials at the stock issue rate fixed by the Department by adding + 10 percentage in a particular item of work or market rate whichever is higher.
62. If a contractor 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, he 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 contractor or from his security deposit or from his other available dues with the Department.
63. Over and above these conditions including the Technical specifications the terms, conditions, rules and regulations and specifications laid down in I.S.I. code are also binding on the part of the contractor.

64. Deduction of income tax at source and surcharge on income tax will be made from each running account bill for the work at the rate as per Income Tax Act and as amended from time to time. (Present rate 2% + surcharge)
- The rates quoted by the contractor shall be deemed to be excluding GST on all the materials that he will have to purchase for performance of this contract.
 - The rates quoted by the contractor in the tender for works shall be excluding GST that may be levied on turnover on works contract according to the Laws and Regulations as applicable from time to time.
 - Deduction of GST at source will be made from each running account bill for the work at the rate of 2% prescribed by Odisha Goods & Service Tax Act-2017 or amended from time to time.
 - 1 % (One percent) of the gross amount of the bill will be deducted from the contractor bill towards labour cess as per Odisha building and other construction workers (RE & CS) rules 2002 and Amendment during 2008 and as amended by Govt. from time to time.
- 65.
- The amount **on royalties** of different materials as utilized by the contractor in the work will be recovered from his bill, basing on the rate fixed by the Govt. or as amended from time to time during the period of execution with stipulation that the rates will not be less than the rates provided in the sanctioned estimate of the work.
- The rate of royalties adopted in the sanctioned estimate of the work is as follows:-
- Earth/ Sand/ Moorum – As per Government Norms**
 - Stone & stone product – As per Government Norms**
 - DMF & EMF - As per Government Norms**
- Labour **Cess @ 1 %** of the value of work done will be deducted from the contractor's bill.
 - Cost of empty cement bags as per consumption for the work will be recovered from each running bills/ final bill at prevailing Schedule of Rate, Govt. of Odisha.
66. **Schedule of quantity accompanies the tender notice:** It shall be definitely understood that the Government do 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 omissions, deductions, additions or alternations shall in no way invalidate/ vitiate the contract and no extra monetary compensation will be entertained. Before procurement of construction materials, their samples are to be deposited by the bidder in the office of concerned SDO for testing and acceptance noting the name of the quarry under his dated initials. The testing and transportation will be borne by the Agency.
67. Items of works not covered by the tender notice shall be paid at the current schedule of rates of the State and those not covered by the said schedule of rate will be paid on actual analysis approved by the competent authorities prevailing during the period of execution of work.
68. All preliminary works such as vats, mixing platforms etc. are to be done by the contractor at his own cost. No payment will be made for benchmarks, level pillars, profiles, benching and leveling the ground where required. The rates to be quoted should be for finished items of works inclusive of such incidental items of works.

After the work is finished all surplus materials and debris's should be removed from 100 Mtr clear away from the site of the work. Preliminary work such as vats, mixing platforms etc. should be dismantled and all materials removed from the site and premises shall be made neat and clean and this is inclusive of the rates quoted by him.

69. The contractor is to supply necessary labour and materials for the purpose of alignment lying recording of levels whenever required at his own cost.
70. The contractor should arrange necessary tools and plants such as Pumps, Excavator, Trucks, compressors, Tippers, batching plants, Concrete Mixer, steel shutter plates etc. required for the efficient execution work at his own cost. The running charges of such plant and cost of consumables and conveyance are to be borne by the contractor. Any deviation from this may lead recession of contract.
71. In the event of delay in supply of design reasonable extension of time shall be granted on the application of the contractor. But no claim for monetary compensation will be entertained under any circumstances.
72. Under no circumstances, interest is chargeable for the dues or any additional dues, if any payable for the work.
73. An affidavit shall be furnished by the contractor at the time of submission of tender paper about the authentication of tender documents including bid security. The scanned copy of the affidavit is to be uploaded through the e-procurement portal along with the bid. The affidavit in original is to be produced before the officer inviting tender prior to opening of the bid.
74. The debris, sand and other materials, accumulated in the work area during flood shall be removed by the contractor as required for continuing the work at his own cost. By any chance, if any excavated portion that could not be filled up with concrete by the contractor, gets filled up during the monsoon period with earth such removal will not be paid again. The contractor will have to re-excavate the same at his own cost.
75. It shall be distinctly understood that it is entirely the responsibility of the contractor 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.
76. The contractor 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.
77. Dewatering from the foundation of structures when and where necessary during execution will have to be done by the contractor and no extra payment will be made on that account. The rate of respective items of work is inclusive of the dewatering.
78. The term dewatering shall mean the execution or operation of the items due to standing water as well as due to percolation water.
79. The quantities in respect of the items for which quoted rates are more than 25% of the estimated rates are not allowed to be varied by more than five percent. In case, if it exceeds the limit approval of the competent authority should be obtained prior to execution.
80. In case of discrepancy revealed between P-1 form and Detailed Tender Call Notice, condition in P-1 form shall prevail over the Detailed Tender Call Notice.
81. No claim for idle labour etc. on any account will be entertained by the Department.

82. The clause of printed form of P-1 contract with latest addition/ deletion/ corrections/ substitution etc. will also be binding.
83. All the measurement of earthwork is to be done by level section measurement, which will be accepted by contractor from time to time. Prior written approval of the SUPERINTENDING Engineer will be taken in case of pit measurement with size of pits etc. where level section measurements cannot be made.
84. For section measurement, levels will be taken in presence of the contractor at suitable interval and will be recorded in the level book before commencement of the work. The level should be accepted by the contractor and initial section be signed by him in token of acceptance. The final levels will be taken after completion of the work in presence of the contractor on the same position, as in the case of initial level. The measurement of earth work for filling sections will be recorded on finished compact section and payment will be made on level sections only as mentioned in the BOQ.
85. The measurement of fine dressing & turffing will be taken after satisfactory full growth of the turf and as well as survival of turf.
86. Borrowing earth is the entire responsibility of the contractor. No extra cost will be considered for whatsoever reason.
87. The language of all bidding documents and bidding process shall be in English for all purposes. The bid submitted in any other languages except English shall not be accepted.
88. The Government has been pleased to make the codal/ contractual provisions regarding price adjustment clause due to increase or decrease in rate and price of labour, materials, fuel & lubricants and plant and machineries spare components and issued the price escalation provision vide Works Deptt Office Memorandum No 15847/WE dt 19.11.2019 and shall be applicable to this contract.
89. Registration in the Contractor Data Base Management System (CDMS) available at www.cdmsodisha.gov.in by all Contractors is mandatory. (As per O.M No-12934/W dated 23.08.2018 of Works Department, Govt. of Odisha with insertion of provision in Para -12.4 below Para-12 in Appendix-IX (A) of the OPWD Code, Volume – II.
90. Tenderer, whose tender is accepted must submit “programme of work” at the time of execution of agreement in prescribed format for approval of Engineer-in-charge.
91. **GENERAL INSTRUCTION TO CONTRACTORS as per Department of Water Resources Letter No.20415 dated-14.09.2015**
- (a) Any agency or contractor executing a work should be aware about the local festivals like Makar Sankranti, Raja Sankranti, Chaiti Parab, Danda Nata, Nuakhai, Sital Sasthi, Paush Purnima, Dhanuyatra or any such festivals which may affect the work schedule. Therefore, the contractor should engage more work forces during working period available at his disposal to complete the work as per schedule.
- (b) 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.
- (c) Rainfall is a normal occurrence during monsoon in Odisha. So, unless there is unusually heavy rainfall resulting in a declared calamity, the contractor is not eligible for any extension of time. The contractor 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 contractor should foresee possible ponding of borrow area in monsoon and likewise lift more quantity of soil/ other materials during dry period, so as to complete the work as per schedule.

- (d) The contractor 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.
- (e) The Agency should plan his work programme and mobilize men and machineries 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.
- (f) There will be always be standing crop before harvesting season as per crop schedule and this fact has to be clearly understood by the agency. Extension of time on this ground may not be considered by the Division officer.
- (g) Only the day(s) of elections to the Local Bodies / Assembly / Parliament will be treated as non-working day(s)

92. Definitions

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

- a) **Approved / Approval** – Means approved in writing.
- b) **Construction Plant** – Means all equipment, appliances or things 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.
- c) **Contract** – means the instruction and information for tenderers General and Special conditions of the contract, Technical Specification, drawings, tender (including the schedule of quantities and tender prices) the formal agreement and all agenda and attachment related to the above.
- d) **Contractor** – means the particular person, firm or corporation with whom the contract has been made for executing the work.
- e) **Drawing** – Means the drawings referred to in the specifications, any modifications of such drawings approved in writing by the Superintending Engineer, Bargarh Irrigation Division, Bargarh and such other drawings as may from time to time be furnished or approved in writing by the Engineer-in-Charge.
- f) **Engineer-in-Charge**—Means the Superintending Engineer, in-charge of the work specified or parts of the works under the contract, or such other departmental assistants or sub-ordinates to whom the Superintending Engineer, in-charge may have delegated certain duties, acting separately within the scope of particular duties entrusted to them.
- g) **Government** – Means Government of Odisha, Department of Water Resources.
- h) **I.S.S. / B.I.S.** – Means Indian Standard Specifications / Bureau of Indian Standard.
- i) **Temporary Works** – Means all temporary works of every kind required for the performance of the contract.

- j) **Specification** – Whenever the terms “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 contractor in executing that item of work.
- k) **Year** - Means Financial Year.
- 93. The Contractor has to mention percentage excess or less over the amount put to tender.
- 94. The contractor will write percentage excess or less up to two decimal point only if he/she writes the percentage excess or less up to more than two decimal point, the two decimal point shall only be considered without rounding up.
- 95. A bidder can submit only one tender paper for a particular work, submission of more than one tender paper by a bidder for a particular tender will liable for rejection of all such tender papers as per Works Department Letter No.4985/W dt.28.03.2007.
- 96. The single tender received in the first call shall be cancelled without opening of the bid. The acceptance of a single tender received, even after retendering should have prior approval of the next higher authority as per Works Department Memorandum No.16 dt.01.01.2015.
- 97. Joint Ventures are not allowed in this tender.

SECTION – 2

INFORMATION AND INSTRUCTION TO TENDERERS

SECTION-2

1. Preparation of Bid Documents

The intending tenderer shall log in to the e-procurement portal identified as <http://tendersorissa.gov.in> and download the bid document in shape of an intelligent bill of quantity in MS Excel format). As per the requirement of the bid document the bidder will fill up the required information's and fill up the percentage rate in figures at specified location on the intelligent MS Excel sheet. The bidder is to scan and upload along with the bid the following documents.

1. Registration Certificate,
2. GSTIN registration Certificate
3. PAN Card,
4. No relation Certificate
5. Affidavit (Ref. Annexure-E, F, G & H)
6. All other documents as specified in the Bid Document for the work.
7. Registration of firm/company or Corporation.
8. Certified copy of Power of Attorney issued in favour of authorized persons in case of limited company or Corporation in favour of a partner in case of firm in partnership who shall sign the tender documents digitally (Ref Clause 2.6 and 2.7 of Section-3).
9. Additional Requirement for the work
 - I. ESIC registration with challan of latest 3 months
 - II. EPF registration with challan of latest 3 months
 - III. ISO certification
 - IV. Firm should submit authentication on ownership of the boat or certificates on hire/lease from the owners of boat should be furnished .Along with this licensed boat operator certificate to be furnished

Experience

Min 3 work of bathymetry/hydrography survey completed as prime contractor. Experience certificate issued by any central Government/State Government or Government undertaking ,including PSUs , in support of the same must be submitted. Failure to submit the experience certificate shall render the bid liable for rejection

The bidder is also required to scan and upload any other required documents as specified in the bid document.

2. Method of submission of Tender Documents

- 2.1 The tenderer shall upload the scanned copy / copies of the documents and information as per requirement of the bid documents through the e-procurement portal. All documents and scanned copies are to be uploaded in the designated location of the technical bid except the filled up intelligent excel sheet. The filled up intelligent bill of quantities in Excel format will be uploaded in the designated location of price bid. The bidder is required to upload the required documents in appropriate location of Technical and Financial bid failing which the bid will be rejected. All the uploaded documents should be clear and 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" bidder shall digitally sign on all statements, documents, clarifications uploaded by him owning responsibility for their corrections / authenticity. If any of the information furnished by the bidder is found to be false / fabricated / bogus, the bidder will be black listed and his EMD / Bid Security forfeited.
- 2.2 The information's required as per bid documents may be provided in the specified format annexed to the bid document.
- 2.3 If the intending tenderer is an individual, the documents shall be digitally signed by the individual while uploading the tender through e-procurement portal.
- 2.4 If the intending tender is a proprietary firm it shall be digitally signed by the proprietor while uploading the tender through e-procurement portal.
- 2.6 If the intending tenderer is a firm in partnership it shall be digitally 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 technical bid documents.
- 2.7 If the intending bidder is a limited company or Corporation, it shall be digitally signed by a duly authorized person holding the power of attorney in which case certified copy of power of attorney shall accompany.
- 2.8 All witness and sureties shall be of person of status and probity and their full names, occupation and address shall be stated below in the appropriate place.
- 2.9 The agency will install display board mentioning information about the work at worksite after drawal of the agreement at his own cost.

3. Opening of Tender Documents.

The cover bid will be opened on dt. 05.09.2026 at 11.00 hours in the office of **Superintending Engineer, Hydrology & Interstate Matter, , Burla** by the **Superintending Engineer** in presence of the tenderers or their authorized representatives who wish to be present.

4. Final Decision making authority

The competent authority reserves the right to accept or reject or disqualify any of the tender of pre qualification without assigning any reason and its decision shall be final.

GOVERNMENT OF ODISHA WORKS DEPARTMENT

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OFFICE MEMORANDUM

File No.07556900012016- 17254 /W, dated, 05.12.2017

Sub: Electronic Receipt, Accounting and Reporting of Cost of Tender Paper and Earnest Money Deposit on submission of bids.

1. The State Government have been working on formulation of 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> for some time past.
2. 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-I). 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 2 above would be faster.
3. 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.
4. **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.
5. **Procedures of bid submission using electronic payment of tender paper cost and EMD by bidder:**

- a) 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/W, dt.23.07.2013.
 - c) **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.
 - d) **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.
 - e) **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.
6. **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 challans under the Head of Account for **Cost of Tender Paper** and instruct the designated Banks to remit the money to the proper Head of Account of State Government. 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 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 and 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-I.

7. 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 bidder's accounts as per direction received from TIA through e-procurement system.

8. Forfeiture of EMD:

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

- 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-102-P.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-0097-Misc, 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.

9. 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.

10. Role of State Procurement Cell:

- a) Communicate requirements of Government departments/ State PSUs/ Autonomous Bodies/ ULBs online payment requirements to National Informatics Centre / the authorized 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.

11. 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 organizations 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 authorized 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.

12. 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.

13. Redressal of Public grievances:

- a) 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 Suomoto 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.

14. 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 in this Office Memorandum.

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.

1. This shall take effect from the date of issue of this Office Memorandum.
2. Accordingly, relevant existing codal / contractual provision exists vide Office Memorandum No.6785/W dt.09.05.2017 of Works Department stands modified to the above extent.
3. This has been concurred in by the Finance Department vide their UOR No.-39-WF-1 dt.09.11.2017.

EIC - cum – Secretary to Government

Memo No.17255

/W. Dated : 05.12.2017

Copy forwarded to P.S. to Hon'ble Chief Minister, Odisha for information and necessary action.

FA – cum- Addl. Secretary to Government

Memo No.17256

/W. Dated : 05.12.2017

Copy forwarded to OSD to Chief Secretary, Odisha / Sr. P.S. to Development Commissioner – cum – Additional Chief Secretary, Odisha / Sr. P.S. to Additional Chief

Secretary, Finance for information and necessary action.

FA – cum- Addl. Secretary to Government

Memo No.17257

/W. Dated : 05.12.2017

Copy forwarded to All Departments / Managing Director, OB & CC Ltd., Burla / Managing Director, OCC Ltd., Burla for information and necessary action.

FA – cum- Addl. Secretary to Government

Memo No.17258

/W. Dated : 05.12.2017

Copy forwarded to EIC (Civil), Odisha, Burla/ All Chief Engineers, Odisha / All Superintending Engineers / All Superintending Engineers (under Works Department) for information and wide circulation among subordinate offices.

FA – cum- Addl. Secretary to Government

Memo No.17259

/W. Dated : 05.12.2017

Copy forwarded to the Principal Accountant General (A & E), Odisha, Burla / Principal Accountant General, Odisha, Puri Branch, Puri for information and necessary action.

FA – cum- Addl. Secretary to Government

Memo No.17260

/W. Dated : 05.12.2017

Copy forwarded to the Director, Treasuries & Inspection, Odisha, Burla for information and necessary action.

FA – cum- Addl. Secretary to Government

ANNEXURE-I

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	Earnest Money Deposit on submission of bids
Government Departments	I. The payment towards the cost of Tender Paper, in case of 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.	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. With reference to the Notice Inviting Tender/ Bid Identification Number, the amount realized is to be remitted to Government Account under the Head of Account 0075-Misc. General Services-800-Other Receipts -0097-Misc. Receipts-02237-Cost of Tender Paper through Odisha Treasury Portal after opening of the bid.	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, I 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 separate pooling accounts opened in Focal Point Branch called e-FPB of respective designated banks at Bhubaneswar on T+1 day.	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 bank at Bhubaneswar and the banks will remit the amount to respective bidders account on receipt of instructions from TIA through refund and settlement of e-procurement system within two working days from receipt such instruction.
	II. The Paper cost will be transferred to the respective current accounts of concerned State PSUs, Statutory Corporations, Autonomous Bodies and Local Bodies etc. after opening of bid.	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 – 3

GENERAL RULES & DIRECTIONS

ODISHA PUBLIC WORKS DEPARTMENT

(FORM P-1)

PERCENTAGE RATE TENDER AND CONTRACT FOR WORKS

GENERAL RULES & DIRECTIONS FOR THE GUIDANCE OF CONTRACTORS

1. The work proposed for execution by contract will be notified in a form of invitation to tender posted through Govt. website www.tendersodisha.gov.in
This notice will state the work to be carried out, the items and approximate quantities thereof as well as the date for submitting and opening tenders also the amount of earnest money to be deposited and the amount of the security deposit by the successful tenderer and the percentage if any to be deducted from bills. Copies of the specifications, designs and drawings and any other documents required in connection with the submission of tender signed for the purpose of identification by the Sub-divisional Officer/ Superintending Engineer shall also be open for inspection by the contractor at the office of the Sub- Divisional Officer/Superintending Engineer during office hours.
2. In the event of the tender being submitted by a firm it must be signed separately by each member thereof, or in the event of the absence of any partner, it must be signed on his behalf by a person holding a power of attorney authorizing him to do so.
3. Receipts for payment made on accounts of works, when executed by a firm must also be signed by the several partners, except where the contractors are described in their tender as a firm in which case the receipts must be signed in the name of the firm by one of the partners, or by some other person having authority to give effectual receipts for the firm.
4. The memorandum of work tendered for and the memorandum of materials to be supplied by the Public Works Departments and their issue rates shall be filled in and completed in the office of the Sub-Divisional Officer/Superintending Engineer before the tender form is issued, if a form is issued to an intending tender without having been so filled in and completed, he shall request the office to have this done before he completes and delivers his tender.
5. The amount of earnest money to be remitted will be 1% (online).
6. Any person who submits a tender shall fill up the usual printed form stating at what rate he is willing to undertake each item of the work. Incomplete tender and tender rate he is willing to undertake each item of the work specified in the said form of invitation to tender or which they contain any other conditions of any sort, or omit to note the time within which the work can be finished or which are not accompanied by required earnest money will be liable to rejection. No single tender shall include more than one work, but contractors who wish to tender for two or more work shall submit a separate tender for each tender.
7. The Engineer-in-charge or his duly authorized assistant will open the tenders in the presence of any intending contractors who may be present at the time and will enter the amounts of the several tenders in a comparative statement in a suitable form.
8. The Engineer-in-charge shall have the right of rejecting all or any of the tenders.

9. In the event of a tender being selected for acceptance the Engineer who opened the tenders will, if he is competent to accept the tender, inform the tenderer of the selected tender who shall there upon sign copies of the specification and other documents with the tender. The tenderer of the selected tender shall also deposit the required amount of the security money within the prescribed time. If the tenderer fails to deposit the required amount of the security money within the prescribed time the Engineer-in-charge may reject the tender.

If the Engineer is not competent to accept the tender himself, he will inform the tenderer of the tender which he decides to recommended for acceptance, such tenderer shall thereupon sign forthwith copies of the specification and other documents mentioned in rules 1 and 4 and shall deposit the required amount of the security money within the prescribed time. The tender with the specification and other documents signed by the tenderer will then be forwarded for acceptance to the Engineer who is competent to accept the same. If the said Engineer rejects the tender the security money deposited shall be refunded to the tenderer.

10. When a tender is selected for acceptance, the tenderer shall deposit the required amount of the security money. No tender shall be finally accepted until the required amount of the security money has been deposited.
11. The amount of security money to be deposited by the tenderer whose tender is selected for acceptance shall be 2 (two) percent of the estimated value of the work, failing which tender shall be liable to rejection.
Taxes as per provisions of Government shall be deducted from the bills of tenderer.
12. When tender has been selected for acceptance and the required amount of the security money has been deposited the Engineer shall scrutinize all pages of the form of item, Rate Tendered/quoted percentage in case of percentage tender and Contract for works to see that the form has been properly filled up and signed by the contractor and the signature witnessed. He shall then, if he is competent to accept the tender, sign the acceptance of the tenders or if he is not so competent to, shall send the form for signature of the acceptance to the officer competent to accept it.
13. All tenderers are required to submit a list of works, which are in hand at the time of submitting their tenders. The list of works is required to be submitted in the proforma by the Superintending Engineer under whom he has executed the work in order to judge their past performance (vide Works Department Circular No. 15443 dt. 01.08.2005.)
14. If the tenderer backs out from the offer before acceptance of the tender by the competent authority, then he/she will be suspended for a period of three years.
15. T.D.S (Tax Deducted at Source) towards GST will be deducted at the rate prescribed in the Odisha Goods & Service Tax Act-2017 or as amended from time to time.

TENDER FOR WORKS

I / We hereby tender for the execution for the Government of Odisha for the work specified in the underwritten memorandum at the rates specified therein in a period of 2 Years (Six monsoon months) from the date of written order to commence and in accordance in all respects with the specifications designs and other documents referred to in rules thereof and subject to the annexed conditions of contract and with such materials as are provided for by and in all other respects in accordance with such condition so far as applicable.

MEMORANDUM

a) If several sub-works are included they should be detailed in a separate sheet.	(a)	Name of Work	Installation & Calibration of new River Gauge Post in the downstream at Seorinarayan Barrage on River Mahanadi under Hirakud Dam Project for the year 2026-27.
	(b)	Estimated Cost (Bill of quantity)	Rs.38,52,835.32
	(c)	E.M.D	Rs. 38,528.00/-
This deposited will be 2 percent of the estimated cost of the work.	(d)	Initial security deposited (including earnest money) to be deposited before the commencement of the work.	
This percentage from bills will be credited to the contractor's security	(e)	Initial security deposited (including earnest money) to be deposited before the commencement of the work.	
	(f)	Time required for the work from date of written order	2 Years (Six monsoon months)
	(g)	Date of written order to commence	
	(h)	Total number of work /Items tendered for	9 (Nine) items only

Should this tender be accepted I/We hereby agree to abide by and fulfill the terms and provision of the said condition of contract annexed here to so far as applicable, or in defaults thereof to forfeit and pay to the Governor of Odisha or his successors in office, the sum of money mentioned in the said conditions.

Signature of
contractor
before
submission of
tender

Dated the Day of 20.....

SIGNATURE OF CONTRACTOR

Signature of
witness to one
tender's
signature

Witness :

Address:

Occupation:

The above tender is hereby accepted by me on behalf of the Government of Odisha.

Signature of
Officer by whom
accepted

Dated the Day of 20.....

**SUPERINTENDING ENGINEER,
HYDROLOGY & INTERSTATE MATTER,
BURLA**

Agreement No.....) P1 Certified that this agreement contains Pages only
(Schedule XLV-Form No.-61)

**SUPERINTENDING ENGINEER,
HYDROLOGY & INTERSTATE MATTER,
BURLA**

SECTION – 4

CONDITION OF CONTRACT

CONDITION OF CONTRACT

Clause 1- All compensation or other sum of money payable by the contractor to Government under the terms of his contract may be deducted from, or paid by the sale of a sufficient part of his security deposit or from the interest arising there from, or from any sums which may be due or may become due to the contractor by Government on any account what so ever and in the event of his security deposit being reduced by reason of any such deduction or sale as aforesaid, the contractor shall within ten days thereafter make good in cash or Government securities endorsed as aforesaid any sum or sums which may have been deducted from or raised by, sale of the security deposit or any part thereof.

Compensation for delay

Clause 2 (a) The time allowed for carrying out the work as entered in the tender shall be strictly observed by the contractor and shall be reckoned from the date on which the written order to commence work is given to the contractor, The work shall throughout the stipulated period of the contract be carried on with all due diligence (time being deemed to be of the essence of the contract on the part of the contractor) and the contractor shall pay as compensation an amount equal to $\frac{1}{2}$ % on the amount of the estimated cost if the whole work as shown by the tender for every day that the work remains un-commenced, or unfinished after the proper dates (The work should not be considered finished until such date as the Superintending Engineer shall certify as the date on which the work is finished after necessary rectification of defects as pointed out by the Superintending Engineer, or his authorised, agents are fully complied with by the contractor to the Superintending Engineer's satisfaction). And further to ensure good progress during execution of the work the contractor shall be bound, in all cases in which the time allowed for any work exceeds one month, to complete one fourth of the whole work before one fourth of the whole time allowed under contract has elapsed one half of the work, before one half of such time has elapsed and three-fourth of the work before three-fourth of such time has elapsed. In the events of the contractor failing to comply with the condition, he shall be liable to pay as compensation an amount equal to one third percent on the said estimated cost of the whole work for every day that the due quantity of work remains incomplete, provided always that the entire amount of compensation to be paid under the provision of this clause shall not exceed 10% on estimated cost of the work as shown in the tender.

The work should not be considered finished until such date as the S.E./E.E shall certify as the date on which the work is finished after necessary rectification of defects as pointed out by S.E./E.E or his authorized agents are fully complied with by the contractor to the S.E.s/EES satisfaction.

(b) If there are possibilities of exceeding this compensation amount as mentioned in clause (a) 10% of the estimated cost or in any case in which under any clause or clauses of this contract the contractor shall have tendered himself liable to pay compensation amounting to the whole of his security deposit in the hands of Govt. (whether paid in one sum or deducted by installments) the Superintending Engineer on behalf of the Governor of Odisha, shall have power to adopt any of the following courses as he may deem best suited to the interest of Government.

Action when whole security deposit is forfeited

- (i) To rescind the contract (of which rescission notice in writing to the contractor under the hand of the Superintending Engineer shall be conclusive evidence) 20% of the value of left over work will be realized from the contractor as penalty.
- (ii) To employ labour paid by the Public works Department and to supply materials to carry out the work, or any part of the work, debiting the contractor with the cost of the labour and the price of the materials (of the amount of which cost and price certificate of the Superintending Engineer shall be final and conclusive against the contractor) and crediting him with the value of work done, in all respects in the same manner and at the same rates as if it had been carried out by contractor under the terms of his contract, the

certificate of the Superintending Engineer as to the value of the work done shall be final and conclusive against the contractor

- (iii) To measure up the work of the contractor, and to take such part of the work of the contract as shall be unexecuted out of his hands and to give it to another contractor to complete, in which case any expenses which may be incurred in excess of the sum which would have been paid to the original contractor if the whole work had been executed by him (of the amount of which excess the certificate in writing of the Superintending Engineer shall be final and conclusive) shall be borne and paid by the original contractor may be deducted from any money due to him by Govt. under the contract or otherwise or from his security deposit or the proceeds of sale thereof or a sufficient part thereof.

