

KOLKATA PORT TRUST

HALDIA DOCK COMPLEX

Tender No.: SDM (P&E)/T/34/2018-19

E-Tender No. KoPT/Haldia Dock Complex/P&E Div/38/18-19/ET/381

E-Tender under two cover system (Cover-I: Pre-qualification, Techno-commercial terms and Cover-II: Price cover) for work of "Design, manufacture, fabrication, supply, Erection, testing, commissioning and handing over Firefighting facilities at HOJ-I, HOJ-II, Barge Jetty I&II and upcoming Outer Terminal -II (OT-II) in EPC mode under two cover systems including Comprehensive operation and maintenance for 10 (ten) years after defect liability period of 02 (two) years.

♠ ADDENDUM-III ♠

CORRECTIONS / ADDITIONS / DELETIONS, ETC.

[Total Number of Pages: 59]

NOTE:

1. This "Addendum-III" should be read in conjunction with this office above Tender Document.
2. Consequential changes, arising out of this Addendum-III, will be deemed to have been effected, even if the same were not incorporated specifically in the Tender Document.
3. One set of this "Addendum-III", shall have to be submitted along with the Offer (in with each page of it, duly signed and stamped, as token of acceptance.
4. All other terms and conditions of this office above Tender Document will remain unchanged

HALDIA DOCK COMPLEX
♠ ADDENDUM-III ♠
Tender No.: SDM (P&E) / T/34 / 2018-19
Terms and conditions:

Sl. No.	Clause No./Ref. No.	Para/Line No./Page No.	As specified in the Tender Document.	To be Read as
1.	Volume 1 Title of Work	-----	Design, manufacture, fabrication, supply, Erection, testing, commissioning and handing over Fire-fighting Facilities at HOJ-I, HOJ-II, Barge Jetty I&II and upcoming Outer Terminal –II (OT-II) under two cover systems including Comprehensive operation and maintenance for 10 (ten) years after Defect Liability period of 02 (Two) years.	Design, manufacture, fabrication, supply, Erection, testing, commissioning and handing over Fire-fighting Facilities at HOJ-I, HOJ-II, Barge Jetty I&II and upcoming Outer Terminal –II (OT-II) <u>in EPC mode</u> under two cover systems including Comprehensive operation and maintenance for 10 (ten) years after Defect Liability period of 02 (Two) years.
2.	Volume 1 Earnest Money Deposit	Clause-3.5 (iii) Note –(iv) Page- 9		To be added at the end of the clause: For the purpose of issuance of Earnest Money Bank Guarantee, the beneficiary Bank A/C details will be as below: Beneficiary name: Kolkata Port Trust, Haldia Dock Complex. Account Number : 1604050000064 Account Type : Current Bank Name : United Bank of India Branch Name : Haldia Dock Complex Branch IFS Code : UTBI0HDCF75 ^ Zero

Sl. No.	Clause No./Ref. No.	Para/Line No./Page No.	As specified in the Tender Document.	To be Read as
3.	Volume 1 Section III Sl. 3.5(iii) SCHEDULE OF TENDER	Page 10 Line 2	Senior Deputy Manager (Finance), Haldia Dock Complex (HDC), Jawahar Tower Complex, P.O: Haldia Township, Dist.: Purba Medinipur, PIN – 721 607, West Bengal, India.	Sr Dy Manager (P&E) Haldia Dock Complex (HDC), Operational Administrative Building, 1 st Floor. Chiranjibpur P.O: Chiranjibpur, Dist.: Purba Medinipur, PIN – 721 604, West Bengal, India.
4.	Volume 1 Section 5 Clause 5.3.1 Eligible bidders	Page-20	Eligible bidders: A Bidder, and all parties constituting the Bidder, should have the nationality of any country.	Eligible bidders: A Bidder, and all parties constituting the Bidder, should have the nationality of India.
5.	Vol.1 Section 5 Clause 5.13.5	25	Rates & amounts quoted by the bidders in the “PRICE SCHEDULE”, include..... In case of any failure on the above account, GST amount, even if paid by KoPT, shall be recoverable from the Contractor.	Rates & amounts quoted by the bidders in the “PRICE SCHEDULE”, include..... In case of any failure on the above account, GST amount, even if paid by KoPT, shall be recoverable from the Contractor. TDS on account of GST will deducted by KoPT from the bills as per law time being in force.
6.	Volume 1 Section, 1, Clause 1.4, Sl. No: 12	Page -26	<u>-----</u>	Compressor Data Sheet Attached as Annexure-I at page no. 20 to 24 of addendum-III.
7.	Volume 1 Section VI Sl. 6.20.3 GCC	Page-48	General Manager (Finance), Haldia Dock Complex (HDC), Jawahar Tower Complex, P.O: Haldia Township, Dist.: Purba Medinipur,	Sr Dy Manager (P&E) Haldia Dock Complex (HDC), Operational Administrative Building, 1 st Floor. Chiranjibpur P.O: Chiranjibpur Dist.: Purba Medinipur,

