



**GOVERNMENT OF WEST BENGAL
IRRIGATION AND WATERWAYS DIRECTORATE**

METROPOLITAN ELECTRICAL DIVISION

TENDER DOCUMENT

e-NIT No. WBIW/EE/MED/e-NIT-24/2025-26, Sl. No. 1 to 9

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PART-A

Enclosure-I

(Latest modified e-NIT 'Standard Format' for works of 'Tender Value' (Amount Put to Tender) above Rs.5.00 lakh upto Rs. 45.0 lakh)



Irrigation & Waterways Directorate

Office of the Executive Engineer

Metropolitan Electrical Division

Block-DF, Sector-I, 4th Floor, Jalasampad Bhawan,

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NOTICE INVITING e-TENDER

e-NIT No - WBIW/EE/MED/e-NIT-24/2025-26

Memo No: 100/7E-16/2025-26

Dated: 03.02.2026

Encrypted electronic bids are hereby invited by the **Executive Engineer, Metropolitan Electrical Division, Irrigation & Waterways Directorate**, on behalf of the Governor of the State of West Bengal through a single stage two part e-Procurement System; (Part I: Techno-commercial bid and Part II: Financial bid) for the 'LIST OF WORKS' given in the next page from eligible bonafide contractors/agencies/bidders having specified Pre-Qualification (eligibility) credential for execution of works of similar nature and desired financial capabilities. The technical bid in Part-I would require the bidder to qualify for the next phase of financial bid: Part-II, in which L1 bid price would determine the final selection and acceptance of a bidder for award of the Procurement of Goods & Works contract.

Intending contractors/bidders desirous of participating in this e-Tender are required to login to the Government of West Bengal e-Procurement website having URL <https://wbtenders.gov.in> and locate the instant tender by typing WBIW/EE in the search engine provided therein, or by logging-in using their assigned User ID and password. They may also visit the official website of the Irrigation & Waterways Department, Government of West Bengal www.wbiwd.gov.in to locate the same e-Tender by scrolling the "e-Procurement" link.

Contractors/bidders willing to take part in the e-Tender are required to obtain a valid Digital Signature- Certificate (DSC) from any of the authorized 'Certifying Authorities' (CA) under Controller of Certifying Authorities (CCA), Department of Electronics & Information Technology (DEIT), Govt. of India. (viz. NIC, n-Code Solution, Safescrypt, e-Mudhra Consumer Services Ltd, TCS, MTNL, IDRBT) or as notified by the CA /Finance Department, GoWB from time to time. DSC is given as a USB e-Token. After obtaining the Class 2 or Class 3 Digital Signature Certificate (DSC) from any of the above CA, they are required to register the fact of possessing the DSC through the registration system available in the above mentioned websites. A list of such licensed CAs' are also available in the CCA website cca.gov.in. The prospective contractors / bidders may contact the Departmental e-Tendering Help desk located at the 7th Floor of Jalasampad Bhavan at Bidhannagar, Sector-II, Kolkata, through e-mails irrigationhelpdesk@gmail.com and no-egov@wbiwd.gov.in/ ee-dvcstdyccell@wbiwd.gov.in or Telephone No. 033-23346098 and the State Level e-Procurement Help Desk located at the Ground Floor of Jalasampad Bhavan through e-mail wbehelpdesk@gmail.com or Ph:(033)-2334 5161 on any working day between 10.30AM-5.30PM for any query on e-Tendering procedure, obtaining DSC and free of cost training on e-Procurement procedure.

Intending contractors/bidders are required to download the e-Tender documents directly from either of the websites stated above. This is the only mode for submission of a tender. The interested bidders eligible for the tender are required to submit their bids through the e-Procurement System using their valid DSC e-Token with assigned PIN using login ID and password. Details of e-filing procedure for participating in e-tenders under State Government have also been explained in the 'Bidders' Manual', available in the Departmental website www.wbiwd.gov.in.

Last date & time of submission of bid electronically, is on 20.02.2026 till 15:00 Hours IST.

The applicant bidders/contractors are advised to carefully read all the 'Terms & Conditions' contained in this e-Notice Inviting Tender (e-NIT). He/she should particularly go through the minimum desired Pre-qualification (PQ) works credential & financial eligibility criteria and satisfy himself/herself of all the mandatory eligibility requirements. Bidders desirous of participating in the e-Tender should submit bids only if they fulfill the minimum PQ eligibility criteria and are in possession of all the required Bid PQ Credential documents "in original" as these may be summoned by the Tendering authority for verification purposes.

All information published in the website consisting of e-NIT and other related documents uploaded by the selected bidder, WB Works Contract Form No. 2911(i)/2911(ii), Bill of Quantities (BOQ), EMD exemption order, if any, corrigenda and drawings etc. if any, shall form a part of the Agreement / contract document.

LIST OF WORKS**e-NIT No - WBIW/EE/MED/e-NIT-24/2025-26**

Sl. No.	Name of Work//Project/Procurement*	Estimated Amount put to Tender (Tender Value) (Rs.)	Earnest Money (EMD) (Rs.)	Time allowed for completion (In English Calendar days)	Source of fund	Minimum eligibility criteria to match the Prequalification (PQ) credential in terms of execution of similar completed previous works contract	Physical Milestones for completion of each work within stipulated time (Refer to Clause 17 of the General Terms & Conditions of e-NIT)
1	2	3	4	5	6	7	8
1	Supply of 01(One) No 62.5KVA, 3 Phase A.C, Diesel Generator (Silent) including providing fuel on hire basis at Chitpur Lock Gate and sluice as a backup power supply unit at Chitpur Lock Gate site under the jurisdiction of Metropolitan Electrical Division during the year of 2026-27 (w.e.f. 01.04.2026 to 31.03.2027).	2,65,100.0	5,302.00	365 Days	SDS(M)	Summary of minimum eligibility requirement to technically qualify for the next stage of financial bid in this tender: A. Technical PQ Credential: i. The bidder must have satisfactorily completed at least 1 (one) ' similar nature ' work under Government Sector within last five FYs on the date of publication of this NIT of Gross monetary value of Rs. 0.8 Lakh (Gross monetary value is calculated based on final billed value is the Credential Certificate (CC) multiplied by inflationary factor completed within the preceding five FYs of similar in nature, of Gross notional Value not be less than 30% of the amount put to tender of the work for which the bidder chooses to participate in this NIT. (Brief description of PQ work credential desired with corresponding PQ eligibility amount in Rupees 0.8 Lakh). Requisite parts of License: 1, 2 & 4 as per I.E.	As per Work Programme prepared and uploaded by the Tender Inviting Authority in the form of Bar Chart
2	Electro-mechanical Operation and Maintenance of Nazirganj 8 vented Sluice at Nazirganj over Howrah Drainage Canal & 4 vented Sluice at Sarenga over Borojola Khal and electrical maintenance of Howrah Drainage Sub-division including supply of consumable material (both Electrical & Mechanical) for day to day maintenance at Nazirganj to be executed through Metropolitan Electrical Division during the year 2026-27 (w.e.f. 01.04.2026 to 31.03.2027).	23,30,649.00	46,613.00	365 Days	SDS(M)	Summary of minimum eligibility requirement to technically qualify for the next stage of financial bid in this tender: A. Technical PQ Credential: i. The bidder must have satisfactorily completed at least 1 (one) ' similar nature ' work under Government Sector within last five FYs on the date of publication of this NIT of Gross monetary value of Rs. 6.99 Lakh (Gross monetary value is calculated based on final billed value is the Credential Certificate (CC) multiplied by inflationary factor completed within the preceding five FYs of similar in nature, of Gross notional Value not be less than 30% of the amount put to tender of the work for which the bidder chooses to participate in this NIT. (Brief description of PQ work credential desired with corresponding PQ eligibility amount in Rupees 6.99 Lakh). Requisite parts of License: 1, 2 & 4 as per I.E.	As per Work Programme prepared and uploaded by the Tender Inviting Authority in the form of Bar Chart

(*)Consortium & Joint Venture are not permitted to bid in this e-tender.

LIST OF WORKS**e-NIT No - WBIW/EE/MED/e-NIT-24/2025-26**

Sl. No.	Name of Work//Project/Procurement*	Estimated Amount put to Tender (Tender Value) (Rs.)	Earnest Money (EMD) (Rs.)	Time allowed for completion (in English Calendar days)	Source of fund	Minimum eligibility criteria to match the Prequalification (PQ) credential in terms of execution of similar completed previous works contract	Physical Milestones for completion of each work within stipulated time (Refer to Clause 17 of the General Terms & Conditions of e-NIT)
1	2	3	4	5	6	7	8
3	Electro Mechanical operation & Maintenance of 11 vent Sluice gates at Fuleswar including maintenance of Electrical Installation different capacity and make Air conditioning machine (11 nos) with supply and delivery of consumable materials for day to day maintenance whole electrical installation of office building, office campus, residential quarter at Lower Damodar Construction Division - II at Fuleswar, Howrah under the jurisdiction of Metropolitan Electrical Division during the year 2026-27 (w.e.f. 01.04.2026 to 31.03.2027).	18,67,786.00	37,356.00	365 Days	SDS(M)	Summary of minimum eligibility requirement to technically qualify for the next stage of financial bid in this tender: A. Technical PQ Credential: i. The bidder must have satisfactorily completed at least 1 (one) ' similar nature ' work under Government Sector within last five FYs on the date of publication of this NIT of Gross monetary value of Rs. 5.60 Lakh (Gross monetary value is calculated based on final billed value is the Credential Certificate (CC) multiplied by inflationary factor completed within the preceding five FYs of similar in nature, of Gross notional Value not be less than 30% of the amount put to tender of the work for which the bidder chooses to participate in this NIT. (Brief description of PQ work credential desired with corresponding PQ eligibility amount in Rupees 5.60 Lakh). Requisite parts of License: 1, 2 & 4 as per I.E.	As per Work Programme prepared and uploaded by the Tender Inviting Authority in the form of Bar Chart
4	Electro Mechanical Operation and Maintenance of 20 vent sluice gates at Sejberia including maintenance of Electrical installation and supply, delivery of consumable materials for day to day maintenance of whole electrical installation of office building, office campus, residential quarter at Lower Damodar Construction Division - II at Sejberia, Howrah under the jurisdiction of Metropolitan Electrical Division during the year 2026-27 (w.e.f. 01.04.2026 to 31.03.2027).	21,11,683.00	42,234.00	365 Days	SDS(M)	Summary of minimum eligibility requirement to technically qualify for the next stage of financial bid in this tender: A. Technical PQ Credential: i. The bidder must have satisfactorily completed at least 1 (one) ' similar nature ' work under Government Sector within last five FYs on the date of publication of this NIT of Gross monetary value of Rs. 6.33 Lakh (Gross monetary value is calculated based on final billed value is the Credential Certificate (CC) multiplied by inflationary factor completed within the preceding five FYs of similar in nature, of Gross notional Value not be less than 30% of the amount put to tender of the work for which the bidder chooses to participate in this NIT. (Brief description of PQ work credential desired with corresponding PQ eligibility amount in Rupees 6.33 Lakh). Requisite parts of License: 1, 2 & 4 as per I.E.	

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LIST OF WORKS**e-NIT No - WBIW/EE/MED/e-NIT-24/2025-26**

Sl. No.	Name of Work//Project/Procurement*	Estimated Amount put to Tender (Tender Value) (Rs.)	Earnest Money (EMD) (Rs.)	Time allowed for completion (In English Calendar days)	Source of fund	Minimum eligibility criteria to match the Prequalification (PQ) credential in terms of execution of similar completed previous works contract	Physical Milestones for completion of each work within stipulated time (Refer to Clause 17 of the General Terms & Conditions of e-NIT)
1	2	3	4	5	6	7	8
5	Electro mechanical maintenance & operation of 58 Vent sluice and hiring, operation of Diesel Generator set (40KVA, 3ph, AC) as a backup power supply unit at Ulughata including day to day maintenance of Electrical Installation, supply of electrical & hydro mechanical spares and electrical fittings like light, fan switches etc. for day to day maintenance of whole electrical installation at Ulughata Inspection Bungalow and adjoining campus incl outdoor illumination system at Ulughata, G.P : Belari, Block : Shyampur-I Dist : Howrah under the jurisdiction of Metropolitan Electrical Division during the year 2026-27 (w.e.f. 01.04.2026 to 31.03.2027).	24,67,984.00	49,360.00	365 Days	SDS(M)	Summary of minimum eligibility requirement to technically qualify for the next stage of financial bid in this tender: A. Technical PQ Credential: i. The bidder must have satisfactorily completed at least 1 (one) ' similar nature ' work under Government Sector within last five FYs on the date of publication of this NIT of Gross monetary value of Rs. 7.40 Lakh (Gross monetary value is calculated based on final billed value is the Credential Certificate (CC) multiplied by inflationary factor completed within the preceding five FYs of similar in nature, of Gross notional Value not be less than 30% of the amount put to tender of the work for which the bidder chooses to participate in this NIT. (Brief description of PQ work credential desired with corresponding PQ eligibility amount in Rupees 7.40 Lakh). Requisite parts of License: 1, 2 & 4 as per I.E.	As per Work Programme prepared and uploaded by the Tender Inviting Authority in the form of Bar Chart
6	Annual operation and Maintenance of Chitpur Lock Gate and sluice round the clock including Operation of D.G & repair and maintenance of all gates and its hoisting system for trouble free performance at Chitpur Lock Gate site under the jurisdiction of Metropolitan Electrical Division during the year of 2026-27 (w.e.f. 01.04.2026 to 31.03.2027).	17,49,627.00	34,993.00	365 Days	SDS(M)	Summary of minimum eligibility requirement to technically qualify for the next stage of financial bid in this tender: A. Technical PQ Credential: i. The bidder must have satisfactorily completed at least 1 (one) ' similar nature ' work under Government Sector within last five FYs on the date of publication of this NIT of Gross monetary value of Rs. 5.25 Lakh (Gross monetary value is calculated based on final billed value is the Credential Certificate (CC) multiplied by inflationary factor completed within the preceding five FYs of similar in nature, of Gross notional Value not be less than 30% of the amount put to tender of the work for which the bidder chooses to participate in this NIT. (Brief description of PQ work credential desired with corresponding PQ eligibility amount in Rupees 5.25 Lakh). Requisite parts of License: 1, 2 & 4 as per I.E.	

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Sl. No.	Name of Work//Project/Procurement*	Estimated Amount put to Tender (Tender Value) (Rs.)	Earnest Money (EMD) (Rs.)	Time allowed for completion (In English Calendar days)	Source of fund	Minimum eligibility criteria to match the Prequalification (PQ) credential in terms of execution of similar completed previous works contract	Physical Milestones for completion of each work within stipulated time (Refer to Clause 17 of the General Terms & Conditions of e-NIT)
1	2	3	4	5	6	7	8
7	Annual Maintenance contract for Pre monsoon servicing and greasing & oiling of different size gates at different locations (Nalda CR gates 5 vent, machal CR gate 4 vent, Nilkuthi CR gate 4 vent, kharubera 8 vent, dewantala 6 vent, radhanagar 5 vent, mahisdhara 4 vent, gouriganga 5 vent, uluberialockgate 3vent, chapa sluice 4 vent, maniktala sluice 3 vent, joynagar sluice 2 vent, bansberialockgate 3 vent, kalatala 3 vent, atteshwari 4 vent, kultapara 3 vent, charkantapur 4 vent, dhanyaghata 3 vent, jallabad 4 vent, jodhkamaria 6 vent, Bhanderghaca 6 vent,Baganda 3 vent, Rangamati 2 vent ,nakol3vent,gujorpur5 vent) to be executed through Metropolitan Electrical Division during the year 2026-27 (w.e.f. 01.04.2026 to 31.03.2027).	16,66,596.00	33,332.00	365 Days	SDS(M)	Summary of minimum eligibility requirement to technically qualify for the next stage of financial bid in this tender: A. Technical PQ Credential: i. The bidder must have satisfactorily completed at least 1 (one) 'similar nature' work under Government Sector within last five FYs on the date of publication of this NIT of Gross monetary value of Rs. 5.0 Lakh (Gross monetary value is calculated based on final billed value is the Credential Certificate (CC) multiplied by inflationary factor completed within the preceding five FYs of similar in nature, of Gross notional Value not be less than 30% of the amount put to tender of the work for which the bidder chooses to participate in this NIT. (Brief description of PQ work credential desired with corresponding PQ eligibility amount in Rupees 5.0 Lakh). Requisite parts of License: 1, 2 & 4 as per I.E.	As per Work Programme prepared and uploaded by the Tender Inviting Authority in the form of Bar Chart
8	Servicing & over hauling of 37(Thirty seven) nos Kirloskar make Diesel Engine Driven Centrifugal pumps having capacity 12.5/14/16/25.6/26 HP and supply of pump materials for surface dewatering diesel driven centrifugal pump at FF block Godown, salt Lake during the year 2026- 27.	7,87,163.00	15,743.00	60 Days	SDS(M)	Summary of minimum eligibility requirement to technically qualify for the next stage of financial bid in this tender: A. Technical PQ Credential: i. The bidder must have satisfactorily completed at least 1 (one) 'similar nature' work under Government Sector within last five FYs on the date of publication of this NIT of Gross monetary value of Rs. 2.36 Lakh (Gross monetary value is calculated based on final billed value is the Credential Certificate (CC) multiplied by inflationary factor completed within the preceding five FYs of similar in nature, of Gross notional Value not be less than 30% of the amount put to tender of the work for which the bidder chooses to participate in this NIT. (Brief description of PQ work credential desired with corresponding PQ eligibility amount in Rupees 2.36 Lakh). Requisite parts of License: 1, 2 & 4 as per I.E.	