In the event of any of the above courses being adopted by the Superintending Engineer the contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials, or entered into any engagements or made any advances on account of or with a view to, the execution of the work or the performance of the contract. And in case the contract shall be rescinded under the provision aforesaid, the contractor shall not be entitled to recover or be paid any sum for any work thereto for actually performed under this contract, unless and until the Superintending Engineer shall have certified in writing the performance of such work and the value p Superintending ayable in-respect thereof and he shall only be entitled to be paid the value so certified.

- (iv) Security deposit of the contractor shall be refunded only one year after the date of completion of the work provided the final bill has been paid and defects, if any rectified. In case, however where refund of security is delayed for nonpayment of final bill, two percent of the security deposit recovered as earnest money and initial security shall be refunded and the balance of the security deposit shall be refunded after payment of the final bill. However, the security deposit less any amount due, shall be returned to the contractor subject to the Engineer-in- Charge certifying that no liability attaches to the contractor.

Clause - 3

In any case in which any of the powers, conferred upon the SUPERINTENDING Engineer by clause 3 thereof, shall become exercisable and the same shall not be exercised the non exercise thereof shall not constitute a waiver of the conditions here of and such powers shall notwithstanding be exercisable in the event of any failure cases of defaults by the contractor of which by any clause or clauses thereof he is declared liable to pay compensation amounting to the whole of his security deposit, and the liability of the contractor for past and future compensation shall remain unaffected in the event of the Superintending Engineer putting in force the powers vested in him under the proceeding clause he may if he so desire, take possession of all or any tools, plants, materials & stores, in or upon the works or the site thereof or belonging to the contractor or procured by him and intended to be used for the execution of the work or any part thereof paying or all wing for the same in the account at the contract, rates, or in case of these not being applicable ; at current market rates to be certified by the Superintending Engineer whose certificate there of shall be final; otherwise the Superintending Engineer may give notice in writing to the contractor or his clerk of the works, foreman or other authorized agent required him to remove such tools, plants, materials or stores from the premises (within a time to be specified in such notice) and in the event of the contractor failing to comply with any requisition to the Superintending Engineer may remove them at the contractor's expense or sell them by auction or private sale on account of the contractor and at his risk in all respects and the certificate of the Superintending Engineer as to the expense of removal and the amount of proceeds and expense of any such sale shall be final and conclusive against the contractor.

Contractor remain liable to pay compensation if action not taken under clause-3

Power to take possession of or require removal of or sell contractor plants

Clause – 4 If the contractor shall desire on extension of time for completion of the work, on the ground of his having been unavoidable hindrances in its execution or any other ground he shall apply in writing to the Superintending Engineer within 30 days of the date of the hindrance on account of which he desires such extension as aforesaid and the Superintending Engineer shall, if in his opinion (which shall be final) reasonable be shown therefore, authorize such extension of time if any, as may in his opinion, be necessary or proper. The Superintending Engineer shall at the same time inform the contractor whether he claims compensation for delay.

Extension of time

Clause – 5 On completion of the work, the contractor shall be furnished with a certificate by the Superintending Engineer (here-in-after called the Engineer-in-charge) of such completion, but no such certificate be given, nor shall the work be considered to be complete until the contractor shall have removed from the area of premises (to be distinctly marked by the Superintending Engineer in the site plan) on which the work shall be executed, all scaffolding surplus materials and rubbish and cleaned off the dirt from all wood work doors, windows, walls, floors or other parts of any building in upon or about which the work is to be executed, or of which he may have had possession for the purpose of the execution thereof nor until the work shall have been measured by the officer of the PWD in accordance with the rules of the department whose measurements shall be binding and conclusive against the contractor the contractor shall fail to comply with the requirements of this clause as removal of scaffolding surplus materials and rubbish and cleaning of dirt on or before the date fixed for the completion of the work the Engineer-in-charge may at the expenses of the contractor, remove such scaffolding surplus materials and rubbish and dispose of the same as he thinks fit and clean off such dirt as aforesaid and the contractor shall forth with pay the amount of all expenses incurred and shall have no claim in respect of any such scaffolding, or surplus materials as aforesaid except for any sum actually realized by the sale thereof

Final Certificate

Sub clause – 5 “If in the opinion of the Engineer-in-charge which shall be final and binding on the contractor occupation or utilization of a portion of the work completed in no way interferes with the progress for rest of the work, the same may be occupied or utilized by or on behalf of the Govt. under the written order of the Engineer-in-charge to get the defects of any rectified by the contractor at his (Contractor) own cost within six months from the date of completion of the whole work provided that the contractor will not be allowed any other concession either in the shape of extensions of stipulated period or any other monetary compensation on account of such occupation or use.

Clause – 6 A bill shall be submitted by the contractor each month on or before the date fixed by the Engineer-in-charge for all works executed in the previous month, and the Engineer-in-charge or his subordinate shall take the requisite measurement for the purpose of having the same verified and the claim as far as admissible’ adjusted if possible before the expiry of ten day from the presentation of the bill. If the contractor does not submit the bill within the time fixed as aforesaid, the Engineer-in-charge or his subordinate shall measure up the said work in the presence of the contractor whose countersignature to the measurement list will be sufficient warrant and the Engineer-in-charge or his subordinate shall prepare a bill from such list which shall be binding on the contractor in all respects.

Payment on intermediate certificate be regarded as advance & bill to be submitted monthly

Provided that, if any balance of the 7% security is outstanding from each such payment shall be deducted so much, not exceeding 5% as may be necessary to make up the balance of the security. All such intermediate payments shall be regarded as payment by way of advance against the final payment only and not as payments for work actually done and completed and shall not preclude the requiring of bad, unsound and imperfect or unskillful work to be removed and taken away and reconstructed or re-erected, or be

considered as an admission of the due performance of the contract, or any part thereof in any respect, or the actual of any claim nor shall it conclude, determine or effect in any way the powers of the Engineer-in-charge under these conditions or any of them as the final settlement or adjustment of the accounts or otherwise, or in any other way vary or affect the contract.

Clause – 7 The final bill shall be prepared by the offices of the P.W.D. in accordance with the rules of department in the presence of the contractor within one month of the date fixed for completion of the work.

Clause – 8 If the specification of estimate of the work provides for the use of any special description of materials to be supplied from the Engineer-in-charge's store, or it is required that the contractor shall use certain stores to be provided by the Engineer-in-Charge under the conditions of this contract [such materials and stores and the prices to be charged thereof as herein after mentioned being so far as practicable for the convenience of the contractor, but not so as in any way to control the meaning or effect of his contract are specified in the schedule or memorandum here to annexed] the contractor shall be supplied with such materials and store noted in the annexed schedule as are required from time to time to be used by him for the purpose of the contract only, and the value of the full quantity of materials and stores so supplied at the rates specified in the said schedule may be set off or deducted from any sums then due, or there after to become due to the contractor under the contract or otherwise or against or from the security deposit, or the proceed of sale thereof if the same is held in Government securities, the same or a sufficient portion thereof being in this case sold for the purpose. All materials supplied to the contractor shall remain the absolute property of Government and shall not any account be removed from the site of the work, and shall at all time be open to inspect by the Engineer-in-charge. Any such materials unused and in perfectly good condition at the time of completion or determination of the contract shall be returned to the Engineer-in-charge's store, at the prevailing market rate or at the issue rate which ever is less if by a notice in writing under his hand he shall so require, but the contractor shall not be entitled to return any such materials unless with such consent and shall have no claim for compensation no account of any such materials so supplied to him as aforesaid being unused by him, or for any wastage in or damage to any such materials.

Store supplied by Government

Clause - 8(a) "If a contractor removes any materials or stock so 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, he shall in addition to any other liability, civil or criminal, arising out of this contract be liable to pay a penalty equivalent to five times the price of the said materials or stock according to the stipulated rate. The penalty so imposed shall be recoverable from any sum, that may be then, or at any time there after may become due to the contractor; or from his security deposit, or the proceeds of sale thereof".

Clause - 8 (b) Owing to difficulty in obtaining certain materials in the open market the Government have undertaken to supply materials specified in the schedule here to annexed. There may be delay in obtaining materials by the Department and the contractor is therefore required to keep himself in touch with day position regarding the supply of materials from the Engineer-in-charge and to so adjust the progress of the work that their labour may not remain idle nor may there be any other claim due to or arising from delay in obtaining the materials. It should be clearly understood that no monetary claim whatsoever shall be entertained by the Government on account of delay in supplying materials. However extension of time for the completion of work can be granted on timely application by the contractor vide clause 4.

Clause - 9 The contractor shall execute the whole and every part of the work in the most substantial and workman like manner and both as regards materials and otherwise in every respect in strict accordance with the specification. The contractor shall also confirm exactly fully and faithful to the design, drawings & instructions in writing relating to the work signed by the Engineer-in-charge and lodged in his office and to which the contractor shall be entitled to have access at such office for the purpose of inspection during office hours and the contractor shall, if he so require be entitle at his own expense to make or cause to make copies of the specifications and of all such designs, drawings and instructions as aforesaid.

Works to be executed in accordance with specification drawing & orders etc.

Sub clause – 9 The work should be done strictly in accordance with the relevant specifications of the I.S.I. Codes. If the work is not covered by the specification of I.S.I. it should be done in accordance with the provision in the Odisha Detailed Standard Specifications (O.D.S.S). In case, the work is not covered by O.D.S.S. the work should be executed as per the instruction of the Engineer-in-charge.

Do not invalidate contract

Clause – 10 The Engineer-in-charge shall have power to make any alterations in or additions to the original specifications, drawing, designs and instruction that may appear to him to be necessary advisable during the progress of the work and the contractor shall be bound to carry out the work in accordance with any instruction which may be given to him in writing signed by the Engineer-in-charge and such alteration shall not invalidate the contract and any additional work which the contractor may be directed to do in the manner above specified as part of the work shall be carried out by the contractor on the same conditions in all respect on which he agreed to do the main work, and at the same time rates as are specified in the tender for the main work. The time for the completion of the work shall be extended in the proportion that the additional work includes bears to the original contract work and the certificate of the Engineer-in-charge shall be conclusive as to such proportions. And if the additional work includes any class of work for which no rate is specified in this contract then such class of work shall be carried out at the rates entered in the sanctioned schedule of rates of the locality during the period when the work being carried on and if such last mentioned class of work is not entered on the scheduled of rate of the district then the contractor shall within seven days of the date of his receipt of the order to carry out the work inform the Engineer-in-charge of the rate which is it his intention to charge for such class of work, and if the Engineer-in-charge does not agree to this rate he shall by notice in writing be at liberty to cancel his order to carry out such class of work and arrange to carry it out in such manner as he may consider advisable.

Alteration in specification and designs box anywhere on the page, just drag

Extension of time in consequence of alterations

Do not invalidate contract

No deviations from the specification stipulated in the contract or additional items of work shall ordinarily be carried out by contractor nor shall any altered.

Rates of works not in estimate of schedule or rate of the district

Additional or substituted work to be carried out by him unless the rates on the substituted altered of additional items have been approved and fixed in writing by the Engineer-in-charge. The contractor shall be bound to submit his claim for any additional work done during any month on or before the 5th days of the following month accompanied by copy of the order in writing of the Engineer-in-charge for the additional work and that the contractor shall not be entitled to any payment in respect of such additional work if he fails to submit his claim within the aforesaid period. Provided always that if the contractor shall commence work incur any expenditure in regards thereof

before the rates shall have been determined as lastly herein before mentioned, then and in such case he shall only be entitled to be paid in respect of the work carried out or expenditure incurred by him prior to the date of determination of the rates as aforesaid according to such rates as shall be fixed by the Engineer-in-charge. In the event of dispute, the decision of the Chief Engineer & Basin Manager, Mahanadi Basin, Burla will be final.

Clause – 11

If at any time after the commencement of the work the Government of Odisha shall for any reason whatsoever not require the whole thereof as specified in the tender to be carried out the Engineer-in-charge shall give notice in writing of the fact to contractor who shall have no claim to any payment or compensation whatsoever on account of any profit or advantage, which he might have derived from the execution of the work in full but which he did not derive in consequence of the full amount of the work not having been carried out, neither shall he have any claim for compensation by reason of any alternations having been made in the original specification, drawing, designs and instruction which shall involve any curtailment of the work as originally contemplated.

No compensation for alteration in or restriction of work to be carried out.

Clause – 12

If it shall appear to the Engineer-in-charge or his subordinate in charge of the work that any work has been executed with unsound, imperfect or unskillful workmanship or with materials of any inferior description, or that any materials or articles provided by him for or execution of the work are unsound or of a quality inferior to that contracted for or other wise not in accordance with the contract. The contractor shall on demand in writing from the Engineer-in-charge specifying the work materials or articles complained of notwithstanding that the same may have been inadvertently passed, certified and paid forth with rectify or remove and reconstruct the work so specified in whole or part, as the case may require or as the case may be remove the materials or articles so specified and provided other proper and suitable materials or articles at his own proper charge and cost and in the event of his failing to do so within a period to be specified by the Engineer-in-charge in his demand aforesaid then the contractor shall be liable to pay compensation at the rate of one percent on the amount of the estimate for every day not exceeding 10(Ten) days his failure to do shall continue and in the case of any such failure the Engineer-in-charge may rectify or remove and re-execute the work or remove and replace with other the materials or articles complained of as the case may be at the risk and the expense in all respects of the contractor.

Action and compensations payable in case of inferior / unsound work.

Clause – 13

All work under or in course of execution or executed in pursuance of the contract shall at all times be open to the inspections and supervision of the Engineer-in-charge and his subordinates and the contractor shall at all times during the usual working hours, and at all other times at which reasonable notice of intention of Engineer-in- charge or his subordinates to visit the works shall have been given to the contractor either himself be present to receive orders and instructions, or have a responsible agent duly accredited in writing present for that purpose, Orders given to the contractor's agent shall be considered to have the same force as if they had been given to the contractor himself.

Works to be open to inspection

Contractor or responsible agents to be present

Clause – 14 The contractor shall give not less than five days' notice in writing to the Engineer-in-charge or his subordinate in-charge of the work before covering up or otherwise placing beyond the reach of measurement of any work in order that the same may be measured and correct dimensions thereof be taken before the same is so covered up or placed beyond the reach of measurement and shall not cover up or placed beyond the reach of measurement any work without the consent in writing of the Engineer-in-charge or his subordinate in charge of work and if any work shall be cover up or placed beyond the reach of measurement without such notice having been given or consent obtained, the same shall be uncovered at the contractor's expense, or in default thereof no payments or allowance shall be made for such work or the materials with which the same was executed.

Notice to be given before work is covered up

Clause – 15 If the contractor or his work people or servants shall break, deface, injure or destroy any part of a building, in which they may be working or any building, road, enclosure or grass land, or cultivated ground continuous to the premises on the premises on which work or any part of it being executed, or if any damage shall happen to the work while in progress from any cause whatever or any imperfection become apparent in it within six Months from the date of final certificate of its completion shall have been given by the Engineer-in-charge, as aforesaid the contractor shall make the same good at his own expense, or in default the Engineer-in-charge may cause the same to be made good by other workmen, and deduct the expense(of which the certificate of the Engineer-in-charge shall be final) from any sums that may be then or at any time thereafter may become due to the contractor, or from his security deposit or the proceeds of sale thereof, or of a sufficient portion thereof and the contractor shall be liable to pay any part of the expenses not so recovered by the Engineer-in-charge.

liable for damage done and for imperfections for 06 months after certificate

Clause – 16 The contractor shall supply at his own cost all materials (except such special materials if any as may in accordance with the contract be supplied from the Engineer-in-charge's stores) plant, tools, appliances, implements, ladders, cordage, tackle scaffolding and temporary works requisite or proper for the proper execution of the work whether original altered or substituted and whether included in the specification or other documents forming Part of the contract or referred to in these conditions or not or which may be necessary for the purpose of satisfying or complying with the requirement of the Engineer-in-charge as to any matter as to which under this conditions he is entitled to be satisfied which he is entitled to require together with carriage therefore to and from the work. The contractor shall also supply without charge the requisite number of persons with the means and materials necessary for the purpose of setting out work and counting, weighing and assisting in the measurement of examination at any time and from time to time the work or materials, failing him so doing the same may be provided by the Engineer-in-charge at the expenses of the contractor and the expenses may be deducted from any money due to the contractor under the contract or from his security deposit or the proceeds of sale thereof, or of a sufficient portion thereof. The contractor shall also provide all necessary fencing and lights required to protect the public from accident and shall be bound to bear the expenses of defence to every suit, action or other proceeding at law that may be brought by any persons for injury sustained owing to the above precautions, and to pay any damages and cost which may be awarded in any such suit action or proceeding to any such person or which may with the consent of the contractor be paid to compromise any claim by any such person.

Contractor to supply plants, ladders, scaffolding etc.

And is liable for damages arising from non provision of lights, fencing etc.

Clause – 17 No female labour shall be employed within the limits of a cantonment. The contractor shall not employ for the purpose of this contract any labour below the age of twelve year, and shall pay to each labourer; for the work done by such labour, wages not less than the wage paid for similar work in the neighbourhood.

Explanation : Fair wages means wages whether for time or piece work prescribed by State P.W.D. provided that where higher rates have been prescribed under the minimum wages Act 1948 wages at such higher rates would constitute "Fair wages" [W/D No.22059 dated 16.8.77.

The SUPERINTENDING Engineer shall have the right to enquire into and decide any complaints alleging that the wages paid by the contractor to any labourer for the work done by such labourer is less than the wages paid for similar work in the neighbourhood.

The officer in charge of the work shall have the right to decide whether labourer employed by the contractor is below the age of twelve years and to refuse to allow any labourer whom he decides to be below the age of twelve years to be employed by the contractor.

Clause – 17 (a) The contractor shall, if so required by the Engineer-in-charge employ one more Engineering Graduate or Diploma holder as apprentices at his own cost if the cost of work as shown in the tender exceeds Rs.2,50,000/- The apprentices will be selected by the Chief Engineer. The period of employment will commence within one month after the date of work order and would last till the date when 90% of work is completed. The stipend to be paid to the apprentices should not be less than Rs.612.00 per day in case of graduate Engineers and not less than Rs.462.00 per day in case of Diploma holders. The number of apprentices to be employed should be fixed by the Chief Engineer in a manner so that total expenditure does not exceed 1% of the tender cost of the work.

Clause – 17 (b) Special class Contractor shall employ under him one Graduate Engineer and Two Diploma Holders belonging to the State of Odisha. Likewise 'A' class contractor shall employ under him one Graduate Engineer or Two Diploma holders under the contractor shall be full time & continuous and they should not be superannuated, retired, dismissed or removed personnel from any State Govt. or Central Govt. service/public Sector undertakings, private companies and firms or be ineligible for appointment to Government service. The contractor shall pay them monthly emoluments which shall not be less than the emoluments of the personnel of equivalent qualification employed under the State Government of Odisha. The Chief Engineer, Roads Odisha may however, assist the contractor with names of such unemployed Graduate Engineer and Diploma holders if such help is sought for by the contractor. The names of such Engineering personnel appointed by the contractor should be intimated to the tender receiving authority along with the tender.

Employment Graduate Engineers & Diploma Holders
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Each bill of the Special Class or 'A' class contractor shall be accompanied by an employment Roll of the Engineering personnel together with a certificate of the Graduate Engineer or Diploma holder is employed by the contractor to the effect that the work executed as per the bill has been supervised by him.

Clause – 18 The contract shall not be assigned or sublet without the written approval of the Superintending Engineer and if the contractor shall assign or sublet his contract or attempt so to do, or become insolvent or commence any insolvency proceedings or make any composition with

Work not to be sublet.

his creditor or attempt so to do, or if any bribe gratuity, gift loan, perquisite reward or advantage pecuniary otherwise shall either directly or indirectly be given, promised or offered by the contractor or any of his servants to agents to any public officer or person in the employ of Government in any way relating to his office of employment or if any such officer or person shall become in any way directly or indirectly in the contract, the Superintending Engineer may thereupon by notice in writing rescind the contract and the security deposit of the contractor shall there upon stand forfeited and be absolutely at disposal of Government and the same consequences shall ensue as if the contract had been rescinded under clause 3 hereof and in addition the contractor, shall not be entitled to recover or be paid for any work therefore actually performed under the contract.

Contractor may be rescinded and security deposit forfeited subletting bribing or if contractor become insolvent

Clause – 19 All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to the use of Government without reference to the actual loss or damage sustained, and whether or not any damage shall have been sustained.

Sum payable by way of compensation to be considered as reasonable compensation without reference to actual loss

Clause – 20 In the case of a tender by partners any changes in the constitution of the firm shall be forthwith notified by the contractor to the Engineer-in-charge for his information.

Changes in constitution of firm

In case of failure to notify the change in the constitution within fifteen days the Engineer-in-charge may be noticed in writing rescind the contract and the security deposit of the contractor shall there upon stand forfeited and be absolutely at the disposal of Government and the same consequences shall ensue as if the contract had been rescind under clause 3 hereof and in addition the contractor shall not be entitled to recover or be paid for any works therefore actually performed under the contract.

Clause – 21 All works to be executed under the contract shall be executed under the direction and subject to the approval in all respects by Superintending Engineer of the division for the time being 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.

Clause – 22 DELETED

Clause – 23 When the estimate on which a tender is made includes lump sums in respect of the items of work involved or the part of the work the contractor shall be entitled to payment in respect to items of work involved or the part of the work in question at the same rates as are payable under this contract for such items, or if the part of the work in question is not, in the opinion of the Engineer-in-charge capable of measurement, the Engineer-in-charge may by his discretion pay the lump sum amounts entered in the estimate, and the certificate in writing of the Engineer-in-charge shall be final and conclusive against the contractor with regard to any sums payable to him under the provisions of this clause.

Lump sums in estimates

Clause – 24 In the case of any class of work for which there is no such specification as is mentioned in rule, such work shall be carried out in accordance with the circle specification and in the event of there being no circle specification, then in such case the work shall be carried out in all respects in accordance with the instructions and requirements of the Engineer-in-charge.

Action where no specification

Clause – 25 The expression ‘work’ or ‘works’ where used in these conditions shall unless there be something either in the subject or context repugnant to such construction be construed & taken to mean the works by or by virtue of contract contracted to be executed whether temporary or permanent, and whether original altered, substituted, or additional.

Definition of works

Clause – 26 Government shall be entitled to recover in full from the contractor any amount that the Government may be liable to pay under workmen compensation Act. VIII of 1923, to any workmen employed in course of execution of any part of the work covered by this contract.

Clause – 27 That for the purpose of jurisdiction in the event of dispute if any, the contract should be deemed to have been entered into within the State of Odisha and it is agreed that neither party to the contract or agreement will be competent to bring a suit in regard to the matters covered by this contract at any place outside the State of Odisha.

Clause – 28 The Department will have the right to inspect the scaffolding and centering made for the work and can reject partly or fully such structure if found defective in their opinion.

Clause – 29 Sanitary arrangements will be made by the contractor at his own cost for his labour camp.

Clause – 30 The contractor shall bear all taxes including sales tax, income tax, royalty, fair weather charges and tollage, where ever necessary.

Clause - 31 **Price Adjustment:**

31.1: Contract price shall be adjusted for increase or decrease in rates and price of labour, materials, fuels and lubricants in accordance with the following principles and procedures and as per formula given in following Paras.

(a) The price adjustment shall apply for the work done from the start date given in the contract data up to end of the initial intended completion date of extensions granted by the Engineer and shall not apply to the work carried out beyond the stipulated time for reasons attributable to the contractor.

(b) The price adjustment shall be determined during each month from the formula given in following Paras.

(c) Following expressions and meanings are assigned to the work done during each month:

R= Total value of work done during the month. It would include the amount of secured advance granted, it any, during the month, less the amount of secured advance recovered, it any during the month. It will exclude value for works executed for extra items under variations.

31.2 : To the extent that full compensation for any rise or fall in costs to the contractor is not covered by the provisions of this or other clauses in the contract, the unit rates and prices included in the contract shall be deemed to including amounts to cover the contingency of such other rise or fall in costs:

The formula (e) for adjustment of prices are:

31(a) (i) : Adjustment of Other Materials Component

Price adjustment for increase or decrease in cost of local materials other than cement, steel, bitumen, pipe and POL procured by the contractor shall be paid in accordance with the following formula:

$$VM = 0.85 \times P_m / 100 \times R \times (M_1 - M_0) / M_0$$

VM = Increase or decrease in the cost of work during the month under consideration due to changes in rates for local materials other than cement, steel, bitumen and POL.

M0 = The all India wholesale price index (all commodities) on 28 days preceding the date of opening of Bids, as published by the Ministry of Commerce and Industry, Government of India, New Delhi.

M1 = The all India wholesale price index (all commodities) for the month under consideration as published by the Ministry of Commerce and Industry, Government of India, New Delhi.

Pm = Percentage of local material component (other than cement, steel, bitumen and POL) of the work.

31(a) (ii) : Adjustment for Cement Component

Price adjustment for increase or decrease in cost of cement procured by the contractor shall be paid in accordance with the following formula:

$$VC = 0.85 \times PC/100 \times R \times (C1-C0)/C0$$

VC = Increase or decrease in the cost of work during the month under consideration due to changes in rates for cement.

C0 = The all India wholesale price index for Ordinary Portland Cement (OPC) on 28 days preceding the date of opening of Bids as published by the Ministry of Commerce and Industry, Government of India, New Delhi.

C1 = The all India wholesale price index for Ordinary Portland Cement (OPC) for the month under consideration as published by the Ministry of Commerce and Industry, Government of India, New Delhi.

PC = Percentage of Cement Component of the work.

31(a) (iii) : Adjustment for Steel Component

Price adjustment for increase or decrease in cost of steel procured by the contractor shall be paid in accordance with the following formula:

$$VS = 0.85 \times PS/100 \times R \times (S1-S0)/S0$$

VS = Increase or decrease in the cost of work during the month under consideration due to changes in rates for steel.

S0 = The all India wholesale price index for steel (Mild Steel long products) on 28 days preceding the date of opening of Bids as published by the Ministry of Commerce and Industry, Government of India, New Delhi.

S1 = The all India wholesale price index for steel (Mild Steel long products) for the month under consideration as published by the Ministry of Commerce and Industry, Government of India, New Delhi.

PS = Percentage of steel component of the work.

Note : For the application of this clause, index of (Mild Steel long products) has been chosen to represent steel group.

31 (a) (iv) : Adjustment of Bitumen Component

Price adjustment for increase or decrease in cost of bitumen shall be paid in accordance with the following formula:

$$V_b = 0.85 \times P_b/100 \times R \times (B_1-B_0)/B_0$$

V_b = Increase or decrease in the cost of work during the month under consideration due to changes in rate for bitumen.

B_0 = The official retail price of bulk bitumen at the IOC / BPCL depot at nearest center on the day 28 days prior to date of opening of Bids.

B_1 = The official retail price of bulk bitumen at the IOC / BPCL depot at nearest center for the 15th day of the month under consideration.

P_b = Percentage of bitumen component of the work.

31(a) (v) : Adjustment towards differential cost of pipes

Price adjustment for increase or decrease in cost of pipe shall be paid in accordance with the following formula :

$$V_{pi} = 0.85 \times P_{pi}/100 \times R \times (P_{i1}-P_{i0})/P_{i0}$$

V_{pi} = Differential cost of pipe i.e. amount of increase or decrease in rupees to be paid or recovered during the month under consideration.

P_{pi} = Percentage of pipe component of the work.

P_{i1} = All India wholesale price index of pipe for the period under consideration as published by the Ministry of Commerce and Industry, Government of India, New Delhi.

P_{i0} = The all India wholesale price index of pipe on 28 days preceding the date of opening of Bids as published by the Ministry of Commerce and Industry, Government of India, New Delhi.

31(b) : Adjustment of Labour Component

Price adjustment for increase or decrease in cost due to labour shall be paid in accordance with the following formula :

$$V_L = 0.85 \times P_l/100 \times R \times (L_1-L_0)/L_0$$

V_L = Increase or decrease in the cost of work during the month under consideration due to changes in rates for local labour.

L_0 = The minimum wages for unskilled labour as Notified by Government of Odisha as prevailed on the last stipulated date of receipt of tender including extension, if any.

L_1 = The minimum wages for unskilled labour as Notified by Government of Odisha as prevailed on the last date of the month previous to the one under consideration.

P_l = Percentage of labour component of the work.