Sl. No.	Clause No./Ref. No.	Para/Line No./Page No.	As specified in the Tender Document.	To be Read as
			PIN – 721 607, West Bengal, India.	PIN – 721 604, West Bengal, India.
8.	Volume-1 Section-6 Clause 6.26.1 Supply of water Para 3	Page-52	However, water supply, if required for the actual work (including erection, Commissioning & cleaning work) at the site only and / or maintenance, repair & cleaning work (required to be carried out at site during the “Defect Liability Period”) will be provided free of cost. The Contractor shall have to make all Fire Fighting system at HOJ-I&II, Barge Jetty-I&II and Outer Terminal-2(OT-II) of HDC - 53 - arrangements for laying of pipelines from the source(s) identified by KoPT, at their cost.	The initial quantity of water required for filling up of the fire water tanks will be supplied by KoPT on chargeable basis. Water supply for office premises of the contractor will also be on chargeable basis. However, water supply required for Operation, Maintenance and repair (required to be carried out at site during the “O&M Period”) will be provided by KOPT free of cost. The contractor shall have to make all arrangements for supply & laying of pipelines from the source(s) identified by KoPT as per drawing attached at page no. 52 of addendum-III at their cost. However, the water supply for office of the contractor at site will be supplied on chargeable basis .
9.	Volume-1 Section-6 Clause 6.26.2 Supply of Electricity Para-3	Page-53	However, Power supply, required for the actual work (including erection and commissioning) at the site only and/or maintenance and repair (required to be carried out at site during the “Defect Liability Period”) will be provided free of cost. The Contractor shall have to make all arrangements for laying of	Power supply during the construction period will be charged as per the norms of the KoPT. However, Power supply, required for Operation, Maintenance and repair required to be carried out at site during the “O&M Period” will be provided free of cost. The Contractor shall have to make all arrangements for laying of Cables from the

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			Cables from the source(s) identified by KoPT, at their cost.	source(s) identified by KoPT from wagon tippler substation(1.2 kM from HOJ-II substation) and lock substation (1.5 kM from HOJ-II substation) at their cost. However, the Electricity for office of the contractor at site will be supplied on chargeable basis .
10.	Volume-1 Clause no-6.71.3	Page-68	Income Tax deduction: Income Tax , if any, as per the relevant provision of the Income Tax Act, shall be deducted at source from amount payable to the Contractor.	Income Tax and Building & Other Construction Workers Welfare Cess: Income Tax, if any, as per the relevant provision of the Income Tax Act, shall be deducted at source from amount payable to the Contractor. Cess @ 1 % of the cost of construction as applicable under “Building & Other Construction Workers Welfare Cess Act - 1996 & Welfare Cess Rules 1998 shall be deducted at source from amount payable to the Contractor.
11.	Vol. 1, Section-VII, A, Clause-1.1 Brief Scope of Work Control room	Page-82	<u>Control Room :</u> Control Room at HOJ-I to be constructed, 100 metre away from the service platform. Control Room at OT-II to be constructed 100 metre away from Service Platform. For HOJ-II, existing Pump House to be converted into Control Room.	<u>Control Room :</u> Control Room at HOJ-I to be constructed, 100 metre away from the service platform. Control Room at OT-II to be constructed 100 metre away from Service Platform. For HOJ-II, existing Pump House to be converted into Control Room. Combined Control room for Barge Jetty – I & Barge Jetty-2 to be constructed at a suitable place. Control room shall be constructed at 1 st floor in the common pump house so that the operator will be able to see and control all

Sl. No.	Clause No./Ref. No.	Para/Line No./Page No.	As specified in the Tender Document.	To be Read as
				pumps and other accessories from the control room.
12.	Vol. 1, Section VII,A Clause- 1.r STATUTORY Certifications:	Page-82	STATUTORY Certifications: Before commencement of construction work and after commissioning of the project, the contractor will make all arrangement for obtaining statutory clearance from PESO in connection with the subject work [Design, manufacture, fabrication, supply, Erection, testing, commissioning and handing over Fire-fighting facilities at HOJ-I, HOJ-II, Barge Jetty I&II and upcoming Outer Terminal –II (OT-II)] for handling of various POL products, LNG, LPG etc. in these jetties.	STATUTORY Certifications: Before commencement of construction work and after commissioning of the project, the contractor will make all arrangement for obtaining statutory clearance from PESO in connection with the subject work [Design, manufacture, fabrication, supply, Erection, testing, commissioning and handing over Fire-fighting facilities at HOJ-I, HOJ-II, Barge Jetty I&II and upcoming Outer Terminal –II (OT-II)] for handling of various POL products, LNG, LPG etc. in these jetties. However, application will be submitted by HDC along with necessary fees directly to the concerned authority. During the O&M contract period the contractor shall be obliged to arrange for renewal of all required statutory clearances including PESO.
13.	Vol.1 Section VII,A Cl. 1.g	82	Offshore pipeline on approach trestle to be constructed for HOJ-I and HOJ-II from shore to the service platform by piling on the river.	Offshore firefighting pipeline trestle to be constructed for HOJ-I and HOJ-II from shore to the service platform/mooring dolphins by piling on the river.
14.	Volume-1 Section VII.A Clause 1.h Clause 1.i	Page 82	"All Oil Jetties and Barge Jetties" .	HOJ-I, HOJ-II, OT-II and 2 nos Barge Jetties (Barge Jetty-I & Barge Jetty-II).