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LIST OF WORKS**e-NIT No - WBIW/EE/MED/e-NIT-24/2025-26**

Sl. No.	Name of Work//Project/Procurement*	Estimated Amount put to Tender (Tender Value) (Rs.)	Earnest Money (EMD) (Rs.)	Time allowed for completion (In English Calendar days)	Source of fund	Minimum eligibility criteria to match the Prequalification (PQ) credential in terms of execution of similar completed previous works contract	Physical Milestones for completion of each work within stipulated time (Refer to Clause 17 of the General Terms & Conditions of e-NIT)
1	2	3	4	5	6	7	8
9	Supply of 01(One) No 40KVA, 3 Phase A.C, Diesel Generator (Silent) including providing fuel on hire basis at Sejberia Lock Gate and sluice as a backup power supply unit at Sejberia Lock Gate site under the jurisdiction of Metropolitan Electrical Division during the year 2026-27 (w.e.f. 01.04.2026 to 31.03.2027).	1,72,239.00	3,445.00	365 Days	SDS(M)	<p>Summary of minimum eligibility requirement to technically qualify for the next stage of financial bid in this tender:</p> <p>A. Technical PQ Credential:</p> <p>i. The bidder must have satisfactorily completed at least 1 (one) 'similar nature' work under Government Sector within last five FYs on the date of publication of this NIT of Gross monetary value of Rs. 0.5 Lakh (Gross monetary value is calculated based on final billed value is the Credential Certificate (CC) multiplied by inflationary factor completed within the preceding five FYs of similar in nature, of Gross notional Value not be less than 30% of the amount put to tender of the work for which the bidder chooses to participate in this NIT. (Brief description of PQ work credential desired with corresponding PQ eligibility amount in Rupees 0.5 Lakh).</p> <p>Requisite parts of License: 1, 2 & 4 as per I.E.</p>	As per Work Programme prepared and uploaded by the Tender Inviting Authority in the form of Bar Chart

(*)Consortium & Joint Venture are not permitted to bid in this e-tender.

(General Terms & Conditions for Contract: 'Tender value' above Rs 5.0 Lakh up to Rs 45.00 Lakh)

1. Eligibility for participation in e-tenders under National Comparative Bidding (NCB)

All Bonafide Indian contractors/Agencies/Organizations, Registered Companies/ Firms including Registered Partnership Firms, Proprietorship Firms, Registered Consortiums & valid 'Joint Ventures' and contractors/bidders of equivalent grade or class having Pre-Qualification (PQ) Credential from the Government of West Bengal, Union Government Departments/ Other State Government Departments/ Engineering Wings of GoI /IRCON/RVNL/NHPC, Autonomous Project Authority and other similar organizations of GoI and State Governments/PSU and Corporations of Government of India and other States having successfully completed at least one similar nature project and not otherwise debarred are eligible to participate subject to fulfilling the other PQ eligibility criteria laid down in the subsequent paragraph. Consortiums and Joint Ventures are not allowed to participate in tenders of value up to Rs. 45.00 lakh

2. Participation in more than one serial of work out of list of works published in one e-NIT.

Any contractor/bidder may bid for any number of Serials of work in a particular e-NIT, if more than one work have been published in that e-NIT, subject to fulfillment of all of the following conditions:

- a. There should be full compatibility (matching between the technical PQ credential submitted by the bidder in the form of Credential Certificate (CC) along with other relevant documents as stated under Clause 3.2B III) relating to any work successfully completed by the bidder and technical PQ criteria specified in the e-NIT for any particular serial of works for which the bidder intends to bid. In other words, technical PQ credential certificate along with relevant documents submitted for any work should at the minimum; satisfy the technical PQ eligibility criteria specified for that work. Normally there should be separate CC along with relevant documents for each of the serial of works, the bidder intends to bid and the serial number relevant to the CC should be clearly written on the body of the CC and also on the other documents stated under **Clause 3.2B III**. However, the bidder will also reserve the right to submit one CC along with relevant documents for bidding in more than one serial of work, provided cumulative technical PQ credential of all such serials should be fulfilled by one single CC. In such case also, serial numbers of the relevant works for which the CC is submitted should be clearly written on the body of the CC by the bidder. Omission of serial numbers on the body of the CC and also on the other documents stated under **Clause 3.2B III**, in case of bidding for more than one serial will lead to rejection of all the bids.
- b. Average of gross annual turnover of the individual bidder/Organization/consortium or Joint Venture for any three financial years within preceding five financial years, as stated under Clause 7V, should not less than the summation of turnover requirements of the relevant individual serial of works for which the bidder intends to bid.

3. Submission of bid

3.1 General procedure for submission of e-bid

Bids are to be submitted electronically in the on-line mode through the e-Procurement portal www.wbtenders.gov.in. All documents uploaded by the Tender Inviting Authority forms an integral part of the works contract/Agreement. Contractors/bidders are required to upload the entire tender documents along with all other relevant PQ credential documents as asked for in the e-NIT, electronically, through the above portal within the stipulated date and time as notified in the e-NIT. Tenders are to be submitted in two parts/folders at the same time for each work, one being 'Technical Proposal' and the other 'Financial Proposal'. The contractor/bidder should carefully go through all the documents of the e-tender and upload the scanned copies of his/her/their original documents in 'Portable Document Format' (PDF) files in the designated links in the web portal as their 'Technical Bid'. He/she needs to fill up the financial offer/bid price/ rates in percentage above or below or 'At-Par' in the downloaded BOQ of the work in the designated cell in 'Excel sheet only', and upload the same in the designated link of the portal as their 'Financial Bid'. Documents uploaded are virus scanned and required to be digitally signed using their 'Digital Signature Certificates' (DSC). Contractors/bidders should especially take note of all the *Addenda* or *Corrigenda* notices related to the e-Tender and upload all of these documents forming a part of their e-bid as tender document. Documents digitally signed and uploaded in the e-Tender portal by the contractors/bidders containing requisite information & financial bid/rate comprising 'Technical bid' and 'Financial bid' are submitted concurrently, which cannot be changed after end date and time fixed for submission of the e-Tender. **Extension of last date for e-bid submission or insertion of any of Addendum/Corrigendum, if unavoidable is to be notified as per Finance Department guidelines in the e-Procurement Portal, Departmental website, Newspapers and in Notice boards. Whenever any corrigendum is issued irrespective of the content (date corrigendum or otherwise), due date of submission of bid will be extended by 7 (seven) calendar days to be published before expiry of the last date for original validity period of bid submission.** Extension of last date and time for bid submission by issuance of a Corrigendum shall not be treated as 2nd Call or Re-tender.

3.2 Technical Proposal

The Technical Proposal should contain scanned PDF files of all documents in the following standardised formats in two part covers or folders.

Cover No	Cover	Document Type	Descriptions
1	Pre-Qual/Technical	.pdf	NIT_Corrigendum
		.pdf	Agreement_2911
		.pdf	Forms
		.pdf/jpg/WinRAR	Drawings
		.pdf/jpg	BAR_CHART
2	Finance	.xls	BOQ

3.2 A Descriptions of Technical (Pre-Qual) Covers

- 'NIT_Corrigendum folder':** e-Notice Inviting Tender is to be downloaded in entirety, digitally signed and uploaded during e-bid submission in "**NIT_Corrigendum**" folder. '**Corrigenda/Addenda**' if published in connection with the NIT is to be digitally signed and uploaded in the '**NIT_Corrigendum**' folder merged with e-NIT documents during e-bid submission.
- 'Agreement_2911' folder:** Contract /Agreement in WB Form No. 2911(i) published in the e-Tender is to be downloaded digitally signed and uploaded during e-bid submission in **Agreement_2911** folder.
- 'Forms' folder:** Applications for e-Tender: vide self declaration format in specimen Form-1 , Self declaration of bidder not having common interest as a different bidder organisation in any other work tendered under different serials of this particular e-NIT vide specimen Form-2, and self declaration on antecedents and performance of the bidder in specimen Form-4.
*All above are to be filled up completely, digitally signed and uploaded during bid submission in "**Forms**" folder.*
- Drawings folder:** The GAD/Plan/Map published in the e-Tender by the Tender Inviting Authority is to be downloaded by the bidder digitally signed and again *uploaded during e-bid submission in "**Drawings**" folder*
- BAR_CHART folder: BAR CHART/Work Programmes in other Networking Methods** prepared by TIA in pdf file defining the Physical Milestones of the construction period for implementation of the project is to be downloaded by the bidder digitally signed and again *uploaded during e-bid submission in "**BAR_CHART**" folder*

3.2A.NOTE:

- Contractors/bidders are required to keep track in the e-Procurement website www.wbtenders.gov.in for all the Addenda or Corrigenda notices and documents published in connection with a particular e-Tender within the bidding period and upload the same, digitally signed by him/her along with their e- bid. **Tenders submitted without Addendum/Corrigendum are liable to be treated as incomplete and thereby liable for disqualification or rejection.**
- Form 1, Form 2, Form 3 (for companies etc.) and Form 4 are taken from bidders by TIA as bidders self declarations' or undertakings. These formats are specimens or samples only, which are to be firstly downloaded by the bidders from the NIT in e-Procurement portal, filled up completely and again uploaded with their electronic bids.

3.2 B. My Document [OID* Cover] containing:

It is desired that PDF files of all other original documents in support of their eligibility and PQ credential shall have to be submitted under the OID cover folders as detailed below:

My Document Format for uploading in the OID folder:-

Sl. No.	Category	Sub-category	Sub-category description	Remarks if any
I	Certificates	1. certificates.pdf 2. GST_registration_certificates.pdf	1 Latest Professional Tax Payment Certificate (PTPC) or, PT deposit challan for current financial year or Government Order for exemption in other States where ever applicable. 2 Valid PAN Card in the name of bidder/organisation 3 Income Tax Return of current Assessment year or, IT Return of immediate preceding Assessment year whichever is ;attest available 4 Valid GSTIN under GST Act & Rules	Refer to Clause 3.2C(I) for details

Sl. No.	Category	Sub-category	Sub-category description	Remarks if any
II	Company Details	<i>companydetails.pdf 1</i> <i>companydetails.pdf 2</i>	1 For Proprietorship Firms, Partnership Firms, Registered Companies, Registered Co-operative Societies Valid Trade License/ acknowledgement or Receipt of application for Trade License/ Revalidation OTHER REQUIREMENTS:- 2 For Partnership Firms: Legally valid Partnership Deed, Form-VIII/ Memorandum of Registration of Registrar of Firms 3 For Companies: Incorporation Certificate, Memorandum of Articles of ROC, List of current owners/ Directors/Board Members 4 For State Registered Co-operative Societies: Society Registration certificate from ARCS of the State, Society by-Laws, latest available Auditor's Report of Directorate of Co-operative Audit within proceeding five years as per Societies Act & Rules	Refer to Clause 3.2C(II) for details
III	Credential of works	1. Credential pdf 1 2. Credential pdf 2	1 BOQ/SOR & Work Order/ Award of Contract or LOA/LOI duly authenticated by issuing authority. 2 Pre-Qualification (PQ) Work credential of one 100% completed work as desired in the NIT as the Credential Certificate (CC) duly authenticated by competent authority.	Refer to Clause 3.2C(III) for details
IV	Financial credential	Payment certificate.pdf	All 100% Payment Certificates of competent authorities during preceding Five FY. IT Return of bidder in three FY, or Audited Profit & Loss Accounts statement of any three financial years within the zone of preceding five financial years whichever is available.	Refer to Clause 3.2C(IV) for details

* OID denotes Other Important Documents.

Note:

- i. It is desirable though not mandatory that all documents stated above in PDF files shall be uploaded by bidders only in specified designated folders. No off-line document will be accepted and considered during tender evaluation stage from bidders before publishing of final selection of L1 by publication of FBE sheet verification by TEC may be undertaken directly from PQ Credential issuing authority.
- ii. Validity of documents submitted by bidder shall be stand determined on the date of publication of tender notice (e-Notice Inviting Tender)

3.2 C(I) Certificate/s: The documents mentioned below under Serial a, b & c are to be uploaded as 'PDF' files in Certificate.pdf1 (*name of the file should be "certificates.pdf"*)
The document mentioned under Sl. d below is to be uploaded in GST Registration Certificate.pdf2 file

- a. Latest available Professional Tax Payment Certificate (PTPC) or the PT payment challan/ receipt for current financial year/Waiver Order of competent authority in other States if applicable.
- b. Valid PAN Card of the bidder/s are required;
- c. Income Tax Return of current Assessment Year or, IT Return of immediate preceding Assessment year under IT Act & Rules, whichever latest available with the bidder.
- d. Valid 15 digit Goods and Service Tax payer Identification Number (GSTIN) as per GST Act, 2017 & Rules of the bidder to be uploaded *in 'GST registration certificate pdf'*.

3.2C(II) All documents mentioned in tabular format under **Clause 3.2B** and also explained below should be uploaded during electronic bid submission in PDF files with the *name of file should be "companydetails.pdf"*

- i. For Partnership Firms: Documents of Registration of Partnership Firms in the certified copy of 'Form No. VIII,' issued under Indian Partnership Act, 1932 (Act-IX of 1932) by the Registrar of Firms. In case a Partnership Firm is yet to receive Form No. VIII, a "Memorandum" issued by the Registrar of Firms may also be accepted.
- ii. For Companies: Incorporation Certificate, valid Trade License or acknowledgement of issuing authority of receipt of application for Trade License / renewal, 'Memorandum of Articles' registered under the Registrar of Companies (ROC) under the Indian Companies Act, List of owners/ Directors/Board Members are to be uploaded with the e-bid.

iii. For State Registered Co-operative Societies:

- a. Society Registration certificate from ARCS (Assistant Registrar of Co-operative Societies, GoWB) and By-Laws for Cooperative Societies under West Bengal Co-operative Societies Act, 2006 and Rules, 2011 and all amendments.
- b. Latest Auditor's Report of Directorate of Co-operative Audit under Department of Co-operative, Government of West Bengal within preceding five financial years as per Societies Act & Rules.

3.2C (III) Eligibility criteria based on Credential of work/Prequalification Work Credential "*credential.pdf*"

- i. Bill of Quantities (BOQ) along with Work Order/Award of Contract; duly authenticated by the competent authority to be submitted under Technical cover (*name of file should be "credential.pdf 1*).
- ii. Pre-Qualification (PQ) credential of one 100% completed work of Gross Notional Value as desired in the NIT as the Credential Certificate (CC) duly authenticated by competent authority. (*Name of file should be "credential.pdf 2*).

3.2C (IV) PQ Financial credential: In '*payment certificate.pdf*' folder under OID cover

- a. Disqualification during PQ evaluation of financial capability of bidder shall not be decided during technical bid evaluation by TEC up to work of Rs 45 lakh, as no minimum financial capacity is fixed, except if reveals from documents beyond any doubt of the financial liquidity & bankruptcy of the bidder, determining absolute incapacity to execute the work.
- b. i. 'Payment certificate' of works authenticated by appropriate authority for preceding three Financial Years, or, ii. Valid Income Tax Returns for preceding three FY, or,
iii. Audited Profit & Loss Accounts statements of three FY, any one of i, ii, or iii as a complete set for three FY within zone of immediate preceding five FY is to be uploaded in '*payment certificate.pdf*' folder under OID cover, else the bidder may be disqualified. Name, address, contact no. and registration no. of auditor Firm is desirable for Profit & Loss accounts statement, if submitted.

Note: a. *If the bidder Company/Firm was set up less than three years ago, audited balance sheets and P/L Accounts for the number of years since inception are to be submitted under Technical cover and the average value would be evaluated only for the period since inception and not three years. Credential Certificate (CC) given as PQ Work Credential may also contain payment certificate and in those cases separate payment certificate is not required.*

b. *No file in Technical / Pre-Qual cover or OID cover folder is allowed by the system to be kept blank/empty. Where ever the forms and documents are uploaded by the Tender Inviting Authority, the same is to be downloaded, duly filled up, converted to pdf file, and again uploaded after digital signing, forming a part of tender document. These formats are specimens or samples only and deviation from specimen format is not a sufficient ground for rejection of the bid. Relevant blank Forms are to be firstly downloaded by the bidders from the NIT in e-Procurement portal, filled up completely and again uploaded with their electronic bid. No offline document is acceptable from bidders by TEC during evaluation stage.*

3.3 Financial proposal / bid under Financial cover:-

The financial bid should contain the following documents in one cover or folder.

- i. Bill of Quantities (BOQ): The contractor/bidder is required to quote the financial offer/bid price or rate as percentage above or below the estimated amount put to tender or 'at-par' with tender value, in the space marked for quoting rate in the BOQ of the tendered work.
- ii. Only the downloaded sheet of the above document in Excel format is required to be uploaded by the contractor/bidder.
- iii. BOQ without a valid numeric rate at the designated space provided in the BOQ will be disqualified and rejected outright. Contractors/bidders willing to quote "at-par" rate shall need to write "0" in the 'space' provided for rates in the BOQ of the tendered work.