31(c) : Adjustment of POL (fuel and lubricant) Component

Price adjustment for increase or decrease in cost of POL (fuel and lubricant) shall be paid in accordance with the following formula :

$$V_f = 0.85 \times P_f/100 \times R \times (F_1 - F_0)/F_0$$

V_f = Increase or decrease in the cost of work during the month under consideration due to changes in rates for fuel and lubricants.

F_0 = The official retail price of High-Speed Diesel (HSD) at the existing consumer pumps of IOC / BPCL / HPCL at nearest center on the day 28 days prior to the date of opening of Bids.

F_1 = The official retail price of HSD at the existing consumer pumps of IOC / BPCL / HPCL at nearest center for the 15th day of the month under consideration.

P_f = Percentage of fuel and lubricants component of the work.

Note : For the application of this clause, the price of High Speed Diesel oil has been chosen to represent fuel and lubricants group.

31(d) : Adjustment for Plant and Machinery Spares Component

Price adjustment for increase or decrease in cost of plant and machinery spares procured by the Contractor shall be paid in accordance with the following formula :

$$V_p = 0.85 \times P_p/100 \times R \times (P_1 - P_0)/P_0$$

V_p = Increase or decrease in the cost of work during the month under consideration due to changes in rates for plant and machinery spares.

P_0 = The all India wholesale price index for manufacture of machinery for mining,

quarrying and construction on 28 days preceding the date of opening of Bids as published by the Ministry of Commerce and Industry, Government of India, New Delhi.

P_1 = The all India wholesale price index for manufacture of machinery for mining, quarrying and construction for the month under consideration as published by the Ministry of Commerce and Industry, Government of India, New Delhi.

P_p = Percentage of plant and machinery spares component of the work.

Note : For the application of this clause, index of manufacturing of machinery for mining, quarrying and construction has been chosen to represent the plant and machinery spares group.

Regarding wholesale price index (WPI) for appropriate commodity for payment of price adjustment, due to change of base year of WPI from 1993-94 to 2004-05 & 2011-12, it is observed that, the commodity 'Bars and Rod', 'Cement', 'Heavy machinery and parts' included in the list of WPI 1993-94 series are not mentioned as such in the WPI 2004-05 & 2011-12 series. Therefore, the following items in the WPI 2004-05 & 2011-12 series shall be considered corresponding to items in WPI 1993-94 series:

Sl. No.	Item in WPI 1993-94 series	Item in WPI 2004-05 series	Item in WPI 2011-12 series
1.	Cement	Grey Cement	Ordinary Portland Cement
2.	Bars & Rods	Rebars	Mild steel long products
3.	Heavy Machinery & parts	Construction Machinery	Manufacture of machinery for mining, quarrying & construction

Contractor

Superintending Engineer,
Hydrology & Interstate Matter, Burla

31(e) APPLICATION OF ESCALATION CLAUSE :

The contractor shall for the purpose of availing reimbursement / refund of differential cost of steel, bitumen, cement, pipe, POL and wages, keep such books of account and other documents as are necessary to show that the amount of increase claimed or reduction available and shall allow inspection of the same by a duly authorized representative of Government and further, shall at the request of the Engineer-in-Charge, furnish documents to be verified in such a manner as the Engineer-in-Charge may require any document and information kept. The contractor shall within a reasonable time of 15 days of his becoming aware of any alternation in the price of such material, wages of labour and / or price of POL give notice thereof to the Engineer-in-Charge stating that the same is given pursuant to this condition along with information relating to there to which he may be in position to supply.

Percentage Table

Sl. No.	Category of Works		% Component (cost wise)		
			Labour (P _l)	PO L (P _f)	Steel (P _s) + Cement (P _c) + Bitumen (P _b) + Pipes (P _{pi}) + Plant & Machinery Spare & Component (P _p) + Other Materials*
1.	R & B works (% of component)	Road Works	5	5	90
		Bridge Works	5	5	90
		Building Works	5	5	90
2.	Irrigation works (% of component)	Structural Work	5	5	90
		Earth, Canal & Embankment work	5	5	90
3.	P.H. Work	Structural Work	5	5	90
		Pipeline Work	5	5	<u>Pipe - 70%</u> * Machinery + Other material-20%
		Sewer Line	5	5	<u>Pipe - 70%</u> * Machinery + Other material-20%

***Note:-** Further break up may be worked out considering the consumption of Cement, Steel, Bitumen, Pipe and Plant & Machinery Spare Component in the concerned works and shall be provided in the bid document in shape of “Schedule of Adjustment Data” as an “Appendix to Bid” (enclosed herewith).

Appendix to Bid
Schedule of Adjustment Data

[For all works, adjustment factor for Labour and POL shall be considered at the rate 5% each. Steel, Cement, Pipes, Other Materials and Machinery shall contribute to 90% of Price Adjustment and shall be calculated for each work separately during preparation of estimate, shall be approved by the authority during technical sanction as a “Schedule of Adjustment Data” and shall form part of the Bid Document.

The cases where the original technically sanctioned estimate gets revised, the technical sanction to the revised estimate will be obtained from the competent authority as provided under Para 3.11.2 (b) of OPWD Code, Volume-I. Based on the revised technically sanctioned estimate, the Labour & the POL component shall be given the weightage of 5% each as provided in O.M. No.15847/W dated 19.11.2019 & O.M. NO. 1739, Dated 03.02.2023 of Works Department and the weightage of 90% on steel, cement, bitumen, pipes, other materials and plant and machinery spare component shall be given as per the technically sanctioned revised estimate excluding the extra items. The revised weightage of “Schedule of Adjustment Data” based on revised technically sanctioned estimate shall be included as an Addendum to the agreement. The technical sanctioning authority shall be the competent authority for this purpose.].

Cl. No.31 of F2/P1 Contracts Sl. No.	Index Description	Source of Index	Base Value *	Base Date *	Weight age of Item* *
31 (a) (i)	Other Materials	All India wholesale price index (all commodities) as published by the Economic Advisor to the Govt. of India, Ministry of Commerce and Industry.			
31 (a) (ii)	Cement	Wholesale price index for Cement (Ordinary Portland Cement) as published by the office of the Economic Advisor to the Govt. of India, Ministry of Commerce and Industry.			
31 (a) (iii)	Steel	Wholesale price index for steel (Mild Steel-Long Products) as published by the office of the Economic Advisor to the Govt. of India, Ministry of Commerce and Industry.			
31 (a) (iv)	Bitumen (VG-30)	The official retail price of bulk bitumen at the nearest IOC / HPCL depot.			
31 (a) (v)	Pipes	Whole sale price index for the type of Pipe under consideration, as published by the office of the Economic Advisor to the Govt. of India, Ministry of Commerce and Industry.			

31(b)	Labour	Minimum Wage notified by the Labour and Employee's State Insurance Department of Government of Odisha, India.			5.0%
31 (c)	POL	Official retail price of HSD at nearest IOCL / HPCL / BPCL Consumer Pump Depot.			5.0%
31 (d)	Plant and Machinery	Wholesale price index for manufacture of machinery for mining, quarrying and construction as published by the office of the Economic Advisor to the Govt. of India, Ministry of Commerce and Industry.			
			Total		100 %

*** Values to be filled up at the time of drawl of contract.**

**** Values to be filled up in the bid document.**

Clause – 32 After the work is finished all surplus material and debris are to be removed by the contractor and preliminary works such as vats, mixing platforms etc. are to be dismantled and all materials removed from site. The ground up to 100m wide from the building should be cleared and dressed.

FAIR WAGE CLAUSE

Clause – 33(a) The contractor shall pay not less than fair wage to labourers engaged by him on the work.

Explanation: "Fair wages" means wages, whether for time or price work prescribed by the State Public works Department provided that where higher rates have been prescribed under the Minimum Wages Act. 1948 wages at such higher rates would constitute "Fair wages" (W.D. No.22059 dt.16.8.77)

- (b) The contractor shall, notwithstanding the provisions of any contract to contrary cause to be paid a fair wage to labourers indirectly engaged on the work including any labour engaged by his sub contractors in connection with the said work, as if the labours had been immediately employed by him.
- (c) In respect of all labour directly or indirectly employed in the works for the performance of the contractor's part of this agreement, the contractor shall comply with or cause to be complied with all regulation made by Government in regard to payment of wages, wage period deductions from wages, recovery of wages not paid and deductions unauthorisedly made, maintenance of wages register, wage cards, publication of scale of wages and other terms of employment, inspection and submission of periodical returns and all other matters of a like nature.
- (d) The Superintending Engineer or Sub-Divisional Officer concerned shall have the right to deduct, from the money due to contractor, any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non fulfillment of the conditions of the contract for the benefit of workers nonpayment of wages or of deductions made from his or their wages, which are not justified by their terms of the contract" or non-observance of the regulations, money so deducted should be transferred to the workers concerned.

- (e) Vis-à-vis the Government of Odisha, the contractor shall be primarily liable for all payments to be made under and for the observance of the regulations aforesaid without prejudice to his right to claim indemnity from his sub contractor.
- (f) The regulations aforesaid shall be deemed to be part of this contract and any breach there of shall be breach of this contract.
- (g) Under the provision of the Minimum Wages Act, 1948 & minimum wages (Central Rules, 1950) the contractor is bound to allow or cause, to allow to the labourers directly or indirectly employed in the works one day rest for six days continuous work and pay wages at the same rate as for duty, in the event of default. The Superintending Engineer or Sub-Divisional Officer concerned shall have the right to deduct the sum not paid on account of wages for weekly holiday to labourers and pay the same to the persons entitled there to from any money due to the contractor.
- (h) The contractor shall at his own expense provide or arrange for the provision of foot wear for any labour doing cement mixing work and black topping of roads (The contractor has undertaken to execute under this contract) to the satisfaction of the Engineer-in-charge and on his failure to do so Government shall be entitled to provide the same and recover the cost from the contractor.
- (i) The contractor shall submit by the 4th & 10th of every month, to the Engineer-in-charge a true statement showing in respect of the Second half of the preceding month and the first half to the current month respectively (1) the number of labours employed by him on the work (2) their working hours (3) the wages paid to them (4) the accident that occurred during the said fortnight showing the circumstances under which they happened and the content of damage and injure caused by them and (5) the number of female workers who have been allowed maternity benefit according the clause [K] and the amount paid to the Government a sum not exceeding Rs.472.00 for each default of materially incorrect statement. The amount levied as fine decision of the Superintending Engineer shall be final in deducting from any bill due to contractor.
- (j) In respect of all labour directly employed in the works for the performance of the contractor's part of this agreement, the contractor shall comply with a cause to be complied with all the rules framed by Government from time to time for the protection of health and sanitary arrangement for workers employed by the Odisha Public Works Department and its contractor. This will apply to work places having 50 or more workers.
 - a. Maternity benefit rules for female worker employed by contractor, Leave and pay during leave shall be regulated as follows.
 - 1. Leave : (i) In case of Delivery:- Maternity leave not exceeding 8 weeks, 4 weeks up to including the day of delivery or 4 weeks following that day.
 - (ii) In case of Miscarriage: - Up to 3 weeks from the date of miscarriage.
 - 2. Pay (i) In case of Delivery: - Leave pay during maternity leave will be at the rate of women's average daily earnings calculated on the total wages earned on the days when full time work was done during a period of three months immediately preceding the date of which she gives notice that she expects to be confined or at the rate of **Rs.472.00** a day whichever is greater.
 - (ii) In case of Miscarriage : Leave pay at the rate of average daily earnings calculated on the total wages earned on the days when full time work was done during a period 3 months immediately preceding the date of such miscarriage,

Conditions of grant of Maternity Leave: No maternity leave benefit shall be admissible to a woman unless she has been employed for a total period not less than 6 months immediately preceding the date on which she proceeds on leave.

MODEL RULES FOR HEALTH & SANITARY ARRANGEMENTS FOR WORKERS EMPLOYED BY ODISHA P.W.D. OR IT'S CONTRACTORS

1. **Application:** These rules shall apply to all construction work in charge of Odisha Public Works Department which are expected to continue for a year or more.
2. **Definitions:**
 - (i) "Work Place" means a place at which an average of fifty or more workers are employed in connection with construction work
 - (ii) Large work place means a place at which an average of 500 or more workers are employed in connection with construction work
3. **First Aid:**
 - (a) At every work place there shall be maintained in a readily accessible place first aid appliances including and adequate supply of sterilizer dressing and sterilized cotton wool. The appliances shall be kept in good order and in large work places they shall be readily available during working hours.
 - (b) At large work places where hospital facilities are not available within easy distance of the workers, first aid posts shall be established and run by a trained compounder.
 - (c) Where large work places are remote from regular hospitals an indoor ward shall be provided with one bed for every 250 employees.
 - (d) Where large work places are situated in cities towns or in their suburbs and no beds are considered necessary owing to the proximity of city, town hospitals, an ambulance shall be provided to facilitate removal of urgent cases to these hospitals. At the work place some conveyance facilities such as a car shall be kept readily available to take injured persons or person to the nearest hospitals.
4. **Drinking Water:**
 - (a) In every work places, there shall be provided and maintained at suitable places, easily accessible to labour, a sufficient supply of water fit for drinking.
 - (b) 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.
 - (c) Every water supply of storage shall be at a distance of not less than 50 feet from any latrine, drain or other sources of pollution where water to be drawn from an existing well which is within such proximity of latrine drain or any other sources 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 tray door which shall be dust and water proof.
 - (d) A reliable pump shall be fitted to each covered well the tray door shall be kept locked and opened only for cleaning or inspection which shall be done at least once a month.
 - (e) The temperature of drinking water supplied to workers shall not exceed 90° F.
5. **Washing and Bathing Place:**
 - (i) Adequate washing and bathing places shall be provided separately for men and women.

- (ii) Such places shall be kept in clean and drained condition
6. **Scale of Accommodation in Latrines and Urinals:** - There shall be provided within the premises of every work place latrines and urinals in an accessible place; and the accommodation, separately for each of them shall not be less than the following.
- | | | |
|-----|--|------------------------|
| (a) | Where the number of persons employed does not exceed 50. | No. of seats 1 |
| (b) | Where the number of persons employed exceeds 50 but does not exceed 100 | No. of Seats 3 |
| (c) | For every additional 100 (in particulars cases the SUPERINTENDING Engineer shall have the power to vary the scale where necessary) | No. of seats 3 per 100 |
7. **Latrine and Urinals for Women:** If women are employees, separate latrines and urinals separate from that for women and marked in the vernacular in conspicuous letter "for women only" shall be provided on the scale laid in rule.
- Those for men shall be similarly marked "for men only" A poster showing the figure of a men and women and shall also be exhibited at the entrance of Latrines for each sex. There shall be adequate supply of water close to the urinals and latrines.
8. **Latrines and Urinals :** Except in work places provided with water flushed latrines connected with a water borne sewerage system, all latrines shall be provided with receipt able on dry-earthen system which shall be cleaned at least four times daily and at least twice during working hours and kept in a strictly sanitary condition. The receptacle shall be tarred inside and outside at least once a year.
9. **Construction of Latrines:** The inside wall shall be constructed of masonry or stone materials and shall be cement washed inside and outside at least once a year. The dates of cement washing shall be noted in register maintained for this purpose, and kept available for inspection.
10. **Disposal of excreta :** Unless otherwise arranged for by the local sanitary authorities arrangements for proper disposal of excreta by incineration at the work place shall be made by means of a suitable incinerator approved by as, Director of Public Health of Municipal Medical Officer or Health at the case may be, whose jurisdiction the work place is situated. Alternatively excreta may be disposed off by putting a laver of night soil at the bottom of pucca tank prepared for the purpose and covering it with 6' layer of waste or refuse and then covering it up with a layer of earth for a fortnight (when it will turn in to manure).
11. **Provision of shelters during rest:** At every work place, there shall be provided free of cost two suitable sheds one for females and the other for rest for the use of labourers. The height of the shelter shall be less than 11 feet from the floor level the lowest part of the roof.
12. **Crèche:** At every work place, at which more than 50 women workers are employed, there shall be provided only one hut for the use of children under the age of 6 year, belonging to such women and shall be used for infant's games and play and their bed room. The huts shall not be constructed on a lower standard than the following.
- Thatched huts
- Mud floors and walls.
- Planks spared over the mud floor and covered with matting.
- The hut shall be provided with suitable and sufficient openings for light and ventilation. There shall be adequate provision for sweepers to keep the place clean. There shall be two dhai in

attendance. Sanitary utensil shall be provided to the satisfaction of the Health Officer of the area concerned. The use of the hut shall be restricted to Children, their attendants and mothers of the children.

- b) Where the number of women workers is more than 50 the contractor shall provide one hut and Dhai to look after the Children of women workers.
 - c) The size of crèche shall vary according to the number of women workers.
 - d) The crèche shall be properly maintained and necessary equipments like toys etc. shall be provided.
13. **Canteen:** A cooked food Canteen: - on a moderate scale shall be provided for the benefit of workers whenever it is considered expedient.

CONTRACTOR'S LABOUR REGULATIONS

1. **Short title:** - These regulations may be called "The Odisha Public Works Department / Electricity Department Contractor's Regulations".
2. **Definition:-** In these Regulations, unless otherwise expressed or indicated the following words and expressing shall have the meaning hereby assigned to them respectively, that is say:
 - (a) "Labour" means a worker employed by a contractor for works put to tender directly or indirectly through a sub-contractor or other person, by an agent on his behalf.
 - (b) Fair wages means wages whether for time or piece work prescribed by the Superintending Engineer, Hydrology & Interstate Matter, Burla provided that where high rates have been prescribed under the minimum wages Act 1948 wages at such higher rates would constitute fair wages (W.D. No.22059 dt.16.8.77)
 - (c) "Contractor" shall include every person whether a sub-contractor or headman or agent employing labour on the work taken on contract.
 - (d) "Wages" shall have the same meaning as defined in the payment of wages Act. And include time and piece rate wages if any.
3. **Display of notices regarding ways, etc.:-**

The contractor shall:-

 - (a) Before he commences his work on contract display, and correctly maintain and continue to display and correctly maintain, in a clean and legible condition in a conspicuous places on the work, notice in English and in the local Indian language spoken by the majority of the workers giving the rate of wage prescribed by State Public Works Department/ Superintending Engineer, Hydrology & Interstate Matter, Burla for the district in which the work is done.
 - (b) Send a copy of such notices to Engineer-in-charge of the work.
4. **Payment of Wages:-**
 - a) Wages due to every worker shall be paid to him direct.
 - b) All wage shall have to be paid in cash in current coin or currency or in both.
5. **Fixation of wages periods:-**
 - a) The contractor shall fix the wage period in respect of which the wages be payable.
 - b) No wage period shall exceed one month.

- c) Wage of every workman employed on the contract shall be paid before the expiry of ten days, after the last day of the wage period in respect of which the wages are payable.
- d) When 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 day succeeding the one on which his employment is terminated.
- e) All payment of wages shall be made on a working days

6. Wage book and wage cards etc.

- 1) The contractor shall maintain a wage book of each worker in such forms as may be convenient, but the same shall include the following particulars:-
 - a) Rate of daily or monthly wages.
 - b) Nature of work on which employed.
 - c) Total number of days worked during each wage period.
 - d) Total amount payable for the work during each wage period.
 - e) All deductions made from the wages with an indication in each of the ground for which the deduction is made.
 - f) Wage actually paid for each wage period.
- 2) The contractor shall also maintain a wage card for each worker employed on the work.
- 3) The SUPERINTENDING Engineer may grant an exemption from the maintenance of wage bond, wages cards to a contractor who, in his opinion may not directly or indirectly employ more than 100 persons on the work

7. Fines and deduction, which may be made from wages.

- 1) The wages of a worker shall be paid to him without any deductions of any kind except the following.
 - a) Fines.
 - b) Deduction for absence from duty, i.e. from the place or places where by terms of his employment he is required to work. The amount of deductions 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 on money for which he is required to account where such damage or loss is directly attributable to his neglect or default.
 - d) Any other deduction which the Odisha Government may from time to time allow.
- 2) No fines 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 abuse against such fines or deduction.
- 3) The total amount of fines which may be imposed in any one wage period on a works shall not exceed an amount equal to Five paise in a rupee of the wages payable to him in respect of that wage period.
- 4) No fine imposed on any worker shall be recovered from him by installments after the expiry of 60 days from the date on which it was imposed.

8. Register of fines, etc.

- 1) The contractor shall maintain a register of fines and of all deduction for damage or loss. Such register shall mention the reason for which fine was imposed or deduction for damage or loss was made.
 - 2) The contractor shall maintain a list in English and in the local Indian language clearly defining acts and omissions for which penalty of fine can be imposed. It shall display such list and maintain it in a clean and legible condition in conspicuous place on the work.
9. **Preservation of register:**
- The wage register, the wage cards and the register of fines, deduction required to be maintained under these regulations shall be preserved for 12 months after date of the last entry made in them.
- 10 **Powers of Labour Welfare Officers to make investigation or enquiry**
- The labour Welfare Officers or any other persons authorized by the Government of Odisha on their behalf shall have power to make enquiries with a view to ascertaining and enforcing due and proper observance of the fair wage clauses and the provision of these regulations. He shall investigate into any complaint regarding default made by the contractor, sub contractor in regard to such provisions.
11. **Report of Labour Welfare Officers:**
- The Labour Welfare Officers or others authorized as aforesaid shall submit a report of the results of his investigation of enquiry to the SUPERINTENDING Engineer concerned 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.
12. **Appeal against the decision of Labour Welfare Officers.**
- Any persons aggrieved by the decision and recommendation of the Labour Welfare Officer or other person so authorized may appeal against such decision to the Labour Commissioner within 30 days from the date of decision forwarding simultaneously a copy of this appeal to the SUPERINTENDING Engineer concerned but subject to such appeal, the decision of the officer shall be final and binding upon the contractor.
13. **Inspection of registers:**
- The contractor shall allow inspection of wage book, card to any of his worker or his agent at a convenient time and place after due notice is received, or to the Labour Commissioner or any other person authorized by the Government of Odisha on his behalf.
14. **Submission of return:**
- The contractor shall submit periodical returns as may be specified from time to time.
15. **Amendment**
- The Government of Odisha may from, time to time add to or amend these regulations and on any question as to the application interpretation of effect of the regulations the decision of the Labour Commissioner or any other persons authorized by the Government of Odisha in that behalf shall be final.

Clause - 34

The incentive @1% in case of completion of work (Rs.10 crore & above) ahead of one month (part of the month shall be excluded) and the maximum amount payable will be fixed at 2% if the work is completed two months ahead at the schedule time shall be

DELETED

payable to the contractor. (Ref. Work Dept. Order No. 8310 dt. 17.05.2006) on approval of competent authority.

Clause - 35

The royalty of materials will be recovered from the work bill in case failure of production of proper receipt from quarry holder or Revenue Department after proper verification from concerned Tahasildar.

Clause - 36 DELETED

Clause - 37

The terms and conditions of the agreements have been read/ explained to me and certify that I/We clearly understand them.

1. Addendum to condition of CONTRACT:

- 1.1. The bidder / Tender whose bid has been accepted will be notified of the award by the Engineer-in-Charge prior to expiration of the validity period by cable, telex or facsimile confirmed by registered letter. This letter (hereinafter and in the conditions of contract called the "Letter of Acceptance") will state the sum that the Engineer-in-Charge will pay the contractor in consideration of the execution, completion and maintenance of the works by the contractor as prescribed by the contract (hereinafter and in the contract called the "Contract Price").
- 1.2 The notification of award will constitute the formation of the contract, subject only to the furnishing of a performance security (ISD) and additional performance security in accordance with the provisions of the agreement.
- 1.3 The agreement will incorporate all agreements between the officer inviting the bid/Engineer-in-Charge and the successful bidder. Within 15 days following the notification of award along with the letter of acceptance, the successful bidder will sign the agreement and deliver it to the Engineer-in-Charge. Following documents shall form part of the agreement.
 - a) The notice inviting bid, all the documents including additional conditions specifications and drawing, if any, forming the bid as issued at the time of invitation of bid and acceptance thereof together with any correspondence leading thereto & required amount of performance security including additional performance security.
 - b) Standard P.W.D. Form P-1.

2. Time Control

- 2.1. Progress of work and Re-scheduling programme.
 - 2.1.1 The SUPERINTENDING Engineer / Engineer-in-Charge shall issue the letter of acceptance to the successful contractor. The issue of the letter of acceptance shall be treated as closure of the bid process and commencement of the contract.
 - 2.1.2 Within 15 days of issue of the letter of acceptance, the contractor shall submit to the Engineer-in-Charge for approval and programme commensurate to clause no 3 showing the general methods, arrangements, and timing for all the activities in the works along with monthly cash flow forecast.
 - 2.1.3 To ensure good progress during the execution of the work the contractors shall be bound in all cases in which the time allowed for any work exceeds one month to complete, 1/4th of the whole of the work before 1/4th of the whole time allowed under the contract has elapsed, 1/2 of the whole of the work before 1/2 of the whole time allowed under the contract has elapsed, 2/3 of the whole of the work before 3/4th of the whole time allowed under the contract has elapsed.

- 2.1.4 If at any time it should appear to the Engineer-in-Charge that the actual progress of the works does not conform to the programme to which consent has been given, the contractor shall produce, at the request of such programme necessary to ensure completion of the works within the time for completion. If the contractor does not submit an updated programme within this period, the Engineer-in-Charge may withhold the amount of 1% of the contract value from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue programme has been submitted.
- 2.1.5 An update of the programme shall be a programme showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work including any changes to the sequence of the activities.
- 2.1.6 The Engineer-in-Charge's approval of the programme shall not alter the contractor's obligations. The contractor may revise the programme and submit it to the Engineer-in-Charge again at any time. A revised programme is to show the effect of variations and compensation events.
- 2.2 Extension of the completion date.
- 2.2.1 The time allowed for execution of the work as specified in the contract data shall be the essence of the contract. The execution of the works shall commence from the 15th Day or such time period as mentioned in letter of award after the date on which the Engineer-in-Charge issues written orders to commence the work or from the date of handing over of the site whichever is later. If the contractor commits default in commencing the execution of the work as aforesaid, Government shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the earnest money and performance guarantee / security deposit absolutely.
- 2.2.2 As soon as possible after the contract is concluded the contractor shall submit a Time & Progress Chart for each milestone and get it approved by the Department. 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 Engineer-in-Charge 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 the work as per milestone given in contract data.
- 2.2.3 In case of delay occurred due to any of the reasons mentioned below, the contractor shall immediately give notice thereof in writing to the Engineer-in-Charge 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 Engineer-in-Charge to proceed with the works.
- For
- i. Abnormally bad weather, or
 - ii. Serious loss or damage by fire, or
 - iii. Civil commotion, local commotion of workmen, strike or lockout, by officers any of the heads employed on the work, or
 - iv. Delay on the part of other contractors or trade men engaged by Engineer-in-Chief, in executing work not forming part of the contract.
 - v. In case of variation is issued which makes it impossible for completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work and which would cause the contractor to incur additional cost, or.

- vi. Any other cause, which in the absolute discretion of the authority mentioned, in contract data is beyond the contractor's control.
- 2.2.4 Request for re-schedule and extension of time, to be eligible for consideration shall be made by the contractor in writing fourteen days of the happening of the event causing delay. The Contractor may also, if practicable, indicate in such a request the period for which extension is desired.
- 2.2.5 In any such case a fair and reasonable extension of time for completion of work may be given. Such extension shall be communicated to the Contractor by the Engineer-in-Charge in writing. Within 3 months of the date of receipt of such request, Non-application by the contractor for extension of time shall not be a bar for giving a fair and reasonable extension by the Engineer-in-Charge and this shall be binding on the contractor.

2.3 Compensation for delay.

- 2.3.1 If the contractor fails to maintain the required progress in terms of clause 2 or to complete the work and clear the site on or before the contract or extended date of completion he shall without prejudice to any other right or remedy available under the law to the Government on account of such breach, pay as agreed compensation the amount calculated at the rates stipulated below as the Superintending Engineer (whose decision in writing shall be final and binding) may decide on the amount of tendered value of the work for every completed day/month (as applicable) that the progress remains below that specified in Clauses 2 or that the work remains incomplete.
- 2.3.2 This will also apply to items or group of items for which a separate period completion has been specified Compensation @ 1.5% per month or for delay of work, delay to be computed on per day basis.
- 2.3.3 The existing relevant provision in the original documents shall stand modified accordingly. Provided always that the total amount of compensation for delay to be paid under this condition shall not exceed 10% of the Tendered Value of work or to the Tendered Value of the item or group of items of work for which separate period of completion is originally given.
- 2.3.4 The amount of compensation may be adjusted or set-off against any sum payable to the Contractor under this or any other contract with the Government. In case the contractor does not achieve a particular milestone mentioned in contract data, or the rescheduled milestone (s) in items of Clause 2.5. the amount shown against that milestone shall be withheld, to be adjusted against the compensation levied at the final grant of extension of time. Withholding of this amount on failure to achieve a milestone, shall be automatic without any notice the contract. However, if the Contractor catches up with the progress of work on the subsequent milestone(s), the withheld amount shall be released. In case the contractor files to make up for the delay in subsequent milestone(s) amount mentioned against each milestone missed subsequently also shall be withheld. However, no interest whatsoever, shall be payable on such withheld amount.