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15.	Vol.1, Section VII,A Clause 1.O Comprehensive Maintenance:	Page-82	<p>Comprehensive Operation & Maintenance :</p> <p>The contractor will have to carry out operation and maintenance during defect liability periods of 2 (two) years. There after, Comprehensive Operation & maintenance of the augmented Fire Fighting System to be carried by the contractor for the 10 (ten) years. All spares, consumables, tools & tackles, equipments, skilled, semi-skilled & unskilled manpower, equipment operators, engineers etc. to be arranged by the contractor.</p>	<p>Comprehensive Operation & Maintenance :</p> <p>The contractor will have to carry out operation and maintenance during defect liability periods of (construction period) 2 (two) years. There after, Comprehensive Operation & maintenance of the augmented Fire Fighting System to be carried by the contractor for the 10 (ten) years. All spares, consumables, tools & tackles, equipments, skilled, semi-skilled & unskilled manpower, equipment operators, engineers etc. during the entire period of contract shall be arranged by the contractor at their cost.</p> <p>The contractor shall be required to maintain stock of foam at least 90% of the Foam Tank Capacity all the time.</p> <p>The O&M of the substation at HOJ- I & HOJ-II duly revamped by the successful bidder will remain under the scope of the contractor.</p> <p>NOTE: Supply of round the clock manpower for operation of the fire fighting equipment as per requirement are in the scope of the contractor. Also, supply of tool</p>

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				<p>and tackles and O & M spares are in the scope of contractor. The fire-men are kept beyond the scope of the contractor. The supply of Foam and other consumables for operation including during the fire incidents are in the scope of the contractor.</p> <p>Incase of failure of automation system, the contractor shall arrange to operate the system manually to avert any kind of delay during operation/firefighting.</p> <p>In case of fire, the contractor will be responsible for immediate operation of the fire fighting system to combat fire at the minimum possible time. All consumables including Foam etc. required for fire fighting are to be supplied by the contractor at their cost. However, the cost of foam during fire fighting will be reimbursed by HDC as per production of documents by the contractor.</p>
16.	Volume-1 Section-VII,A Clause-9 TESTING, TRIAL RUN AND COMMISSIONING:	Page-84	After installation of the fire-fighting system, testing and trial run should be carried out by the contractor in presence of representative of HDC / procedure indicated in the technical specification. Foam to be supplied by the contractor for trail run purpose, however, the contractor is liable to handover filled foam tank to HDC.	After installation of the fire-fighting system, testing and trial run should be carried out by the contractor in presence of representative of HDC , PMC ,third party inspection agency and/or PESO. All equipment, pipelines, control system to be tested to verify their specified performance. Testing to be carried out in line with procedure indicated in the technical specification, QAP/FQAP. Testing and trail run to be carried out for 30 (thirty) days. In case of

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				successful trial run, declared by representative of HDC, PMC , third party inspection agency and/or PESO, the said fire-fighting system would be considered as commissioned. However, commissioning activities to be carried out in line with the procedure indicated in the technical specification & FQAP. Foam and consumables to be supplied by the contractor for trial run purpose, however, the contractor is liable to handover filled foam tank to HDC.
17.	Volume 1, Section VII.B Clause 8.0 Payment Terms	Page-85	<p>8.0 PAYMENT TERMS: NO ADVANCE payment will be made. Payment will be made within thirty (30) days from the date of receipt of unambiguous triplicate bills/ Challan.</p> <p>Payment Terms (Project work): The payment shall be made on milestone linked schedule. The weightage will be finalized based on the bill of Quantities and value of the work/ supplied items. The milestone linked payment schedule will be finalized after successful completion of detailed design basis report and drawings.</p> <p>Payment Terms (O&M): Payment shall be made on monthly basis during Operation & Maintenance Contract (OMC) Period of 10 years after</p>	<p>8.0 Payment Terms: 5% Advance payment will be made after award of contract , signing of Contract Agreement, submission & acceptance of Performance Bank guarantee(cl no14 of the NIT) ,Advance BG and Invoice. This advance payment will be adjusted against RA bills.</p> <p>Further 5% Advance payment will be released after regularization of 1st Advance payment. This advance payment will be adjusted against subsequent RA bills.</p> <p>Mobilisation advance BG to be irrevocable unconditional Bank Guarantee (from a nationalized Bank/Scheduled Bank of India as per format of HDC as enclosed as Annexure-VIII of Addendum each amounting to 115% of the value of each installment.</p> <p>However, such recovery/adjustment shall</p>

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			<p>defect liability period of two (2) years. The copy of logbook, log sheet, maintenance register & facility availability report, ESI, PF Challan, wage register are to be submitted along with the monthly bills. All bills (triplicate), logbook, log sheet, maintenance register & entire fire-fighting facility availability report, ESI Challan, PF Challan, wage register are to be jointly signed, prior to the submission, by the contractor/contractor's representative and HDC's site official/ officials.</p>	<p>be completed within 6 months from the date of each advance payment. The interest rate applicable in case of non regularization of advance @15% per annum and it shall be applicable on the advance amount remaining un-regularized beyond 180 days of payment of the advance of each installment to the Contractor due to any reason attributable to the Contractor including non-submission of clear and unambiguous bill duly certified by the PMC Consultants.</p> <p>The Bank Guarantee for mobilization advance should be kept valid for 9 months from the date of each advance payment.</p> <p>Payment Terms (Project work): The payment shall be made on milestone linked schedule. The weightage of the payments are already mentioned in Annexure-II of the Addendum-III. The contractor shall raise maximum one bill per month against the project work.</p> <p>Payment Terms (O&M): Payment shall be made on monthly basis during Operation & Maintenance Contract (OMC) Period of 12 years including defect liability period of two (2) years. The copy of logbook, log sheet, maintenance register & facility availability report, ESI, PF Challan,</p>