4. Tender Fee and Earnest Money Deposit (EMD)

i. Tender Fees:

Entire set of e-Tender documents are made available free of cost through the State Government e-Procurement portal having URL <https://wbtenders.gov.in> and also available in the e-Procurement link of Departmental website www.wbiwd.gov.in. Cost for tender documents will not be charged even during execution of a formal tender contract/agreement. However, the contractors/bidders may wherever necessary shall be suitably charged for additional/multiple copies of drawings, specifications, Schedule of Rates booklet etc. and such fee may be suitably determined by the Tender Inviting Authority as per existing Rules.

ii. (a) Earnest Money Deposit (EMD):

Bidders are required make payment of Earnest Money (EMD) through the e-Payment banking system, on-line and should read in advance the instructions carefully, particularly those contained in the challan generated in the e-transaction of the portal, if opted for EMD payment through RTGS/NEFT. Only if the bidder is exempted from payment of EMD by the State Finance Department, the Govt order for such exemption is to be uploaded while opting for EMD exemption category. Any misjudgement and resultant non submission of EMD will lead to summarily rejection of the bid/tender. **The quantum of Earnest Money Deposit has been revised as 2 % of the amount put to tender or Rs. 10 Lakh, whichever is lower for amount put to tender upto value of Rs. 25 crore.**

(b) Additional Performance Bank Guarantee:

"Additional Performance Security" has been made mandatory which shall be obtained only from the successful L1 bidder, if the accepted bid price is below 20% of tender BOQ or below by more than 20% of the tender BOQ. This Additional Performance Security shall be equal to 10% of the tendered amount i.e. 10% of the L1 bid price.

The said Bank Guarantee (BG) shall have to be valid up till the end of the contract/Agreement period including extended time period till 100% physical completion of work in all respects and shall be renewed within validity period accordingly if required. The said Bank Guarantee shall remain in custody of the DDO & Executive Engineer in-charge of the work, which shall be returned to the bidder/contractor after successful physical completion of the work as per contract. If the bidder fails to complete the work successfully, this Additional Performance Security shall be forfeited at any time during the pendency of the contract period after serving proper notice to the contractor/bidder agency. Necessary provisions regarding deduction of security deposit from progressive bills of the contractor in respect of the tendered work shall be governed as per relevant clauses of the tender contract/Agreement which will in no way be affected / altered due to this Additional Performance Security.

As per Dept. Memo no.- 306-IB/IW-14011(34)/1/2018-JS(IW),dated: 06.08.2018, the entire Security Deposit or the Performance Security may be released after physical and financial completion of the project but before expiry of the security period or defect liability period against receipt of equivalent amount of bank guarantee of approved bank of RBI which should remain valid till the expiry of the defect liability period.

4A. Login by bidder:

- a. A bidder desirous of taking part in e-tender floated by the State Government shall login to the e-Procurement portal of the Government of West Bengal www.wbtenders.gov.in using his/her login ID and password by using their valid DSC.
- b. He/she will select the tender to bid and initiate payment of pre-defined EMD fixed for that tender by selecting from either of the following payments modes:
 - i. Net-Banking (any of the banks listed in the ICICI Bank Payment Gateway) in case of payment through ICICI Bank Payment Gateway;
 - ii. RTGS/NEFT in case of off-line payment through bidder's bank accounts in any Bank approved by RBI in India.

4B. EMD payment procedure:

a. Payment by Net Banking out of any listed bank through ICICI Bank Payment Gateway:

- i. On selection of Net Banking as the payment mode, the bidder will be directed to ICICI Bank Payment Gateway (along with a string containing a Unique ID) where he/she will select the Bank through which he/she wants to electronically transact the EMD.
- ii. Bidder will make the payment after entering his Unique ID and password of the bank to process the e-transaction.
- iii. Bidder will receive a confirmation message on registered mobile phone regarding success/failure of the transaction.
- iv. If the transaction is successful, the amount paid by the bidder will get credited in the respective Pooling account of the State Government maintained with the Focal Point Branch of ICICI Bank at R.N Mukherjee Road, Kolkata for collection of EMD against unique codes for identification of the tendering authority.
- v. If the transaction is failure, the bidder will again try for payment by going back to the first step.

b. Payment through RTGS/NEFT:

- i. On selection of RTGS/NEFT as the payment mode, the e-procurement portal will show a pre-filled challan having the details to process RTGS/NEFT transaction.
- ii. The bidder will print the challan and use the pre-filled information to make RTGS/NEFT payment using his/her own designated Bank account.
- iii. Once payment is made, the bank would provide an "UTR remittance number" for successful transaction with which the bidder will come back to the e-Procurement portal after expiry of 2 to 3 bank working days to enable the NEFT/RTGS process to complete, in order to verify the payment made and continue with his/her bidding process.
- iv. If verification is successful, the fund get credited to the respective Pooling account of the State Government maintained with the Focal Point Branch of ICICI Bank at R.N Mukherjee Road, Kolkata for collection of EMD.

- v. Hereafter, the bidder will go to e-Procurement portal for final submission of his/her e-bid within pre-assigned last date of submission of e-tender.
- vi. If the payment verification is unsuccessful, the amount will be returned automatically by the system to the bidder's bank account.

Note: EMD made through RTGS/NEFT would require additional 2 to 3 bank working days after date of transaction in the bank before the procedure is completed for enabling the bidder to continue with the bidding process in the on-line final bid submission. Thus, the bidder is to take precaution in case of RTGS/NEFT transfers, so that the entire process of submission of e-tender is completed within last date of on-line submission of his/her tender. However, Net-banking transaction through ICICI bank payment Gateway would be on real time basis.

4C. Refund/Settlement Process for EMD:

- i. After decrypting/admitting of all e-bids, the preliminary technical bid evaluation (TBO) summary sheet would be published in the Portal after two working days, and thereafter at least after four working days, the Final technical evaluation (TBE) summary sheet would be published in the Portal with simultaneous electronic processing in the e-Procurement portal by the tender inviting authority done so that status of the all bids as qualified or disqualified; based on the Final Bid Evaluation Sheet (FBE) is made available to all bidders along with the details of the unsuccessful bidders to ICICI Bank by the e-Procurement portal through web services.
- ii. On receipt of the information from the e-Procurement portal, the Bank will refund through an automated process the EMD of the bidders disqualified at the technical evaluation to the respective bidders' bank accounts from which they made the EMD on-line transaction. Such refund will take place within T+2 Bank working days where T will mean the date on which information on rejection of bid is uploaded to the e-Procurement portal by the Tender Inviting Authority.
- iii. Once the financial bid evaluation is electronically processed in the e-Procurement portal, EMD of the technically qualified bidders other than that of the L1 will be refunded, through an automated e-process, to the respective bidders' bank accounts from which they made the payment transaction. Such refund will take place within T+2 Bank working days where T will mean the date on which information on rejection of financial bid is uploaded to the e-Procurement portal by the tender inviting authority.
- iv. As soon as the L1 bidder is awarded the contract (AOC), the same is processed electronically in the e-Procurement portal for transfer to Government Receipt under Public Accounts of the State through GRIPS where under the security deposit will also be collected in connection with the work.
- v. All refunds will be made mandatorily to the Bank account from which the payment of EMD was initiated.
- vi. If the e-tender is cancelled, then the EMD would be reverted to the original bidder's bank account automatically after such cancellation order is processed online by the Tender Inviting Authority.
- vii. TIA reserves the right to forfeit the EMD electronically in case of breach/violation of tender rules as defined under clause 8 & 9.

5. Credential Certificate (CC) as Prequalification Work Credential:

- i. Credential Certificates (CC) for one/single 100% completed work within last five financial years on the date of publication of NIT will only be accepted as valid PQ credential of work. Incomplete ongoing work shall not be considered for valid PQ Credential. Payment Certificate without containing mandatory details shall not be treated as valid.
- ii. It is desirable that CC should preferably contain the name with designation, postal address of office, contact Telephone No./FAX / e-mail ID of the authority issuing the CC for the work along with name of work, amount put to tender, date of completion of the work, gross final billed value of the 100% completed work, certificate of issuing authority indicating successful and satisfactory completion. Illegible certificates, absence of contact details making it time consuming for verification purposes of CC issued by authorities outside the State are liable to be rejected by the Bid Evaluation Committee (TEC).
- iii. Credential Certificates (CC) of successfully completed works in any Department/autonomous authority of the Government of West Bengal will be considered. CC of 100% completed works executed under any other State / Central Government Ministry / Department / Nationalised Financial Institution Organisation / Govt. Undertaking / Govt. Enterprises or Government Institutions or Local Government Bodies (Municipalities, Zilla Parishad & Panchayat Samities within West Bengal, will also be considered as valid PQ Credential. Such CC are to be issued by an officer/authority not below the rank of Executive Engineer / Divisional Engineer / District Engineer/Project Manager of the State/Union Government Departments/ Organisations; authorised signatories of CC for Panchayat Samities and Municipalities shall be the BDO & Executive Officers or equivalent administrative officers respectively. It is desirable to have telephone and FAX or e-mail addresses of the signatory of the CC for all offices outside West Bengal for verification purposes.

6. Pre Qualification (PQ) eligibility criteria

Prequalification (PQ) eligibility of a contractor/ bidder based on one single 100% completed works contract and financial capacity achieved within the zone of last five financial years will be determined as per Rules stated below:

- 6 I (a). Firstly, the gross value of the work submitted as PQ Credential as per CC of similar in nature completed during the current financial year before date of publishing of e-NIT or within the preceding five FY will be multiplied by the following factors to take care of the inflationary effects to arrive at the gross notional amount.

Year	Description	Multiplying factor to arrive at gross notional amount
Current	The financial year of floating of NIT	1.00
1 st	1 year preceding the current financial year	1.08
2 nd	2 years preceding the current financial year	1.16
3 rd	3 years preceding the current financial year	1.26
4 th	4 years preceding the current financial year	1.36
5 th	5 years preceding the current financial year	1.47

Note: For cases where two contractors/bidders are participating in a e-Tender for a particular work are such that one happens to have worked as a sub-contractor of the other, and both the contractors/bidders PQ submit work credential of having completed the same job either wholly or partly, then in such case the PQ credential of the principal contractor will be considered while that of the sub-contractor will not be taken into consideration for determining the eligibility criteria of the contractor/bidder during technical evaluation of the tender. If the PQ Credentials submitted by hitherto contractors/bidders are for different works, then both the PQ Credentials will be considered for determining the eligibility criteria of the individual contractors/bidders.

6 II. Financial proposal of any contractor/bidder will come under consideration only when the Technical PQ criteria mentioned below are satisfied and fulfilled in the Technical Bid Evaluation stage.

Gross notional amount calculated from Credential Certificate (CC) of a single works contract completed within the zone of immediate preceding five financial years on the date of this e-NIT, issued in favour of the contractor/bidder /Agency/Firm/Registered Co-operative Society for a similar work defined in the tender should be at least 30% of the amount put to tender for the work it is bidding. The power to decide on the criteria of similarity rests without any prejudice, solely with the Bid Evaluation Committee (TEC).

7. Additional eligibility criteria for participating in more than one serial of work in a e-NIT

If the same bidder bids separately for on behalf of another Firm or in a different capacity having financial interests in the same work, all the tenders would be rejected.

8. Penalty for suppression / distortion of facts and withdrawal of L1 bidder before acceptance of LOI

If a contractor/bidder fails to physically produce the originals of documents (especially the Credential Certificates and P/L accounts with audited balance sheets), or any other bid document on demand by the Tender Evaluation Committee (HTEC/TEC) which were submitted as soft copies in PDF files with their e-bids within a specified time frame, need arising due to any material deviations detected in the uploaded soft copies, leading to specific doubts which could not be cleared by enquiry from issuing authority of these documents or if there is any suppression/distortion/falsification noticed/detected/ pointed out at any stage of the e-tender process at any stage prior to signing of Contract-Agreement or the issue of LOA or AOC, the Tender Inviting Authority will immediately bring the matter to the notice of the concerned Chief Engineer and appropriate penal measures as stated in Clause 10 below will be taken. The concerned Chief Engineer then will issue the necessary order in writing with intimation to the defaulting contractor/bidder, other Chief Engineers, Centralized e-Tender Cell and also the Government in the Irrigation & Waterways Department. Copy of the order/starting penal measures should invariably be communicated to the Nodal Officer, e-Governance Cell of the Department with a request for uploading the order in the Departmental website in the link "List of suspended/debarred contractors".

9. PROCEDURE FOR SUSPENSION AND DEBARMENT OF SUPPLIERS/ CONTRACTORS

A. SCOPE:

The procedures laid down in subsequent paragraphs shall govern the suspension and debarment of suppliers, contractors and bidders ("Contractors" for brevity) involved in Government procurement for offenses or violations committed during competitive bidding and contract implementation, or even later for the works under Irrigation & Waterways Department, Government of West Bengal. The concerned Chief Engineer shall publish the suspension and debarment order in the Departmental website with the approval of I&W Department in the designated link within 1 (one) working day of issuance of such order. The TIA shall recommend the case to HTEC/TEC who with opinion of Chief Engineer will place it before DTC/QBEC/DTTC for approval.

B. PROHIBITION ON SUSPENDED / DEBARRED PERSONS / ENTITIES TO PARTICIPATE IN THE BIDDING OF GOVERNMENT PROJECTS / CONTRACTS OF THE DEPARTMENT

A person / entity that is suspended / debarred by a procuring entity shall not be allowed to participate in any procurement process under Irrigation & Waterways Department during the period of suspension / debarment unless the same has been revoked by the competent authority.

A Joint Venture or Consortium which is suspended / debarred or which has suspended / debarred member/s and/or partner/s as well as a person/entity who is a member of suspended / debarred Joint Venture or Consortium shall, likewise, not be allowed to participate in any procurement process under Irrigation & Waterways Department during the period of suspension / debarment unless the same has been revoked.

C. DEFINITION OF TERMS:-

- i. **Bidder:** A person/Contractor/Agency/Company/Society/Corporation participating in the procurement process and/or a Person/Contractor/Agency/Joint Venture/Consortium/ Corporation having an Agreement/ Contract for any procurement with the Department shall be referred as bidder.
- ii. **Bid Evaluation Committees or Tender Evaluation Committees (HTEC/TEC/QBEC in short):**
 - a. Bid / Tender Evaluation Committee'(TEC) for the bids upto tender value of Rs. 45.00 lakh (TEC) invited by the Executive Engineer will be comprising of i) Concerned Executive Engineer as Chairperson and Convener, ii) Assistant Engineer concerned to the work as Member, iii) Another Assistant Engineer from Division as Member or the Junior Engineer posted as the Divisional Estimator.
 - b. or, Evaluation Committee constituted by the Department from time to time.
- iii. **Consolidated Debarment List:** A list prepared by the Departmental Debarment Committee/Chief Engineer containing the list of bidders debarred by the Irrigation & Waterways Department, Government of West Bengal. The list would be displayed prominently in the designated link in website of the Department clearly stating the period of suspension/debarment.
- iv. **Contract implementation:** A process of undertaking a project in accordance with the contract /Agreement documents.
- v. **Debarment:** An administrative penalty, in addition to the contract/Agreement provisions, disqualifying a bidder from participating in any procurement process under Irrigation & Waterways Department, Government of West Bengal for a given period.
- vi. **Debarred Bidder:** A Bidder who was disqualified by the competent authority of the Irrigation & Waterways Department, Government of West Bengal.
- vii. **Department:** Irrigation & Waterways Department, Government of West Bengal
- viii. **Entity:** A person/Contractor/Agency/Joint Venture/Consortium/Corporation participating in the procurement process and/or a Person/Contractor/Agency/Joint Venture/Consortium/Corporation having an agreement/ contract for any procurement with the Department shall be referred as entity.
- ix. **Offence:** A violation or breach of the Constitution of India, laws, regulations, laid down procedure, etc under Prevention of Corruption Act, 1988, Code of Criminal Procedure, 1973 u/s 195(1) and Section 197(1), Competition Act, 2007 and IT Act, 2000 as amended.
- x. **Procurement:** It is the act of buying goods, services or works from an external source. It is favourable the goods, services or works are appropriate and that they are procured at the best possible cost to meet the needs of the acquirer in terms of quality and quantity, time and location.
- xi. **Procuring Entity/Authority:** The officer authorised by the Irrigation & Waterways Department, Government of West Bengal for procurement.
- xii. **Suspension:** Temporary disqualification of a bidder from participating in the procurement process of Irrigation & Waterways Department for a period of 6 (six) months when an offence is made against a bidder.

D GROUNDS FOR SUSPENSION AND DEBARMENT

- i. Submission of eligibility requirements containing false information or falsified documents.
- ii. Submission of Bids that contain false information or falsified documents, or the concealment of such information in the Bids in order to influence the outcome of eligibility screening or any other stage of the bidding process.
- iii. Unauthorised use of one's name/digital signature certified for purpose of bidding process.
- iv. Any documented unsolicited attempt by a bidder to unduly influence the outcome of the bidding in his favour.
- v. All other acts that tend to defeat the purpose of the competitive bidding such as lodging false complaints about any bidder, posting baseless allegation about any officer duly authorised by the Department, restraining any interested bidder to participate in the bidding process etc.