2.4 Management Meetings

- 2.4.1 Either the Engineer or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.
- 2.4.2. The Engineer shall record the business of management meetings and to provide copies of his record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken is to be decided by the Engineer either the management meeting or after the management meeting and stated in writing to all who attended the meeting.

2.5 TAX CERTIFICATES:

The tenderers are also required to furnish Xerox/attested copy of the valid PAN CARD, ITCC (if any), GST registration certificate along with tender documents failing which the tender may not be considered. The original is to be shown as mentioned in the NIT. The bidders registered outside the State are required to submit an undertaking in the form of an affidavit that they are not registered under the GST Act in the state of Odisha as they have not started any business in the state and they have no liability under the act. But Bidder has to produce GST registration certificate before signing of the agreement.

Signature of witness

signature of contractor

SECTION – 5
SPECIAL CONDITION OF CONTRACT

SPECIAL CONDITIONS

1. The works may need to be executed during night without non-interruption, when required.
2. The excavated materials which are not useful in construction works to be disposed off in low laying area as indicated by Engineer-in-charge.
3. The stockyard of machineries and installation of batching plant, concrete mixer may vary place to place as per site condition which needs to be taken care of by the bidder at his own cost.
4. Keeping all these conditions, rates should be quoted by the Contractor.

SPECIAL CONDITIONS OF THE CONTRACT

1. DEFINITIONS

In the Contract (as hereinafter defined) the following words and expressions will have the meanings here by assigned to them:

- a) Approved/Approval- Means approved in writing.
- b) Construction Plant- Means all equipments, appliances or things of whatsoever nature required for the executing, 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.
- c) Contract - Means the instruction and information for tenderers General and Special conditions of the contract, Technical specification, drawings, tender (including the schedule of quantities and tender prices) the formal agreement and all agenda and attachment related to the above.
- d) Contractor- Means the particular person, firm or Corporation with whom the contract has been made for executing the work.
- e) Drawing - Means the drawings referred to in the specifications, any modifications of such drawings approved in writing by the Superintending Engineer, Hydrology & Interstate Matter, Burla and such other drawings as may from time to time be furnished or approved in writing by the Engineer-in-charge.
- f) Engineer-in-charge - Means the Superintending Engineer, in-charge of the work specified or parts of the works under the contract, or such other departmental assistants or sub-ordinates to whom the Superintending Engineer, in-charge may have delegated certain duties, acting separately within the scope of particular duties entrusted to them.
- g) Government - Means Government of Orissa, Department of Water Resources.
- h) I.S.S./B.I.S. - Means Indian Standard Specifications/Bureau of Indian Standard.
- i) Temporary works - Means all temporary works of every kind required for the performance of the contract.
- j) SPECIFICATION - Whenever the terms " 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 contractor in executing that item of work.

2) PERIOD OF COMPLETION

The period of completion shall be **as specified in Col. 7 of NIT** from the date of issue of notice to proceed with the work.

3) LANGUAGE OF THE CONTRACT

All written material and correspondence in connection with the contract shall be in English.

4) REFERENCE MARKS AND BENCH MARKS

The basic centerlines, reference points and benchmarks will be fixed by the Engineer-in-charge. The contractor shall establish at his cost, at suitable points, additional reference lines and bench marks as may be necessary. The contractor shall remain responsible for the sufficiency and accuracy of all his benchmark and reference lines. He shall take precaution to see that the lines, points bench marks by the Department are not disturbed by his work and shall make good such damage.

- 5) Defects Liability** - The contractor shall be responsible to make good at his own expense, any defect which may develop or may be noticed before the expiry of twelve months from the certified date of completion and which is attributable to the contractor. All notices of such defect shall be given to the contractor promptly. In case the contractor fails to make good the defects, the Superintending Engineer, Hydrology & Interstate Matter, Burla may employ other persons to make good such defect, and all expenses consequent thereof and incidental thereto shall be borne by the contractor.

In the event Government takes over portions of works, as they are completed, the liability of the contractor under this clause for those portions shall extend to a period of twelve months from the actual date on which portions of the works are taken over.

- 6) Setting out works** - The contractor shall be responsible for the correct setting out of all works at his cost. The contractor shall execute the work true to alignments grade and levels as shown in the drawings and directed by Engineer-in-charge of the work and shall check these at frequent intervals. The contractor shall provide all facilities like labour and instrument and shall co-operate with the Engineer-in-charge of work to check all alignments, grades, levels and dimension. Such checking shall not absolve the contractor of his own responsibility of maintaining the accuracy of the work.

7) ACCIDENTS.

It shall be the contractor's responsibility to protect against accidents on the works. He shall indemnify the Government against any claims for damage or for injury to person or property resulting from and in the course of work and also under the provision of the workmen's compensation Act. On the occurrence of an accident arising out of the works which results in death or which is so serious as to be likely to result in death, the contractor shall within twenty four hours of such accident report in writing to the Superintending Engineer, Hydrology & Interstate Matter, Burla the fact stating clearly and in sufficient details the circumstances of such accidents on the subsequent action. All other accidents on the works involving injuries to persons or damage to property other than that of the contractor shall be promptly reported to Superintending Engineer, Hydrology & Interstate Matter, Burla stating clearly and in sufficient details the facts and circumstances of the accidents and action taken. In all cases the contractor shall indemnify the Government against all loss or damage resulting in directly or indirectly from the contractor's failure to report in the manner aforesaid. This includes penalties or fines if any payable by the government as a consequence of failure to give notice under workman's compensation act or failure to confirm to the provisions of the said act in regard to such accident. In the event of an accident in respect of which compensation may become payable under the workman's compensation act - III of 1928 including all modifications thereof whether such compensation may become payable by the contractor or by the government as Principal Employer, the Superintending Engineer, Hydrology & Interstate Matter, Burla may retain out of money due and payable to the contractor such sum or sums of money as may be in opinion of the Superintending Engineer, Hydrology & Interstate Matter, Burla, be sufficient to meet such liability. On receipt

of award from the Labour Commissioner in regard to quantum of compensation, the difference in account will be reimbursed or recovered from the contractor.

8) ENGINEER-IN-CHARGE'S DECISION:

It shall be accepted as an inseparable part of the contract that in matters regarding materials, workmanship, removal of improper work, interpretation of the contract drawing and contract specification, mode of procedure and the carrying out of the work, the decision of the Superintending Engineer, Hydrology & Interstate Matter, Burla in-Charge's final authority applies to technical consideration and does not include decisions regarding sums due to or from the contractor for extension of time.

9) FORCE MAJEURE:

Neither party shall be liable to other for any loss or damages occurred by or arising out of acts of God. Such as unprecedented flood, volcanic eruption, earthquake or other convulsion of nature and other acts such as but restricted to general strikes, invasion, the act of foreign countries hostilities or war like operations before or after declaration of war, rebellion, military or unsurped power which prevent performance of the contract and which could not have been foreseen or avoided by prudent person.

10) SETTLEMENT OF DISPUTE:

If the contractor considers any work demanded of him to be outside the requirements of the contract or considers any drawing record or ruling of the Engineer-in-charge, on any matter in connection with or arising out of the contract or carrying out of work to be unacceptable, he shall promptly ask the Engineer-in-charge in writing for written instruction or decision. There upon the Engineer-in-charge shall give his written instructions or decision within a period of thirty days of such request. Upon receipt of the written instruction or decision, the Contractor shall promptly proceed without delays to comply with such instruction or decision. If the Engineer-in-charge fails to give his instructions or decision in writing within a period of thirty days after being requested or if the contractor is dissatisfied with the instruction or decision of the Engineer-in-charge, the contractor may within thirty days after receiving instructions or decision of the Engineer-in-charge will approach to the higher authority who shall afford an opportunity to the contractor to be heard and to offer evidence in support of his appeal. The Authority shall give his decision within a period of thirty days after the contractor has given the said evidence in support of his appeal, which shall be binding upon the contractor.

11) CONSTRUCTION PROGRAMME

- i) The contractor shall have to submit the construction programme i.e. the plan and programme of execution for completion of the work in time, to the engineer-in-charge through the concerned sub-divisional officer to carry out the execution accordingly, subject to approval of the engineer-in-charge.
 - ii) If the revised construction programme is required on account of non-completion of work for which Extension of Time is required or for disruption of the execution in the stipulated period, the contractor shall have to submit the same to the Engineer-in-charge along with the Extension of Time application, if extension of time is prayed for or immediately after disruption of the execution mentioning the clear reasons, for revision of work programme. The decision of the Engineer-in-charge is final and binding on the contractor.
- A. The contractor shall arrange for additional shifts whenever necessary to suit the revised construction programme. No extra payment on this account is admissible.
 - B. The contractor has to make adequate lighting arrangements for night works wherever necessary in fulfillment of the construction programme at his own cost and no extra payment on this account is admissible.
12. Price escalation if applicable as per Clause-31 of conditions of contract for the extended

period shall be paid subject to approval of extension of time by the competent authority and approval of the payment of price escalation by the Government of Odisha, Department of Water Resources, Bhubaneswar.

13. With reference to Clause-10 of the condition of contract authorised items of work not covered by the tender schedule will be paid at the current schedule of rates. In order to execute the non schedule of extra item of work, if the Engineer-in-charge thinks it proper that the additional work which is neither included in Schedule of Rate nor in contract is to be executed by the same Agency and the Rate offered by the contractor is not acceptable to Engineer-in-charge the rate of the said extra item of work shall be derived on the basis of actual field observation in consultation with the contractor with provision of contractor's profit @ 15 % as envisaged in Schedule of Rate of Water Resources Department, which shall be binding on both the parties. The programme of observation shall be mutually chalked out in a manner not to hamper the progress of work.
14. Materials if available in the store of the department may be supplied to the contractor at the issue price to be fixed by the Engineer-in-charge. The contractor will receive the materials himself or through his authorized agent and sign in the departmental receipt of the materials, carriage of materials from the departmental store to the work site will be done by the contractor at his own risk and cost.
15. The contractor shall make at his own cost housing accommodation, drinking water and provide medical aid to the labourers engaged on the work.
16. The right is reserved to increase or decrease in the quantities or items of works mentioned in the schedule attached to the tender notice as may be considered necessary for satisfactory completion of the contract work and such increase or decrease shall not be entitled for any compensation on this account except extension of time when considered necessary.
17. The work will be executed as per detailed standard specification of the Government of Orissa, Measurement of Moorum, gravel and stone product such as metals stones, boulders, rough stones and soiling stones, chips will be taken as per the above specification and payment will be made for the quantity arrived at after deduction of voids.
18. The work may be split up and distributed among several contractors if considered necessary on the exigency of the circumstance of the work and the contractor is not entitled to any compensation on this account.
19. The contractor should keep himself in constant touch with the Engineer-in-charge for smooth execution of work and arrange for adequate labour and machineries depending on the workload and working place available. No claim for detention of labour or machineries on any account will be entertained.
20. The contractor will provide labour for giving alignments and profiles. All the materials necessary for such work will be supplied by the contractor and the profile is to be maintained at his own cost till the work is completed.
21. Suitable earth required for the work shall be arranged by the Contractor at his own cost and responsibility without any extra claim.
22. The rate for each work must include conveyance by all means, manual mechanical or both.
23. Approach road/diversion road to site of work if necessary is to be constructed and maintained and dismantled if required after completion of the work by the contractor at his own cost.
24. Under no circumstances, interest is chargeable for the dues or additional dues, if any, payable for the work.
25. "Additional Performance Security" shall be obtained from the bidder when the bid amount is

less than the estimated cost put to tender. In such an event, only the successful bidder who has quoted less bid price /rates than the estimated cost put to tender shall have to furnish the APS **as per the Rate of Addl Performance Security (APS) fixed by the State Government issued vide Finance Department No FIN-WF1-MISC-0102-2025** in shape of Term Deposit Receipt pledged in favour of Divisional Officer (i.e. **Superintending Engineer, Hydrology & Interstate Matter, , Burla**)/ Bank Guarantee in favour of Divisional Officer (i.e. **Superintending Engineer, Hydrology & Interstate Matter, Burla**) from any Nationalized/Scheduled Bank in India counter guaranteed by its local branch at Bhubaneswar within seven days of issue of Letter of Acceptance (LoA) by the **Divisional Officer** (by e-mail) to the successful bidder, otherwise the bid of the successful bidder shall be cancelled and the Earnest Money Deposit/ Bid Security shall be forfeited. Further, proceeding for blacklisting shall be initiated against bidder. (As per O.M. File No. 14459/W, dated 20.09.2018 of Amendment to Para-3.5.5(v) of the OPWD Code, Volume-I.

26. Incentive is admissible only in case of completion of original work ahead of original time schedule stipulated in the agreement and the same will be calculated by taking into account of the original estimated cost of the work. The incentive shall be paid if, as per Amendment to Para-3.5.5 (V) of Note-III of OPWD Code, Vol-I vide OM File No: 07556900032016/ 5288/W dt. 04.05.2016 of Works Deptt., Govt Odisha.
27. Measurement of each work shall be taken as follows:
Before commencement of work initial levels and to determine the final measurement of the work, final levels of the embankment or drain or ground or structural work as the case may be, shall be taken in presence of the contractor. The contractor will satisfy himself about the correctness of the initial and final levels entered in the level book issued by the Engineer-in-charge and in token of the acceptance of the said levels the contractor shall have to sign in each page of level book in which the said levels are recorded. Basing on these levels, the gross quantity of work executed by the contractor shall be arrived at. After completion of the work the contractor shall be given a written notice to attend the final measurement. On receipt of the notice, the contractor must have to attend the final measurement failing which the measurement ex-parte shall be taken by the Engineer-in-charge, which shall be binding on the contractor. In case of the abandonment of work, if it is decided by the Engineer-in charge that final measurements of executed work shall be taken, the same procedure shall be followed as in case of final measurement on completion of work. It is the responsibility of the contractor to make the site free from all problems to take measurement by the SUPERINTENDING Engineer or his authorized officer. If in the opinion of the Engineer-in-Charge, the site is not free from problem for measurement and, and the contractor does not take any corrective measures to get rid of same, the Engineer-in-Charge shall make the site free from problem to take the measurement at the cost crediting to the contractor and certificate by the Engineer-in-Charge for the purpose shall be conclusive and binding.
28. The Engineer-in-charge shall decide the contractual matters in accordance with codes, rules and acts in vogue which shall be binding on both parties.
29. The work shall be executed in accordance with the technical specification which from a part of the contract.
30. All the measurements for earth work will be taken by section measurement.
31. The contractor should engage local labour on priority basis during execution of work.
32. For earth work in embankment there will be minimum distance of 15 m between toes of the embankment and borrow pit.
33. For earth work in cutting reaches, the spoils should be deposited as directed by the Engineer-in-charge. 20% of the work value will be with hold for run disposal of excavated earth in proper shape.

34. The tenderer should inspect the site of work before tendering of the work and in case of any clarification should consult with the Engineer-in-charge.
35. Any royalty or any other taxes if any for executing the work will be borne by the contractor.
36. There will not be any compensation or extension of time granted for reasons of inadequate cash flow. No compensation/claim for delay in sanction of deviation / extra items and payment thereof will be admissible to contractor.
37. The contractor shall sign as a token of final acceptance on the plans, sections for the work prior to taking up the work for execution.
38. Water required for work will be arranged by the contractor at his own cost and carriage cost of sinking of well or any other arrangement from any source whether artificial or natural shall not be paid. This is treated as inclusive in his item rates.
39. Under no circumstances, interest chargeable for the dues or any additional dues, (if any) payable for the work shall be entertained.
40. It shall be distinctly understood that it is entirely the responsibility of the contractor to make such arrangements as 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 damages either during working season or during the rainy season. The department accepts no liability, whatsoever for any damage or loss of men, materials, machinery and work or any hindrance caused to the progress of work.
41. After completion of the work the contractor shall arrange at his own cost all requisite equipments and labour for testing the work and bear the entire cost of such test.
42. All correspondence with the tenderer will be made through post in the address given in the tender. The tenderer must mention in the tender, his correct postal address where letters can be delivered to him. The department will not be held responsible for non-receipt of any letter by the tenderer either for wrong address given by him or for his absence from the given address. The contractor must intimate any change in address for correspondence.
43. If there will be any delay in land acquisition no compensation or claim on that account will be entertained, full extension of time will be granted if considered reasonable.
44. Construction of coffer dams for islands or the works of open excavation or dressing required for construction of structure and approach channel should be included in the rates.
45. The contractor should take all precautions to protect the structures from flood damages at his own cost during the period of executions. Damages if any caused by the probable flood during monsoon till completion and handing over of entire work will be made by the contractor at his own cost.
46. During & after execution of the work the contractor shall arrange at his own cost all requisite equipments and labour for testing the work and bear the entire cost of test.
47. The authority reserves the right to revalue the contract with due notice.
48. In case the contractor fails to commence the work specified in the tender documents on the 15th day or such time period as mentioned in letter of award, after the date on which the Engineer-in-charge issues written orders to commence the work, or from the date of handing over of the site, whichever is later, the Government shall, without prejudice to any other right or remedy, be at liberty to forfeit whole of the earnest money absolutely.
49. Authority reserves right to revoke the contract with due notice.

GUIDELINES / PROCEDURES OF e-PROCUREMENT
Appendix-IX (A) of OPWD Code, Vol-II

Government of Odisha, Works Department
Office Memorandum
File No.07556900042013 (Pt-II)-7885 /W, Dated, 23.07.2013.

Sub:- SUPERINTENDING instructions regarding calling for and acceptance of tenders in e-Procurement.

1. This office memorandum consists of the procedural requirement of e-procurement and shall be made part of the "Detailed Tender Call Notice or Instruction to Bidder for all works" tenders hoisted in the portal.
2. The e-procurement portal of Government of Odisha is <https://tendersodisha.gov.in>.
3. Use of valid Digital Signature Certificate of appropriate class (Class II or Class III) issued from registered certifying authorities (CA) as stipulated by Controller of Certifying Authorities (CCA), Government of India such as n-Code, Sify, TCS, MTNL, e-Mudhra is mandatory for all users.
4. The DSC issued to the Department users is valid for the period of two years only. All the Department users are responsible to revalidate their DSC prior to expiry.
5. For all purpose, the server time displayed in the e-Procurement portal shall be the time to be followed by all the users.
6. Government after careful consideration have decided to hoist all tenders costing 10 lakhs or above in the e-procurement portal. This will be applicable across all Engineering Departments such as Works Department, Department of Water Resources, Rural Development and Housing & Urban Development Department. Government of Odisha also welcomes hoisting of tenders by any other departments, authority, corporations, local bodies etc. of the State with prior approval from Works Department, Works Department is the Nodal Department for the implementation of e-Procurement in the State.
7. The e-procurement shall be operated compliant to relevant provisions of OGFR/ OPWD Code/ Accounts Code/ Government statues including any amendments brought from time to time to suit to the requirement of the best national practice.
8. Registration in the e-procurement portal is without levy of any charges but Government reserves the right to levy any charges for such value added services in future.
9. Contractor not registered with Government of Odisha, can participate in the e-Procurement after necessary enrolment in the portal but have to subsequently register themselves with the appropriate registering authority of the State Government before award of the work as per prevalent registration norms of the State.
10. For the role management "Department" is the Administrative Department, Organisation or wing is the Chief Engineer or highest tender accepting authority or equivalent officer, Division is the SUPERINTENDING Engineer or equivalent Officer and Sub-division is the Assistant Engineer or equivalent officer.
11. The e-Procurement software assigns roles for operation of the module for specific function. The terminologies used in the portal and their respective functions in the software are as follows.
 - 11.1 Application Administrator (NIC & State Procurement Cell)
 - i. Master Management
 - ii. Nodal Officer Creation
 - iii. Report Generation

- iv. Transfer of Officer's login ID
 - v. Blocking & unblocking of officer's and bidder's login ID.
- 11.2** Nodal Officer (At organization level not below the Superintending Engineer of equivalent rank)
- i. Creation of Users
 - ii. Role Assignment
 - iii. Report Generation
 - iv. Transfer of Officer's login ID.
 - v. Blocking & unblocking of officer's Login ID.
- 11.3** Procurement Officer-Publisher (Officer having tender inviting power at any level)
- i. Publishing of Tender
 - ii. Publishing of Corrigendum / addendum / cancellation of Tender
 - iii. Bid Clarification
 - iv. Uploading of Pre-Bid minutes.
 - v. Report generation.
- 11.4** Procurement Officer-Administrator (Generally sub-ordinate officer to Officer Inviting Tender)
- i. Creation of Tender
 - ii. Creation of Corrigendum / addendum / cancellation of Tender
 - iii. Report generation.
- 11.5** Procurement Officer Opener (Generally sub-ordinate officer to Officer Inviting Tender)
- i. Opening of Bid
- 11.6** Procurement Officer Evaluator (Generally Sub-Ordinate Officer to Officer Inviting Tender)
- i. Evaluating Bid.
- 11.7** Procurement Officer-Auditor (Procurement Officer Publisher and / or Accounts Officer / Finance Officer)
- i. To take up auditing.
- 12. NOTICE INVITING BID (NIB) or INVITATION FOR BID (IFB) :**
- 12.1** The Notice Inviting Bids (NIB) and Bid documents etc., shall be in the Standard formats as applicable to conventional Bids and will be finalized / approved by the officers competent as in the case of conventional Bids.
- 12.2** The officers competent to publish NIB in case of conventional Bids will host the NIB in portal. Simultaneously, a notification should also be published in the newspapers as per existing rules preferably, in the following format, to effect economy:-
- Government of Odisha "e" procurement Notice
- Bid Identification No. _____
- 1. Name of the work :
 - 2. Estimated cost : Rs.....
 - 3. Period of completion

4. Date & Time of availability of bid document in the portal _____
5. Last Date / Time for receipt of bids in the portal _____
6. Name and address of the O.I.T.....

Further details can be seen from the e-procurement portal “<https://tendersodisha.gov.in>”.

- 12.3** The tender documents published by the Tender Inviting Officer (Procurement Officer Publisher) in the website <https://tendersodisha.gov.in> will appear in the “Latest Active Tender”. The Bidders/ Guest Users can download the Bid documents only after the due date & time of sale. The publication of the tender will be for specific period of time till the last date of submission of bids as mentioned in the ‘Notice inviting Bid’ after which the same will be removed from the list of “Latest Active Tenders”.

13. ISSUE OF ADDENDA / CORRIGENDA / CANCELLATION NOTICE :

- 13.1** The Procurement Officer Publisher (Officer Inviting Tender) shall publish any addendum/ corrigendum/ cancellation of tender in the website <http://tendersodisha.gov.in>, notice board and through paper publication and such notice shall form part of the bidding documents.
- 13.2** The system generates a mail to those bidders who have already uploaded their tenders and those bidders if they wish can modify their tenders. The bidders are required to watch the website till last date and time of bid submission for any addendum/ corrigendum/ cancellation thereof. Tender Inviting Authority is not responsible for communication failure of system generated mail.

14. CREATION AND PUBLISHING OF BID :

- 14.1** All the volumes/documents shall be uploaded in the portal by the tender creating officer (Procurement Officer Administrator) and published by the Officer Inviting Tender (Procurement Officer Publisher) using their DSCs in appropriate format so that the document is not tampered with
- 14.2** The tender document comprise the notice inviting tender, bid document/ SBD, drawings in pdf format and the schedule of quantities / BoQ in .xls format to be uploaded by the Officer Inviting Tender.
- 14.3** Procurement Officer Administrator creates tender by filling up the following forms :
- i. BASIC DETAILS
 - ii. COVER CONTENT: The Procurement officer Administrator should briefly describe the name and type of documents to be uploaded by the bidder in the following format:

(a) For Single Cover/Packet:

Sl. No.	Cover Type	Document Description	Type
1	Fee / Prequal / Technical Finance	Tender cost, EMD, GSTIN, PAN, Contractor RC	pdf
		Affidavits, undertakings and any other document as per SBD/DTCN	pdf
		BoQ	.xls

(b) For Two Cover/Packet:

Sl. No.	Cover Type	Document Description	Type
1	Fee / Prequal / Technical ...	Tender cost, EMD, GSTIN, PAN, Contractor RC	.pdf

		Affidavits, undertakings and any other document as per SBD/DTCN	.pdf
2	Finance	BoQ	.xls
		Breakup of O&M Cost for 5Yrs in Appendix-F-5, Special condition, if any, specifically mentioned by Officer Inviting Tender	.pdf

- iii. TENDER DOCUMENT: The Procurement officer Administrator should upload the NIT in .pdf format.
- iv. WORK ITEM DETAILS.
- v. FEE DETAILS: The Procurement Officer Administrator should mention the cost of tender paper and EMD amount as laid down in DTCN/SBD.
- vi. CRITICAL DATES: The Procurement officer Administrator should mention the critical dates of tender such as publishing date, document download start date & end date, seek clarification start date & end date (optional), bid submission start date & closing date, bid opening date as per DTCN/SBD.
- vii. BID OPENER SELECTION: The Procurement Officer creator can select two three / four bid openers for a particular bid. If required the bid openers can also be selected within an organization from other procurement units (Circles / Divisions).
- viii. WORK ITEM DOCUMENTS: The Procurement Officer Administrator should upload the digitally signed tender document (SBD/DTCN) or any other addition document/drawings in .pdf format and Bill of Quantities in .xls format.
- ix. PUBLISHING OF TENDER: The Procurement Officer Publisher shall publish the tender using his/her DSC after detail scrutiny of the fields created and documents uploaded by the Procurement Officer Administrator. Procurement Officer Publisher can publish tenders for multiple procurement units using multiple DSCs procured for each post separately. After being relieved from the additional charges he has to surrender the additional DSCs to the Nodal Officer of the concerned organization.

15. **PARTICIPATION IN BID:**

15.1 PORTAL REGISTRATION: The Contractor/Bidder intending to participate in the bid is required to register in the portal using his/her active personal/official e-mail ID as his/her Login ID and attach his/her valid Digital signature certificate (DSC) to his/her unique Login ID. He/ She has to submit the relevant information as asked for about the firm/contractor. The portal registration of the bidder/firm is to be authenticated by the State Procurement Cell after verification of original valid certificates / documents such as (i) PAN and (ii) Registration Certificate (RC) / GSTIN (for procurement of goods) of the concerned bidder. The time period of validity in the portal is at par with validity of RC / GSTIN Registration Certificate. Any change of information by the bidder is to be re-authenticated by the State Procurement Cell. After successful authentication bidder can participate in the online bidding process.

15.1.1 Bidders participating through Joint Venture shall declare the authorized signatory through Memorandum of Understanding duly registered and enroll in the portal in the name and style of the Joint Venture Company. It is mandatory that the DSC issued in the name of the authorized signatory is used in the portal.

15.1.2 Any third party/company/person under a service contract for operation of e-Procurement system in the State or his/their subsidiaries or their parent companies shall be ineligible to participate in the procurement process that are undertaken through the e-Procurement system irrespective of who operates the system.