Sl. No.	Clause No./Ref. No.	Para/Line No./Page No.	As specified in the Tender Document.	To be Read as
				<p>wage register are to be submitted along with the monthly bills. All bills (triplicate), logbook, log sheet, maintenance register & entire fire-fighting facility availability report, ESI Challan, PF Challan, wage register are to be jointly signed, prior to the submission, by the contractor/ contractor's representative and HDC's site official/ officials.</p> <p>For details about the milestone break-up and payment terms, the Annexure-II (Page-26 to 28) may be referred to.</p> <p>All kinds of payments will be made through Bank transfer directly to the Bank Account of the Contractor.</p>
18.	Vol.1 Section VII,B Clause 4 Time of completion:	Page-85	<p><u>Time of completion</u> The Project work is to be completed within 24 (Twenty-four) months from the date of placement of work order.</p>	<p><u>Time of completion</u> The Project work is to be completed within 24 (Twenty-four) months from the date of placement of Work Order/LOI whichever is earlier.</p>
19.	Volume-1 Section VII.B Clause 13.0 Liquidated Damage:	Page-87	<p><u>Liquidated Damage:</u> If the Contractor fails to complete the work within the stipulated dates [as per GCC Clause No. 6.65 (Completion period)] or such extension thereof, as communicated by the Engineer, in writing, the Contractor shall pay as compensation (Liquidated Damage) to the Trustees and not as a penalty, as per</p>	<p><u>Liquidated Damage:</u> If the Contractor fails to complete the work within the stipulated dates [as per GCC Clause No. 6.65 (Completion period)] or such extension thereof, as communicated by the Engineer, in writing, the Contractor shall pay as compensation (Liquidated Damage) to the Trustees and not as a penalty, as per</p>

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			<p>the following: In case of handing over the Contract Job after the scheduled completion period, Liquidated Damage @ ½% of the Contract Price [excluding GST] , for every week or part thereof, beyond the scheduled date of completion, will be deducted from the Contractor's bill. Provided always the amount of such compensation shall not exceed 10 % of the cost the Contract Price [excluding GST].</p>	<p>the following: In case of commissioning and handing over the Contract Job after the scheduled completion period, Liquidated Damage @ ½% of the Contract Price (sum of BOQ sl no-1,2.&3)excluding GST, for every week or part thereof, beyond the scheduled date of completion, will be deducted from the Contractor's bill. Provided always the amount of such compensation shall not exceed 10 % of the cost the Contract Price(sum of BOQ SL NO-1,2 & 3)excluding GST and Govt levies ,if any. However, GST will be applicable on LD amount.</p>
20.	Volume-1 Clause -14.0 Performance guarantee	page-87-88	<p>14.0 PERFORMANCE GUARANTEE:</p> <p>The contractor will have to submit performance guarantee..... Discharge of the performance guarantee until thirty days after the completion of all these.</p>	<p>14.0 Performance guarantee/security deposit:</p> <p>a) Project contract value: Project contract value consist of sum of the accepted value of order excluding GST against SL. no. 1,2 and 3 as per Price Schedule(Bidding Form-VII). The contractor will have to submit the Performance guarantee of the project work @ 10% of the project contract value. The part of Earnest Money submitted through Bank gateway of the successful bidder (contractor) may be converted into part of the performance guarantee/Security deposit for the project work. Within 28 days from the date of issue of LOI (Letter of</p>

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				<p>acceptance) from HDC the contractor will have to submit remaining amount of Performance guarantee of the project work in the form of an irrevocable guarantee from Kolkata / Haldia Branch of any Nationalized Bank or Scheduled Bank of India in the proforma attached as per Part-1, Section-IX-C.</p> <p>The Performance Bank Guarantee for project work should be kept valid for at least 60 days after expiry of defect liability period.</p> <p>b) <u>O & M Contract value:</u> O&M contract value consist of sum of the accepted value of order excluding GST against SL. no. 4(a) to 4(l) as per Price Schedule (Bidding Form-VII).</p> <p>A separate performance Bank guarantee for O&M contract to be submitted @10% of the O&M Contract value within 28 days from the date of the handing over of the project to HDC. The performance bank guarantee shall be for the period of two years and to be renewed thereafter.</p>

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				<p>The submission of the Performance Guarantee shall be at the expense of the contractor in all respects In case Bank Guarantee is issued for a branch outside Haldia/ Kolkata, the same should be counter-guaranteed and payable by the Branch of the same bank situated at Haldia/ Kolkata.</p> <p>For the purpose of issuance of Bank Guarantee the beneficiary bank details would be as below: Beneficiary name : Kolkata Port Trust, Haldia Dock Complex. 2) Account Number : 1604050000064 3) Account Type : Current 4) Bank Name : United Bank of India 5) Branch Name : Haldia Dock Complex Branch 6) IFS Code : UTBIOHDCF75 ^ Zero</p> <p>Performance Guarantee against Project work will be released to the contractor after 30 days of successful completion of defect liability period. The bank guarantee for O&M will be released after one year from the successful completion of Operation & Maintenance contract.</p> <p>Provided always that if the Contractor has still to execute any works as provided in the GCC clause 6.20, and/or if some dues are</p>