- vi. Refusal to accept an award after issuance of 'Letter of Acceptance' or enter into contract with the Government without justifiable cause.
- vii. Refusal or failure to post the required performance security/earnest money within the prescribed time without justifiable cause.
- viii. Subcontracting of the contract or any part thereof without prior written approval of the procuring entity.
- ix. Failure solely due to fault or negligence of the Contractor, to mobilize and start work within the specified period as mentioned in the 'Letter of Acceptance' / 'Letter of Acceptance cum work Order' / 'Work Order' / 'Notice of Process' / 'Award of Contract' etc. ultimately resulting in rescindment of contract.
- x. Failure to fully and faithfully comply with the contractual obligations without valid cause, or failure to comply with any written lawful instruction of the procuring entity or his representative(s) pursuant to the implementation of the contract, ultimately resulting in rescindment of contract.
- xi. For the procurement of goods, unsatisfactory progress in the delivery of the goods by the manufacturer, supplier or distributor arising from his fault or negligence and / or unsatisfactory or inferior quality of goods, vis a vis as laid down in the contract.
- xii. Refusal or failure to upload a self-declaration in specimen format of Form-4 to the effect of any previous debarment imposed by I&WD, any other Department of State Government and or Central Government.
- xiii. Wilful or deliberate abandonment or non-performance in a project or contract by the contractor / suppliers resulting to substantial breach thereof without lawful and / or just cause(s).
- xiv. The Additional Performance Security shall have to be submitted by the selected L1 bidder after issuance of Letter of Acceptance / Letter of Invitation (LoA/LoI) within next seven working days and before issuance of Award of Contract (AoC) in the form of "Bank Guarantee" of any Scheduled Bank approved by RBI, payable at Kolkata or / in West Bengal, as per specimen format Form-6. Else, its/their Earnest Money Deposit (EMD) will be forfeited without any prejudice by the Tender inviting authority.

E. CATEGORY OF OFFENSE:

- a. First degree of offense: Clause 9 D (i) up to (vii), (xii) & (xiv) is to be considered as first degree of offense.
- b. Any of the offence under Clause (viii) to (xi) & (xiii) shall lead to termination of contract and its determinations in accordance with Clause (ii) & Clause (iii) of Agreement Form No. WB-2911 and simultaneous debarment for a period of 2 years
- c. Second degree of offense: Any one of the offenses as mentioned under Clause 9D (i) to (xiv), committed by a particular bidder/contractor/supplier on more than one occasion would be considered as second degree of offense. Period of debarment will be 2 times the corresponding period penalty applicable for 1st degree offence in addition to other penal provisions contained in 1st degree offence.

F. Procedure and Rules of Debarment :

Debarment procedure and rules are published as Departmental Notification to be read in conjunction with the Corrigenda issued from time to time , as may be seen in the Notification link of the Departmental website wbiwd.gov.in

G. PENALTY FOR OFFENSE:

- a. For committing 1st degree offense any of the cases referred under Clause 9 D (i) to (v), forfeiture of earnest money and debarment for a period of six months, if the offense is detected during technical evaluation. If the offence is detected after award of the contract and if the offender happens to be the agency selected for work, and such selection is made due to oversight, forthwith termination of the contract and determination of contract value in accordance with clause 3(ix) (c) of West Bengal Form No. 2911(i)/(ii), and simultaneous debarment for a period of six months. Further, in case the offense is detected after completion of work and payment of final bill the Work credential earned would be declared as 'null and void', so that the same cannot be used in future as PQ credential for securing other works contracts in the Irrigation & Waterways Department, together with debarment for a period of six months.
- b. For committing 1st degree offense in any of the cases referred under Clause 9 D (vi), (vii),(xiii) to (xv), forfeiture of earnest money and debarment for a period of one year. For committing offenses under Clause 9D (xv), debarment period shall be for one calendar year preferably from the date on which the due date for submission of BG had expired (i.e 8th or 15th working day from date of receipt of LOA /LOI) by the concerned Chief Engineer to be notified in the Departmental website.
- c. For committing 1st degree offense in any of the other cases under Clause 9 D (viii) to (xii), termination of contract and its determination in accordance with Clauses 2 & 3 of West Bengal Form No. 2911(i)/(ii), including debarment for a period of two years.
- d. For committing 2nd degree offenses under above all categories, period of debarment will be twice the corresponding period for 1st degree offenses, in addition to other penal provisions for 1st degree offense.

10. Taxes & duties to be borne by the Contractor/bidder

In view of introduction of GST with effect from 01.7.2017, all the bidders intending to participate in this e-tender should offer their financial bids inclusive of GST applicable for entire composite works/Procurement of goods & services, labour intensive component contained in the BOQ. Income Tax, Royalty, GST (CGST, SGST, IGST), Construction Workers' Welfare Cess, Labour Insurances EPF and similar other statutory levy / cess will have to be borne by the contractor/bidder and his/her quoted rate should be quoted accordingly after considering all these charges, and no separate payment towards any of the statutory taxes rents or levies shall be made by the work implementing authority.

11. Site inspection prior to submission of tender

Before submitting a e-tender, the intending contractor/bidder should make themselves acquainted thoroughly with the local conditions prevailing at site of implementation of the work by undertaking field inspections and taking into consideration all probable factors and difficulties to be involved during execution of the work as per specification in all respects including transportation of materials, communication facilities, climate conditions, nature of soil, availability of local labourers and market rates prevailing in the locality etc. and no claim whatsoever will be entertained on those accounts afterwards. The contractor/bidder may also contact the office of the designated Assistant Engineer/**Executive Engineer, Metropolitan Electrical Division, Irrigation & Waterways Directorate** in between 11.30 hours to 16.30 hours on any working day, prior to the date of last date for submission of bid in the e-tender.

12. Conditional and incomplete tender

Conditional and incomplete tenders are liable to be summary rejected. No off-line document will be entertained until completion of e-Tender process by way of acceptance of L1 bid by the competent Tender Accepting Authority/Government.

13. Opening & evaluation of tender

13.1 Opening of a Technical Proposal

All works above tender value of Rs 5.00 lakh for which e-tendering is mandatory shall be awarded through open tenders without reservation for any particular class of contractors/bidders. Notices for open off-line tenders for each tender value below Rs 5.00 lakh shall include such clauses as is notified by the Department from time to time.

For e-tenders bids are to be invited in two parts under a two-bid electronic system.

- i. Technical proposal will be opened by the Tender Inviting Authority or his/her authorised representative/s electronically in the official website using their authorised valid Digital Signature Certificate/s (DSC).
- ii. Intending contractors/bidders may remain present if they so desire.
- iii. Technical cover documents (vide Clause 3.2.A) will be opened /decrypted first and if found in order, Cover (Folder) for OID (vide Clause 3.2.B) will be opened/ decrypted. If there is any material deficiency in either of the Technical cover documents, the e-bid is liable to be disqualified & rejected.
- iv. Decrypted (transformed into readable format) documents of the Pre-Qual Technical cover and the OID (Other Important Document) Cover will be decrypted/downloaded by the TIA and handed over to the Technical Bid Evaluation Committee (TEC).

13.2 Process of Technical Evaluation in a tender

Within 24 hours of uploading the TBO summary sheet containing Preliminary Technical Qualification result, any of the aggrieved bidder, may seek clarification / redressal / review from the TEC on the list of bidders, in writing/through e-mail with supporting facts / figures / documents. If such clarification /review relates to eligibility of other bidders, on the grounds of submission of false/ forged / manipulated / inappropriate credentials, modalities prescribed in the Departmental Notification shall be followed. In case, the review only seeks the eligibility of the applicant himself, views of the Tender Evaluation Committee (TEC) would be communicated in writing to that bidder within next two (2) working days. If the bidder is not satisfied with the clarification of the TEC, he/she may appeal to the concerned Chief Engineer within 24 hours of receipt of communication from the TEC. The concerned Chief Engineer will dispose such complaints jointly, in associated with at least another available Chief Engineer within next 2 working days. Thereafter final Technical Evaluation Sheet (TBE) of the technically qualified bidders would be uploaded, after incorporating modifications if required. The TIA shall while uploading the final TBE summary sheet accept or reject electronically the admitted bids based on the advice of TEC as per TBE summary sheet. Thus at this stage the rejected bidders will get back their EMD. e-mail communication in official e-mail address of TIA or TAA shall be treated as a valid mode of communication. The minimum time period from date of TBO summary sheet uploading and TBE summary sheet uploading shall be 4 working days or more.

Power is delegated to TEC to verify the authenticity of bid documents by physically summoning the applicant bidder on the basis of specific doubts which could not be cleared, which shall be exercised in exceptional cases, offline verification before issue of LOA needs to be avoided. Only when all other methods of undertaking verification have been exhausted, and there is ample reason to believe that fairness of the technical bid evaluation of the tender

cannot be ensured without such action. Prima-facie, if there is not enough reason to doubt the authenticity of the bid documents, physical summon of the bidder shall be avoided, as after determination of L1 bid in financial bidding and before issuance of LOA, all the on-line documents would be verified with the originals by the Accounts & estimating branches of the designated Executive Engineer, and reported to the Tender Accepting Authority prior to the issuance of LOA.

13.3 Uploading the list of technically qualified contractors/bidders

- i. Pursuant to decision arrived after a Technical Bid Evaluation and review, the final list of eligible contractors/bidders having successfully qualified in the Technical Evaluation stage for a particular serial of work whose financial proposal will be thus considered, is uploaded on the web portal/s.
- ii. While evaluating, the TEC may, if they so desire, summon the contractors/bidders and seek further clarification/information or seek verifications of original hard copy of any of/all the documents already submitted on-line, and if these cannot be produced within stipulated timeframe, their bids will be liable for rejection.

13.4 Opening and Evaluation of Financial Proposal/bid

- i. Financial proposals of the bidders/contractors declared technically qualified by the Bid/Tender Evaluation Committee (TEC) will be opened electronically by the Tender Inviting Authority in the web portal stated above on the pre-notified date and time.
- ii. The encrypted copies will be decrypted and the rates will be read out to the contractors/ bidders remaining present at that time, else they may login their respective e-tender accounts to see the (CS) comparative statement in the web portal.
- iii. After opening the financial proposal, the preliminary summary result containing inter alia the names of contractors/bidders and the rates quoted by them will be uploaded and the result will be made available in the e-tender platform.
- iv. If the Tender Accepting Authority (TAA) is satisfied that the rate obtained is fair and reasonable and there is no scope of further lowering down of rate, he/she may after having the comparative statement test checked by the Divisional Accountant / Divisional Accounts Officer attached to his office and after their acceptance upload the financial bid evaluation summary sheet or result containing the name of contractors/bidders and the rates quoted by them against each work.
- v. If there is any scope for lowering down of rate in the opinion of the Tender Accepting Authority being abnormally high, i. e above 10% of the amount put to tender (Tender value), the e-NIT shall be cancelled and invited afresh 2nd or 3rd re-tender. **No post tender negotiations are permitted.**
- vi. If there is any scope for lowering down of rate in the opinion of the Tender Accepting Authority being abnormally high above 10% of the amount put to tender i.e Tender value, the e-NIT shall be cancelled and invited afresh. No post tender negotiation is permitted.
- vii. If there is no contractor/bidder or the number of contractors / bidders in the 1st tender is less than three, the e-tender has to be cancelled. In case of participation of more than three bidders, if the number of technically qualified bidder falls below three, the tender/e-NIT is to be cancelled as well and fresh e-tender vis-a-vis 2nd call e-Tender or even 3rd call e-Tender may be invited by suitably lowering of minimum eligibility PQ criteria (work & financial) for bidders with wide publicity of Re-tender notices through electronic and print media.
- viii. Final result after acceptance of the rate by the Tender Accepting Authority, if within the delegated power of acceptance would have to be uploaded in the e-Procurement platform. Otherwise, the matter may be referred to the Government Appointed DTC and the appropriate Government for decision.
- ix. The Tender Accepting Authority may ask the L1 bidder/contractor to submit analysis of rates to justify the rate quoted by that bidder after declaration of financial bid evaluation result.
- x. If the lowest (L1) bidder/contractor backs out there should be Re-tendering in a transparent manner. In such a situation the TIA may call for re-tender with bid submission time period should normally be 14 days for value above Rs. 10.00 lakh, and 7 days for value exceeding Rs. 1.00 lakh but up to Rs. 10.00 lakh.

13.5 Tender Accepting Authority (TAA)

Authority to which the power has been delegated to accept tenders as per latest Finance Department Notification will function as the Tender Accepting Authority (TAA) for evaluation of technical and financial proposals of works having tender value within his/her range of acceptance.

As per present delegation, TAA for different tenders within the range above Rs 0.10 Lakh upto Rs 100.00 Lakh would be as follows:

- i. For e-Tenders of value up to Rs 100.0 lakh (above Rs 5.00 lakh and up to Rs 100.0 lakh): **Executive Engineer, Metropolitan Electrical Division, Irrigation & Waterways Directorate**
- ii. For e-tenders of value up to Rs 5.0 Lakh (above Rs. 1.0 Lakh and upto Rs. 5.0 Lakh): **Assistant Engineer, Metropolitan Electrical Division, Irrigation & Waterways Directorate.**
- iii. For tenders of value up to Rs 1.0 Lakh relating to works only, is to be tendered in a single bid system in off-line mode to be accepted by **Assistant Engineer/Sub-Divisional Officer, Metropolitan Electrical Division, I&W Directorate.** [off-line single bid system Manual Tenders] on the basis of technically sanctioned costs.

13.6 Procedure to be followed for final acceptance of tender & Award of Contract

- i. The lowest (L1) financial bid for all works tenders is accepted as a rule. If for any reason the lowest (L1) bid is not accepted, reference is to be made to the appropriate Government for orders as to which of the contractor /bidder the work should be awarded.
- ii. Maximum 5% excess beyond the 'Tender Value' (Amount put to Tender) may be accepted as per delegated power to the Executive Engineer up to Rs 45.00 lakh, and at least three valid bids have been received in the financial bid stage, provided tender value after abatement is within the administratively approved cost. Maximum 5 % excess beyond the 'Tender Value' (Amount put to Tender) may be accepted above tenders of value below Rs 3.00 lakh upto 5% above amount put to tender and also 5% excess over administratively approved amount, proposal for revised administrative approval/Expenditure sanction would have to be submitted to the Government, but acceptance of tender and issue of work order may not be kept pending for want of revised approval.
- iii. Above 5% and up to 10% of the Tender Value can be recommended to the Government for acceptance by the Departmental Tender Committee (DTC) subject to the conditions that valid technically qualified bids should not be less than three and L1 bid is accepted and tendered amount is within the administratively approved cost. In case of excess over administratively approved amount, revised administrative approval would have to be submitted to the Government but acceptance of tender, and issue of work order may not be kept pending for want of Revised Administrative Approval/ Revised Financial sanction.
- iv. If the response to an e-Tender is less than three, then Tender should be invited afresh. Such Re-Tender notice shall be published in widely circulated dailies as per guidelines and also through e-Tender web portals. Prior to invitation of Re-Tender / fresh e-Tender, the eligibility criteria and other terms & conditions as contained in the first 'Notice Inviting e-Tender' (e-NIT) shall have to be reviewed/relaxed by the Tender Inviting Authority, to ascertain whether (i) it was too much restrictive, say, specifications and qualifications were fixed at higher standards than required, (ii) advertisements in the widely circulated Newspapers were properly published and (iii) other related procedural matters were observed in its entirety.
- v. If the number of valid bids received even in re-tender is less than three, it should be referred by the TIA to the DTC and even the appropriate Government along with the recommendation of the DTC for decision, in accordance with Finance Department Memorandum and other relevant orders in vogue at the time of publication of the e-tender.
- vi. For acceptance of L1 bid after 2nd / 3rd re-tenders is still above 10% of the Tender Value (Amount put to tender), upon specific recommendation of the DTC as mentioned at clause 13.4, with that of the Department shall have to be sent to the Finance Department for decision.
- vii. All above tender rules applies for all types of works and procurements i.e Plan, Non Plan, deposit works tenders.

14. General guidelines for acceptance of e-Tender

Lowest valid rate should normally be accepted in accordance with the procedure stated in clause 13.4. The Tender Accepting Authority reserves the right to distribute the work amongst more than one contractor/bidder with same L1 rate.

15. Signing of formal tender contract/agreement after acceptance of e-tender

The contractor/bidder, whose bid is approved for acceptance, shall within 15 days of the receipt of Letter of Invitation (LOI) or Letter of Acceptance (LOA) in his / her favour, will have to execute a 'Formal Agreement' with the Engineer-in-Charge in quadruplicate in W.B.F. 2911(i)/2911(ii) and all other contract documents, entire set of which may be obtained free of cost from the office of the designated **Executive Engineer, Metropolitan Electrical Division, Irrigation & Waterways Directorate** in-charge of the work tendered.

If the selected L1 bidder fails to turn up even after 30 days after the initial 15 days from the date of uploading of the AOC in the e-Procurement portal or the despatch date of official communication for signing of the Contract/Agreement, the selected bidder is liable for penal actions which shall comprise blacklisting, debarring from future participation in Government tenders, immediate forfeiture of the Earnest Money deposited in the tender, other penal actions as stipulated under clause 9 & 10 of the e-NIT, the Departmental Notification and also contained in contract W.B Form No. 2911(i)/ 2911(ii)/ Agreement.

16. Payment against bills raised by the contractor

Periodic Tax invoice/bills containing bidders GSTIN & other details needs to be submitted by the supplier/contractor/Agency/bidder to the DDO for raising claims for receiving payments of work executed under this contract /upon achieving physical Milestones clearly showing separately the Tax charged in accordance with the provisions of the GST Act, 2017.

The payment of Running Account as well as final bill for any work based on progress and performance will be made according to availability of fund and no claim due to delay in payment will be entertained.

17. No cost escalation in any form is included in the Tender Contract Agreement.

18. Bid validity

The Bid will be normally valid for **120 days** from the date of opening of the financial proposal. However, extension of bid validity may be suitably considered by the Tender Inviting Authority, if required, subject to written confirmation of the contractor/bidder (s) to that effect.