- 15.2** **LOGGING TO THE PORTAL:** The Contractor/Bidder is required to type his/her Login ID and password. The system will again ask to select the DSC and confirm it with the password of DSC as a second stage authentication. For each login, a user's DSC will be validated against its date of validity and also against the Certificate Revocation List (CRL) of respective CAs stored in system database. The system checks the unique Login ID, password and DSC combination and authenticates the login process for use of portal.
- 15.3** **DOWNLOADING OF BID:** The bidder can download the tender of his choice and save it in his system and undertake the necessary preparatory work off-line and upload the completed tender at his convenience before the closing date and time of submission.
- 15.4** **CLARIFICATION ON BID:** The bidder may ask question related to tender online in the e-procurement portal using his/her DSC; provided the questions are raised within the period of seeking clarification as mentioned in tender call notice/Bid. The Officer Inviting the Bid / Procurement Officer-Publisher will clarify queries related to the tender.
- 15.5** **PREPARATION OF BID:**
- 15.5.1** The bids may consist of general arrangements drawings or typical or any other drawings relevant to the work for which bid has been invited. Bidder may download these drawings and takeout print for detail study and preparation of his bid. Any other drawings and documents pertaining to the works are available with the Officer Inviting the tender/bid. The bid will be open for inspection by the bidders.
- 15.5.2** The Bidder shall go through the Bid carefully and list the documents those are asked for submission. He shall prepare all documents including cost of Bid Document, EMD, Price bid etc. and store in the system.
- 15.6** **PAYMENT OF EMD/BID SECURITY AND COST OF BID DOCUMENTS :**
- 15.6.1** The Bidder shall furnish, as part of his Bid, a Bid security for the amount mentioned under NIT/Contract Data. The bidder shall scan all the written/printed pages of the bid security and up load the same in portable document format (PDF) to the system in designated place of the technical BID. Furnishing scanned copy of such documents is mandatory otherwise his/her bid shall be declared as non-responsive and liable for rejection.
- 15.6.2** The EMD or Bid Security payable along with the bid is 1% of the estimated contract value (ECV) or as mentioned in the bid document. The validity period of the EMD or Bid Security shall be as mentioned in the bid document. Any bid not accompanied by an acceptable Bid Security and not secured as indicated in the bid document shall be rejected as non-responsive. The bid security shall be retained till such time the successful bidder furnishes Initial Security Deposit (ISD) or Performance Security acceptable to the Officer Inviting the Bid. Failure of the successful Bidder to comply with the requirements shall constitute sufficient grounds for cancellation of the award and forfeiture of the Bid Security. The Bid security in the form of FD shall be from a Nationalized Bank valid for a period of 45 days beyond the validity of the bid. Bid security in other form is acceptable if the bid documents provides for it.
- 15.6.3** The Fixed Deposit / Bank Guarantee or any other form as mentioned in detailed tender call notice in respect of Earnest Money Deposit / Bid Security and the Bank Draft in respect of cost of Bid are to be scanned and up loaded in portable document format (PDF) along with the bid.
- 15.6.4** The tender accepting authority will verify the originals of all the scanned documents of the successful lowest bidder only within 5 days of opening of the tender. In the eventuality of failure on the part of the lowest successful bidder to produce the original documents, he will be debarred in future from participating in tender for 3 years and will be black listed by the competent authority. In such a situation, successful L-2 bidder will be required to produce his original documents for consideration of his tender at the negotiated rate equal to L1 bidder.

- 15.6.5** Contractor exempted from payment of EMD will be able to participate in the tender directly by uploading documentary evidences towards his eligibility for such exemption.
- 15.6.6** Government of Odisha has been actively considering integrating e-payment gateway in to the portal for payment of Cost of Bid and Bid Security/ Earnest Money Deposit. The process of using e-payment gateway shall be issued separately after it is established.

16. SUBMISSION OF BID :

- 16.1** The bidder shall carefully go through the tender and prepare the required documents. The bid shall have a Technical Bid & a Financial Bid. The Technical bid generally consist of cost of Bid documents, EMD/ Bid Security, PAN, GSTIN Registration Certificate, Registration Certificate, Affidavits, Profit Loss statement, Joint venture agreement, List of similar nature of works, work in hand, list of machineries, and any other information required by OIT. **The Financial Bid shall consist of the Bill of Quantities (BOQ), Appendix F-5** and any other price related information / undertaking including rebates.
- 16.2** Bidders are to submit only the original BoQ (in .xls format) uploaded by Procurement Officer Publisher (Officer Inviting Tender) after entering the relevant fields without any alteration / deletion / modification. Multiple BoQ submission by bidder shall lead to cancellation of bid. In case of item rate tender, bidders shall fill in their rates other than zero value in the specified cells without keeping it blank. In the percentage rate tender the bidder quoting zero percentage is valid and will be taken at par with the estimated rate of the work put to tender.
- 16.3** The bidder shall upload the scanned copy/copies of document in support of eligibility criteria and qualification information in prescribed format in Portable Document Format (PDF) to the portal in the designated locations of Technical Bid.
- 16.4** The bidder shall write his name in the space provided in the specified location in the Protected Bill of Quantities (BoQ) published by the Officer Inviting Tender. The bidder shall type rates in figure only in the rate column of respective item(s) without any blank cell in the rate column in case of item rate tender and type percentage excess or less up to two decimal place only in case of percentage rate tender
- 16.5** The bidder shall log on to the portal with his / her DSC and move to the desired tender for up loading the documents in appropriate place one by one simultaneously checking the documents.
- 16.5.1** Bids cannot be submitted after due date and time. The bids once submitted cannot be viewed, retrieved or corrected. The Bidder should ensure correctness of the bid prior to uploading and take print out of the system generated summary of submission to confirm successful uploading of bid. The bids cannot be opened even by the OIT or the Procurement Officer Publisher / opener before the due date and time of opening.
- 16.5.2** Each process in the e-procurement is time stamped and the system can detect the time of log in of each user including the Bidder.
- 16.5.3** The Bidder should ensure clarity/legibility of the document uploaded by him to the portal.
- 16.5.4** The system shall require all the mandatory forms and fields filled up by the contractor during the process of submission of the bid/tender.
- 16.5.5** The bidder should check the system generated confirmation statement on the status of the submission.
- 16.5.6** The Bidder should upload sufficiently ahead of the bid closure time to avoid traffic rush and failure in the network.
- 16.5.7** The Tender Inviting Officer is not responsible for any failure, malfunction or breakdown of the electronic system used during the e-procurement process.

16.5.8 The Bidder is required to upload documents related to his eligibility criteria and qualification information and Bill of Quantity duly filled in. It is not necessary for the part of the Bidder to up-load the drawings and the other Bid documents (after signing) while uploading his bid. It is assumed that the bidder has referred all the drawings and documents uploaded by the Officer Inviting the Bid.

16.5.9 The Bidder will not be able to submit his bid after expiry of the date and time of submission of bid (server time). The date and time of bid submission shall remain unaltered even if the specified date for the submission of bids declared as a holiday for the Officer Inviting the Bid.

16.6 **SIGNING OF BID:** The 'online bidder' shall digitally sign on all statements, documents, certificates uploaded by him, owing 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 and his registration in the portal shall be blocked and the bidder is liable to be blacklisted.

17. SECURITY OF BID SUBMISSION:

17.1 All bid uploaded by the Bidder to the portal will be encrypted.

17.2 The encrypted Bid can only be decrypted / opened by the authorized openers on or after the due date and time.

18. RESUBMISSION AND WITHDRAWAL OF BIDS :

18.1 Resubmission of bid by the bidders for any number of times before the final date and time of submission is allowed.

18.2 Resubmission of bid shall require uploading of all documents including price bid afresh.

18.3 If the bidder fails to submit his modified bids within the pre-defined time of receipt, the system shall consider only the last bid submitted.

18.4 The bidder should avoid submission of bid at the last moment to avoid system failure or malfunction of internet or traffic jam or power failure etc.

18.5 The Bidder can withdraw his bid before the closure date and time of receipt of the bid by uploading scanned copy of a letter addressing to the procurement Officer Publisher (Officer Inviting Tender) citing reasons for withdrawal. The system shall not allow any withdrawal after expiry of the closure time of the bid.

19. OPENING OF THE BID :

19.1 Bid opening date and time is specified during tender creation or can be extended through corrigendum. Bids cannot be opened before the specified date & time.

19.2 All bid openers have to log-on to the portal to decrypt the bid submitted by the bidders.

19.3 The bidders & guest users can view the summary of opening of bids from any system. Contractors are not required to be present during the bid opening at the opening location if they so desire.

19.4 In the event of the specified date of bid opening being declared a holiday for the Officer Inviting the Bid, the bids will be opened at the appointed time on the next working day.

19.5 Combined bid security for more than one work is not acceptable.

19.6 The electronically submitted bids may be permitted to be opened by the predefined Bid opening officer from their new location if they are transferred after the issue of Notice inviting Bid and before bid opening. Further, action on bid documents shall be taken by the new incumbent of the post.

19.7 In case of non-responsive tender the officer inviting tender should complete the e-Procurement process by uploading the official letter for cancelled / re-tender.

20. EVALUATION OF BID :

20.1 All the opened bids shall be downloaded and printed for taking up evaluation. The officer authorized to open the tender shall sign and number on each page of the documents downloaded and furnish a certificate that “the documents as available in the portal containing of pages”.

20.2 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 Officer Inviting Tender may ask for any other document of historical nature during Technical Evaluation of the tender. Provided in all such cases, furnishing of any document in no way alters the Bidder's price bid. Non submission of legible documents may render the bid non-responsive. The authority inviting bid may reserve the right to accept any additional document.

20.3 The bidders will respond in not more than 7 days of issue of the clarification letter, failing which the bid of the bidder will be evaluated on its own merit.

20.4 The Technical evaluation of all the bids shall be carried out as per information furnished by Bidders.

20.5 The Procurement Officer-Evaluators; will evaluate bid and finalize list of responsive bidders.

20.6 The financial bids of the technically responsive bidders shall be opened on the due date of opening. The Procurement Officer-Openers shall log on to the system in sequence and open the financial bids.

20.6.1 The Financial Bid will be opened on the notified date & time in the presence of bidders or their authorized representative who wish to be present.

20.6.2 At the time of opening of “Financial Bid”, bidders whose technical bids were found responsive will be opened.

20.6.3 The responsive bidders' name, bid prices, item wise rates, total amount of each item in case of item rate tender and percentage above or less in case of percentage rate tenders will be announced.

20.6.4 Procurement Officer-Openers shall sign on each page of the downloaded BoQ and the Comparative Statement and furnish a certificate to that respect.

20.6.5 Bidder can witness the principal activities and view the documents/summary reports for that particular work by logging on to the portal with his DSC from anywhere.

20.6.6 System provides an option to Procurement Officer Publisher for reconsidering the rejected bid with the approval of concerned Chief Engineer / Head of Department.

21. NEGOTIATION OF BIDS :

21.1 For examination, evaluation and comparison of bids, the officer inviting the bid may, at his discretion, as the lowest bidder for clarification of his rates including reduction of rate on negotiation and breakdown of unit rates.

22. NOTIFICATION OF AWARD AND SIGNING OF AGREEMENT:

22.1 The Employer/Engineer-in-Charge shall notify acceptance of the work prior to expiry of the validity period by cable, telex or facsimile or e-mail confirmed by registered letter. This Letter of Acceptance will state the sum that the Engineer-in-Charge will pay the contractor in consideration of execution & completion of the Works by the contractor as prescribed by the contract & the amount of Performance Security and Additional Performance Security required to be furnished. The issue of

Engineer-in-Chief (WR)	-	Member
Concerned Chief Engineer	-	Member
Sr. Manager (Finance), SPC	-	Member
Officer Inviting Tender	-	Member
Chief Manager (Technical), SPC	-	Convener

24.2 The Chief Manager (Tech), State Procurement Cell will be the convener and he will maintain all records for this purpose. The Committee shall meet not less than once in a month if required & shall consider the recommendation of the officer inviting tender for unblocking of portal registration. The quorum of the meeting will be four.

24.3 The minimum period of blocking of Portal Registration shall in no case be less than 90 days. After blocking of Portal Registration, the Contractor whose Portal Registration has been blocked may file application to the concerned officer inviting tender showing sufficient ground for unblocking of his portal registration along with a Treasury Challan showing deposit of Rs. 10,000/- (Rupees ten thousand) only (non-refundable) under the head of accounts '0059-Public Works' as processing fees. The officer inviting tender shall forward the application filed by the contractor to the Chief Manager (Tech), State Procurement Cell.

24.4 On receipt of recommendation from the concerned Chief Engineer along with the copy of challan as mentioned above, the Chief Manager (Tech) being the member Convener of the Committee shall place in the case before the Committee for examination and taking a decision in this regard. After examination the Committee may recommend for unblocking of the portal registration of said contractor if the Committee is satisfied that the fault committed by the Contractor is either unintentional or done for the first time.

24.5 After scrutiny by the State Procurement Cell if it is found that the portal registration of a contractor has been blocked for the 2nd time the Chief Manager (Tech), SPC may not consider his case to be placed before the Committee and may advise the concerned officer inviting tender to issue show cause notice to the contractor asking him to explain as to why his portal registration shall not remain blocked. On receipt of show cause reply from the contractor the officer inviting tender shall examine the same & if considered proper he may report to the Chief Manager (Tech), SPC along with his views furnishing the copy of the show cause reply for placement of the same before the Committee for taking a decision in respect of blocking/ unblocking. If the Committee found that the contractor is in habit of committing such fault again and again intentionally the committee may advise the concerned officer inviting tender to initiate proceeding for blacklisting as per the existing rule.

1. These amendments shall take effect from the date of issue of the order.
2. This amendment is an addition to the existing provision and will be placed below Appendix-IX to OPWD Code, Vol-II.
3. Accordingly Officer Memorandum No.1027 dt.24.01.2009 stands modified.

25. For the purpose of estimate the approved quarry lead is to be provided judiciously. Engineers in charges would be responsible for ensuring the quality of the materials supplied. The contractors would however be responsible for procurement of materials from authorized sources of procurement for the purpose of billing. Besides the bidder would be required to submit the details of quarry for procurement while submitting the bids.

26. If L1 bidder does not turn up for agreement after finalization of the tender then he shall be debarred from participation in bidding for three years and action will be taken to blacklist the contractor 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 per with the

rate quoted by the L1 bidder otherwise the tender will be cancelled. In case a contractor is black listed, it will be widely publicized and intimated to all departments of Government and also to Govt. of India agencies working in the state.

27. If rate quoted by the bidder is less by 15% or more of the amount put to tender, then such a bid shall be rejected and tender shall be finalized basing on merits of rest bids. But if more than one bid is quoted (**Decimals up to two numbers will be taken for all practical purposes**) either at the estimated cost put to tender or less than the amount put to tender, the tender accepting authority will finalize the tender through a transparent lottery system, where all bidders/their authorized representatives, the concerned SUPERINTENDING Engineer and DAO will remain present. The percentage rates should be written both in words and figures in decimal coinage and the units in words. In case of discrepancy in rates between words and figures the rates written in words will prevail. The tender should also show the grand total of the whole tender.

28. For works above values Rs 5.00 Lakh in civil works and work value above Rs 1.00 Lakh in electrical/PH works the J.E S & A.E will be required to submit bill for each ongoing work on 20th or next working day of every month to the concerned EE. The E.E. on receipt of the bill will take steps for payment of the same by 30th or the next working day during the month. The E.E in charge of the Division will furnish a certificate to the chief engineer with copy to the concerned SE that the bills for all ongoing month have been paid failing action will be initiated against the erring officer.

29. Before acceptance of tender 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 will be imposed.

30. The single tender received in the first call shall be cancelled without opening the bid. The acceptance of the single tender received even after retendering should have prior approval of next higher authority.

When in response to a notice calling for tenders, only a single tender received in first time, the tender shall be cancelled without opening of the bid and fresh tender be invited publicly. If single tender is received, even after retendering then the approval of the next higher authority should be obtained, if the tender is otherwise in order and acceptable.

31. If the rate quoted by the SC and ST category contractors comes to 14.99% (decimals up to two numbers will be taken for all practical purposes) less than the estimated cost, the tender shall be finalized by the tender accepting authority through the transparent lottery system along with other category of contractors whose rates are 14.99% less than the estimated cost. price preference is not admissible as per Works Department Resolution No. 16262 dated 30.10.2018

32. "Additional Performance Security" shall be obtained from the bidder when the bid amount is less than the estimated cost put to tender. In such an event, only the successful bidder who has quoted less bid price /rates than the estimated cost put to tender shall have to furnish the APS **as per the Rate of Addl Performance Security (APS) fixed by the State Government issued vide Finance Department No FIN-WF1-MISC-0102-2025** in shape of Term Deposit Receipt pledged in favour of Divisional Officer (i.e. **Superintending Engineer, Hydrology & Interstate Matter, Burla**)/ Bank Guarantee in favour of Divisional Officer (i.e. **Superintending Engineer, Hydrology & Interstate Matter, , Burla**) from any Nationalized/Scheduled Bank in India counter guaranteed by its local branch at Bhubaneswar within seven days of issue of Letter of Acceptance (LoA) by the **Divisional Officer** (by e-mail) to the successful bidder, otherwise the bid of the successful bidder shall be cancelled and the Earnest Money Deposit/ Bid Security shall be forfeited. Further, proceeding for blacklisting shall be initiated against bidder. (As per O.M. File No. 14459/W, dated 20.09.2018 of Amendment to Para-3.5.5(v) of the OPWD Code, Volume-I.

33. Settlement of Disputes

- 33.1 if any dispute of difference of any kind whatsoever arises between the department and the Contractor in connection with, or arising out of the contract, in connection with, or arising out of the contract, whether during the progress of the works or after their completion and whether before or after the termination, abandonment or breach of the contract, it shall in the first place, be referred to for settlement by the Engineer-in-Chief, Water Resources, Odisha, Bhubaneswar who shall, within a period of thirty days of receipt of request of the contractor to do so, give written notice of his decision to the contractor. Upon receipt of the written notice of the decision of the Engineer-in-Charge, the contractor shall promptly process without delay to comply with such notice of decision.
- 33.2 If the Engineer-in-Charge fails to give notice of his decision in writing within a period of thirty days after being requested or if the contractor is dissatisfied with the notice of the design of the Engineer-in-Charge, the contractor may within thirty days of receipt of the notice of decision appeal to the Superintending Engineer who will give notice of his decision within thirty days of receipt of the appeal. In case of failure of Superintending Engineer to give the decision within stipulated period or if in the contractor is dissatisfied with the decision, he may within thirty days of receipt of such notice, appeal to the Chief Engineer who shall offer an opportunity to the contractor to be heard and to offer evidence in support of his appeal. The Chief Engineer shall give notice of his decision within a period of thirty days after the contractor has given the said evidence in support of his appeal. Such decision, of the Chief Engineer, in respect of every matter so referred shall be final and binding upon the contractor and shall forthwith be given effect to by the contractor, who shall proceed with the execution of the works with all due diligence whether he requires further appeal as hereinafter provided, or not. If the Chief Engineer fails to give notice of his decision, as aforesaid within a period of thirty days after being requested as aforesaid, or if the contractor be dissatisfied with any such decision, then the contractor within thirty days may refer the matter of matters in dispute to Principal Secretary to Govt. in Department of Water Resources, Odisha, Bhubaneswar who shall decide within thirty days of receipt of such reference by the contractor and his decision will be final and binding.
- 33.3 in case the contractor is dissatisfied with any such decision of Govt., for the purpose of jurisdiction in the event of any dispute 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.

SECTION – 6

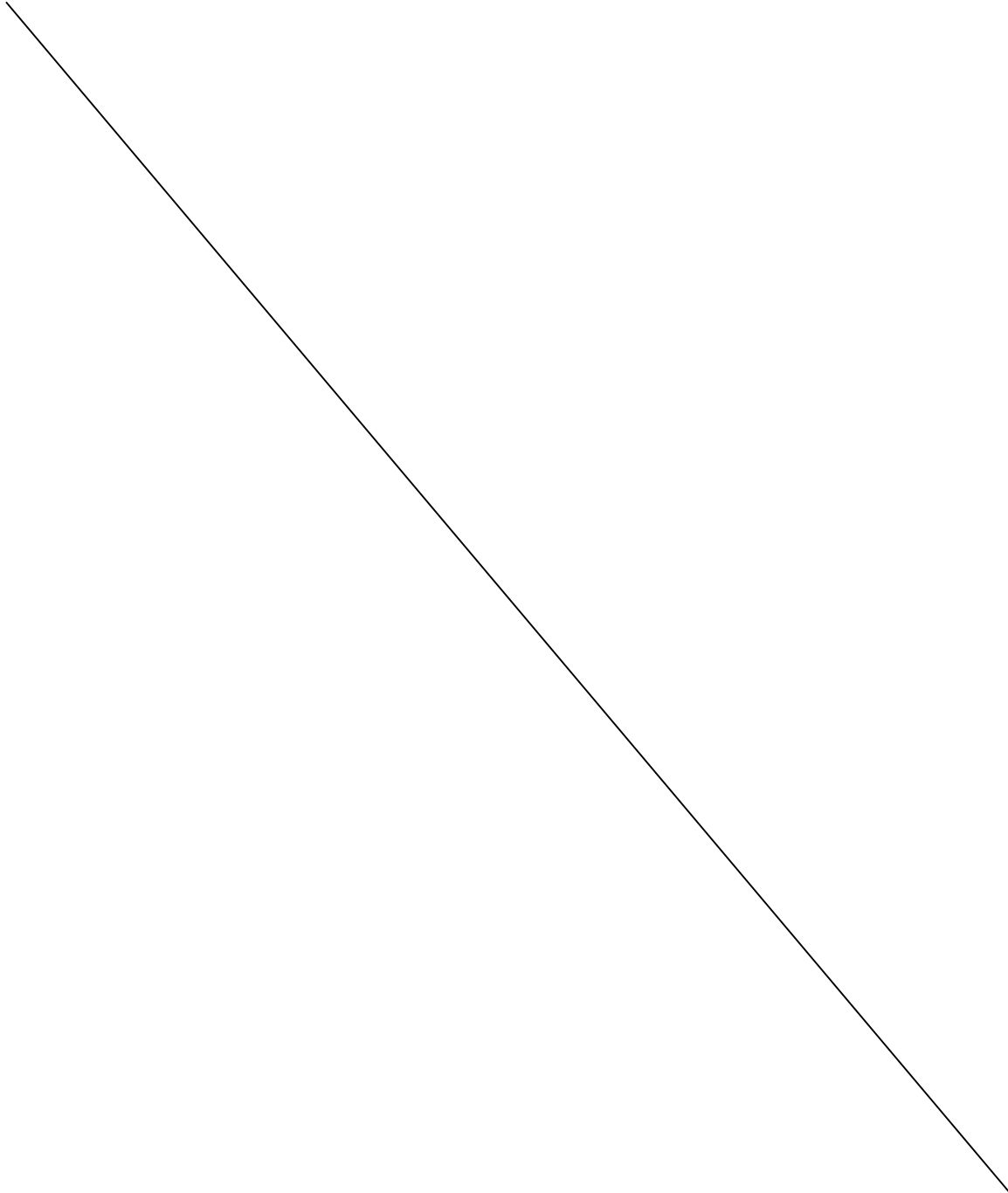
TECHNICAL SPECIFICATION

Technical Specifications

➤ GENERAL SPECIFICATION:

- 1.0 The enclosed drawing in the bid document gives broad dimensions and outline of the works to be executed through this contract. These drawings may however be revised/modified from time to time and supplementary additional drawing may also be issued as per necessity. During the course of execution there may be changes in dimension, specifications and shape of components. These changes in the drawing can be done without in any way deviating the terms of the contract and the contractor is to execute the work as per revised drawings and specifications at the same rate as agreed upon for the work awarded under the original contract. The contractor shall do no work without proper drawings. He shall check all drawings and specifications carefully and advise the Engineer-in-charge if any error and omission are discovered where upon the Superintending Engineer will prepare revised additional drawings and specifications and may be required to suit the stage of the work.
- 1.1 Where the drawings are not consistent with the text of the specifications, the text shall govern.
- 1.2 The rates shall be for finished items of works as per description in the schedule of quantities and according to drawings, specification and conditions of the contract. The rates quoted shall be for execution of finished items of work & the specifications of which conform to the details furnished in the Agreement and provisions in Bureau of Indian Standards and shall include all general and incidental charges which will not be paid separately. Such general and incidental charges are listed in succeeding Para for the convenience of the tenderers but are not exhaustive. Omission of any such items here in but required for delivering finished items of work, shall not be plea, that such items are not covered by the rates quoted.
- 1.2.1 Formation and maintenance of haul roads including river and drainage crossings within the work site. The existing approaches and haul roads, if any, under the control of the Department may be made use of but improvement, if required, shall be done by the contractor at his own cost.
- 1.2.2 Labour and material required for the construction of reference points, bench marks, pillars, diversions, signboards, road signals etc. for setting out works shall be at contractors cost.
- 1.2.3 Scaffolding and gangways as and when required for the work will be done by the contractor at his own cost. No additional payment in this regard, will be entertained.
- 1.2.4 The rate includes all leads, lifts & delifts.
- 1.2.5 Form work complete includes cost of materials, labour, maintenance, erection dismantling and removal.
- 1.2.6 Construction of coffer dam shall be carried out as and when required as per the instruction of the Engineer-in-Charge.

- 1.2.7 Protection of the components of work during the rainy season & khariff irrigation supply shall be the responsibility of the contractor. The responsibility for the safety of the structure rests, entirely on the contractor and any damages that may occur, has to be made good by the contractor at his own cost.



- 1.3 The sequence of construction adopted by the contractor shall have to be approved by the Engineer-in-Charge.
- 1.4 The contractor has to make his own design for coffer dam or any type of cross bund required during course of execution. All materials for the coffer dam or cross bund shall be arranged by the contractor at his cost. The contractor shall maintain the coffer dam/cross bund till completion of the work.

1.5 Quality Control :

- 1.5.1 Before collecting materials required for execution of the respective items of work as laid down in the schedule of quantities and in the detailed specifications described hereafter in the subsequent sections, the contractor shall ensure that samples of materials proposed to be used are first approved by the Engineer-in-Charge. When directed the samples of materials proposed to be used should be furnished to the Departmental laboratory i.e. **Superintending Engineer, Quality Assurance Division, Hirakud.**

- 1.5.2 All such testing charges shall be borne by the contractor. The contractor will provide necessary assistance if required for collection of samples.

The contractor is liable to pay for any test which is not included in the agreement but required in the opinion of the Engineer-in-Charge during execution of the work for which no additional payment will be made to the contractor.

- 1.5.3 On the basis of satisfactory test results confirming to technical specification, collection of materials shall be started in the field. The testing of materials shall be checked in the field Laboratory by the Junior Engineer/ Assistant Engineer of the Department as well as staff of **Superintending Engineer, Quality Assurance Division, Hirakud.**

If the field test result is found unsatisfactory, the materials shall be rejected and action taken to remove the same from work site by the contractor at his own cost. In no case the defective materials shall be used in the work.

- 1.5.4 On receipt of notice from the Engineer-in-charge and on observation of **Superintending Engineer, Quality Assurance Division, Hirakud**, the contractor will rectify the defect in stipulated period at his own cost.

If the defects are not rectified in the stipulated period, the Engineer-in-charge shall assess the cost, get the defect rectified and recover the same from the dues of the contractor.

- 1.6 A quarry chart indicating possible source of materials may be seen in the office of the **Superintending Engineer, Hydrology & Interstate Matter, Burla** . The contractor must however satisfy himself that materials as per required specifications and quantity are available in those quarries. No extra payment will be made due to non-availability of materials as per required specification and quantity in the quarries shown in the departmental quarry chart. The quarry chart is only an indication of source of material and the department does not accept the responsibility if the materials are not available in full quantity and quality.

- 1.7 No claim for carriages of water whatsoever will be entertained.
- 1.8 Decision regarding usefulness of excavated materials rests fully on the Engineer-in-Charge. However, he may take advice of Quality Control Organization or higher authorities if required.

a. GENERAL SPECIFICATIONS

The term the India Standard Specification herein after referred to as BIS as used therein means the relevant Bureau of Indian Standard codes with all amendments published up to the date of Submission of tenders. A statement of relevant BIS is applicable to this context follows.