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				recoverable from the Contractor, the Employer reserves the right to withhold discharge of the performance guarantee until thirty days after the completion of all these.
21.	Vol.1 Section VII,B Clause 31 SETTLEMENT OF DISPUTES:	Page-93	SETTLEMENT OF DISPUTES: If a dispute of any kind whatsoever arises between the Employer and the Contractor in connection with or arising out of the contract or the execution of the works, the same shall be dealt as per relevant provisions of the General Conditions of Contract and THE ARBITRATION AND CONCILIATION (AMENDMENT) ACT, 2015 and any statutory amendment thereof	If a dispute of any kind whatsoever arises between the Employer and the Contractor in connection with or arising out of the contract or the execution of the works, the same shall be dealt as per relevant provisions of the General Conditions of Contract and THE ARBITRATION AND CONCILIATION (AMENDMENT) ACT, 2015 and any statutory amendment thereof. In case of any dispute between the PMC and EPC contractor, the matter may be referred to the Engineer of the contract whose decision will be final and binding on both the parties.
22.	Volume-1 Section VII.B Clause. 32	Page-93	<u>32.0 GOODS & SERVICES TAX (GST):</u> Any modification (addition /deletion /alteration including implementation of GST).....be made by HDC from the amount payable under the contract.	<u>32.0 GOODS & SERVICES TAX (GST):</u> The GST will be payable extra as per law time being in force. The contractor shall be required to raise GST compliant Invoice and also be required to comply with all requirement of GST law. KoPT shall deduct TDS on GST from the payments released as per GST law.

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23.	Vol.1 Section VII,B Clause-34	Page-94	<p>Inspection, Testing and Project Monitoring.</p> <p>The Employer shall appoint a PMC, at the cost of the Employer, for stage-wise close project monitoring, technical inspection and certification of materials & workmanship, including erection, commissioning, etc. [in connection with Design, manufacture, fabrication, supply, erection, testing, commissioning and handing over Fire-fighting facilities at HOJ-I, HOJ-II, Barge Jetty I&II and upcoming Outer Terminal –II (OT-II)]. The relevant Certificates shall be produced by the PMC to the Engineer or his authorized Representative.</p>	<p>The Employer shall appoint a Project management Consultant (PMC), at the cost of the Employer, for stage-wise close project monitoring & supervision during construction, erection & commissioning, liaison with statutory authority and third party inspection agency, certification and recommendation of bills, performance test and recommendation for taking over of the complete system after Load test. The appraisal of drawing, design to be submitted by the successful bidder will also be done by PMC.</p> <p>The third party inspection agency (TPI) will be appointed by KoPT at its cost for inspection and certification of materials & workmanship, including erection and commissioning, etc. as per the QAP and FQAP in connection with Design, manufacture, fabrication, supply, erection, testing, commissioning and handing over Fire-fighting facilities at HOJ-I, HOJ-II, Barge Jetty I&II and upcoming Outer Terminal –II (OT-II) under EPC mode. The QAP and FQAP to be submitted by the EPC contractor for vetting and recommendation by PMC to be submitted to the Engineer for approval.</p>
24.	Vol-1 Sectio IX-D Certificate of completion of work.	Page-121	<p>This is to certify that the above work which was carried out by you is, in the opinion of the undersigned, complete in every respect on the</p>	<p>This is to certify that the above work which was carried out by you is, in the opinion of the undersigned, complete in every respect on the _____ day of</p>

Sl. No.	Clause No./Ref. No.	Para/Line No./Page No.	As specified in the Tender Document.	To be Read as
			_____ day of _____ 20____, in accordance with terms of the contract and you are required to maintain the work in accordance with GCC Clause No. 7.67 of the General Conditions of Contract and under provisions of the Contract.	_____ 20____, in accordance with terms of the contract and you are required to maintain the work in accordance with GCC Clause No. 6.67 of the General Conditions of Contract and under provisions of the .Contract.
25.	Vol.1 Section XI	Page-126-130	Section XI Bill of Quantities	Revised Section XI is attached as Annexure-III at page-28-34.
26.	Vol.2 Sec.3 Cl. 3.15.6	Pag-57	_____	<u>Clean Agent system:</u> Clean Agent system Should be as per OISD-156 Standard.
27.	Vol.2 Section 1, Clause 1.8	Page-28	-----	SLD for Electrical system attached as Annexure- IV- at Page-35 of addendum-III.
28.	Volume-2 Section 3, Clause 3.13 Bullet-6	Page-55	Fire hoses for hydrants shall be 63mm, Rubber-lined, with SS-316 instantaneous couplings duly bound at either end or conforming to IS: 636 Type-A.	Fire hoses for hydrants shall be reinforced Rubber-lined, with SS-316 instantaneous couplings duly bound at either end or conforming to IS: 636 Type-B. UL approved or equivalent.
29.	Vol.2 Section 3, Clause 3.15.3	Page-57	-----	SLD for communication system attached as Annexure- VI- at Page-37 of addendum-III.