19. Definition of Physical Milestones:

The time allowed for carrying out the work as entered in the tender shall be strictly observed by the contractor, and which shall be reckoned from the date on which the order to commence work is given to the contractor. The work shall throughout the stipulated period of the contract be proceeded with all due diligence. Time being deemed to be the essence of contract on the part of the contractor; the contractor shall be bound in all cases, to achieve the 'Milestones' as specified by the Engineer-in-Charge with the AOC, defining pertaining to the work. The contractor within 15 days of receipt of Letter of Acceptance shall submit a work programme commensurate with period of construction in the form of a Bar Chart work programme, stating the timeline of such different Milestones. In the event of the contractor failing to comply with any of the conditions related to achieving the 'Milestones' within the specified time period prescribed for such 'Milestone' plus one month, he/she shall be liable to pay compensation.

If the contractor fails to commence and/or maintain required progress over the total time allotted for its full completion and fails to complete the work and clear the site on or before the end of contract period or extended date of completion, he/she shall, without prejudice to any other rights or remedy available under the law on account of such breach, pay as agreed compensation to the implementing Department. This will also apply to items or group of items for which a separate period of completion has been specified.

20. Withdrawal of bid in a Tender

Withdrawal of e-Tender once the bid has been submitted online and after passing of end date for submission and has been accepted for further processing, is not allowed. EMD will be forfeited by the Government and the L1 bidder/contractor penalised in terms of clause 8 referred earlier would be applicable.

21. Critical dates of this e-Tender

Sl. No.	Activity	Date & Time	Remarks
1.	Publishing Date	06.02.2026 at 17.00 Hrs.	To be made available with the e-NIT in the website
2.	Document Download start date	06.02.2026	
3.	Bid submission start date	06.02.2026 at 17.00 Hrs.	
4.	Document Download end date	20.02.2026 at 15.00 Hrs.	
5.	Bid submission end date	20.02.2026 at 15.00 Hrs.	
6.	Technical Bid opening date with preliminary result (TBO Sheet)	20.02.2026 at 16:00 Hrs.	
7.	Uploading of the list of Technically qualified final list of bidders (TBE Sheet)	To be Notified Later	To be notified to all bidders through e-mail & SMS through auto-generation in the system.
8.	Financial Bid opening date (FBO Sheet)	To be suitably decided by TIA	
9.	Uploading of CS (Comparative Statement) and uploading of Final FBE Sheet	To be suitably decided by EE(TAA)	
10.	Uploading of the Letter of Invitation / Acceptance LOI/LAO	-do-	
11.	Uploading of Award of Contract (AOC) (Work Order)	-do-	

TIA: e-Tender Inviting Authority (Assistant Engineer/Executive Engineer)

TAA: e-Tender Accepting Authority (Executive Engineer)

Special Terms & Conditions of the contract

1. The Executive Engineer of the concerned Division shall be the Engineer-in-Charge in respect of the works contract and all correspondence concerning rates, claims, change in specifications and/or design and similar important matters will be valid only if accepted/recommended by the Engineer-in-Charge. If any correspondence of above tender is made with Officers other than the Engineer-in-charge for speedy execution of works, the same will not be valid unless copies are sent to the Engineer-in-Charge and also approved by him/her. Instructions given by the Sub-Divisional Officer/Assistant Engineer and the Junior Engineer/Section Officer (SO) on behalf of the Engineer-in-Charge shall also be valid (who have been authorized to carry out the work on behalf of the Engineer-in-Charge) regarding specification, supervision, approval of materials and workmanship. In case of dispute relating to specifications and work, the decision of Engineer-in-Charge shall be final and binding. The Engineer-in-Charge will however take all decisions relating to works contract only after recommendation/ advice of the Tender Accepting Authority. If there is more than the Executive Engineer assigned for the tender, the Chief Engineer would designate the Engineer-in-Charge for the work.
2. Acceptance of the tender including the right to distribute the work between two or amongst more than two bidders with same L1 rates will rest with the Tender Accepting Authority without assigning reason thereof to any of the bidders. The tender accepting authority reserves the right to reject any or all tenders without assigning sufficient justification thereof to the bidder/contractor. No additional or excess work or additional items of work beyond the tendered amount would be generally allowed. All excess, supplementary or substitute supplementary items of work, if unavoidable are to be accepted by the Tender Accepting Authority only if the total value of work on completion is within the tendered amount. The exiting contract would be terminated after achieving work up to tendered cost (gross value) and balance work would be taken up afresh after fresh sanction and new tender, except in the interest of public services, in rare & special cases under specific approval of the Government.
3. The Contractor/bidder shall have to comply with the provisions of (a) Contract Labour (Regulation & Abolition) Rules, 1970 including its revisions (b) Minimum Wages Act 1948 and the modification thereof or any other laws relating thereto as will be in force from time to time.
4. Engineer-in-Charge shall not entertain any claim whatsoever from the contractor for payment of compensation on account of idle labour on such grounds including non-possession of encumbrance free land. Escalation of cost due to inflationary effects or any other reason is not permitted during construction period or extended time period of contract.
5. Engineer-in-Charge shall not be held liable for any compensation due to machines & equipments becoming idle or any circumstances including untimely rains, other natural calamities, strikes etc.
6. All statutory taxes, viz. GST / labour welfare cess, labour insurance etc or revision of taxation rates even after AOC or commencement and before final completion of the work are to be borne by the contractor/bidder. Original tax invoice/challan or bill of those materials, which are procured by the bidder, may be asked to be submitted for verification if required.
7. Labour Welfare Cess @ 1% of the cost of construction works shall be deducted from the Gross value of all works bills. Also it is instructed to compulsorily register his/her establishment under the Act, under the competent registering authority, i.e. Assistant Labour Commissioner / Dy. Labour Commissioner of the region for disbursing PF and ESI benefits of workers. The bidder should be mandatorily be registered online with Employees Provident Fund Organisation (EPFO) in the on-line system and posses EPF code and all current documents. Penalties and complaints due to non compliance of on-line EPF registration and default is the full responsibility of the bidder even if the TIA is by default the Principal employer
8. Adjustment of original bid prices/escalation cost/ mobilization advance / secured advance shall not be permitted for any reason whatsoever due to cost and time over run unless specified otherwise in the contract or the e-Notice Inviting Tender.
9. GST, Cess, License fees, Royalty for construction materials, forest product etc, Toll Tax, Income Tax, Ferry Charges and other Statutory Government Taxes as applicable during project implementation are to be paid by the contractor/bidder. The rates of supply and finished work items are inclusive of these taxes and levy. Tax invoice/bills needs to be submitted by the supplier/bidder for raising claims under the contract after attaining of physical milestones showing separately the tax charged in accordance with the provisions of GST Act, 2017.
10. All working tools & plants, scaffolding, construction of vats & platforms and arrangement of Labour Camps will have to be arranged by the contractor at his/her own cost. The contractor shall clear the site of work and restore all damages made due to the Labour camp, erection of yards and godowns, stores etc within 30 days of completion of work.
11. The contractor shall supply mazdoors, bamboos, ropes, pegs, flags T&P, Machineries and equipments etc. for laying out the work and for taking and checking measurements for which no extra payment will be made.
12. The contractor/bidder should see the site of works and tender documents, drawings etc. before submitting tender and satisfy himself/herself regarding the condition and nature of works and ascertain difficulties that might be encountered in executing the work, carrying materials to the site of work, availability of drinking water and other human requirements & security etc. Work on river banks may be interrupted due to a number of unforeseen reasons e.g. sudden rise in water levels, inundation during flood, inaccessibility of working site for carriage of materials. Engineer-in Charge may order the contractor to suspend work that may be subjected to damage by climate conditions. No claim will be entertained on this account. There may be variation in alignment, height of embankment or depth of cutting, location of revetment, structures etc. due to change of topography, river condition and local requirements etc. between

the preparation and execution of the scheme for which the tendered rate and contract will not stand invalid. The contractor will not be entitled to any claim or extra rate on any of these accounts.

13. A machine page numbered Site Order book (with triplicate copy) will have to be maintained at site by the contractor and the same has got to be issued from the Engineer-in-Charge before commencement of work. Instructions given by inspecting officers not below the rank of Assistant Engineer will be recorded in this book and the contractor must note down the action to be taken by him in this connection as quickly as possible.
14. The contractor shall be bound to comply with all the Central & State Pollution Control Acts & Rules during entire construction period.
15. All possible precautions should be taken for the safety of the people and work force deployed at worksite as per safety rule in force. Contractor will remain responsible for his labour in respect of his liabilities under the Workmen's Compensation Act etc. He must deal with such cases as promptly as possible. Proper road signs as per P.W.D. practice will have to be erected by the contractor at his own cost while operating public thoroughfares. Also, display boards containing brief description and name of project with completion target dates shall be erected at a prominent location at the work site by the contractor for public awareness. Insurance of workers and materials is the responsibility of the bidder during entire construction period.
16. The contractor will have to maintain qualified technical employees and/or Apprentices at site as per prevailing Apprentice Act or as stipulated in the contract. No compensation for establishment charge will be entertained.
17. The contractor will have to accept the work programme as per modifications and priority of work fixed by the Engineer-in-Charge so that most vulnerable reach and/or vulnerable stretch is completed before impending monsoon or rise in river flood water level or commencement of canal irrigation water release or for other suitable reasons.
18. Quantities of different items of work mentioned in the departmental tender schedule/BOQ or in work order are only tentative. In actual work, these may vary considerably. Payment will be made on the basis of works actually completed in different items as per specifications and codes, and no additional claim will be entertained for reduction of quantities in some items or for omission of some items. For execution of any additional item or supplementary works within the tendered value with the total completion value remaining within the accepted tendered cost, approval of the Tender Accepting Authority/Government in the Irrigation & Waterways Department would be required.
19. In order to cope with the present system of e-pradan billing, departmental supply of construction materials is discouraged. However, Departmental materials may be issued to the contractor/ bidder to the extent of requirements as assessed and following accounts procedure in the Treasury system of bill payment and in instalments as decided by the Engineer-in-Charge. Issue of materials may be of three categories.
 - a) Materials issued directly to the work and subject to recovery.
 - b) Materials issued from departmental go down and subject to recovery.
 - c) Materials issued free of cost.

Decision of the Engineer-in-Charge should be final and binding in this regard. He also stands solely responsible for reconciliation of accounts, if materials are issued to the contractor.

20. Any materials brought to site by the contractor subject to approval of the Engineer-in-Charge. The rejected materials must be removed by the contractor from the site at his own cost within 48 hours of issue of the order to that effect. The rates in the schedule are inclusive of cost and carriage of all materials to worksite. The materials will have to be supplied in phase with due intimation to the Sub-Divisional Officer/Assistant Engineer concerned in conformity with the progress of the work. For special type of materials, i.e. Geo Synthetic Bags, HDPE Bags, Geo Textile Filter, Geo jute Filter etc. if any, relevant Data Sheet containing the name of the Manufacturers, Test Report etc. will also be submitted in each occasion. Engineer-in-Charge may conduct independent test on the samples drawn randomly before according approval for using the materials at site. In this regard decision of Engineer-in-Charge shall be final and binding.
21. For materials under category 19(a),(b)&(c), the contractor will act as the custodian thereof. The materials will have to be carried from the nearest Departmental go-down to worksite by the contractor at his own cost. The contractor shall remain responsible for the proper storage and safety of the materials. Suitable Go-down/ Store shall have to be made by the contractor at his/her own cost. Penalty charges shall be levied at higher rate for loss, wastage, misuse. Surplus materials of the departmental if any, shall have to be returned to the issuing Go-down or store at the contractor's cost within the time frame as fixed by Engineer-in-Charge, otherwise, the cost at penal rate will be recovered from the bill. Indent for departmental materials shall be submitted by the contractor to the AE/S.D.O. at least 7 days in advance of actual requirement. No claim will be entertained for non-issuance of such materials in time but reasonable extension of time will be granted. All materials, whatever be the category thereof, shall be properly stored by the contractor in suitable go downs near the site of work at his own cost & under no circumstances whatsoever shall any material be removed from the site of work without prior written permission of the Engineer-in-Charge. The contractor shall be responsible for any damage, wastage or loss of such materials.
22. The contractor shall also have to satisfy the Engineer-in-Charge regarding the proper utilization of materials which have been issued departmentally.
23. Value of the material, under category (a) & (b) of clause 19, will be recovered from the bills of the contractor in one or successive instalments as may be decided by the Engineer-in-Charge.

24. Requisite quantity of cement as may be required for the work will be supplied from the nearest Departmental go down if stock permits. The issue rate of cement is shown in the Schedule of materials attached. Any excess consumption of cement by more than 5% over the final consumption statement drawn up as per consumption rate specified in the Schedule will be recovered at a penal rate shown in schedule.
25. Reinforcement steel rods/MS sheet piles/bitumen will be issued if stock permits, from the nearest departmental go-down where such material is available in marketable length/quantities. While issuing the same, for any particular work the quantity actually required as per approved drawing shall only be issued. While executing the work, it will be responsibility of the Contractor/bidder as well as the Engineer-in-Charge to get this quantity properly utilized in the work. Cut pieces, if any will not be taken back by the Department. Recovery for the total quantum of steel issued will be made at the issue rate shown in the Schedule below. In case of misuse over +10%, deduction will be made at a penal rate shown in the Schedule below. This whole principle shall apply in case of other M.S materials like sheet piles and structural steel members as well.
26. The work is to be executed strictly as per specification attached with e-NIT and shall confirm relevant Indian Standard Codal provisions and good industry practice. In the absence of any such provision in some items, the tending authority reserves the right to adopt suitable International Code/specifications/standards.
27. All queries and disputes arising out of the works contract during construction phase are to be brought to the notice of the Chairman of the 'Department Dispute Redressal Committee' in writing for decision within 15 days.
28. SCHEDULE OF RECOVERY RATES OF DEPARTMENTALLY SUPPLIED CONSTRUCTION MATERIALS

SI. No	Name of materials	Issue rate (in `)	Unit	Penalty recovery rate for loss or misuse or wastage (if otherwise not mentioned specifically in the SoR)	Place of delivery
01	Cement		MT	2 (Two) times issue rate	Departmental Godown
02	Reinforcement steel rods, structural steel members, M.S sheet Piles		MT	2 (Two) times issue rate	-do-
03	Bitumen		MT	2(Two) times issue rate	-do-

(Digital Signature verified)

(Sd/)
Executive Engineer
Metropolitan Electrical Division
Irrigation & Waterways Directorate
Govt. of West Bengal

FORM 1

(To be submitted in plain paper/letter head as per specimen, duly filled up and uploaded with digital signature which shall be treated as the self declaration of the bidder)

APPLICATION FOR e-TENDER

To,
The Executive Engineer
Metropolitan Electrical Division,
I&W Directorate, Govt. of West Bengal
Jalasampad Bhawan, (4th Floor)
Bidhannagar, Kolkata-700091.

e-NIT No - WBIW/EE/MED/e-NIT-24/2025-26

Serial No. of Works applied for :-

Amount put to e-Tender: Rs.

Dear Sir,

Having examined the Technical PQ cover, OID cover, Corrigendum (*optional) & entire e-NIT documents, I/we hereby would like to state that I/we wilfully accept all your conditions and offer to execute the work as per the tenders rules in e-NIT, terms & conditions, specifications, drawings, bill of quantities and corrigenda/addenda, SoR, and Agreement (WB Form No. 2911(i)/(ii) involving the e-Tender and Serial no of work stated above. I/We acknowledge that the making of our bid shall be regarded as an unconditional and absolute acceptance of the terms & conditions of the e-NIT. I/We also agree to remedy the defects during execution and upto end of security period of the above work in conformity with the conditions of contract, specifications, drawings, bill of quantities and addenda/corrigenda.

Dated this _____ day of _____ 201 ____

Full name of Bidder / Contractor: _____

Name in full of Signatory/s*: _____

In the capacity* of: _____

Duly authorized to sign bid

for & on behalf of (Name of Firm): _____

(In block Capital letters or typed)

Office address with seal:

Telephone no(s) (office): _____

Mobile No: _____

Fax No: _____

E mail ID: _____

*In case of Joint Venture & Consortium the Lead Member to submit this format.

(DIGITAL SIGNATURE OF BIDDER)

FORM – 2

Declaration against Common Interest

(To be submitted in plain paper/letter head as per specimen, duly filled up and uploaded with digital signature, which shall be treated as the self declaration of the bidder)

Ref:- e-NIT No. WBIW/EE/MED/e-NIT-24/2025-26

e-Tender ID No.....

Sl. No. of work (in the list of work in the e-NIT)

To,
**The Executive Engineer
Metropolitan Electrical Division,
I&W Directorate, Govt. of West Bengal
Jalasampad Bhawan, (4th Floor)
Bidhannagar, Kolkata-700091.**

I/We, Sri/Smt. _____, the authorized signatory on behalf of _____ do hereby affirm that I/We/any of the member of..... bidding against e - NIT No. Sl. No. do not have any common interest either as a partner in any other partnership firm /consortium/Joint Venture or as Proprietor / Principal Share Holder of any other Firm/Company in the same serial for the work I / we want to participate.

Dated this _____ day of _____ 201____
Full name of Bidder / Contractor: _____
Authorised Signatory: _____
In the capacity of: _____
Duly authorized to sign bid
for & on behalf of (Name of Firm): _____
(In block Capital letters or typed)

Office address with seal:
Telephone no(s) (office): _____
Mobile No: _____
Fax No: _____
E mail ID: _____

*In case of Joint Venture & Consortium the Lead Member to submit this format.