Sl. No.	Short Title	B.I.S Number
<u>LIST OF INDIAN STANDARDS</u>		
(I) <u>CEMENT</u>		
1.	Specification to ordinary and Low heat Portland cement	269-1976
2.	Specification for Portland Pozzolana Cement	1489-1976
3.	Portland Slag Cement (Third revision)	455-1976
4.	Method for physical tests for hydraulic cement (Reaffirmed 1980)	4031-1968
5.	Method of Chemical analysis for hydraulic cement (First revision)	4032-1985
6.	Rapid hardening Portland cement	8041-1978
7.	Hydrophobic Portland cement	8043-1978
8.	High Strength ordinary Portland cement	8112-1976
(II) <u>AGGREGATES</u>		
1.	Specification for coarse and fine Aggregates from natural source for concrete	383-1970
2.	Specification for sand for masonry mortars	2116-1965
3.	Method of Tests for aggregates for concrete	2385-1969 (Part I to Part IV)
4.	Standard sand for testing of cement (First revision) with amendment 1 and 2 Reaffirmed 1980	650-1966
5.	Methods for sampling of aggregates for concrete	2430 -1969
6.	Method of test for determining aggregates impact value of soft coarse aggregates	5640-1970
(III) <u>BUILDING STONES</u>		
1.	Methods of Test for Determination of strength	1221-1974
2.	Properties of natural building stone	(Part I to Part IV)
	Part I Compressive Strength	
	Part II Transverse Strength	
	Part III Tensile Strength	

3.	Part IV Shear strength Method of Measurement of Buildings and Civil Engineering Works method. (Part IV Stone masonry)	1200-1976
(IV) <u>STEEL</u>		
1.	Code of practice for bending and fixing of bars	2502-1963
2.	Specification for cold worked steel deformed bars for concrete reinforcement	1786-1979
3.	Code of practice for welding of MS Bars used for reinforced concrete construction.	2751-1966
4.	Code for practice for use of Metal arc welding for general construction of mild steel	818-1989
5.	Deformed bars for concrete reinforcement hot rolled mild steel and medium tensile steel (Revised)	1139-1966
6.	Recommendations for detailing of reinforcement in reinforced concrete works	5525-1969
7.	Specification for Mild Steel and medium tensile steel Bars for Concrete reinforcement.	432-1966 (Part I)
8.	Code for practice for safety and health requirement in Electric and Gas welding and cutting operations	818-1968
9.	Code for practice for fire precautions in welding and cutting operation.	3016-1965
10.	Measurement of building and Civil Engineering works, method part VIII steel work and iron work	1200-1974 (Part VIII)
11.	Code of procedure for manual or metal ARC and welding of Mild steel	823-1964
12.	Specification for filler rods and wires for gas welding	1278-1972
13.	Recommendations for welding cold worked steel bars for reinforced concrete construction	9417-1979
14.	Hard drawn steel wire fabrics for concrete reinforcement	1566-1982
(V) <u>MASONRY</u>		
1.	Code of practice for construction of stone masonry Part-I Rubble stone masonry	1597-1967 (Part I)
2.	Code of practice for construction of stone masonry Part II Ashlars Masonry	1597-1967 (Part II)
3.	Specification for fly ash for use as pozzolana and admixture	3812-1981(Part I)
4.	Method of Measurement of building and Civil Engineering works Part XII plastering and pointing.	1200-1976 (Part-XII)
(VI) <u>CONCRETE</u>		
1.	Method of Measurement of building and Civil Engineer works Part-II cement concrete works.	1200-1968 (Part-II)
2.	Code of practice for plain and reinforced concrete	456-2000

3.	Specification for pre cast concrete coping blocks.	5751-1969
4.	Methods of tests for strength of concrete	516-1959
5.	Code of practice for laying in situ cement concrete lining on canals	3873-1978
6.	Specification for Admixtures for concrete	9103-1979
7.	Method of Test for Autoclaved cellular concrete products.	6441-1972(Part-IoIX)
8.	Method of Sampling and Analysis of concrete	1199-1959
9.	Specification of Batch type concrete mixtures	1791-1963
10.	General requirements for Concrete Vibrators immersion type	2505-1980
11.	Specification for concrete vibrating tables	2514-1963
12.	Method of test for permeability of cement mortar & concrete	3085-1965
13.	Specification for fly ash for use as pozzolana as admixture for Concrete	3812-1981 (Part-II)
14.	Specification for Portable swing weigh batch for concrete (single and double bucket type)	2722-1964
15.	Code of practice for installation of joints in concrete pavements	6509-1972
16.	Code of practice for general construction of plain and reinforced concrete for dams and other massive structures	457-1957
17.	General requirement for concrete vibrator screed board type (First revision)	2506-1985
18.	Code of practice for concrete structures for shortage of liquid	3370(Part-1 to 4)
19.	Code of practice for use of immersion vibrator for consolidating concrete (First revision)	3558-1983
20.	Method for testing performance of batch type concrete mixer	4634-1968
21.	From vibrators for concrete	4656-1968
22.	Concrete batching and mixing plant	4925-1968
23.	Ready mixed concrete (First revision)	4926-1976
24.	Code of practice for sealing joints in concrete lining on canals	5256-1968
25.	Vibrating plate compactor	5889-1970
26.	Concrete transit mixer and agitator	5892-1970
27.	Concrete pavers	7245-1974
28.	Concrete slump test apparatus	7320-1974
29.	Method of making curing and determining compressive strength of accelerated cured concrete test specimen	9013-1978

VII EARTH WORK

1.	Method of Measurement of building and Civil Engineering Works Part I, Earthwork.	1200-1969 (Part-I)
2.	Safety code for piling and other deep foundations	5121-1969

3.	Code of practice for Design installation, observation and Maintenance of uplift pressure pipes for Hydraulic structures on permeable foundation.	6532-1972
4.	Safety code for excavation works	3764-1966
5.	Code of practice for protection of slope for Reservoir embankment	8237-1985
6.	Code of practice for earth work on canals	4701-1982
7.	Guidelines for lining of canals in expansive soils	9451-1985
8.	Method of test for soils Part-II Determination of water concrete	2720-1973(Part-II)
9.	Method of test for soils Determination of water content dry density relation using light compaction.	2720-1974 (Part-VII)
10.	Method of test for soils determination of dry density of soils in place by the sand replacement method	2720-1974 (Part-XXVIII)
11.	Method of test for soils determination of dry density of soils in place by the core cutter method	2720-1975 (Part-XXIX)
12.	Classification and identification of soils for general	1498-1970
13.	Safety code for blasting and related drilling operation with Amendment No. I (Reaffirmed 1978)	4081-1967
14.	Portable Pneumatic drilling machine (First revision)	5441-1986
15.	General requirement for black hold drilling rigs	7209-1974
16.	Safety code for working with construction machinery	7293-1974
17.	Code of practice for stability analysis of earth dams	7894-1975
18.	Guidelines for design of under seepage control measures for earth and rock fill dams	8414-1977
19.	Filtration media sand and gravel	8419-1977 (Part-I)
20.	Guidelines for design of large earth and rock fill dams	8826-1978
21.	Under drainage arrangements of lines canals.	4558-1983
22.	Precast cement concrete stables for canal lining	3868-1966
23.	Methods of tests of soils	2720(Part-1 to X)
24.	Ammonium nitrate for explosive	4668-1967
25.	Method of test for commercial blasting explosives and accessories.	6609(Part-1 to V)
26.	Detonators	7632-1975
27.	Method of load test on soils (Second revision)	1888-1982
28.	Method for standard penetration test for soil (first revision)	2131-1981
29.	Glossing of terms and symbolic relating to soil engineering.	2809-1972
30.	Method of sampling and preparation of stabilized soils for testing	4332(Part-I of 1967)
31.	Test in over burden	552 (Part-1 of 69)

EARTH WORK

EARTH WORK – GENERAL

To the extent that they exist, plans and estimates for the Government's studies of Earth Work for construction of the canal will be available for inspection by the Bidders in the office of the concerned Engineer-in-charge. Such information is made available solely for the convenience of Bidders. The Government does not guarantee that the information is accurate or complete. Bidders are cautioned that this information is subject to revision and that the Govt. disclaims responsibility for any interpretation, deduction or conclusions, which may be made there from. It is not intended that this information will limit or prescribe the excavation and handling procedures of the contractor, and the Govt. reserves the right to utilize and distribute earth work materials during the progress of work it serves the interest of the Govt. Drawing showing the typical section of the canal annexed to these specifications provides such details as would enable the contractor to execute the work in general conformity therewith under these specifications which have been prepared as definitely and in as much detail as possible with regard to design data presently available. These drawings will be supplemented by such additional, general and details drawings or directions as may be considered necessary or desirable as the work progresses. For all changes in approved drawing/design the recommendation of Superintending Engineer and approval of Chief Engineer will be essential. Where details shown on these drawings differ from the requirements of these specifications, the requirement of specifications shall govern. The contractor shall do no work without proper drawings. He shall check all drawings and specifications carefully and advise the Engineer-in-charge if any errors and commissions are discovered where upon the Superintending Engineer will prepare and lodge such revised additional drawings and specifications as may be required to suit the stage of the work. All such additional general and detailed drawings whether original or revised lodged in the office of the Engineer-in-charge and signed by him for purpose of identification shall be open for inspection by the contractor under the same terms and conditions as provided in agreement. All works of the contract shall be executed as per the specific and relevant clause/clauses of relevant I.S. code unless otherwise specified. Materials used should, confirm to the desired standards prescribed in the relevant codes. Wherever a para of IS Code is cited in specification it goes without saying that the latest revision of the specification subsequently, shall apply. For purpose of relevancy or otherwise of any provision of the I.S. Code referred to the decision of the Engineer-in-charge.

CONCRETE WORKS

1. CONCRETE STRUCTURES.

1.1 CONCRETE IN STRUCTURES.

- a. Concrete in structures shall conform to the requirements of paragraphs 1.2.1.
- b. Measurement and payment for concrete in structures shall be made as prescribed in paragraphs.

1.2 CONSTRUCTION OF STRUCTURES:

The item of the schedules for concrete in the structures including all cast in place concrete in the structure. Cast in place concrete for the structures include all cast in place concrete in the structure.

Cast in place concrete for the structures shall conform to the requirement of section 6.2 pipe and fitting miscellaneous metal work, mechanical and electrical equipment and other items forming a part of the structures are provided for elsewhere in this specification. The structures will be located at various points along the canal as shown on the drawings or as otherwise designated.

The structures shall be built to the lines, grades and dimensions shown on the drawings. The dimensions of each structure as shown on the drawings will be subject to such modifications as may be found necessary by the Engineer-in-charge to adopt the structure to the conditions disclosed by the excavation or to meet other conditional. Where the thickness of any portion of a concrete structure is variable, it shall vary uniformly between the dimensions shown. Where necessary as determined by the Engineer-in-charge the contractor shall furnish additional details drawings of the structures to be constructed.

The cost of furnishing all materials and performing all work for installing timber, metal and other accessories for which specific price are not provided in the schedule, shall be included in the applicable prices bid in the schedule for the work to which such items are appurtenant.

SECTION 1.2 GENERAL CONCRETE REQUIREMENTS:

1.2.1 COMPOSITION:

A GENERAL:

Concrete shall be composed of cement, sand, coarse aggregate, water admixtures (if any) as specified and all well mixed in batching plant by weight or by concrete mixture by volume derived from conversion of weight in to volume according to design mix and brought to the proper

consistency. Batching plant shall conform to IS Code No. 4925-1968 For works in which water tightness is required the specification in IS 3370-1965 para 1 to 10 shall be adopted.

MIXING:

Concrete shall be mixed in a mechanical mixer and shall be as dense possible, plastic enough to consolidate well and stiff enough to stay in place on the slopes.

Mixing shall be continued until there is a uniform mixing of the materials and the concrete is uniform in colour and consistency. The time of mixing shall be as shown table 1 of IS 457- 1957 reproduced below.

Capacity of Mixer	Minimum time Mixing	
	Natural Aggregates	Manufactured Aggregates
All mixture	2 minutes	2-1/2 minutes.

B. NOMINAL MAXIMUM SIZE OF AGGREGATES.

For sizes of aggregates IS 383-1970 shall apply. The coarse aggregates to be used in concrete shall be as large as practicable, consistent with required strength, spacing of reinforcement and embedded items and placement thickness. The size of the coarse aggregates to be used will be determined by the Engineer-in-charge and may vary incrementally according to the conditions encountered in each concrete placement. Nominal maximum size of aggregates for concrete in structures and canal lining shall be as indicated in the relevant drawings appended to the contract documents. Smaller coarse aggregates than specified shall be used where in the opinion of the Engineer-in-charge that proper placement of concrete is impracticable with the size of the aggregate specified in the drawings.

C. MIX PROPORTIONS:

The proportions of various ingredients to be used in the concrete for different items of the work are given in the bill of quantities. In proportioning concrete, the quantity of both cement and aggregate should be determined by volume. Water shall be either measured by volume in calibrate tanks or weighed. Batching plant shall conform IS 4925-1968 (Indian Standard Specification for batching and mixing plant). All measuring equipment shall be maintained in a clean serviceable condition and their accuracy periodically checked. Adjustment shall be made as directed to obtain concrete having suitable workability, impermeability, density, strength and durability without the use of excessive cement. The acceptance or rejection of concrete shall be as per the acceptance criteria laid down in clause 15 of IS 456-2000.

The water cement ratio exclusive of water absorbed by the aggregate shall be sufficiently low to provide adequate durability in concrete. The water cement ratio of various grades of concrete shall as determined and ordered by the Engineer-in-charge. Admixture of Pozzolanas, if ordered, shall conform to the requirements specified in IS 9103-1979 (Indian Standard Specification for Admixtures for concrete).

D. CONSISTENCIES.

The slump of concrete at the placement shall be as follows :

Sl.No.	Place condition	Degree of workability	Value of workability.
1.	Concreting of light reinforced sections without vibration or heavily reinforced section with vibrations.	Medium	25mm to 75mm slump for 20mm down aggregate.

II. For plain concrete work, slump requirements mentioned in item 1 above are applicable.

III. Lining with slip form machine 60 to 70 mm slump for concrete paver finish.

If the specified slump is exceeded at the placement, the concrete is unacceptable. The Engineer-in-charge reserves the right to require lesser slump whenever concrete of such lesser slump can be consolidated readily into place by means of vibration specified by the Engineer-in-charge. The use of equipment's which will not readily handle and place concrete of the specified slump will not be permitted.

To maintain concrete at proper consistency, the amount of water and sand batched for concrete shall be adjusted compensate for any variation in the moisture content or grading of the aggregates as they enter the mixer. Addition of water to compensate for stiffening of the concrete after mixing but before placing will not be permitted. Uniformity in concrete consistency from batch to batch will be required.

1.2.2 CONCRETE QUALITY CONTROL MEASURES AND CONCRETE

QUALITY ASSURANCE TEST PROGRAMME.

CONCRETE QUALITY CONTROL MEASURES

- a. The contractor shall be responsible for providing quality concrete to ensure compliance of the contract requirements.
- b. Making and cutting concrete test specimens in the field will conform to IS 516-1959
- c. Capping cylindrical concrete specimens will conform to IS 516-1959
- d. Compressive strength of concrete specimens will confirm to IS 516-1959.

SAMPLING PROCEDURE AND FREQUENCY:

A. A random sampling procedure shall be adopted to ensure that each concrete batch has a reasonable chance of being tested i.e. the sampling should be spread over the entire period of concreting and should cover all mixing units.

B. FREQUENCY:

The minimum frequency of sampling of concrete of each grade shall be in accordance with the following-

Quantity of concrete in cum	Number of samples.
1 to 5	1
6 to 15	2
16 to 30	3
31 to 50	4
51 to above.	4 plus one additional sample for every 50 cum. or part thereof.

Note At least one sample shall be taken during each shift.

TEST FACILITIES:

The contractor shall furnish free of cost samples of all ingredients of concrete for testing. He should also supply free of cost the samples of all the ingredients of concrete used in the work for the test to be conducted by the Engineer-in-charge or any officer nominated by him. The testing charges shall be borne by the contractor.

CONTRACTOR TO FURNISH DRAWINGS AND DATA:

Not less than 30 days prior to start of installation of the contractors plant and equipment for processing, handling, transporting, storing and proportioning concrete, the contractor shall submit it drawings and data to the Engineer-in-charge for approval, showing the arrangement of plant etc. The drawing and data shall provide a description in sufficient details for an adequate review of the facilities and equipment the contractor proposes to provide at site of work.

1.2.3 CEMENT

A. GENERAL

Cement shall confirm clause 4 of IS 456-2000 for the purpose of specifications cement used shall be any of the following with the prior approval of the Engineer-in-charge.

- a. Ordinary or low heat Portland cement conforming to IS 269-1976
- b. Rapid hardening Portland cement conforming to IS 8041-1978
- c. Portland slag cement conforming to IS 455-1976
- d. Portland pozzolana cement conforming to Is 1489-1976
- e. High strength ordinary Portland cement conforming to IS 8112-1976
- f. Hydrophobic cement conforming to IS 8043-1978

The provisions of this paragraph apply to cement for use in cast in place concrete required under these specifications. Portland cement required for items such as concrete popes, pre-cast concrete structural members and other pre-cast concrete products for grout and mortar and for other items provided for under appropriate paragraph of these specifications covering items for which such Portland cement is required.

The contractor shall make his own arrangements for the procurement of cement to required specifications required for the work. Transportation from the place of supply to the batching plant shall be in weather tight rail cars, trucks, conveyors and other means which will protect the cement completely from exposure to moisture. Immediately upon receipt at the jobsite, bulk cement shall store in dry, weather tight, properly ventilated bins until the cement is

batched. The bins shall be emptied and cleaned by the contractor when so directed by the Engineer-in-charge. However, the intervals between required cleaning will normally be not less than 6 months. Each other shipment of bagged cement shall be stored separately so that it may readily be distinguished from other shipment and shall be stored in a dry enclosed area protected from moisture. Storage of materials shall be as described in IS 4082-1977 (IS recommendation on staking and storage of construction materials at site) To prevent under aging of bagged cement after delivery. The contractor shall use bags of cement in the chronological order in which they were delivered to the job site. All storage facilities shall be subject to approval of the Engineer-in-charge.

B. ACCEPTANCE OF CEMENT.

Portland cement shall be supplied by the contractor according to clause 10.1 of IS 269-1976.

The cement of the companies having their own manufacturing units in the state of Odisha is to be used in all works.

C. ACCEPTANCE OF POZZOLANA:

Pozzolana added to the concrete as an admixture shall be sampled and tested as per IS 9103-1979.

D. RECOVERY OF COST OF CEMENT IN WASTED CONCRETE ETC.

The cost of cement used in wasted concrete in replacement of damaged or defective concrete in extra concrete required as a result of over excavation and in concrete placed by the contractor in excavations intentionally performed in facilities the contractor's operations shall be borne by the contractor himself. No extra payment shall be made to contractors for such additional quantity.

1.2.4 ADMIXTURES:

The contractor shall use Air entraining admixtures as directed by the Engineer. Admixtures shall be of uniform consistency and quality and shall be maintained at the job site at uniform strength of solution. Admixtures shall be batched separately in liquid form in containers capable of measuring at one time the full quantity of each admixture required for each batch. Chemical admixtures which harm the quality and strength of concrete shall not be used in the concrete.

1.2.5 WATER.

The water used in making and curing of concrete mortar and grout shall be free from objectionably quantities of silt, organic matter, injurious amounts of oils, acids, salts and other impurities etc. as per IS specification No.456-2000.

The Engineer-in-charge will determine whether or not such quantities of impurities are objectionable.

Such determination will unusually be made by comparison of compressive strength water requirement, time of set and other properties of concrete made with distilled or very clean water and concrete made with the water proposed for use. Permissible limits for solids when tested in accordance with IS 3025-1964 shall be as tabulated below.

PERMISSIBLE LIMITS FOR SOLIDS IN WATER.

1. Organic Maximum permissible limit 200 mg/ltr.
2. Inorganic 300 mg/ltr.
3. Sulphate (as SO₄) 500 mg/ltr.
4. Chlorides (as Cl) 2000 mg/ltr for plain concrete work and 1000 mg/ltr for RCC work.
5. Suspended matter 2000 mg.ltr.

The Ph value of water shall generally be not less than 6 (six)

If any water to be used in concrete mortar or grout is suspected by the Engineer-in-charge of exceeding the permissible limits for solids, samples, of water shall be obtained and tested by the Engineer-in-charge in accordance with IS 3025-1964

1.2.6 SAND (FINE AGGREGATES) :**A. GENERAL**

The term sand is used to designate aggregate most of which passes 4.75-millimeter I.S. Sieve and contains only so much coarser material as permitted in clause 4.3 of IS 383-1970. Sand shall be predominantly natural sand which may be supplemented with crushed sand to make up deficiencies in the natural sand grading.

All sand shall be furnished by the contractor from any approved sources specified in the contract.

Sand as delivered to the batching plant shall have uniform and stable moisture content. Determination of moisture content shall be made as frequently as possible, the frequency for a given job being determined by the Engineer-in-charge according to weather conditions (I.S. 456-2000)

B. QUALITY

The sand shall consist of clean, dense durable uncoated rock fragments as per IS 383-1979.

Sand may be rejected if it fails to meet any of the following quality requirements.

ORGANIC IMPURITIES IN SAND.

Colour no darker than the specified standard in clause 6.2.2. of IS 2386 Part II 1963 (Indian Standard method of test for aggregates of concrete Part II estimation of deleterious materials and organic impurities)

Sand shall be screened before use. If sand brought to site is not clean it must be washed clean in water. Fine draft sand or sea sand or sand containing saline impurities shall on no account to be used Sodium Sulphate Test for Soundness.

The sand to be used shall pass Sodium or Magnesium Sulphate accelerated test as specified in IS 2386(Part-V) 1963 for limiting loss on weight.

SPECIFIC GRAVITY:

The sand to be used shall have minimum specific gravity of 2.4

DELETERIOUS SUBSTANCE:

The amount of deleterious substances in sand shall not exceed maximum permissible limits prescribed in table 1 clause 3.2.1 of IS 383-1970 (Indian Standard Specification for coarse and fine aggregates from natural source for concrete) when tested in accordance with IS 2386- 1963.

C. GRADING.

The sand as batched shall be well graded and when tested by means of standard sieves shall confirm to the limits given in table 4 of IS 383-1970 and shall be described as fine aggregates. Grading / ones. I, II, III and IV. Sand complying with the requirements of any of the four grading zones is suitable for concrete. But sand conforming to the requirements of grading zone IV shall not be used for reinforced cement concrete work.

1.2.7 COARSE AGGREGATES:**A. GENERAL:**

For the purposes of these specifications, the term "Coarse Aggregate" designate clean well graded aggregates most of which is retained on 4.75 mm. I.S. Sieve and containing only so much finer materials as permitted for various types described under clause 2.2. of IS 383-1970 Coarse Aggregate for concrete shall consist of uncrushed stone, or crushed stone and partially uncrushed and crushed stone.

Coarse Aggregates for concrete shall be furnished by the Contractor from the approved quarries specified in the contract documents. The contractor shall, unless otherwise specified in the tender notice and subsequently on this basis in the contract, be responsible for payment of storages, quarry fees etc. on all materials.

Coarse aggregates as delivered to the batching plant shall generally have uniform and stable moisture content. In case of variations, clause 9.2.3 of IS 456-2000 shall govern during batching.

B. QUALITY:

The coarse aggregate shall consist of naturally occurring (crushed or uncrushed) stones, and shall be hard, strong durable, clear and free from veins and adherent coating, and free from injurious amounts of disintegrated pieces, alkali, vegetable matter and other deleterious materials. Coarse aggregate will be rejected if it fails to meet any of the following requirements.

1. LOS ANGES ABRASION TEST.

The abrasion value of aggregates when tested in accordance with the method specified in IS 2386 (Part IV) using Los Angles machine shall not exceed 30% for Aggregates to be used in concrete for wearing surface and 50% for aggregates to be used in other concrete.

2. AGGREGATE CRUSHING STRENGTH TEST.

Aggregates crushing value, when determined in accordance with IS 2386 (Part IV) 1963 shall not exceed 45% for aggregates used for concrete other than wearing surface and 30% for wearing surfaces. As an alternative to the crushing strength test aggregates impact value shall be found out with the method specified in IS 2386 (Part IV) 1963. The aggregates impact value shall not exceed 45% by weight for aggregates used for concrete for other than wearing surfaces and 30% by weight for concrete for wearing surface such as runways roads and pavements.

3. SOUNDNESS TEST.

The coarse aggregates to be used for all concrete works shall pass a sodium or magnesium sulphate accelerated soundness test specified IS 2386 (Part V) 1963 and the average loss or weight after 5 cycles shall not exceed the limits specified in clause 3.6 of IS 383 – 1970.

4. SPECIFIC GRAVITY:

The coarse aggregates shall have specific gravity of 2.60 minimum.

5. DELETERIOUS MATERIALS.

The maximum quantity of deleterious materials in coarse aggregates shall not exceed the limits specified in Table of I.S. 383-1970 when tested in accordance with IS 2386-1963

C. SEPARATION.

The coarse aggregates shall be separated into nominal sizes during production of the aggregate. Just prior to batching, the coarse aggregates shall be rewashed by pressure spray and finish screened on multi-desk vibrating screen capable of simultaneously removing undersized and oversized aggregate from each of the nominal aggregate entering the batches occur during intermittent batching then a dewatering screen will be required after the finish screens to remove the excess free moisture. Finish screens shall be mounted over the batching plant or on the ground adjacent to be batching plant. Finish screens shall be so mounted that the vibration of the screen will not be transmitted to the batching bins or scales and will not affect the accuracy of the weighing equipment in any other manner.

The method and rate of feed for finish screening shall be such that the screens will not be over loaded and will result in a finished product which meets the grading requirements of these specifications Coarse aggregate shall be fed to the finish screens in a combination of alternations of nominal sizes which will not cause noticeable accumulation of poorly graded coarse aggregates in any bin. The finish screened aggregates shall passes directly to the individual batching bin in such a manner as to minimize breakage. Below 2.36 mm. materials passing through the finish screens shall be wasted unless it is routed back through a sand classifier in a manner which causes uniform blending with the natural sand being processed. Water from finish screening shall be drained in such a manner as to prevent aggregate wash water from entering the batching bins and weighing hoppers washing and finish screening requirements shall be subject to approval by the Engineer-in-charge.

Coarse aggregates for concrete shall be separated into various nominal maximum sizes specified in the relevant paragraph. Separation of the coarse aggregate into the specified sizes after finish screening shall conform to the grading requirements specified in Table 2 of IS 383 – 1970 when tested in accordance with IS 2386 (Part II) 1963 (Method of test for aggregates for concrete part-I) particles size and shape.

Coarse aggregate for mass concrete may be separated as previously herein specified. Separation of the coarse aggregates into the various sizes shall be such that when tested in accordance with IS 2386 (Part I) 1963 shall conform to the requirements specified in Table 3 of IS 383 – 1970.

Sieves used in grading tests shall be standard mesh sieves conforming to IS 460 (Part I) 1978 (specification for test sieves part I wire cloth test sieves)

1.2.8 PRODUCTION OF SAND AND COARSE AGGREGATE:

A. GENERAL.

Sand and coarse aggregate for concrete and sand for mortar and grout shall be obtained by the contractor from the approved sources shown in the contract documents. The approval of deposits by the Engineer-in-charge shall not be constructed as consisting the approval of all or any specified materials taken from the deposits and the contractor will be responsible for the specified quality for all such materials used in the work.

Tests performed on samples of sand and coarse aggregate obtained from the approved sources mentioned in the contract documents indicates that they are generally suitable. Well in advance of their usage on the works, the contractor shall have his own testing of materials and satisfy himself that they conform to the specification mentioned here in for use in the works.

No separate payment will be made for such tests. If sand and coarse aggregate are to be obtained from a deposit not previously tested and approved by the Engineer-in-charge the contractor shall submit representative samples for pre-construction test and approval not less than 60 days before the sand and coarse aggregates are required for use. Each sample shall approximately consist of 100 Kg. of material. In addition to pre-construction tests the approval of deposits the Engineer-in-charge may test the aggregates for their suitability during their processing. The contractor shall provide such facilities as may be necessary for procuring representative samples free of cost at the aggregate processing plant and at the batch plant or mixing platform.

But use and development of any such deposit shall be subject to the approval by the Engineer-in-charge. Any royalties (seigniorage other charges) required for materials taken from deposits either owned by the State Government or control by the Department. Of Mines and Geology, Govt. of India or owned by any other person shall be paid by the contractor.