Sl. No.	Clause No./Ref. No.	Para/Line No./Page No.	As specified in the Tender Document.	To be Read as
30.	Volume-2 Section-3 Clause 3.1,b	Page-44 , Para-I	.....	P&ID for fire fighting system is attached as Annexure- V at page-36 of addendum-III.
31.	Volume-2 Section 3, Clause 3.1.j Bullet-2	Page-46-47	All field hardware for this integration of the existing pumps viz. Pressure transmitters, cables, junction boxes etc shall also be into the scope of contractor.	TO BE DELETED
32.	Volume-2 Section 3, Clause 3.1.j Bullet-6	Page-47	Auto start of tower monitor system shall also linked with hydrocarbon leak detection and alarm so that FWPs should start automatically in the pump. house. Hydrocarbon Detection System will be installed and commissioned by HDC. PLC shall have sufficient spare I/Os.	Auto start of tower monitor system shall also be linked with hydrocarbon leak detection and alarm so that FWPs should start automatically in the pump house. Hydrocarbon Detection System will be installed and commissioned by the EPC Contractor. PLC shall have sufficient spare I/Os.
33.	Volume 2 Clause-3.1 d	Page 44	Design, procure, supply, construction, install, testing, inspection, re-commissioning and commissioning of water filling line in such a manner either one or all the reservoirs or all the reservoirs can be filled up . The filling lines with suitable size flange provision to get connected to source water pipe to be laid from the existing source. Design, procure, supply, construction, laying, install , testing, inspection, pre-commissioning and commissioning of fire water network piping shall be CS with 3.0 mm corrosion allowance as per P&ID & firefighting layout.	Design, procure, supply, construction, install, testing, inspection, re-commissioning and commissioning of water filling line in such a manner either one or all the reservoirs or all the reservoirs can be filled up . The filling lines with suitable size flange provision to get connected to source water pipe to be laid from the existing source at Berth no-4A (1.5 KM approx distance from proposed pump house) and at near Lock Entrance section (approx 1.5 KM distance from proposed pump house). Design, procure, supply, construction, laying, install , testing, inspection, pre-commissioning and commissioning of fire water network piping shall be CS with 3.0

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				mm corrosion allowance as per P&ID & firefighting layout.
34.	VOL.2 Section-I	Page 17-42	Section-1 as per tender document	As per Annexure-VII attached as page no. 38 to 51 of addendum-III.
35.	Vol.2 Section 2 CI 2.7.1 Bullet 1	Page 40	The following is the list of drawings and documents ("DD") that the Contractor has to submit as deliverables during execution of work as per project schedule Requirements.	The following is the list of drawings and documents ("DD") that the Contractor has to submit as deliverables during execution of work as per project schedule requirements for vetting by Engineers' representative and approval of the Engineer.
36.	Vol.2 Section 4 (CI-4.2, CL-4.3)	Page 59	Four jetties	Five jetties
37.	VOL.2 Section 5 CL.5.3.10 Bearings	Page 181	The rise in bearing grease / oil temperature with continuous running of the pump shall be within the allowable limits which shall not exceed 300C for grease and 390C for oil lubricated bearings above ambient.	The rise in bearing grease / oil temperature with continuous running of the pump shall be within the allowable limits shall not exceed the recommended temperature as per bearing manufacturer for oil lubricated and grease lubricated bearings above ambient.
38.	Vol.2 Section 5 Cl. 5.6.i	Page 210	Six numbers of jumbo water curtain nozzles for OT-2, HOJ-1 and HOJ-2 each 6000 LPM flow with vertical curtain nozzles shall be provided between manifold and ship for protection of critical equipment from heat radiation due to fire on the tankers and to facilitate fire-fighting personnel to operate during fire.	9 numbers of jumbo curtain nozzles for the all the three jetties viz. OT-2, HOJ-1 and HOJ-2 each capacity of 6000 LPM flow with vertical curtain nozzles shall be provided between manifold and ship for protection of critical equipment from heat radiation due to fire on the tankers and to facilitate fire-fighting personnel to operate during fire

Sl. No.	Clause No./Ref. No.	Para/Line No./Page No.	As specified in the Tender Document.	To be Read as
39.	Vol.2 Section 5 Cl. 5.1.c	Page-154	Supply and installation of long range electrically remote controlled foam/water monitors, Tower monitors- 9 nos, Jumbo nozzles- 9 nos. each 5678 lpm capacity at 7kg/cm2(approx.) along with control panels and associated piping, valves, deluge valves pressure gauges, cables, etc.	Supply and installation of long range electrically remote controlled foam/water monitors, Tower monitors- 9 nos, Jumbo nozzles- 9 nos. Each 6000 lpm capacity at 7kg/cm2(approx.) along with control panels and associated piping, valves, deluge valves pressure gauges, cables, etc.
40.	Vol.2 Section 11, Clause 11.6.2	Page 288	-----	SCADA Diagram for fire fighting system attached as Annexure-IV at Page-35 of addendum-III.
41.	Vol.2 Section: 17.0	Page-348	-----	<p>Clause 17.10 The EPC Contractor shall submit detailed maintenance and overhauling schedule of the equipments before handing over the project to HDC. The contractor will be responsible for compliance of the same schedules during the defect liability and O&M contract period.</p> <p>Clause no-17.11 Incase of non compliance of periodic inspection/testing/Schedule maintenance & overhauling as per clause no. 17 without the valid reason acceptable to Engineer of the contract or his authorized representative, penalty @ 2 % of the monthly O&M contract value will be deducted. GST will be applicable on the penalty amount.</p>
42.	Starting date & time of Submission of e-Tender	Page-10	05.04.2019 from 17:00 hr. (IST).	09.05.2019 from 11:30 hr. (IST).