(DIGITAL SIGNATURE OF BIDDER)

FORM – 4

Declaration on antecedents and performance

(To be submitted in plain paper/letter head as per specimen, duly filled up and uploaded with digital signature, which shall be treated as the self declaration of the bidder)

Ref:- e-NIT No. WBIW/EE/MED/e-NIT-24/2025-26

e-Tender ID No.....

Work Sl. No.....

To,
**The Executive Engineer
Metropolitan Electrical Division,
I&W Directorate, Govt. of West Bengal
Jalasampad Bhawan, (4th Floor)
Bidhannagar, Kolkata-700091.**

I/We, Sri/Smt. _____, the authorized signatory on behalf of _____ do hereby affirm that I/We/any of the member of _____ bidding against e - NIT No. _____ Sl. No. _____ are not black listed suspended or debarred from participation in State Government procurements and tenders in the Irrigation & Waterways Directorate, Government of West Bengal, other Departments of the State Government and Government of India on the date of publication of this Notice Inviting Tender (NIT).

If at a later stage this submission (undertaking) is found incorrect, the bidder company along with all its constituent members/owners/partners would be liable to penal actions as decided by the Government under the law.

Dated this _____ day of _____ 201__

Full name of Bidder / Contractor: _____

Authorised Signatory: _____

In the capacity of: _____

Duly authorized to sign bid

for & on behalf of (Name of Firm): _____

(In block Capital letters or typed)

Office address with seal:

Telephone no(s) (office): _____

Mobile No: _____

Fax No: _____

E mail ID: _____

(DIGITAL SIGNATURE OF BIDDER)

FORM-6*

SPECIMEN FORMAT FOR THE BANK GUARANTEE FOR ADDITIONAL PERFORMANCE SECURITY DEPOSIT

(*To be submitted only if the bid price quoted by the bidder is below 20% of the estimated cost put to tender, non submission within 7 working days from date of issuance of LOA which may be maximum extended to 14 working days after issuance of LOA/LOI will lead to rejection of selected bidder. Similar standard format issued by RBI approved Bank pledging Bank Guarantee of the required value and period in favour of Engineer-in-Charge is acceptable)

To,
The Executive Engineer
Metropolitan Electrical Division,
I&W Directorate, Govt. of West Bengal
Jalaspada Bhawan, (4th Floor)
Bidhannagar, Kolkata-700091.

WHEREAS (name and address of Contractor) (hereafter called "the Contractor") has undertaken, in pursuance of Contract No: dated to execute (name of Contract and brief description of Works) (hereinafter called "the Contractor").

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a Scheduled commercial bank for the sum specified therein for 'ADDITIONAL PERFORMANCE SECURITY DEPOSIT' for compliance with his obligation in accordance with the Contract:

AND WHEREAS we (Indicate the name of the bank and branch) have agreed to give the Contractor such a Bank Guarantee:

NOW THEREFORE we ; (Indicate the name of bank and branch) hereby affirm that we are the Guarantor and responsible to you on behalf of the Contractor, upto a total of Rs. (amount of guarantee) (in words). We undertake to pay you, upon your first written demand and without cavil or argument, a sum within the limits of (amount of guarantee) as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We (Indicate the name of the bank and branch) hereby waive the necessity of your demanding the said debt from the contractor before presenting us with the demand.

We (Indicate the name of the bank and branch) further agree to pay to you any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under this present absolute and unequivocal.

The payment/so made by us under this bond shall be a valid discharge of our liability for payment there under and the contractor(s) shall have no claim against us for making such payment.

We (Indicate the name of the bank and branch) further agree that no change or addition to or other modification of the terms of the Contract or of the works to be performed there under or of any of the contract documents which may be made between you and the contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

We (Indicate the name of the bank and branch) lastly undertake not to revoke this guarantee except with the previous consent of you in writing.

This guarantee shall be valid upto -----. It come into force with immediate effect and shall remain in force and valid for a period upto the time of completion of the work under the stated contract plus claim period of six months for the Bank Guarantee. Notwithstanding, anything mentioned above, our liability against this guarantee is restricted to Rs (Rs.) and unless a claim in writing is lodged with us within the validity period, i.e upto.....of this guarantee all our liabilities under this guarantee shall cease to exist.

Signed and sealed this day of 20 at

SIGNED, SEALED AND DELIVERED

For and on behalf of the BANK by:

(Signature)

(Name)

(Designation)

(Code Number)

(Address)

NOTES:

- i. The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee

The address, telephone number and other details of the Head Office of the Bank as well as of issuing Branch (within West Bengal/AT PAR ANYWHERE IN INDIA only to be accepted) should be mentioned on the covering letter of issuing Branch.

Memo No: 100/1(11)/7E-16/2025-26

Dated: 03.02.2026

Copy submitted for favour of kind information to:

- 1) The Secretary to the Govt. of West Bengal, I&W Department.
- 2) The Chief Engineer, Mechanical & Electrical, I&W Directorate, Govt. of West Bengal.
- 3) The Chief Engineer, South, I&W Directorate, Govt. of West Bengal.
- 4) The Chief Engineer, D & R, I&W Directorate, Govt. of West Bengal.
- 5) The Joint Secretary (Works) to the Govt of West Bengal, I&W Department.
- 6) The Deputy Secretary (Works) to the Govt of West Bengal, I&W Department.
- 7) The Superintending Engineer, Metropolitan Drainage Circle, I&W Dte., Govt. of West Bengal.
- 8) The Superintending Engineer, Western Circle-I, I&W Dte., Govt. of West Bengal.
- 9) The Superintending Engineer, Eastern Circle, I&W Dte., Govt. of West Bengal.
- 10) The Superintending Engineer, Mechanical & Electrical Circle, I&W Dte., Govt. of West Bengal.
- 11) The Executive Engineer, Metropolitan Drainage Mechanical Division, I&W Dte. Govt. of West Bengal.

Sd/-
(S. Roy)
Executive Engineer
Metropolitan Electrical Division
I & W Dte., Govt. of West Bengal

Memo No: 100/1(11)/1(6)/7E-16/2025-26

Dated: 03.02.2026

Copy forwarded for favours of kind information to:

- 1) The Assistant Engineer attached to Metropolitan Electrical Division.
- 2) The Assistant Engineer, Metropolitan Electrical Sub-Division.
- 3) The Director of Information, Department of Information & Cultural Affairs, Nabanna, Shibpur, Mandirtala, Howrah -711102 for wide circulation.
- 4) The Estimating Section, Metropolitan Electrical Division.
- 5) The Accounts Section, Metropolitan Electrical Division.
- 6) Notice Board of Metropolitan Electrical Division.

Sd/-
(S. Roy)
Executive Engineer
Metropolitan Electrical Division
I & W Dte., Govt. of West Bengal

PART-B

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1.0 DETAILS SCOPE OF WORK & TECHNICAL SPECIFICATION OF OPERATION, MAINTENANCE AND GUARDING OF DIFFERENT HYDRAULIC /SLUICE GATE OPERATION

1.1 INSPECTION OF HYDRAULIC/ SLUICE GATES & HOIST:

(Inspection points shall be as per specific site related)

In order to detect normal wear and tear, defects if any, periodical inspection of gate installation should be carried out. The periodical inspection of these gates and hoist should be done as and when necessary. Inspections should be done and the following checks should be exercised as per the checklist, mentioned as **Annexure-I**

1.2 POINTS OF INSPECTION AND THEIR COMPLIANCE :

Points to be inspected	Compliance
<p>1. Embedded parts:</p> <ul style="list-style-type: none"> (a) Sill beam assembly. (b) Top and side seal seats. (c) Roller track. (d) Side guide. (e) Dogging arrangement. <p>(i) Check the following points:</p> <ul style="list-style-type: none"> • Wall plate to seal beam. • Two segments. <p>(ii) Check wall plate and sill beam for pitting and rusting.</p> <p>(iii) Check the leakage between stashed concrete of wall plate and seal beam.</p> <p>(iv) Check any crack in the seal beam and wall plate.</p>	<p>Check for crack and other defects and rectify.</p> <p>Rectify the joints using proper welding nuts.</p> <p>-----do-----</p> <p>Pitting is to be filled by welding, rusted portion should be painted after cleaning.</p> <p>Grout it if there is any leakage.</p> <p>Defect to be rectified.</p>

<p>2. Gate parts:</p> <p>(a) Skin plate assembly:</p> <ol style="list-style-type: none"> 1. Check the following joints: <ol style="list-style-type: none"> (i) Skin plate to 'T' verticals. (ii) Vertical and horizontal joints of skin plate from upstream side and downstream side. (iii) Lifting bracket to skin plate. 2. The skin plate should be observed for pitting, scaling and corrosion and upstream side. 3. Check for deformation of bottom corner of gate leaf. <p>(b) End verticals or End box: Check for crack and other defects.</p> <p>(c) Horizontal Girder:</p> <ol style="list-style-type: none"> 1. Check welding of: <ol style="list-style-type: none"> (i) Flange to web connection. (ii) Horizontal girder to 'T' stiffness of skin plate. (iii) Stiffness of horizontal girder. 2. Check drain holes of horizontal girder. 3. Check for any deformation of girder particularly at ends. <p>(d) Vertical stiffness:</p> <ol style="list-style-type: none"> (i) Check the welding joints throughout the length preferably with magnifying glass. <p>(e) Roller Assembly:</p> <ol style="list-style-type: none"> 1. Check the roller for its movements. 2. Check the nuts, bolts and guide roller. 	<p>Check for crack and other defects and rectify if necessary.</p> <p>-----Do-----</p> <p>Check welding with a magnifying glass and rectify if required.</p> <p>Scaling formation should be filled with weld and grinded for finish. For corrosion, clean it and apply point.</p> <p>Inform higher authority and take immediate action for repair.</p> <p>Rectify accordingly.</p> <p>Check for weld crack.</p> <p>Check for crack and other defects and rectify accordingly.</p> <p>Check for cracks and other defects and rectify accordingly.</p> <p>Clean them if found chocked up.</p> <p>Inform higher authority and take immediate action for repair.</p> <p>Scaling to be filled with weld and grinded.</p> <p>Make the roller for free jammed.</p> <p>Check for wear and tear and tightness.</p>
---	---

(f) Rubber Seal:

1. Rubber seals inspected for leakages.

2. Check for deformation of seal.

3. Check whether there is abnormal abrasion on seal seat.

4. Check, if there is any undesirable material between seal and clad plate and skin plate.

Locations of excessive leakage shall be recorded for taking remedial measure. Weeping or slight flow in localized area will not require immediate remedial measure.

If leakage is excessive & immediate repair is considered necessary, the stop log gates shall be dropped and seals repaired or replaced.

[Note:- During monsoon period, stop log gates shall NEVER be lowered in spite of heavy leakage through seals.]

Study the cause of deformation and rectify it.

Remove it.

1.2.1 Lifting arrangement:

Points to be inspected	Compliance
1. Wire ropes, equalizer plates etc. (a) Check condition of wire rope.	If 10% broken wires are within the length of one meter, and more than 20% broken wires within the length of 10 mtr. wire rope should be replaced.
(ii) Check equalizer plate assembly and sockets.	Check condition of pin. Every year, these should be removed, cleaned and refitted after lubrication.
(iii) Check lifting bracket pin.	Check for rusting, jamming in the turn buckles.
(i) Check tension in wire ropes.	Adjust all wire ropes for equal tension.
(ii) Check if end of wire rope is	If found loose, tighten the studs provided

	properly sustained to drum.	for.
(iii)	Check if the end of wire ropes is properly fixed in the rope socket.	Re-fix it, if necessary.
2.	Gear train assembly:	
(i)	Check position of gear and pinions.	Bring them to correct position if found shifted to either side.
(ii)	Check condition of gears and pinions.	Check uneven wear and contact. Adjust properly. Rectify it by welding and matching.
(iii)	Check for breakage of any teeth.	Visual inspection and coupling nuts to be checked.
(iv)	Check shaft and coupling used for connecting drive unit and gear train.	Rectify (Replace it).
(v)	Check for jamming of any bearing.	
3.	Drive unit:	
(i)	Check condition of electromagnetic brake.	Replace work out liner, adjust brake shoe carefully, so that both the shoes holds the drum, when supply is cut off or both the shoes move out simultaneously if switched on. Brake drum and liner should always be free from grease oil etc.
(ii)	Check all electrical connections of hoist motor, brakes, starter, limit switches etc.	Check for loose connection and proper insulation (Rats and crabs damage the insulation).
(iii)	Check manual operation arrangements.	Adjust gear / chain etc. if required.
(iv)	Check speed reducer / reduction unit.	Check for smooth operation and check oil level.
(v)	Check condition of gate position indicator and all its accessories.\	Check for its proper function and rectify.

<p>4. Hoist platform:</p> <p>(i) Check Anchor bolts of base plates, bearing plates.</p> <p>(ii) Check welding of hoist bridge girder, cross members etc.</p>	<p>Tighten it if found loose.</p> <p>Rectify if found necessary.</p>
<p>5. Check nuts and bolts of:</p> <p>Check for wear and tear and tightness of-</p> <p>(i) Hoist frame.</p> <p>(ii) Drive unit.</p> <p>(iii) Gear boxes.</p> <p>(iv) Muff coupling.</p> <p>(v) Flange coupling.</p> <p>(vi) Bearing Housing.</p>	<p>Tighten if required or replace for under wearing.</p>
<p>6. General Inspection:</p> <p>(i) The gate operation should be trouble free and there should not be unusual sound.</p> <p>(ii) On load (that is, when there is water) there should not be no undue vibrations in gate and structure.</p>	<p>Any abnormality is found, to be recorded.</p>
<p>7. Current drawn by motor.</p> <p>(i) Observe the current drawn by motor at the time of lifting of gate.</p>	<p>If any excessive current is noticed, operation of hoist should be stopped immediately and the reason for the same may be investigated and rectified.</p>

1.2.2 Screw hoist system:

Points to be inspected	Compliance
<p>(i) Check whether any teeth of screw rod is damaged.</p>	<p>Rectify it or replace it accordingly.</p>
<p>(ii) Check whether stems lift nut</p>	<p>Lubricate properly as per schedule</p>

<p>mechanism functioning properly.</p> <p>(iii) Check the bearing of hoisting system properly lubricated.</p> <p>(iv) Check the stem rods for lifting the gates are straight?</p> <p>(v) Check all nut, bolts and cotter pins of the lifting it device.</p> <p>(vi) Check whether any parts are subjected to excessive wear. Is there any tendency for recurring damage to any particulars component.</p>	<p>maintenance.</p> <p>.....Do.....</p> <p>Investigate the reason. Confirm that the hoisting capacity is more than 2.5 times of the weight of gate leaf. For gates with span exceeds 2.5M, two point screw hoist system may be adopted.</p> <p>Rectify and replaced.</p> <p>To be recorded properly and inform higher authority and try to find out the actual reason.</p>
---	--

2.0 MAINTENANCE OF HYDRAULIC/ SLUICE GATES & HOIST:

2.1 LUBRICATION

The various parts of the gates should be lubricated with proper grade of lubricants. A lubrication schedule has been given under separate Annexure with this manual, specifying the grades of lubricants and time intervals at which lubrication is required to be done.

The gates and hoist parts should be lubricated as per the requirements as per given lubrication schedule and up to date record of lubrication done should be maintained as per the proforma given below:

3.0 GENERAL MAINTENANCE OF HYDRAULIC/ SLUICE GATES & HOIST:

(a) General Instruction

- Operation of fixed hoist without lifting the gate is not possible and need not therefore be attempted. It will be possible to operate the unit and observe operation of load carrying hoist component when gate is being lifted or lowered.

- Never open any bolt or nut on motor, gear boxes, rope drums and other load carrying hoist components when the gate is in raised position. The gate should be fully closed or rested on the gate latches before carrying out any work on hoist components including motor brake and other electrical equipment.

(b) Rope drum Hoist

- Entrance to all hoist platforms shall be kept locked. All keys shall remain with the shift supervisor.
- A cursory daily inspection shall be made of hoist and gate to ensure that there is no unusual happening.
- Clean all hoisting equipment and hoist platform.
- Check oil level in gearboxes and replenish as and when required with oil of proper grade.
- Apply grease of suitable grade by grease gun
- Lubricate all bearings, bushings, pins, linkages etc.
- Check all the fuses on the power lines.
- All bolts and nuts on gear boxes, hoist drum and shaft couplings should be checked for tightness.
- Check the supply voltage.
- Drain sample gear oil from each of the gear boxes. If excessive foreign particles or sludge is found, the gear box shall be drained, flushed and filled with new oil.
- All the geared couplings shall be greased.
- Raise and lower the gate by hoist motor and check for smooth, and trouble free operation of gate without excessive vibration.
- Observe current drawn by motor at the time of lifting and check if it is more than normal. If so, stop the hoist and investigate the cause and rectify.
- Check the condition of painting of various components and remove rust wherever noticed and repaint the portion after proper cleaning as per painting schedule.
- All trash, sediments and any other foreign material shall be cleared off the lifting rope and lifting attachment.
- All ropes shall be checked for wear and tear and if broken wires are noticed, the rope shall be replaced.
- All the wire ropes shall be checked and all visible oxidation shall be removed.
- All wire ropes shall be greased with cardium compound.
- Check the overload relays for proper functioning.
- Check all the nuts, bolts, rivets, welds and structural components for hoisting platform and its supporting structure for wear, tear and damage. All damages shall be rectified. All bolts shall be tightened. The portion with damaged painting shall be touched up.