DEVELOPING AGGREGATE DEPOSITS:

If the deposits are owned by the State Govt. and controlled by the department of Mines and Geology, the portion of the deposit used shall be located and operated so as not to detract the usefulness of the deposit or any other property of the Govt. And so as to preserve in so far as practicable, the future usefulness or value of the deposit. The contractor shall carefully clear the area of deposit from which the aggregates are to be produced of trees, root, bush, sod, solid unsuitable sand and gravel and other objectionable matter. Materials including stripping, removed from deposits owned by the Government and controlled by the Director of Mines and Geology. Government of India and not used in the work covered by these specifications shall be disposed of as directed.

Due to the overall construction programme, it is quite likely that more than one contractor may elect to use of the sources named in the contract document. The contractor shall be responsible for coordinating his work such that it does not interfere with the operations of other contractor who are also using any given source.

B. PROCESSING RAW MATERIALS.

Processing of the raw materials shall include screening and washing as necessary to produce sand and coarse aggregate conforming to the requirements of paragraph 1.2.6 and 1.2.7. Processing of aggregate produced from any source owned by the State Government and controlled by the Department of Mines and Geology shall be done at an approved site. Water used for washing aggregate shall be free from objectionable quantities of salts, organic matter and other impurities. Oversize metal may be crushed to correct aggregate particle size and excess material in individual coarse aggregate size fractions may be crushed to give the largest practical yield of usable concrete aggregate.

Suitable types of crushers shall be used with the prior approval of the Engineer-in-charge for producing coarse aggregates. Crusher fines produced in the manufacture of coarse aggregates may be used in sand. Crushed stone, sand, crushed gravels and crusher fines if used shall be predominantly cubical in shape and shall be blended uniformly with natural sand by routing them together through sand classifier. Crusher coarse aggregate shall be blended uniformly with natural coarse aggregate by routing both together through the classifying screens.

C. COST.

This shall be included in the applicable prices bid in the schedule for concrete filter and works in which the aggregates are used which prices shall include the cost of stripping, producing and transporting and storing materials. The contractor shall not be entitled to any additional compensation for materials wasted from a deposit, including crushed fines, excess materials of any of the sizes into which the aggregates are required to be separated by the contractor and materials which have been discarded by the reasons of being above the maximum sizes specified for use or for any other reasons.

1.2.9. BATCHING.

The contractor shall notify the Engineer-in-charge 24 hours before batching concrete. Unless inspection is waived in each case, batching shall be performed only in the presence of an Engineer authorized by Engineer-in-charge.

The contractor shall provide, maintain and operate the equipment as required to accurately determine and control the prescribed amounts of the various materials entering the concrete mixtures. The quantities of cement, sand and each size of coarse aggregate entering each batch of concrete shall be determined by individual volume measurement or by weight as the case may be. Cement has to be weighed / measured in volume separately from the aggregates. Sand and coarse aggregates may be weighed with separate scale and hoppers.

The grading of aggregates shall be controlled by obtaining the coarse aggregate in different sizes and blending them in the right proportions. The different sizes being stacked in separate stock piles, the materials shall be stock piled a day before use. The grading of coarse and fine aggregates will be checked as frequently as directed by the Engineer in charge. Water shall be added by weight or measured by volume in calibrated tanks. The amount of added water shall be adjusted to compensate for any observed variations in the moisture contents. Determinations of moisture content in the aggregate shall be in accordance with I.S. 2386 (Part III) 1963 (Indian Standard Method of test for aggregate of concrete Part III). The amount of surface water carried by aggregates will be determined in accordance with Table 4 of I.S. 456- 2000. Cement and aggregates are hauled from a central batching plant to the mixture. Each batch shall be protected during transit to prevent loss and to limit the pre-hydration of cement. Separate compartments with suitable covers shall be provided to protect the cements or they shall be completely enfolded in and covered by the aggregates to prevent wind loss. If cement is enfolded in moist aggregates or otherwise expressed to moisture and delays occur between batching and mixing, extra cement shall be added to each batch. The extent of such extra cement will be so as to attain the required quality. No separate payment for this addition of extra cement shall be made.

1.2.10. MIXING.

A. GENERAL.

The concrete ingredients shall be thoroughly mixed in mechanical mixers designed to positively insure uniform distribution of all the component materials throughout the concrete at the end of the mixing period. Mixing shall be done as per clause 9 of IS 456-2000. The mixer should comply with IS 1971-1985 (IS Specifications for batch type concrete mixers).

The concrete as discharged from the mixer shall be uniform in composition and consistency from batch to batch. Workability shall be checked at frequent intervals as IS 1199-1959. Mixer shall be examined regularly by the Engineer-in-charge or his authorized Engineer for changes in conditions due to accumulation of hardened concrete or mortar or to wear of blades. The mixing shall be continued until there is a uniform colour and consistency and to the satisfaction of the Engineer. If there is aggregation after unloading, the concrete should be remixed.

After mixer that at any time produces unsatisfactory mix, shall not be used until repaired. If repair attempts are unsuccessful, a defective mixer shall be replaced. Batch capacity shall be at least 10% of but not in excess of the rated capacity of the mixer unless otherwise authorized by the Engineer-in-charge.

B. CENTRAL MIXERS.

Water shall be admitted prior to and during charging of the mixer with all other concrete ingredients. After all materials are in the mixer, each batch shall be mixed for not less than the time specified by the Engineer-in-charge. The minimum mixing time shall be 2 minutes. The minimum mixing time specified is based on average mixer performance. The Engineer-in-charge will adjust the minimum mixing time as required by the observations of the mix delivered from

mixer. Excessive over mixing which require addition of water to maintain the required concrete consistency shall not be permitted.

In addition to IS 1791-1985 the mixing equipment shall conform to the following further requirements.

1. Plant configuration shall be such that the mixing of each mixer can be observed from the safe location which can be easily reached from the control station. Provisions shall be made so that the operator can observe the concrete in the receiving hopper or bucket as it is being dumped from the mixers.

2. Each mixer shall be controlled with timing device which will indicate the mixing period and assure compliance of required period of mixing. 3. Each mixer shall be controlled with a timing device which will indicate the mixing period and assure compliance of the required period of mixing.

4. The batch plant shall be equipped with an interlocking mechanism which will prevent concrete batches from entering mixers which are not empty.

3. TRUCK MIXERS:

Each truck mixer shall be equipped with accurate water meter located between the supply tank and mixers and having a dial or digital indicator and a reliable revolution counter, located near the water meter which can be readily rest to Zero for indicating the total number of revolutions of the drum from each batch. Each mixer shall have affixed there to a metal plate on which the drum is plainly marked. Mixing shall be continued for the minimum period specified and may be increased and no of revolutions speed of the drum may be such that the mixer as delivered from the mixer has uniform in colour and consistency to the satisfaction of Engineer-in-charge. In no case shall the design water content be exceeded.

Concrete shall be discharged within half an hour after the introduction of the water and cement into the mixer. Each batch of concrete when delivered at the job site from commercial ready-mix plants shall be accompanied by a written certificate of batch weights and time of batching.

1.2.11. TEMPERATURE OF CONCRETE:

Fresh structural concrete and fresh canal lining concrete shall be placed at temperature of 150 C to 300 C. During hot or cold weather the concreting should be done as per the procedure set in IS 7861 (Part I) 1975 or IS 7861 (Part II).

The temperature will be determined by placing a thermometer in the concrete immediately after sampling at the site of placement. The temperature of concrete at the batch plant shall be adjusted to assure that the specified concrete temperature is attained at the placement.

In case of concrete in hot weather condition the contractor shall employ effective means such as pre cooling of aggregates and mixing water and placing at nights as necessary to maintain the temperature of the concrete as it is placed at the specified limit. The methods of pre cooling shall be subject to approval by the Engineer-in-charge. Then contractor shall not be entitled for any additional compensation due to the foregoing requirements.

1.2.12. FORMS:

a. GENERAL.

Form shall be used wherever necessary to confine the concrete and shaping it to the required lines. If a type of form does into consistently perform in an acceptable manner as determined by the Engineer-in-charge the type of form shall be changed and method of erection shall be modified by the contractor subject to approval of the Engineer-in-charge.

Plumb and string lines shall be installed before and maintained during concrete placement. Such lines shall be used by the contractor's personnel and by the Engineer-in-charge and shall be in sufficient number and properly installed as determined by the Engineer-in-charge. During concrete placement the contractor shall continuously monitor plumb and string line form positions and immediately correct deficiencies. Forms shall have sufficient strength to withstand the pressure resulting from placement and vibration of the concrete and shall be maintained rigidly in position. Where form vibrators are to be used forms shall be sufficiently rigid to effectively transmit energy from the form vibrators to the concrete while not damaging or altering the positions of forms. Forms shall be sufficiently tight to prevent of loss of mortar from the concrete. Chamfer strips shall be placed to produce beveled edges on permanently exposed concrete surfaces. Interior angle of inter setting concrete surfaces and edges of construction joints shall not be beveled except where indicated on the drawings.

b. Suitable struts or stiffeners or ties shall be used for the form work wherever necessary. All supports shall be braced and cross braced into two directions. All splices and braces shall be secured by bolting unless specially intended otherwise. All struts shall be firmly supported against settlement and slipping, by suitable means as directed. All supports shall be cut square at both ends and firmly supported against settlement and slipping. When the form work is supported on soil, sleepers etc. shall be used to properly disperse the loads. In case the supports rest on already completed beam or slab suitable props shall be provided under the latter.

c. The form work shall be of well-seasoned timber or steel. When timber forms are used they shall be lined with MS sheet or other suitable smooth faced non-absorbent materials as specified. Supports may be of timber or steel. Suitable wedges in pairs to facilitate adjustment and subsequent releasing of forms shall be provided preferably at the upper end of the supports.

The details of the proposed form.

d. Work and supports shall be submitted to the Engineer-in-charge and got approved before erection.

c. In case of columns, retaining walls or deep vertical component the height of the column shall facilitate shall placement and compaction of concrete and suitable arrangement may be made for securing the forms to the already poured concrete for placing the subsequent lifts. No steel tie or wires used for securing this form work shall be left exposed of the face of the finished work.

d. Suitable inserts for block outs for electrical and other service fixtures where necessary shall be provided in the required locations as specified.

e. Cleaning and oiling of forms: -. At the time the concrete is placed in forms, the surfaces of the forms shall be free from encrustations of mortar grout or other foreign material. Before concrete is placed the surface of the forms shall be oiled with commercial forms of oil.

f. Removal of forms

The stripping of form work shall conform to clause 10.3 of IS 456-2000. The contractor shall be liable for damage and injury caused by removing forms before the concrete has gained sufficient strength. Forms on upper sloping faces of concrete such as forms on the water sides of wrapped transitions shall be removed as soon as the concrete has attained sufficient stiffness prevent sagging. Any needed repairs or treatment required on such slopping surfaces shall be performed at once and be followed immediately by permitted curing.

To avoid incessant appearance in concrete that might result from swelling of forms, wood forms for wall openings shall be loosened as soon as the loosening can be accomplished without damages to the concrete. Forms for the opening shall be constructed as to facilitate such loosening.

Forms shall be removed with care so as to avoid injury to concrete and any concrete so damaged shall be repaired in accordance with paragraph 4.2.21.

g. Cost.

The cost of furnishing all materials and performing all works for constructing forms including any necessary treatment or coating of forms is included in the item of form work provided in the bill of quantities.

1.2.13 TOLERANCES FOR CONCRETE CONSTRUCTION.

A. GENERAL.

Tolerances are defined as allowable variations from specified lines, grades, and dimensions and as the allowable magnitude of the surface irregularities. Allowable variations from specified lines, grades and dimensions are listed as given under sub paragraph (b) below.

The intent of this paragraph is to establish tolerances that are consistent with modern construction practice that is governed by the effect that permissible variations may have upon a structure. The Govt. reserves the right to diminish the tolerances set forth therein if such tolerances impair the structural action operational function or architectural appearance of a structure or position thereof.

Concrete shall be within all stated tolerances even though more than one tolerance may be specified for a particular concrete structure. Provided that the specified variation for one element of the structure shall not apply when it will permit another element of the structure to exceed its alterable variation where tolerance are not specified for particular structure tolerances shall be those specified for a similar work. As an exception to clause 2 of the general provisions, specific tolerance shown here in connection with any dimension shall govern. The contractor shall be responsible for finishing the concrete forms with in the limit necessary to insure that the completed work will be within the tolerance limit specified. The defective work where the tolerance limit is exceeded shall be remedied in accordance with the sub paragraph b and c.

B. VARIATION FROM SPECIFIED LINES, GRADES AND DIMENSIONS:

Hardened concrete structure shall be checked by the contractor and will be subject to such inspection and measurement as needed to determine that the structures are within the tolerance specified in the table below.

Variation is defined as the distance between the actual position of the structure or any element of the structure and the specified position in plan for the structure or the particular element. Plus, or minus variations shown as indicated or permitted from actual position up or down and in or out from the specified position in plan. Variations not designated as plus or minus indicate the minimum deviation permitted between designated successive points on the completed element of construction.

Specified position in plan is defined as the lines, grade and dimensions described in those specifications or shown on the drawings or as otherwise prescribed by the Engineer-in- charge.

TABLE

Variation from specified lines, grades and dimensions

**A. TOLERANCE FOR CANAL LINING,
EXCAVATION : EXCAVATIONS:**

1. Departure from Established alignment.
 $\pm 20\text{mm}$ straight sections.
 $\pm 50\text{mm}$ on tangents and
 $\pm 100\text{ mm}$ on curves.
2. Departure from Established grade.
 $+ 20\text{ mm}$

LINING

1. Departure from Established grade.
 $\pm 20\text{ mm}$ straight reaches.
 $\pm 50\text{ mm}$ on practical curves on tangents.
 2. Departure from Established grade $\pm 20\text{ mm}$
- B. TOLERANCE FOR CANAL STRUCTURES.**
1. Deviations from specified dimensions of cross section of columns, beams, piers and slabs $[(-6\text{ mm to } (+) 12\text{mm})]$
Deviations from dimensions of footing.
 - a. Dimensions in plan = $(-) 12\text{mm to } (+) 50\text{ mm}$
 - b. Eccentricity = $(\pm) 0.02$ times width of footing in the direction of deviation but not more than 50mm
 - c. Thickness $(\pm) 0.05$ times the specified thickness.]
- Note Tolerance applies to concrete dimensions only but not for positioning of vertical reinforcing bars or dowels.

C. CONCRETE SURFACE IRREGULARITIES.

A. GENERAL

Bulges, depressions and offsets are defined as concrete surface irregularities. Concrete surface irregularities are classified as “abrupt” or “gradual” and are measured relative to the actual concrete surface.

B. ABRUPT SURFACE IRREGULARITIES:

Abrupt surface irregularities are defined herein as offsets such as those caused by misplaced or loose forms, loose knots in form Lumber, or other similar forming faults. Abrupt surface irregularities are measured using a straight edge held firmly against the concrete surface over the irregularity and the magnitude of the offset is determined by direct measurement.

C. GRADUAL SURFACE IRREGULARITIES:

Gradual surface irregularities are defined herein as bulges and depressions resulting in gradual changes on the concrete surface. Gradual surface irregularities are measured using a suitable template conforming to the design profile of the concrete surface being examined. The magnitude of the gradual surface irregularities is defined herein as measures of the rate of change in slopes of the concrete surface.

The surface irregularities shall not exceed 6 mm for bottom slab and 12 mm for side slopes when tested with a straight edge of 1.5 meter in length. The magnitude of gradual surface irregularities on concrete shall be checked by the contractor to ensure that the surfaces are within the specified tolerance. The Engineer-in-charge will also make such checks of hardened concrete surfaces as determined and ensure necessary compliance with such specifications.

D. REPAIR OF HARDENED CONCRETE NOT WITHIN SPECIFIED TOLERANCES:

Hardened concrete which is not within specified tolerances shall be repaired to bring it within those tolerances. Such repair shall be in accordance with paragraph 6.2.21 and shall be accomplished in a manner approved by the Engineer-in-charge. Concrete repair to bring concrete within the tolerance shall be done only after consultation with a representative of Engineer-in-charge regarding the method of repair. The Engineer-in-charge shall notify as to the time when repair will be performed.

Concrete shall be finished in a manner which will result in concrete surface with a uniform appearance. The fins and any rough projections can then be rubbed down and the whole surface brought to an even finish by rubbing with a wooden float using a mortar of one part cement by two parts of coarse sand as an abrasive, the mortar at the same time filling the voids. A neat cement wash shall then be applied to give a smooth surface. If the concrete has set hard, the fins and rough projections, if any shall be removed by using carborundum brick or a paved grinding machine by chipping, before finishing off with the smoothing wash. If the work of chipping is not done with care or if the surface

exposed after removal of the forms cannot be satisfactorily dealt with in this manner due to bad work or for other reasons, a coat of cement plaster of 1:2 of thickness as ordered by engineer shall be applied. No extra payment will be given for finishing concrete surface as instructed above in this clause.

e. PREVENTION OF REPEATED FAILURE TO MEET TOLERANCES:

When concrete placements result in hardened concrete that does not meet the specified tolerance the contractor shall submit to the Engineer-in-charge an outline of all prevention actions such as modification to form, modified procedure for setting screeds and different finishing techniques to be implemented by the contractor to avoid repeated failure.

The Engineer-in-charge reserves the right to delay concrete placement until the contractor implements such preventive actions which are approved by the Engineer-in-charge.

1.2.14. REINFORCING BARS:

The contractor shall make his own arrangement for procurement of steel of required specification of for the work. Transportation from the place of supply to work site and all incidental charges will be borne by the contractor. All reinforcement steel & structural steel shall be procured and used as per specifications mentioned in BIS's documents- IS:1786 & IS:2062 respectively. Independent tests shall be conducted, where ever required, to ensure that the materials procured confirms to the specifications. This steel shall be procured only from those firms which are established, reliable, indigenous & primary producers of steel, having integrated steel plants (ISP), using iron ore as the basic raw material as per Ministry of Steels guidelines. No rerolled steel shall be permitted in works. All other specifications & guidelines of MORTH shall be complied. All reinforcement steel & structural steel shall be procured from primary producers of steel, such as **SAIL/RINL/TATA/JINDAL STEEL/SHYAM STEEL**.

In case of exigency other brands (primary producers) of steel may be used with proper justification & prior approval of competent Authority satisfying the tests as required by "BIS" Codes.

Reinforcing bars shall be placed in the concrete as shown in the drawings or as directed. For concrete canal lining the reinforcement rods as provided for in the drawing shall be placed. For anchoring the concrete canal lining to the hard rock provision of anchor rod is made in the drawing and contractor shall place these anchor rods to the spacing and depth shown in the drawings.

B. MATERIALS:

Unless shown otherwise on the drawings the reinforcement to be used shall be High Yield strength deformed bars of grade conforming to IS 1786-1985 specification for high yield strength deformed steel bars and wire for concrete reinforcement. The grade of steel should be same or higher grade as specified in the drawing.

C. PLACING:

Reinforcement shall be bent and fixed in accordance with the procedure specified in IS 2502 – 1963 (code of practice for bending and fixing of bars for concrete reinforcement). All reinforcement shall be placed and maintained in the position shown in the drawings splices shall be located where shown in the drawing. Provided that the location of the splice may altered subject to written approval of the Engineer-in-charge.

Subject to the written approval the Engineer-in-charge, the contractor may for his convenience, splice bars at additional locations other than those shown on the drawings. In order to meet design and space limitation on placing some bent bars may exceed usual clearance cutting and bending of such bars from stock lengths may be required at the site.

Unless otherwise prescribed, placement dimensions shall be to the center line of the bars. Reinforcement will be inspected for compliance with requirement as to size, shape, length, splicing.

Before reinforcement is embedded in concrete the surface of the bars shall be cleaned of heavy flaky Rusk, loose scale, dirt grease or other foreign substances which in the opinion of the Engineer-in-charge are objectionable. Heavy flaky rust that can be removed by firm rubbing with bar lap or equivalent treatment in considered objectionable.

As specified in clause 11.3 of IS 456-2000 unless otherwise specified by the Engineer-in-charge reinforcement shall be placed with the following tolerances.

- a. For effective depth 200 mm or less ± 10 mm
- b. For effective depth more than 200 mm ± 15 mm

The cover in no case be reduced by more than one third of specified cover or 5 mm whichever is less.

Reinforcement shall be securely held in position so that it will not be displaced during the placing of the concrete and special care shall be exercised to prevent any disturbances of the reinforcement in concrete that has already been placed. Welding of bars shall be done as directed by the Engineer-in-charge and in conformity with the requirements of clause 11.4 of IS 456-2000. Chairs, hangers, spacers and other supports for reinforcement shall be of concrete metal or other approved material. Concrete cover shall be as shown on the drawings.

D. REINFORCEMENT DRAWINGS:

The Engineer-in-charge will supply drawings of reinforcement details and bar bending schedules for adoption.

E. MEASUREMENT AND PAYMENT:

Measurement for payment of reinforcement bars will be based on the weight of the bars placed in the concrete in accordance with the drawings supplied by the Engineer-in-charge when conformance with these specifications

drawings has been determined at the time of embedment. Except as otherwise provided below payment for furnishing and placing reinforcing bars will be made at the unit financial bid in the bill of quantities for furnishing and placing reinforcement bars which unit price shall include the cost of reinforcing bars attaching wire, cutting, bending, cleaning securing and maintaining in position reinforcing bars as shown in the drawings. (The binding wire, overlapping, wastage, couplings, welded joints, spacer bars, chairs, stays, hangers and annealed steel wire for binding and placing shall not be considered for measurement & payment in any shape at all).

The total weight of bars placed as reinforcement in concrete shall be arrived at by adding the products of lengths each size and mass per meter (vide Table 1 and para 6.2.1 of IR 1786-1985) of that size of rod.

1.2.15. DOWELS:

The dowels shall be of same HYSD bars of grade same as main reinforcement bars conforming to IS 1786-1985 as used for reinforcement. Details of dowels shall be as shown on the drawings or as directed by the Engineer-in-charge. Dowels shall be placed in the concrete where shown on the drawings or where directed and will be inspected for compliance with requirements as to size shape, length position and amount after they have been placed but before being covered by concrete.

Before the dowels are embedded in concrete, the surfaces of dowels are cleaned of all dirt grease or other foreign substances which in the opinion of the Engineer-in-charge are objectionable. The dowels shall be accurately placed and secured imposition so that they will not be displaced during the placing of the concrete.

Measurement for payment of dowels will be made only on the weight of the dowels placed in concrete in the accordance with the drawings or as directed.

Payment for furnished and placing of dowels will be made at the unit financial bid in the bill of quantities for furnishing and placing of reinforcing bars which unit price shall included the cost of furnishing all the materials and for placing the dowels as required.

1.2.16. PREPARATION FOR PLACING:

No concrete shall be placed until all form work installation of items to be embedded and preparation of surface involved in the placement have been approved.

A. GENERAL:

The department shall supply concrete placement checkout cards (Placement Register) at a convenient location near each individual concrete placement site. The cards shall list all the various work items for example “cleanup” and “embedded items” required prior to placement of concrete. After each work item for an individual placement has been completed that item on the cards shall be signed by contractor or his representative signifying completion of the required work. Engineer authorized by the Engineer-in-charge will inspect the work during and after completion of each phase of the preparation and if the work is satisfactory will sign the checkout card (placement register). Approval of preparation of placement will not be completed, until the contractor or his representative and above authorized Engineer have approved by signature all applicable, items for the placement.

All surfaces of forms and embedded materials shall be free from curing compound, dried mortar from previous placements and other foreign substance before the adjacent or surrounding concrete placement is started.

Prior to beginning of concrete placement, the contractor shall make ready a sufficient number of properly operating vibrators and operators and shall have readily available additional vibrators to replace defective one during the progress of the placement. The Engineer-in-charge’s representative at the placement may delay the start of the concrete placement until the number of working vibrators available is acceptable.

B. FOUNDATION SURFACES:

All surfaces upon or against which concrete is to be placed shall be free from frost, ice water mud and debris.

1. Rock surface shall be free from oil, objectionable coatings, and loose semidetached and unsound fragments. Immediately prior to placement of concrete surfaces of rock shall be washed with an air water jet and shall be brought to uniform surface in dry condition.

2. Earth foundation surfaces shall be wet to a depth of 15cm. or to impermeable material whichever less before concrete placement is.

C. CONSTRUCTION JOINTS:

Construction joints defined as concrete surfaces upon or against which concrete to be placed and to which new concrete is to adhere but which have become so rigid that the new concrete cannot be incorporated integral with that previously placed. The provision of construction joints shall conform to clause 12.4.1 and 12.4.2. of IS 456-1978

When the work has to be resumed on a surface which has hardened such surface shall be roughened. It shall then be swept clean thoroughly wetted. For vertical joints neat cement slurry shall be applied on the surface before it is dry. For horizontal joints the surface shall be covered with a layer of mortar about 10 to 15mm thick composed of cement and sand in the same ratio as the cement and sand in concrete mix. This layer of cement slurry or mortar shall be freshly mixed and applied immediately before placing of the concrete.

Where the concrete has not fully hardened, all laitance shall be removed by scrubbing the set surface with wire or bristle brushes, care being taken to avoid dislodgement of particles of aggregate. The surface shall be thoroughly wetted and all free water removed. The surface shall then be coated with neat cement slurry. On this surface a layer of concrete not exceeding 150 mm in thickness shall first be placed and shall be well rammed against old work, particular attention

being paid to corners and close spots, and work thereafter shall proceed in the normal way.

D. CONTRACTION JOINTS:

Contraction joints serve to provide for volumetric shrinkage of monolithic concrete and or movement between monolithic units at established joints thus preventing formation of objectionable shrinkage cracks elsewhere in concrete. Prior to application of wax-based curing compound to contraction joints, the surfaces of all joints shall be cleaned thoroughly of accretion of concrete oil other foreign material by scraping, chipping or other means approved by the Engineer-in-charge. Water stops reinforcing bars and other embedded items shall be free of curing compound when adjoining concrete is placed.

E. EXPANSION JOINTS & BEARING:

In case of bridge works, expansion joints and bearings are to be procured from only specified manufacturing units approved by MORTH.

1.2.17. PLACING:

A. GENERAL.

The contractor shall notify the Engineer-in-charge before batching begins for placement of concrete. Placing shall be performed only on the presence of an authorized Engineer's representative. Placement shall not begin until preparations are complete and the concrete placement check out card has been signed by the contractor or his representative and the authorized representative of the Engineer-in-charge substantiating completion of all preparation for placement.

All surface upon or against which concrete is to be placed shall be prepared in accordance with paragraph 1.2.16.

Re tampering of concrete will not be permitted. Any concrete which has become so stiff that proper placing cannot be assured shall be wasted.

Concrete shall not be placed in standing water except with written permission of the Engineer-in-charge and the method of placing shall be subjected to approval. Concrete shall not be placed in running water and shall not be subjected to running water until after the concrete has hardened.

Concrete shall be deposited as neatly as practical in its final position and shall not be allowed to flow in such a manner that the lateral movement will cause segregation of the coarse aggregate from the concrete mass. Methods and equipment employed in depositing concrete in forms shall minimize clusters of coarse aggregates, clusters that occur shall be scattered before the concrete is vibrated.

Forms shall be constantly monitored and their position adjusted as necessary during concrete placement in accordance with paragraph 1.2.12 and 1.2.13.

All concrete except canal lining shall be placed in approximately horizontal layers. The depth of layers shall not exceed 15 cm. The Engineer-in-charge reserves the right to decide for lesser depth of layers where concrete cannot otherwise be placed and consolidated in accordance with the requirements of these specifications. All construction joints which intersect with the exposed concrete surface shall be made straight and level to plumb except as shown otherwise on the drawings.

The placing of concrete shall be in accordance with clause 12.2 of IS 456-2000.

If concrete is placed monolithically around openings having vertical dimensions greater than 60 cm as in decks, floor slabs, or other similar parts of structures is placed monolithically with supporting concrete the following requirements shall be strictly observed.

1. Concrete shall be placed up to the top of the formed opening at which point further placement will be delayed to accommodate settlement of fresh concrete. If levels are specified beneath nearly horizontal structural members such as decks floor slabs, beams and graders or the levels being between the nearly horizontal members and the vertical supporting concrete below concrete shall be placed to the bottom of the levels before delay of placement.

2. The last 60 cm or more of concrete placed below horizontal members or beavies shall be placed with a 50 mm or less slumps and shall be thoroughly consolidated.