Sl. No.	Clause No./Ref. No.	Para/Line No./Page No.	As specified in the Tender Document.	To be Read as
43.	Closing date & time of Submission of e-Tender	Page-3 &10	16.04.2019, up to 15: 00 Hrs. (IST).	24.05.2019, up to 15: 00 Hrs. (IST).
44.	Date & time of opening of Part-I (Techno-commercial)	Page-11	16.04.2019, up to 15: 30 Hrs. (IST).	24.05.2019, up to 15: 30 Hrs. (IST).
45.	PRICE SCHEDULE (4a-4l)	Page-111-112	BIDDING FORM-VII PRICE SCHEDULE	BIDDING FORM-VII at page no- 57 to 59 of Addendum-III may be referred to.
46.	Comparison & Evaluation of Price-Bid and selection of Successful Bidder. Clause no-5.32.1	Page-31	While evaluating the Price Bids, the Price quoted by the Bidders against all items of the Price Schedule shall be taken into account and the TOTAL PRICE , which would be arrived at, by adding quoted prices of all items of the Price Schedule , will be considered for evaluation. Selection of the successful bidder will be made on the basis of the lowest “TOTAL PRICE” thus arrived.	While evaluating the Price Bids, the Price quoted by the Bidders against BOQ sl no-1, 2 &3 of the Price Schedule shall be added to obtain TOTAL PRICE Selection of the successful bidder will be made on the basis of the lowest “TOTAL PRICE” thus arrived.

Technical datasheet for screw Compressor**ANNEXURE-I**

SL.NO.	TECHNICAL DATA SHEET FOR SCREW TYPE COMPRESSOR	REQUIRED
1	Client: HALDIA DOCK COMPLEX, KOLKATA	
1.1	Screw Type Air Compressor Unit" consisting of Screw Type Air Compressor specifications is required to supply dry and clean compressed air for operating pneumatic valves for firefighting system, Air Dryer, Air Filters, Air Receiver and Valves etc. as per the following.	Vendor to state
2	SPECIFICATIONS: "Screw Type Air Compressor Unit" consists of following with specifications given against each.	Vendor to state
2.1	SCREW TYPE AIR COMPRESSOR:	Vendor to state
2.1.1	Air delivery (minimum)	-- CFM
2.1.2	Maximum Pressure	-- Kg. / Sq. Cm.
2.1.3	Working Pressure (minimum)	-- Kg. / Sq. Cm
2.1.4	No. of stages	One (or more)
2.1.5	Motor Power	Vendor to state)
2.1.6	Operating Voltage	3 Phase, 415 V
2.1.7	Suitable for continuous duty	Vendor to confirm
2.1.8	Qty.	2nos.(1 W+1 S)
2.2	AIR DRYER: Refrigerated type Air Dryer, suitable for application of the above Compressor to deliver dry compressed air of the required quality	Vendor to submit
2.3	AIR FILTERS: Set of suitable Air Filters consisting of Pre-Filter, Fine Filter and Carbon Filter for application of the above Compressor to deliver dry and clean compressed air of the required quality	Vendor to offer and Submit
2.4	AIR RECEIVER: (With pressure safety valve, manhole , auto drains including inside and outside painting))	

SL	DESCRIPTION OF REQUIREMENT	REQUIRED
2.4.1	Capacity (minimum)	-- Litres
2.4.2	Max. Working Pressure	-- Kg / Sq. Cm.
2.4.3	Confirming to ASME Section VIII, Div.1 / IS 2625 Norms or equivalent	Vendor to confirm
2.5	NOISE PROOF CANOPY:	
2.5.1	Suitable Noise Proof Canopy to cover Air Compressor and Drier to reduce noise level	Vendor to offer
2.5.2	Size and details of Canopy	Vendor to submit
2.6	FIRST FILLING OF OILS / REFRIGERANT	
2.6.1	First filling of all required Oils, Grease and Refrigerant etc. required for the Compressor and other items like Air Filter, Air Drier and Air Receiver etc.to be supplied by vendor. Manufacturer's details / codes to be submitted by the vendor	Vendor to offer
2.7	Zero Air Loss Automatic Drain Valve:	
2.7.1	Zero Air Loss Automatic Drain Valve for draining condensed air from the Dryer	Vendor to offer
2.8	OTHER ITEMS:	
2.8.1	Necessary Hoses and Pipes in required length and size, Connecters and Valves required between Compressor, Air Dryer and Filters to be supplied with the equipment	Vendor to offer
3	QUALITY OF DELIVERED AIR: Compressor unit should deliver compressed air according to ISO - 8573-1, having the following parameters of compressed air	Vendor to confirm
3.1	Pressure Dew Point	20 Degree Celsius
3.2	Max. Ambient Temperature	55 Degree Celsius
3.3	Solid Particle / Dust	Class - I
3.4	Humidity	Class - IV
3.5	Oil Content	Class - I
4	REQUIREMENT FOR ELECTRICAL EQUIPMENT	