- Check the pulleys, sheaves and turn buckles.
- Raise and lower the gate for its full lift several time (at least three to four) and observe the following:
 - Check the limit switches and adjust for design limits.
 - The effectiveness and slip of the breaks shall be checked by stopping the gate in raising and lowering operations. The brakes shall be adjusted if needed.
 - When the gate is operated, there should not be any noise or chatter in the gears.
Adjust the rope tension of wires if unequal.

Check for all gears and pinions for uneven wear and adjust for proper contact. Grease the gears.

- Repaint the hoist components, hoisting platform and its supporting structures as per requirement.
- The periodic maintenance of commercial equipment like motors, brakes, thrusts etc. shall be carried out as per manufactures operation and maintenance manual.

(c) **Electrical components of fixed rope drum hoist**

- i. Starters should be cleaned free of moisture and dust.
- ii. Each individual contactor should be tried by hand to make sure that it operates freely.
- iii. All wearing parts should be examined in order to take note of any wear which may have occurred during operation.
- iv. If the contactor hums, the contact faces should be cleaned.
- v. Examine all connections to see that no wires are broken and no connections are loose.
- vi. Clean the surface of the moving armature and magnet core which comes together when the contactor closes, free of dust or grease of any kind.
- vii. Examine the mechanical interlocks between the reversing contactor and see when the contact tips of one of the contactor units are touching, it is impossible to get the contact tips of the other unit to touch.
- iii. The contact tips should be kept free from burns or pits by smoothening with fine sand paper or emery paper.
- iv. Replace the contact tips which have worn away half-way.
- v. Do not lubricate the contacts.
- vi. Blow out windings thoroughly by clean and dry air to clear air passage in the stator and the rotor of any accumulated dirt. The air pressure shall not be too high to damage the insulation.
- vii. Examine earth connections and motor leads.
- viii. Examine motor windings for overheating.
- ix. Examine control equipment's.
- x. Examine starting equipment for burnt contacts.
- xi. Check and tighten all nuts and bolts.

-
- xii. Clean and tighten all terminals and screw connections all contact surfaces shall be made clean and smooth.
 - xiii. Lubricate the bearings.
 - xiv. Overhaul the controllers.
 - xv. Inspect and clean circuit breakers.
 - xvi. Wipe brush holders and check bedding of brushes.
 - xvii. Blow out windings thoroughly by clean and dry air. The pressure shall not be so high that insulation may get damaged.
 - xviii. Check the insulation resistance of the motor between any terminal and the frame. If the measured resistance is less than the prescribed value, then steps shall be taken to dry-out the motors either by passing a low voltage current through the windings or by placing the stator and rotor only in a warm dry place for a dry or so.
Important: The complete motor shall never be put in an oven for drying as that may melt the grease out of bearings.
 - xix. Coat the windings with an approved high temperature resisting insulation enamel or varnish.
 - xx. Over haul the motor, if required.
 - xxi. Check the switch fuse units and renew, if required.
 - xxii. Check resistance or earth connections.
 - xxiii. Check air gap.

(d) Solenoids Operated Brakes

- i. All fixing bolts shall be checked and tightened at least once in three months.
- ii. The magnet stroke should be reset to compensate for wear.
- iii. Re-adjust the brake when the magnet stroke reaches the value given on the instruction plate.
- iv. Brake lining should be checked and replaced when required.
- v. Examine all electrical leads and connections.
- vi. Rubber bushes or couplings should be checked and replaced if defective.
- vii. The pins should be tightened.
- viii. Brake drum shall cleaned to remove any dust or grease.

3.0 SCHEDULED MAINTENANCE OF HYDRAULIC/ SLUICE GATES & HOIST:

Monthly maintenance:

- (a) Seals and seal seating shall be inspected for leakages. Locations of excessive leakages shall be recorded for taking remedial measures.
- b) Excessive or wide spread leakages if any shall be reported to Engineer-in charge and remedial measures like tightening of bolts is to be carried out. Further adjustment is carried out during annual maintenance or necessary plan for replacement of parts shall be initiated and carried out before floods.
- c) If leakage is so much that immediate repair is to be considered and seals are to be repaired or to be replaced by using stop log gates.
- d) Remove all dirt, girt, etc., from trunnion assembly and lubricate trunnion bearings of the gate with suitable water resisting grease.

More concentration is to be given for checking of welds:

- Between yoke girder web and tie flats.
- Between trunnion and tie between trunnion.
- Lifting bracket and gate.

3.1 Quarterly maintenance:

The maintenance shall preferably be carried out once in three months but not less than thrice in a year including pre-monsoon and post monsoon maintenance. During this maintenance the following checks shall be done.

- a) All the nuts and bolts of trunnion assembly and its anchorages shall be checked for tightness.
- b) Check all the welds for soundness and rectify defects, if any.
- c) Check welding between latching bracket and skin plate with help of magnifying glass for cracks / defects and rectify the defects.
- d) Clean all drain holes including those in end arms, horizontal girders trunnion and pulley blocks.
- e) Check all nuts and bolts for tightness and tighten them; if loose.
- f) Check upstream face of skin plate for pitting, scaling and corrosion. Scale formation shall be removed, pitting shall be filled with weld and ground, and Corroded surface shall be cleaned and painted. In case of gate not being raised every quarter, these can be carried out in annual maintenance.
- g) The wheel bearings and guide rollers shall be lubricated.
- h) The seal shall be checked for damages, if damaged, shall be replaced.

-
- i) The guide assemblies, wheel assemblies and sealing assemblies shall be cleared of girt, sand or any other foreign material.
- General cleaning is to be done for the following:
 - ✓ Trunnion girders / Yoke girders.
 - ✓ Trunnion brackets, trunnions, arms and horizontal girders.
 - Lubrication is to be attended for:
 - ✓ Bearings at Gate wheels, trunnion bushes, hoist pulleys and pins provide in Hoist Bridge at hoist level and gate.
 - ✓ Rope drum shaft Plummer blocks.
 - ✓ Line shaft Plummer blocks.
 - Check tightness of all coupling bolts of motor to work reducer and line shaft. If required they may be tightened.
 - Care shall be taken to check the condition of holding rope with rope socket and balancing of gate is to be observed and if necessary adjusted.

3.2 **Annual maintenance:**

The following additional checks or maintenance shall be carried out in addition to checks mentioned under quarterly maintenance.

- a) All the embedded parts shall be checked for defects / damages and shall be rectified where ever noticed and exposed parts shall be painted for longer life.
- b) The sill beam and guides shall be cleared for all girt, sand etc.
- c) The wire ropes shall be checked for equal tension. If broken strands are noticed, the wire rope shall be replaced. Fixing of rope sockets also shall be checked.
- d) The wire rope shall be greased.
- e) The guide roller pins shall be lubricated and ensure for its rotation.
- f) Check the condition of rubber seal. If damaged, replace the seals.

All bolts and nuts holding rubber seals shall be tightened. Adjust seal if leakages are found at local points.

3.3 **SCHEDULED MAINTENANCE OF HOIST MECHANISM**

Daily Inspection:

- Entrance to all hoist platforms shall be kept locked. All keys shall remain with the shift supervisor.
- A cursory daily inspection shall be made of hoist and gate to ensure that there is no unusual happenings and **ensure operation when called for.**

Monthly Maintenance:

- Clean the dust of all hoisting machinery and hoist platform.
- Check oil level in gear boxes and replenish wherever required with oil of proper grade.
- Apply grease of suitable grade by grease gun through all the greasing nipples and replace grease nipple if missing.
- Lubricate all bearings, bushings, pins linkages, etc.
- Check all the fuses on power lines and ensure closing of panel board covers not to entry of dust and moist.
- All bolts and nuts on gear boxed, hoist drum and shaft couplings should be checked for tightness.
- Check the supply voltage.
- Check the expansion provision in case of independent anchorages.
- Starters should be cleaned free of moisture and dust.
- Each individual contactor should be examined to make sure that it operated freely.
- All wearing parts should be examined and take remedial action to avoid reoccurrence.
- The magnet faces should be cleaned if the contacted Hum.
- Examine all connections to se that no wires are broken and no connections are loose.
- Clean the surface of the moving armature and magnet cone which comes together when the contractor closes, free of dust or grease of any kind.
- The contact tips should be kept free from burns or pits by smoothening with fine sand paper or emery paper.
- Replace the contact tips which have worn half – way.
- Do not lubricate the contacts.
- Quarterly Maintenance.
- Carry out all those listed for monthly maintenance.
- Drain sample gear oil from each of the gear boxes; If excessive.
- Foreign particles or sludge is found, the oil shall be drained, flushed and filled with new oil.
- Alhe eared couplings shall be greased.
- Raise and lower the gate by hoist motor and check for smooth and trouble free operation of gate without excessive vibration.
- Observe current drawn by motor at the time of lifting and check if it is more than normal. If so, stop the hoist and investigate the cause and rectify.

-
- Check for condition of painting of various components and remove rust wherever noticed and repaint the portion after proper cleaning as per painting schedule.
 - Check Electrical connection and wiring:
 - a. From supply point to main switch.
 - b. Main switch to starter.
 - c. Starter to motor.
 - d. Contact points of starter.
 - e. From starter to all lighting points, availability of bulbs and its glowing.

Annual Maintenance:

- The annual maintenance shall be combined with one of the quarterly maintenance, the following shall be carried out in addition to those mentioned under Quarterly Maintenance.
- All trash, sediments and any foreign material shall be cleared off the lifting rope and lifting rope and lifting attachment.
- All ropes shall be checked for wear tear and if broken wires more than permissible or marked corrosion is noticed, the rope shall be replaced. Refer IS code for maintenance of wire ropes.
- All wire ropes shall be checked and all visible oxidation shall be removed.
- All wire ropes shall be greased with cordium compound or equivalent brand.
- Adjust the rope tension of wire if unequal.
- Check the overload relays and limit switch for proper functioning.
- Check tightens of all nuts & bolts, soundness of welds. All bolts shall be tightened and defective welding must be rectified.
- Check the pulleys, sheaves and turn buckles for soundness.
- Check the limit switches and adjust for design limits duly operating.
- The effectiveness of the brakes shall be checked by stopping the gate in intermediate operation duly raising and lowering operations. The brakes shall be adjusted; if needed.
- When the gate is operated, there should not be any noise or chatter in the gears.
- Check for all gears and pinions for proper mesh, uneven wear and adjust for proper contact and grease the gears.

- Repaint the hoist components, hoisting platform and its supporting structures after a time interval depending upon the painting schedule.

4.0 **MANPOWER / STAFF FOR THE CONTRACT**

- 4.1 The contractor shall provide qualified and experienced personnel identity card necessary as mentioned Below to operate and maintain the bore wells, smoothly / safely and Efficiently on a continuous 24 hours basis or as per instruction of E.I.C. for full terms of the operation and Maintenance contract period.
- 4.2 Electrical and Mechanical faults should be attended immediately and rectify as early as possible by qualified and experienced personnel to avoid the interruption in daily water supply of city. For the same as and when needed contractor has to deploy suitable category of additional staff with necessary equipment separately, which shall be in addition to above mentioned persons.
- 4.3 The contractor shall have to provide statement of daily presence of each and every total person deployed The staff of the contractor will always remain in contact with JE in charge and follow his instructions. The contractor shall have to issue identity cards with photograph to all staff employed for operation and will be Required to wear such dress as prescribed by the AMC
- 4.4 The minimum workman required compulsory shall be one (01) no work man per shift .In addition to that no of workman to be increased as per site requirements and as per instruction of E.I.C.
- 4.5 All the staff deployed by the contractor must be of Indian nationality and must have knowledge of Bengali / Hindi. He must understand & conversant with in Bengali language compulsorily. He must talk politely to all Departmental officer and other public
- 4.6 The contractor shall employ all the required staff (and in no case less than the number specified in the tender) Within 7 days of the award of contract, otherwise payment will not be made. In such case, the commencement of contract period and payment thereof shall be reckoned only from the date of employment of full Numbers of staff.
- 4.7 The contractor have to fulfill all safety rules and regulations. The Department will not be responsible for any accident / injury to the staff of the contractor

5.0 **Maintenance of Records:**

The most important work is that the inspection and maintenance experiences and repairs are compiled in the form of history sheet of the any installation in a choronogical order for future guidance. These records should generally consist of :

- Date and time of commencement and completion of work.
- Details of job carried out like change/replacement of bearings, seals, nuts and bolts, welding repairs carried out etc. Even minor details like patch painting should also be recorded.

- Problems encountered if any during maintenance.
- Details of materials/items consumed during maintenance.
- Details of manpower deployed.
- Operating criteria of various gated installation.
- Record of periodic inspection record.
- Before and after photographs.

The data should be recorded by the person responsible for maintenance.

6.0 Quality Assurance Plan

Quality assurance plan (QAP) is required for effective execution for a particular work. The QA shall cover all stages of work such as setting out of works, selection of material, selection of method of works, selection of plant and equipment, deployment of staffs, quality control testing. The QA program shall cover as per standard documents such as relevant Indian Standard Codes including its Special Publications etc. These shall broadly cover the QA aspects of all services rendered, all items to be supplied and all activities to be performed including the temporary structures and equipment which will influence the quality of the completed works or the progress of the work. Hence, considering all these aspects, contractor shall design QAP and implement to work at site. Contractors are informed that Cost of such implementation of QAP shall deemed to have included in their bid.

7.0 SAFETY PROCEDURE

Suitable scaffolds shall be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used, an extra workman shall be engaged for holding the ladder. If the ladder is used for carrying materials as well, suitable footholds and handholds shall be provided on the ladder and the ladder shall be given an inclination not steeper than 0.25 to 1 (0.25 horizontal and 1 vertical).

Scaffolding or staging more than 3.6m above the ground or erected floor, swung or suspended from an overhead support or erected with stationary support shall have a guardrail properly attached, bolted, braced and otherwise secured at least 0.9 m high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and endst hereof with only such opening as may be necessary for the delivery of the materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the structure.

Working platform, gangways and stairways shall be so constructed that they

do not sag unduly or unequally, and if the height of the platform or the gangway or stairway is more than 3.6 m above ground level or floor level, they shall be closely boarded, and shall have adequate width and shall be suitably fastened.

Every opening in the floor of a structure or in a working platform shall be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be 0.9 m. Employees working on steep slopes or otherwise subject to possible falls from levels not protected by guardrails or safety nets, shall be secured by safety belts.

Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9.0 m in length while width between side rails in hung ladder shall, in no case, be less than 28 cm for ladder upto and including 3.0 m in length. For longer ladders, this width shall be increased at least 6 mm for each additional 30 cm of length. Uniform step spacings shall not exceed 30 cm. Adequate precautions shall be taken to prevent danger from electrical equipment. No material on any of the Sites of work shall be so stacked or placed as to cause a danger or inconvenience to any person or the public.

When the work is done near any place where there is risk of drowning, all necessary equipment shall be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision shall be made for prompt first aid treatment of all injuries likely to be sustained during the course of the Work.

Use of hoisting machines and shackle including their attachments, anchorage and supports shall conform to the following standards or conditions:

(i) These shall be of good mechanical construction, sound materials and adequate strength and free from latent defect and shall be kept in good working order.

Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength and free from latent defects.

- (i) Every crane driver or hoisting appliance operator shall be properly qualified for his job.
- (ii) In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or means of suspension, the safe working load shall be ascertained by adequate means. Every hoisting machine and all gears referred to above shall be plainly marked with safe working load. In case of hoisting machine having a variable safe working load, each safe working load and the conditions under which it is applicable shall be clearly indicated. No part of any machine or gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing. The capacity of the hoisting machines shall be periodically checked.
- (iii) The Contractor shall notify the safe working load of the machines to the Engineer-in-Charge whenever he brings any machinery to Site of work and gets it verified by the Engineer-in-Charge or his representative.

Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances shall be provided with efficient safe guards.

Hoisting appliances shall be provided with such means as shall reduce to the minimum, the risk of any part of a suspend load becoming accidentally displaced. When workmen are employed on or near electrical installations which are already energized, insulating mats, wearing apparel, such as gloves, sleeves and boot, as may be necessary, shall be provided. The workers shall not wear any rings, watches and carry keys or other materials which are good conductors of electricity.

All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe conditions and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities shall be provided at or near places of work.

These safety provision shall be brought to the notice of all concerned by display on a notice board at a prominent place on the Site. The person responsible for compliance of the safety code shall be named therein by the Contractor.

To ensure effective enforcement of the rules and regulations relating to safety precautions, the arrangements made by the Contractor shall be open to in section by the Labour officer or Engineer-in-charge.

8.0 ADDITIONAL TERMS AND CONDITION FOR THIS WORK :

- 6.1 You are requested maintain a register of persons employed on contract ,register of wages, attendance register , site order book in the enclosed format.
- 6.2 You have to comply with all the provisions of the Minimum Wages Act, 1948. Contract labour (Regulation and Abolition) Act, 1970 and rules framed there under, and other labour laws i.e EPF, ESI affecting Contract Labour that may be brought into force time to time.
- 6.3 It shall be the duty of you to ensure the disbursement of the wages in the presence of Junior Engineer or any other authorized representative of E.I.C., who will be required to be present of the place & time of disbursement of wages by the Contractor to his workman or wages due to every worker shall be paid to him directly by contractor through bank or ECS or online transfer to his bank account .
- 6.4 You have to obtain from the Junior engineer or any other authorized representative of E.I.C., as the case may be, a Certificate under his/her Signature at the end of entry in 'Register of Wages', in the following form : “ Certified that the amount shown in Coloumn no. _____ has been paid to the Workman concerned in my presence on _____ dt. _____.”