In placing concrete on unformed slopes so steep as to make internal vibration of the concrete impractical without footing the concrete shall be placed ahead of non-vibrating slip from screed extending approximately 0.75 meters back from its leading edge. Concrete ahead of the slip form screed shall be consolidated by internal vibrations so as to ensure complete filling under the slip forms.

A cold joint in an unplanned joint resulting when a concrete surface hardens before the next batch is placed against it, cold joints would be allowed only in the event of equipment breakdown or other unavoidable prolonged interruption of continuous placing. If such unavoidable delays in placing occur which make it appear that unconsolidated concrete may harden to the extent that later vibration will not fully consolidate it, the contractor shall immediately consolidate such concrete to a stable and uniform slope. If delay of placement is short enough to permit penetration of the under laying concrete, placement shall resume with particular care being to thoroughly penetrate and re-vibrate the concrete surface placed before the delay. If concrete cannot be penetrated with vibrator, the cold joint shall be then treated as a construction joint.

Care shall be taken to prevent cold joints when placing concrete in any part of the work. The concrete placing rate shall ensure that the concrete placed with the previously placed adjacent concrete is plastic, so that the concrete can be made monolithic by normal use of vibrators / tamping.

Concrete shall not be placed in rain sufficiently heavy or prolonged to wash mortar from concrete. A cold joint may necessarily result from prolonged heavy rainfall.

The contractor shall not be entitled to any additional payment over the unit financial bid in the scheduled for concrete by reason of any limitation in the placing of concrete required under the provisions of this paragraph. B.

B. TRANSPORTATION:

The transportation of concrete shall conform to IS 456-2000.

The methods and equipment used for transporting concrete from the batching plant to its final position in the placement and the time that elapses during transportation shall not cause measurable segregation of coarse aggregate or slump loss during transportation exceeding 5 cm.

Concrete shall be deposited as near as practical to its final position. The use of Aluminum pipe or Aluminum chutes for delivery of concrete will not be permitted. Concrete buckets shall be capable of promptly discharging concrete of the specified mix design and the dumping mechanism shall be capable of discharging at one location small portions of concrete from a full bucket.

If used to transport concrete the truck mixers shall meet the applicable requirements of paragraph 4.2.10.

The transporting equipment for placing concrete shall readily handle the placed concrete of the specified slump. The contractor shall when directed replace inadequate transporting equipments with acceptable equipments.

C. COMPACTION:

The compaction of concrete shall conform to IS 456-2000.

Concrete shall be consolidated by vibrators/tampers. The vibrations shall be sufficient to remove all undesirable air voids from the concrete including the air voids trapped against the forms. After consolidation the concrete shall be free of rock pockets and honey comb areas and shall be closed snugly against all surfaces of forms and embedded materials. All concrete shall be properly consolidated before it hardens.

Consolidation of all concrete shall be by immersion type vibrators. Immersion type vibrators shall be operated in nearly vertical position and the vibrating head shall penetrate and re-vibrate the concrete in the upper portion of the underlying layer. Care shall be exercised to avoid contact of the vibrating head with embedded items and with formed surfaces which will later be exposed to view. Concrete shall not be placed on previously placed plastic concrete until the previously placed concrete has been thoroughly consolidated.

Form vibrators shall be used in conjunction with slip form lining machines to consolidate concrete in canal linings. Such vibrators shall be arranged for effective uniform consolidation of the concrete. The Engineer-in-charge or his representative may remove samples of the hardened concrete for testing and examination and the contractor shall repair at his cost the concrete from which such samples are removed.

Immersion type vibrators shall be operated at speeds of at least 7000 revolutions per minute when immersed in concrete. Form vibrators shall operate at speeds of at least 8000 revolutions per minute when being used to consolidate concrete. The contractor shall immediately replace improperly operating vibrators with acceptable vibrators.

1.2.18. FINISHES AND FINISHING.

The requirements for finishing of concrete surface shall be as specified in this paragraph. Paragraph 1.2.12 and 1.2.13 or as otherwise indicated on the drawings. The contractor shall notify the Engineer-in-charge before finishing concrete. Unless inspection is waived in each specific case, finishing of concrete shall be performed only when a Engineer-in-charge's representative is present. Concrete surface will be tested by the Engineer-in-charge in accordance with paragraph

1.2.13 where necessary to determine whether the concrete surface is within the specified tolerances. Finished concrete which is not within the specified tolerances shall be repaired in accordance with paragraph 1.2.21.

Interior surface shall be sloped for drainage where shown on the drawings or as directed Surfaces which will be exposed to the weather and which would normally be level shall be sloped for drainage.

Floating may be performed by use of hand or power-driven equipment. Floating shall be started as soon as the screeded surface has stiffened sufficiently and shall the minimum necessary to produce a surface that is free from screened marks and is uniform in texture. Joints and edges shall be tooled where shown on the drawing or as directed.

After the surface of road way slabs of concrete bridges have been wood floated, the surfaces shall be given a broom finish. The finish shall be applied when the water sheet has practically disappeared. The broom shall be completed before the concrete is in such condition that the surface will be torn or unduly roughened by the operation. The finished surfaces shall have a uniform appearance and shall be free of corrugations exceeding 1.5 millimeters in depth. Broom shall be of a quality size and construction and be so operated as to produce a surface finish satisfactory to the Engineer-in-charge. The finishing in lining shall be in accordance with clause 6.7. of IS 3873-1978. The finished surface shall be equivalent in evenness, smoothness and free from rock pockets and surface voids to that obtainable by effective use of a long-handled steel trowel. Where the surface produced by a lining machine meets the specified requirements no further finishing operations will be required.

The top portion of side slopes of the canal lining extending 1-1/2-meter vertical below the top of the lining shall receive a nonskid. Longitudinal brisk finish as approved by the Engineer-in-charge.

1.2.19 PROTECTION:

The contractor shall protect all concrete against damage until final acceptance by the Engineer-in-charge. The

contractor shall provide protection to prevent erosion to fresh concrete whenever precipitation either periodic or sustaining is imminent or occurring.

When precipitation appears imminent, the contractor shall immediately make ready at the placement site all materials which may be required for protection of fresh concrete. The Engineer-in-charge may delay placement of concrete until adequate provisions for protection against weather are made.

All fresh concrete surfaces shall be protected from contamination and from foot traffic until the concrete has hardened. Hardened concrete surfaces which have to receive finish shall be protected against damage from foot traffic and the construction activity by covering with protective mats, plywood or by other effective means. Methods of protection shall be subject to approval by the Engineer-in-charge.

1.2.20 CURING:

A. GENERAL.

The contractor shall furnish all materials and perform all work required for curing concrete.

All concrete including bed and sides of canal lining shall be cured by water curing.

The precast slab for canal lining shall be cured by keeping them immersed in water for seven days and by sprinkling water for another 21 days with straw canvass, hessian or similar materials cover over slab. The uniformed top surfaces of bridges decks shall be cured for 28 days with a damp sand cover or curing mat cover. The sand or curing mats shall not be kept so wet as to allow water to drain from them which may stain other concrete.

The sand or curing mats shall be removed after expire of the curing period.

All concrete surfaces shall be treated as specified to prevent loss of moisture from the concrete until the required curing period elapsed or until immediately prior to placement of other concrete or back fill against those surfaces. Only sufficient time to prepare construction joint surfaces and to bring them to a surface dry condition shall be allowed between discontinuance of curing and placement of adjacent concrete. Forms shall be removed within 24 hours after the concrete has hardened sufficiently conforming to IS 456-2000 to prevent structural collapse or other damage by careful form removal. Where required repair of all minor surface imperfection shall be made immediately after form removal and prior to curing, minor surface repair shall be completed within 2 hours after form removal and shall be immediately followed by the initiation of curing by the applicable method specified herein. Concrete surfaces shall be kept continuously moist after form removal until initiation of curing.

B. MATERIALS :

Concrete cured with water shall be kept wet at least for 28 days from the time the concrete has attained sufficient set to prevent detrimental efforts to the concrete surfaces. The concrete surfaces to be cured shall be kept wet covering them with water saturated materials by using a system of perforated pipes, mechanical sprinklers or porous hose or by other methods which will keep all surface continuously wet. All curing methods are subject to approval of Engineer-in-charge.

C. COST:

The cost of furnishing all materials and performing all work for curing concrete shall be included in the financial bid in the bill of quantities for the concrete on the particular curing methods are required.

1.2.21 REPAIR OF CONCRETE:

Concrete shall be repaired in accordance with the clause 5.7 of IS 3873-1978. Imperfections and irregularities on concrete surface shall be corrected in accordance with paragraph 6.3.13 and clause 5.7 of IS 3873-1978.

TYPE OF REPAIR:

All repairs shall be made with concrete. Repairs to concrete surfaces and addition where required shall be made by cutting regular opening into concrete to the required lines. The chipped openings shall be sharp and shall not be less than 70 mm in depth. The fresh concrete shall be reinforced and chipped and troweled to the surface of the openings. The mortar shall be placed in layers not more than 20 mm in thickness after being completed and each layer shall be compacted thoroughly. All exposed concrete surfaces shall be cleaned of impurities lumps of mortar or grout and unsightly stains.

COST:

The cost of furnishing all materials and performing all work required for the repair of concrete shall be borne by the contractor.

1.2.22 MEASUREMENT OF CONCRETE :

Measurement for payment of concrete required to be placed directly upon or against surfaces of excavation will be made to the lines for which payment for excavation is made.

Measurement for payment of concrete in canal lining shall be made to the lines shown on the drawing. The unit of measurement will be in square meter to the thickness shown in the drawing measurement for payment of all other concrete will be made to the neat lines of structures unless otherwise specifically shown on the drawings prescribed in the specification. The unit measurement will be cubic meter. In measuring concrete for payment, the volume of all opening, fixtures embedded pipes and metal work each of which is larger than 0.1 square meter in cross section will be deducted.

1.2.23 PAYMENT FOR CONCRETE:

Payment for concrete including temporary centering and shuttering in the various parts of the work shall be made

at the applicable unit price in thereof in the bill of quantities, which unit price shall include the cost of furnishing all materials and performing all works required for the concrete construction except that payment for furnishing and placing reinforcement bars and outline form work shall be made at the respective unit price's bid thereof in the schedule.

SECTION 1.3 SPECICAL REQUIREMENTS FOR CONCRETE STRUCTURES:

1.3.1 P.V.C. STRIPS:

The finished P.V.C. strips shall be manufactured with shapes conforming to dimensions shown on the drawings and shall be extruded from virgin, pigmented, plasticized P.V.C. The finished P.V.C.strip shall meet the requirement of Table I and II of IS 9766-1981.

The P.V.C. water stops conforming to the above requirements shall be placed in the joints where shown in the drawings. The contractor shall furnish an ISI test certificate for P.V.C. he proposes to use.

1.3.2. ELECTROMETRIC BEARING PADS.

The contractor shall furnish and place electrometric bearing pads at the location shown on the drawings and in accordance with this paragraph. Electrometric bearing pads shall be fastened to one concrete surface with rubber cement recommended by the manufacturer of the electrometric bearing pads. Electrometric bearing pads shall be stored at 750 F or less. Electrometric bearing pads shall not be stored in open place or where they will be opened to the direct rays of the sun.

The Electrometric compound shall be 100 per cent virgin polychloroprene (neoprene). The contractor shall furnish an I.S.I. Test Certificate for the Elastomeric Bearing pads he proposes to use.

1.3.3. PLACEMENT OF KRAFT PAPER.

The top surface of the masonry piers and abutments should be leveled and painted with brush, with asphalt emulsion of 20/30 grade such that the bearing surface is perfectly smooth and uniform. Over this surface Kraft paper of approved quality should be placed and the top painted with asphalt emulsion of 20/30 grade. The unit financial bid in the bill of quantities for this item shall include the cost of all materials and labour involved in the operations.

1.3.4. EMBEDMENT IN CONCRETE:

In some of the locations of structures as shown on the relevant drawings a few conduits or openings shall have to be provided through R.C.C./ P.C.C/ Masonry work. Construction of the surface for either placement of concrete or for lying of masonry shall have to be suitably carried out so as to meet with the placement of such conduits or openings. No extra claim for such improvidence in construction shall be entertained.

1.3.5 Providing and fixing R.C.C. Non pressure NP2/NP3 pipe as per drawings with spigot & socket ends.

SUPPLY OF PIPES:

Pipes shall be of specified diameter non pressure type conforming to IS 458-1971 Maximum length of the pipe shall not be less than 2.5 m. or otherwise directed by the Engineer-in-charge. The contractor shall order the pipes required for the work on the basis of the construction drawings supplied to him by the Engineer-in-charge. Pipe marked with the following information on each type shall only be accepted for work.

- A. Class of Pipe
- B. Date of Manufacture
- C. Name of Manufactures or his trade mark or both.
- D. IS Specification mark.

HANDLING AND LAYING OF PIPES.

Work shall be done as per IS 783-1956 or its latest edition. Reasonable care shall be exercised in loading, transporting and unloading of concrete pipes. Handling shall be such as to avoid impact. All pipes shall be inspected thoroughly before being laid. Broken or defective pipes shall not be used. Trench shall be of sufficient width to provide for free working space in minimum 30 cm on either side of the pipe. Pipes shall be lowered into the trenches by use of standards appliance. Pipe shall be laid true to line and as specified on the construction drawings. Lying of pipes shall be along proposed grade of the slopes. The socket ends of pipe shall face upstream. The connections of the pipes shall be joined together in such a manner that these shall produce perfect even surface along the inside of the pipe. In no case pipes shall be laid directly on rock or other hard material.

JOINING PIPES:

Semi flexible type spigot and joint as per IS 783-1959 and as shown on the construction drawing shall be provided. The rubber sealing rings used in the joining shall conform to para 1A of IS 383-1962. A rubber ring shall be placed on the spigot which shall be forced into the socket of pipe already laid. This shall compress the rubber ring as it fills in to the annular space formed between the two surfaces of the spigot and socket so as to form a flexible and water right joint. The recess at the end of pipes shall be filled with cement mortar 1:2 every joint be kept wet for above fourteen days.

BACK FILLING TRENCHES:

A. Trenches shall be kept free from water until the materials in the joints has hardened. Walking or working on the completed pipe shall not be permitted until the trench has been back filled to a height of at least 45 cm. over the pipe except as may necessary for back filling and compaction.

B. Trenches shall be back filled after pipe has been laid subject to the condition that jointing has hardened. Only selected materials shall be used for backfilling. Filling of the trench shall be carried out simultaneously on both sides of pipe in such manner that unequal pressure does not occur.

MEASUREMENT AND PAYMENT:

Measurement for payment shall be on running meter basis on the pipe line laid including joints the rate in bill of quantities shall include the cost of pipes including loading, unloading hauling, handling, storing, laying in position cost of rubber rings, jointing, curing and other operations to complete the work as per the specification.

The key objectives of the ADCP & Gauge Post consist of the following:

1. To identify and establish a suitable location for installation of a new permanent gauge post at the downstream of Seorinarayan Barrage on River Mahanadi.
2. To install, calibrate and reference the gauge post with a permanent benchmark (BM) to ensure accurate and reliable water level observations.
3. To carry out discharge measurements using the **Department's Acoustic Doppler Current Profiler (ADCP)** under different flow conditions.
4. To determine the river cross-sectional geometry, bathymetry, flow velocity distribution and hydraulic characteristics at the selected gauging site.
5. To establish an accurate Stage–Discharge (Rating) Curve by correlating observed river stages with measured discharges.
6. To validate and calibrate the Stage–Discharge Rating Curve for improving the accuracy of discharge estimation from gauge readings.
7. To generate reliable hydrological data for flood forecasting, reservoir operation, water resources planning and river monitoring.
8. To submit all field observations, ADCP datasets, survey records, benchmark details, calibration reports and the final Stage–Discharge Rating Curve for future operational use by the Department.

1. GENERAL TECHNICAL CONCEPT

The proposed work aims to establish a reliable and permanent river stage monitoring system at the downstream of Seorinarayan Barrage on the River Mahanadi through the installation of a new gauge post and the development of an accurate stage–discharge relationship. The work shall provide a dependable reference for continuous observation of river water levels and discharge, thereby improving hydrological monitoring and water resources management.

The technical approach includes the selection of a suitable gauge post location with stable hydraulic conditions, installation of a permanent gauge post referenced to established survey benchmarks, and precise leveling to ensure long-term stability and consistency of gauge readings.

Discharge measurements shall be carried out using the Departmental Acoustic Doppler Current Profiler (ADCP) under varying flow conditions. The successful bidder shall provide all necessary technical support, manpower, boats, safety equipment, and field accessories required for ADCP measurements and data collection. The collected discharge data shall be processed and analysed to develop a stage–discharge rating curve in accordance with standard hydrological practices.

The completed work shall ensure accurate correlation between river stage and discharge, enabling reliable estimation of river flow from observed gauge levels. All survey records, calibration data, discharge measurement reports, rating curve analysis, drawings, and final documentation shall be submitted to the Department for approval.

This technical concept is intended to establish a robust, accurate, and sustainable hydrological monitoring system supporting river flow assessment, flood monitoring, and long-term water resources planning.

2. PRE-DEPLOYMENT: EQUIPMENT CONFIGURATION & CALIBRATION

Before mobilization, the instrumentation must be harmonized with the site-specific hydraulic environment to eliminate systematic errors.

- **ADCP Parameter Setup:** Configure software for expected depth and velocity. Key settings include the "blanking distance" (unreadable zone near the transducer) and "bin size" (vertical segments for data discretization).
- **Vessel Offset Calibration:** Measure the vertical and horizontal distance from the ADCP transducer to the water surface and the DGPS antenna. These offsets are vital for depth accuracy and georeferencing
- **Compass & Moving Bed Test:** Conduct a "Loop Test" or "Stationary Test." If the riverbed is active (common in high-velocity, sediment-rich rivers). GNSS-based navigation must be used instead of "Bottom Tracking" to prevent underestimating discharge.

3. Field Operations: Data Acquisition & Monitoring.

Data is collected across two scales: moving spatial transects and static temporal monitoring

- **Survey Boat Transects:** The vessel acts as a mobile platform to map the cross-sectional area.
 - I. **Controlled Path:** The pilot follows a fixed "Transect" line (bank to bank) using on-board navigation.
 - II. **Speed Control:** Boat speed is kept lower than water velocity to minimize hull induced flow disturbance.
 - III. **Repeatability:** A minimum of 4 transects (2 round trips) per gauge level are required. If discharge () variance exceeds 5%, additional runs are performed until a stable average is achieved.
- **24/7 Real-Time Monitoring:** Continuous deployment captures velocity fluctuations missed by periodic sampling
 - I. **Temporal Velocity Mapping:** Identifies the "Velocity Distribution Coefficient," capturing the non-uniform flow between the friction-heavy bed and the fast center-surface.
 - II. **Transient Dynamics:** Captures surges from dam releases, heavy rainfall, or tidal influences to ensure the curve reflects more than just "base flow" conditions.

4. Data Processing: $Q=AV$ Integration & Correlation

The core mathematical phase where acoustic pings are converted into volumetric hydraulic data.

- **Incremental Gauge Readings:** Data is captured at every 10-20cm change in stage height. This accounts for changes in the "Wetted Perimeter" and "Hydraulic Radius" as the river rises.

- **Cross-Sectional Integration:** The ADCP software divides the river into vertical "Ensembles" and horizontal "Bins." Total discharge() is the sum of these individual cells:

$$Q = \text{Sum} (\text{Area}_{\text{cell}} \times \text{Velocity}_{\text{cell}})$$

- **Edge Estimation:** For unnavigable areas near the banks, software calculates "Edge Discharge" using standard hydraulic shapes (triangular or rectangular) based on the last measurable velocity.

5. Post-Processing: Discharge Rating Curve (DRC) Development

The final derivation of the mathematical tool used for operational monitoring

- **Data Pairing & Curve Fitting:** Each measured Q is paired with its corresponding stage (H). Using the **least-squares method**, these points are plotted. The resulting curve usually follows a logarithmic trend as riverbanks widen.

6. Profile Generation:

1. **Stage-Discharge Table:** A 'ready-reckoner' for field staff.
2. **Rating Equation:** A formula for integration into digital SCADA or telemetry systems.
3. **Verification:** Final "check measurements" are performed to ensure the curve predicts flow within a 2-5% error margin.

7. Documentation & Deliverables

The final dossier provides the technical evidence required for engineering approval.

- **Bathymetric Maps:** Visual cross-sections of the riverbed.
- **Velocity Contours:** Color-coded maps highlighting high and low-velocity zones.
- **Equipment Certification:** Calibration certificates for ADCP and DGPS units.
- **Final Rating Curve:** The primary mathematical deliverable for operational use.

SECTION-7 DRAWINGS

These Bidding Documents includes [*“no”*] drawings.

SECTION-8 FORMS

NO RELATION CERTIFICATE

Certified that I / We am / are not related to any officer of Water Resources Department of the rank of Assistant Engineer and above or any officer of the rank of Assistant Secretary and above.

CONTRACTOR

List of Relatives of the tender serving in Water Resources Department.

Sl. No	Name of the relatives	Rank	Place of present posting with Office/ Division/ Department
1	2	3	4
1			
2			
3			
4			
5			

CONTRACTOR

124

**Superintending Engineer
Hydrology & Interstate Matter, Burla**

ANNEXURE-'E'

AFFIDAVIT

I, Sri..... Aged..... year,
Son/ Daughter/ Wife of Sri..... at present residing
At..... P.O.....P.S.....Dist.....
Pin..... do here by solemnly affirm as follows.

That, I / We possess a valid license for execution of works contract issued by
* belongs to Class & is valid up to **
.

I am submitting tenders before the **Superintending Engineer, Hydrology & Interstate Matter, Burla**, Dist –Sambalpur, Odisha for execution of
“..... in response to e-procurement notice no. EE BOD
- 02/2024-25.

I am the authorized signatory on behalf of contractor for the tender for the
work mentioned above.

I am swearing this affidavit that all tender documents and accompanying
papers those being submitted by me before the **Superintending Engineer, Hydrology & Interstate Matter, Burla**, Dist –Sambalpur, Odisha, are all authentic
and bonafied documents in the eyes of the law of the land.

That the facts stated in the affidavit are true to the best of my knowledge and
belief.

Signature of Contractor /

Authorized Signatory

Note :

- * Mention the license issuing authority.
- * * Mention the date up to which the license is valid *
- * * Mention name of works for which bid is being submitted.

ANNEXURE-'F'

AFFIDAVIT

I, Sri..... Aged years
Son/ Daughter/ Wife of Sri.....
at present residing At..... P.O.....
P.S.....Dist..... Pin..... do
here by declare that , I have not registered under the GST act in the state of
Odisha as I have not started any business in the state and I have no liability under
the act.

In the event of this contract is awarded to me, I will register myself in the
GST Act in the state of Odisha.

That the facts stated in the affidavit are true to the best of my knowledge and belief.

Signature of Contractor /
Authorized Signatory

Note-: This certificate is required to be furnished by outside contractor who has not
started any business in the state of Odisha.

SCHEDULE-“G”

**INFORMATION REGARDING CURRENT LITIGATION, DEBARRING EXPELLING OF
TENDERED OR ABANDONMENT OF WORK BY THE TENDERER**

1. a) Is the tenderer currently involved Yes/No
in any litigation relating to the works. If yes: give details:
2. a) Has the tenderer or any of its Yes/No
constituent partners been debarred/
expelled by any agency in India
during the last 5 years.
3. a) Has the tenderer or any of its Yes/No
constituent partners failed to
perform on any contract work in
India during the last 5 years.
b) If yes, give details:

Note:

If any information in this schedule is found to be incorrect or concealed, qualification application will be summarily rejected.

Signature of Bidder

SCHEDULE- H

AFFIDAVIT

1. The undersigned do hereby certify that all the statements made in the required attachments are true and correct.

2. The undersigned also hereby certifies that neither our firm M/s

nor any of its constituent partners have abandoned any road/ bridge/ Irrigation / Building or other 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) any bank, person, firm or corporation to furnish pertinent information as deemed necessary and as requested by the Department 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 Department.

(Signed by an Authorised Officer of the firm)

Title of Officer

Name of Firm

Date:

ANNEXURE – I OF SCHEDULE-I

LIST OF PLANT AND EQUIPMENTS TO BE DEPLOYED IN THE CONTRACT WORK

Sl.No.	List of plants and equipments	Remarks
01.		
02.		
03.		
04.		

Total

NOTE:

1. Capacity of each plant and equipment should be as per specification attached separately.
2. The above equipment should either be owned or availed on long-term lease extended beyond the duration of the work, the authority of which in either case is to be substantiated before award of the work.
3. The equipment mentioned above must be included in Schedule “I” and clearly indicated as “Owned/leased.”
4. The above list is not exhaustive. All other machinery/equipments as will be required for satisfactory completion of the work shall have to be deployed by the agency.
5. For deployed additional sophisticated machinery by the agency for completion of the work, no claim shall be entertained.

SECTION- 9
BID DOCUMENT

APPENDIX F-5

BID DOCUMENT & MILESTONES

BID ID No: EE, BOD-02/2024-25

Name of Agency: _____

BREAK UP OF O & M COST OF PROJECT & YEARWISE

(To be furnished by the Bidder)

Sl No	Name of the Work		O & M Cost per Year in					Total Cost in ()
			1 st	2 nd	3 rd	4 th	5 th	
1								
	Total							

NOT APPLICABLE

Sign of Bidder

BILL OF QUANTITY

Tender Inviting Authority: Superintending Engineer, Hydrology & Interstate Matter, Burla

Name of Work: Installation & Calibration of new River Gauge Post in the downstream at Seorinarayan Barrage on river Mahanadi under Hirakud Dam Project for the year 2026-27.

Contract No: Bid Identification No - SE H&ISM 02/2026-27

SI No	Item Description	Unit	Quantity	Rate	Total amount (in Rs.)
1.0	Earth work in hard soil or gravelly soil within 50m initial lead & 1.50m initial lift including rough dressing and breaking clouds to maximum 5cm to 7cm and laying in layers not exceeding 0.30m in depth and as per direction of the Engineer in Charge.	Cum	5.63	282.90	1592.73
2.0	Filling foundation and plinth with filling sand including watering and ramming with cost, carriage, royalty etc. complete as per direction of Engineer in- Charge.	Cum	0.51	456.20	232.66
3.0	Cement concrete (1:3:6) with 40 mm size H.G.C.B metals with cost,carriage & Royalty etc. complete as per direction of Engineer in Charge..	Cum	1.06	5685.70	6026.84
4.0	Cement Concrete (1:1.5:3) with 12mm size H.G.C.B chips for R.C.C works including hoisting and laying per one Cum with all cost , carriage & Royalty etc complete as per direction of Engineer in Charge.	Cum	2.47	8048.20	19,879.05
5.0	Rigid smooth centring and shuttering for R.C.C works including false work and dismantling them after casting including cost of all materials and cost of all labours etc, complete in all respect in ground floors per direction of Engineer-in-charge				
	(B)R.C.C beams , columns, grider and bressmer, etc	Sqm	6.24	1239.00	7,731.36

6.0	Supplying, fitting and placing uncoated HYSD bar reinforcement complete as per drawing and technical specification including cost, conveyance and labour etc. complete as per direction of the Engineer-in-charge.	Qntl	0.63	9163.40	5772.94
7.0	Priming one coat with any approved water bound Primer in Plastered surface work including cost of paint, materials, Labour T & P etc. complete as per direction of Engineer inCharge..	Sqm	6.24	83.80	522.91
8.0	Painting two coat with any approved shade of enamel paint on new wood / iron work including cost, conveyance, taxes of all materials and cost of all labours and T&P required for the work etc. complete as per direction of Engineer-in-charge.	Sqm	6.24	191.80	1,196.83
9.0	Calibration of existing river gauge (calculation of river discharge with respect to existing river gauge)	Per day	180.00	21166	3809880.00
	1.Deployment of Technical person for Data Acquisition				
	2. Data processing and preparation of reports both soft copy and hard copy including stationary expenses				
	3. Boat hiring charges with man power and other expenses				
	4.Hiring of vehicle with fuel and lubricant for survey work				
	5.Lodging and boarding facility for staff				
	6.Calibration of existing river gauge and preparation of G/D curve, profile comparison with existing one.				

Total Execution Cost put to Tender

Rs. 38,52,835.32

(Rupees Thirty-Eight lakh Fifty-Two Thousand Eight Hundred Thirty-Five) Only