CHECKS TO BE EXERCISED DURING PRE-MONSOON AND POST-MONSOON INSPECTION OF RADIAL GATE INSTALLATIONS

SL No.	Points to be inspected	Complaints	Whether checks have been carried	Date	Initials	Remarks
1	2	3	4	5	6	7
I	Inspection of yoke Girder, thrust blocks, trunnion assembly and anchorage					
1	Check nuts and bolts					
	a) Trunnion assembly	Check for torque				
	b) Trunnion bracket to yoke girder	Check for torque				
	c) Nuts of horizontal and vertical anchorage	Check for torque				
	d) Trunnion pin lock plates	Check tightness				
	e) Check shear key if provided behind trunnion bracket	Check for cracks				
	f) Nuts of the main tie rods.	Check tightness				
2	Check the weld between youke girder and main ties					
3	Check whether yoke and thrust blocks covered	Cover with 3mm thick M.S. plate				
4	Check whether trunnion pin ends are covered	Cover it if not already covered				
5	Whether flexible sheath cover is provide to prevent entry of debris in the trunnion assembly	Cover it if not already covered				
6	Check the weld of thrust block (with magnifying glass)					
7	Check if the oval holes are free	Remove debris or other accumulated material				
8	Check grease in trunnion assembly	Take steps for greasing after removal of dirt, if any				
9	Check the flexible cover.	Replace, if necessary and clean dirt from pin surface below the same				
II	Arms					
1	Check welding joints of arm to horizontal girder (with magnifying glass, preferably on joints/ stiffeners)	Check for cracks, rectify accordingly				
2	Check whether drain holes provided in the arms	Clear them if choked up				
3	Check nuts and bolts, of arms to horizontal girder	Check for tightness and torque				
III	Horizontal girder					
1	Check welding of					
	a) Stiffeners of horizontal girders	Check for crack and other defects and rectify				
	b) Horizontal girder to stiffeners of skin plate	Check for crack and other defects and rectify accordingly				
	c) Locking arrangement brackets of skin plate	Check for cracks				
	d) Check drain holes of horizontal girder	Clear them if choked and clean debris accumulated regularly				

SL No.	Points to be inspected	Complaints	Whether checks have been carried out	Date	Initials	Remarks
1	2	3	4	5	6	7
IV.1	Skin plate assembly and rubber seals					
	a) 'T' and skin plate and check for crack and other ribs					
	b) Vertical joints of skin plate from upstream side land downstream side					
	c) Check lifting bracket and					
	d) latching brackets to skin	Check welding with a magnifying glass & rectify if required				
2	The skin plate should be observed for pitting Scaling and corrosion on Upstream side	Scaling formation should be filled with weld and grinded for finish. For corrosion, clean it and apply paint				
	a) Check the condition of side and bottom rubber seal corner joint and observe leakages	If condition is poor replace same check the cause of undue wear also before replacement				
	b) All the nuts and bolts fixing rubber seal to skin plate.	Check torwear and tear. Tightness and replace, if required				
	c) Check if there is any undesirable material in between seal and stainless steel plate and seal base	Remove it (all debris should be periodically removed from seal surface)				
	d) Check for deformaion of seal	Study the cause of deformation and rectify it.				
	e) Check soundness of cladding in case of Gadded rubber seals	Study the cause of deformation and rectify it.				
	f) Check wherether there is abnormal abrasion on seal seat	Study the cause of deformation and rectify it.				
V	Sill beam and wall plates					
1	Check the following joints					
	a) Wall plate to sill beam	Check for crak and other defects and defect				
	b) Joints between two segments.	Rectify the joints using proper welding rods and grind as necessary				
	c) Stainless steel to Structural steel	Retcify the joints using proper welding rods and grind as necessary				
2	Check wall plate and sill beam for pitting and rusting and general conditions	Pitting is to be filled in by welding. Rusted portion should be painted after cleaning				
VI	GUIDE ROLLER					
1	Check roller for its moverments and setting	Make the roller free. If jammed, clean and grease				
2	Check the nuts and bolts of guide roller assembly	check for wear and tear and tightness.				
VII	Latching Arrangement					
	1. Check wether latching device functions well	Check the function by operating lever. Rectify the same if movement is not smooth				

	3. Check the drain holes	Clean them if required.				
VIII	Wire Ropes, Hoist, Pulleys, Sheaves, etc.					

1	Check for following					
	a) Check condition of wire rope	If the condition is poor, then replace the wire rope and if 10% broken wires are within the length of one meter and more than 20% within length of 10 meters, wire ropes should be replaced				
	b) Check Pulley, sheave assemblies and sockets.	Check the condition of pins and every year these should be removed , cleaned and refitted after lubrication				
	c) Check the turn buckles	Check for rusing jamming in turn buckles and check if number of threads holding the rope are adequate				
	d) Check tension of wire ropes	Adjust both wire ropes for equal tension.				
	e) Check if end of wire rope is properly fastened	If found loose, tighten the studs provided for.				
	f) Check for lubrication of wire ropes if required	Lubricate ropes.				
IX	Gear Train Assembly					
1	Check for following					
	a) Check position of Gears and pinions	Check uneven wear and contact, adjust properly				
	b) Check postion of Gears and pinions	Bring them to correct position if found shifted to either sides.				
	c) Check shaft and coupling used for connecting drive unit and Gear train	Visual inspection and coupling nuts to be checked.				
X	Drive Unit					
1	Check for following					
	a) check the condition and function of Electomagnetic brake.	Replace worn out liner, adjust brake shoes carefully, so that both the shoes hold the drum when supply is cut off or both the shoes should move out simultaneously if switched on. Brake drum and liner should always be free from grease, oil etc.				
	b) Check all electrical connections of hoist motor, brake, starter, limit switch etc., also check remote control systems of provided.	Check for loose connection, proper insulation(rats and crabs damage the insulation is to be adjusted for correct position and should not be disturbed.				
	c) Check the connecting arrangements from adjacent motor.					

SL No.	Points to be inspected	Complaints	Whether checks have been carried	Date	Initials	Remarks
1	2	3	4	5	6	7

d) Check the connecting arrangements from adjacent motor

e) Check the condition of position indicator and all its accessories. Check for the proper function and rectify.

f) Reduction gear box (worm Reduction) Operate and check oil level

XI Check nuts and bolts of the following

a) Hoist frame Check for tightness wear and tear and tightness

b) Drive unit

c) Gear Boxes Tighten if required or replace if undue wear is

d) Flange coupling

e) Bearing housing Inspect for cracks in housing and replace if needed check foundation bolts and tighten if required.

f) Foundation bolts of Hois bridge

GENERAL:

Inspect to check that:

- The gate operation should be trouble free and there should not be unusual sound.
- On load (that is, there is water) there should be no undue vibration in the gate and the structure.
- Observe the current drawn by the motor at the time of lifting gate. If any excessive current drawn is noticed, operation of hoist should be stopped immediately and reason for same may be investigated.
- Check the supply of voltage points.
- Check the condition of painting of various parts.

TROUBLE SHOOTING

Their problems Causes and Remedy

(NOTE: The List is not exhaustive but indicative of causes most likely to occur)

<u>Defect</u>	<u>Cause</u>	<u>Remedies</u>
1. Gate not lifting	1. Power failure.	Start standby generator
	2. Starter contacts or electric circuit faulty.	Check wiring, switches, fuse, starter contacts limit switches etc. check and rectify, do not oil limit switch.
	3. Limit switch stuck.	Check cable and cable joint systematically after disconnecting supply. Replace defective cable, fill cable compound in junction boxes.
	4. Power supply cable failure.	
	5. Wire rope broken or loose from socket or Clamp.	Check and rectify.
	6. Drive shaft.	Check Hoist couplings, shaft keys, gears etc.
	7. Gate touching pier side.	Check pier, chip-off bulges on pier face. Check guide rollers.
2. Motor getting hot	1. Defective power supply low voltage.	Check all 3 phases for voltage.
	2. Over load.	Gate may be stuck and not free.
	3. Moisture in winding.	Check resistivity in winding, Dismantle, varnish and not free.
	4. Clogged ventilation.	Check and clean the fan.
	5. Loose bearings.	Check and replace.
	6. Solenoid brake of central drive unit not released when motor starts.	Check and adjust brake.
2. A) Motor direction is changed.	Phase connection at the starter might have got interchanged.	Starter phase contact might have got interchanged check.
3. Gate travel not Smooth.	1. Uneven contact of side seals.	Check alignment and adjust seal. If embedded parts are not properly erected or seal not smooth, this may occur.
	2. Drive shaft alignment or coupling Defective.	Check drive shaft for bends, slack coupling, keys, pedestal bolts.
	3. Gears not meshing smoothly.	Check for defective gear profile, gear alignment, Plummer block loose.

	4. Trunnion binding.	Check for debris clean and grease trunnion bearings.
	5. Unequal wire ropes tension.	Check wire rope in gate closed position – adjust.
	6. Wire rope riding on the ridge of groove.	Check alignment of drum and gate lifting bracket.
	7. Improper alignment of Trunnion axis.	Check and try to adjust by shims. This defect is difficult to eliminate.
4. Wire rope Snaps.	1. a) Wire rope strands broken or Rusted/corroded. b) Wire rope out of pulley groove. c) Broken Pulleys. d) Worn out bushing of pulley.	Check and replace worn parts.
	2. Wire rope length uneven.	Adjust turn buckle.
	3. Turn buckle threads worn.	Replace turn buckle by one of forged steel.
	4. Wire rope slipping from socket or clamp.	Check wire rope clamp on Drum. Check socket, wedge wire rope clamps etc., and tighten. Ensure more than one idle winding of rope on the drum in closed position of gate.
	5. Motor does not stop at extremes of travel.	Adjust limit switches.
5. Hoist platform vibrating.	1. Lose bolts of deck plate or broken weld.	Check and tighten or weld where possible.
	2. Wire rope rubbing against hoist parts.	Checks rectify alignment.
	3. Wire rope not moving in the groove on drum.	Check alignment.
	4. Gears not meshing properly.	Check alignment. Pedestal blocks keys, Grease open gears.
	5. Defective gear profile.	If gears are not manufacture by ‘Hobbing’ accurate profile is not achieved and gears do not run smoothly. This manufacturing defect is difficult to rectify.
	6. Hoist platform foundation bolts loose.	Check and rectify.
-do- while water is released.	7. Gate is vibrating.	At small gate opening flow is unsteady. Change position.

6. Seals of side and bottom leaking.	1. Debris.	Check and remove.
	2. Worn out / damaged seals.	Check and replace during maintenance.
	3. Missing SS seal travel plate.	Sometimes, due to defective manufacture SS seal seat gets pealed off during operation. Rectify, find cause and set right.
	4. Defective section of embedded parts.	Rectify after proper planning.
	5. Loose or broken clamp bolts.	Check and rectify.
	6. Side sway of gate during travel.	Trunnion alignment to be checked.
7. Side sway of Gates.	1. Guide rollers missing.	Check and replace.
	2. Trunnion alignment not correct.	Check and adjust by shims to the extent possible.
	3. Unequal length of wire rope.	A new wire rope stretches under load. So replace both wire ropes or adjust turn buckle.
	4. Shifting of yoke girder.	Check Anchorage bolts nuts tie bars etc.
	5. Inaccurate alignment of embedded parts While erecting.	Plan rectification, consult expert.
	6. Excessive torsional twist of line shaft in the case of CDU located on pier.	Check and use larger dia. Shaft or hollow shaft.
8. Structural failure of components or Cracks.	1. Defective design.	Check design and reinforce.
	2. Defective manufacture, excessive weld, stress concentration.	Rectify and stress – relieve by heating peening etc.
	3. Rust, wear and tear.	Clean and paint after rectification of defect.
	4. Loose bolts, uneven gas-cut holes.	Rectify.
9. Gate vibrating.	1. Turbulent flow below the gate occurring at small openings.	Or long at opening less than 10% travel.
	2. Imperfect anchorage.	Check Trunnion, anchor bars nuts, tie bars etc., for looseness and rectify.
10. Hoist noisy while operating.	1. Dry gears. 2. No oil in reduction unit (Radicon).	Rectify. Grease. Check oil.
11. Gate creeps	1. Hoist brake not proper.	Adjust, brake shoe, Clean with

		petrol. Replace worn parts. Check spring and solenoid.
	2. Gear profile not accurate.	Stub spur gear accurately hobbled are self locking.
12. Manual operating device not working.	1. Clutch not engaging or slipping.	Check and rectify clutch linkages, Brake shoe.
13. Dial reading not accurate.	Dial disc loose on shaft Drive chain loose.	Tighten screw. Adjust drive chain, links. Calibrate and correct Zero – error.

9.3 BIS REFERENCES

Sl. No.	Component Part	Recommended Materials	Standard reference
i)	Structural Parts of gate leaf including skin plate, stiffeners, horizontal girders, diaphragms, track base, seal base, seal seat base, liners, seal clamp, lifting lugs, structural parts of lifting beam, rail guide, sill beam, anchor bolts, load carrying anchors etc.	Structural Steel	IS 2062
ii)	a) Wheels	Cast steel Forged steel	IS 1030 Gr27-54 IS 2004 CL.IV
	b) Self aligning spherical roller be	Standard make SKF or equivalent approved make	————
	c) Wheel pins	Corrosion resistant steel Forged steel	IS:1570(5) Gr.15 Cr.13 IS:2004 with 40 microns hard chromium plating.
	d) Retainers	Structural steel	IS:2062
	e) Sleeves for pin (distant pieces)	Corrosion resistant steel Structural steel Hard chromium plated to 20 microns.	IS:1570(5) Gr.15 Cr.13 IS:2062
iii)	a) Guide roller	Cast steel	IS 1030 Gr.27-54 or Gr.26-52
	b) Guide roller pin	Corrosion resistant steel carbon steel hard chromium plated to 40 microns	IS:1570(5) Gr.15 Cr.13 IS:1570(4) C-40.
	c) Bushing	Bronze	IS: 305 / IS: 318
iv)	Track base/ sill base /side seal base/ guide roller track / bumper track	Structural steel	IS:2062
v)	Rubber Seals	Rubber	IS:11855

vi)	Track	Corrosion resistant steel	IS:1570(5) Gr.20 Cr.13
vii	Seal seats (side, bottom & top)	Stainless Steel	IS1570(5) 04 CR.19Ni9 Or 07 Cr19 Ni9
viii	Seal fasteners	Stainless steels	IS1570(5) 04 CR.19Ni9 Or 07 Cr19 Ni9
ix	Ballast if any	Cast iron	IS : 210

Applicable BIS Standards

All works shall be carried out according to technical specifications; the Indian Standard Code(s) of practice. Any work not covered in the Indian Standard Code(s) & specification, it shall be carried out as per best practice adopted in this country and /or reference may be made to other appropriate & relevant ASTM, ASME, DIN, JIS or BS according to the direction and satisfaction of the Engineer-in charge. Here are some relevant BIS references are included but not limited to the following:

A. General

IS 800 (2007): General Construction In Steel - Code of Practice

IS : 816-1992 – Code of practice for use of metal arc welding for general instruction in mild steel.

IS : 822-1991 – Code of practice for inspection of welds.

IS 808 (1989): Dimensions for Hot Rolled Steel Beam, Column, Channel and Angle Sections

IS 919-1 (1993): ISO Systems of limits and fits, Part 1: Bases of tolerance, deviations and fits

IS 919-2 (1993): ISO systems of limits and fits, Part 2: Tables of standard tolerance grades and limit deviations for holes and shafts

IS : 1023-1987 – Code of practice for Oxygen- Acetylene welding for structural work in mild steel.

IS 1030 (1998): Carbon steel castings for general engineering purposes

IS 1200 (Part-8): Methods of measurement of building & civil engineering works (steel work & iron work)

IS 1367-3 (2002): Technical Supply Conditions for Threaded Steel Fasteners, Part 3: Mechanical Properties of Fasteners Made of Carbon Steel and Alloy Steel - Bolts, Screws and Studs

IS 1570-5 (1985): Schedules for Wrought Steels, Part 5: Stainless and Heat-resisting Steels

IS 1732 (1989): Steel Bars round and square for structural and general engineering purposes

IS 2048 (1983): Parallel Keys and Keyways

IS 2062 (2011): Hot Rolled Medium and High Tensile Structural Steel

IS 2102-1 (1993): General tolerances, Part 1: Tolerances for linear and angular dimensions without individual tolerance indications

IS 2102-2 (1993): General tolerances, Part 2: Geometrical tolerances for features without individual tolerance indications

IS : 2595-1991- Code of practice for radiographic testing.

IS 2629 (1985): Recommended Practice for Hot-Dip Galvanizing of Iron and Steel

B. HYDRAULIC GATES, HOIST, RUBBER SEAL, PAINTING & TRASH RACK

IS 13623 (1993): Criteria for choice of gates and hoists

IS 5620 (1985): Recommendations for Structural Design Criteria for Low Head Slide Gates

IS 9349 (2006): Recommendations for structural design of medium and high head slide gates

IS 11228 (1985): Recommendations for design of screw hoists for hydraulic gates

IS 6938 (2005): Design of rope drum and chain hoists for hydraulic gates - Code of practice

IS 7718 (1991): Recommendations for inspection, testing and maintenance of fixed wheel and slide gates

IS 11855 (2004): Guidelines for Design and Use of Different Types of Rubber Seals for Hydraulic Gates

IS 15466 (2004): Rubber seals for hydraulic gates

IS 14177 (1994): Guidelines for painting system for hydraulic gates and hoists