4.1	Voltage = 415V +10% / -10% , Frequency= 50Hz +3 / -3 , No. of phases =3 phase with neutral.Power Supply source, as above, will be provided by client at a single point near the machine, as per layout recommended by Vendor.	Vendor to accept & confirm
SL. NO.	DESCRIPTION OF REQUIREMENT	REQUIRED
5	ENVIRONMENTAL PERFORMANCE OF THE MACHINE : The Machine should conform to following factors related to environment :	Vendor to offer
5.1	Maximum noise level shall be 85 dB(A) at normal load condition, 1 meter away from the Compressor Unit.This will be measured as per international standards like DIN 45635-16, if required. Supplier to demonstrate compliance to noise level, if so required.	Vendor to confirm
5.2	No hazardous chemicals shall be required to be used in the machine.	Vendor to confirm
5.3	If any safety / environmental protection enclosure is required it should be built in the machine by the vendor.	Vendor to confirm
5.4	Paint of the machine should be oil / coolant resistant and should not get Peeled off and mixed up with coolant	Vendor to confirm
6	POWER SUPPLY / ENVIRONMENT CONDITION	
6.1	The machine should be suitable for operation in the following conditions: - - Power supply for the machine: 415 V +10 % / -15 % , 3 phase, 50 Hz +/-3 % -Ambient Temperature range : 5 deg celsius to 55 deg celsius. - Relative humidity: 95 % max. - Other conditions: Similar to tropical country. - Dust laden atmosphere during some part of the year.	
7	ANCHORING MATERIAL:	
7.1	Complete set of anchoring materials including foundation bolts, nuts,Washers and leveling shoes etc for fixing of Compressor including other items like Air Filter, Air Drier and Air Receiver etc. to the foundation should be supplied.	Vendor to offer
SL. NO.	DESCRIPTION OF REQUIREMENT	REQUIRED
8	SPARES :	
8.1	Vendor to offer their recommended mechanical, electrical and hydraulic Spares for 2 years of trouble free operation of Compressor and other items like Air Filter, Air Drier and Air Receiver etc. Itemized breakup of the offered spares	Vendor to offer

	should be offered by vendor. Unit Price of each item of spare should be offered.	
9	O & M MANUALS:	
9.1	Two sets of Operation & Maintenance Manuals in English language and its soft copies in CD should be supplied along with the equipment. Manuals should contain the following information in it.	Vendor to offer
9.2	Operating manuals of Compressor including other items like Air Filter, Air Drier and Air Receiver etc.	Vendor to offer
9.3	Detailed Maintenance manual of Compressor including other items like Air Filter Air Drier and Air Receiver etc. With the help of drawings of main assemblies/sub-assemblies/parts including Electrical / Coolant / Hydraulic circuit diagrams.	Vendor to offer
9.4	Catalogues, Operation & Maintenance Manuals of all bought out items Including drawings, wherever applicable.	Vendor to offer
10	FOUNDATION	
10.1	Foundation plan drawing with loading data at various points is to be Submitted by supplier within 4 weeks of placement of LOI/PO whichever is earlier.	Vendor to accept & offer
10.2	Client shall carry-out the design and construction of foundation as per Foundation plan drawing & loading data.	Vendor to accept & confirm
11	ERECTION & COMMISSIONING	
11.1	Supplier to take full responsibility for carrying out the erection and commissioning of Compressors along with Air Drier, Air Filter and Air Receiver etc.as per their specifications. Quality of outlet air from the Compressor Unit will also to be demonstrated as per the technical specifications.	Vendor to offer
12	GENERAL	
12.1	Total Space required (Length, Width, Height) for complete Compressor Including all items like Filter and Drier etc. should be sent along with the offer.	Vendor to inform
12.2	The supplier is to submit a clause wise deviation statement against each Clause of this technical specification along with the offer.	Vendor to submit

Payment Schedule

ANNEXURE-II

Sl.No.	Description	Price(in Rs)	Milestone Break-up and payment as percentage of work given in column 3		Description
1.	“Design, fabrication /casting, supply, Erection of pre-casting elements (if any), testing, commissioning and handing over all offshore civil work required for the Fire-fighting facilities at HOJ-I, HOJ-II, Barge Jetty I&II as per scope of work detailed in the tender document.	Quoted and accepted rate of BOQ Sl.No.1	a	Approval of design	5%
			b	After construction of piles of Firefighting Pipeline Trestle of HOJ-I.	5%
			c	After construction of piles of Firefighting Pipeline Trestle of HOJ-II.	5%
			d	After construction of Firefighting Pipeline Trestle of HOJ-I.	15%
			e	After construction of Firefighting Pipeline Trestle of HOJ-II.	15%
			f	After construction of piles and platform for tower monitors at HOJ-I and connecting walkway from tower monitor to service platform/ mooring dolphins.	5%
			g	After construction of piles and platform for tower monitors at HOJ-II and connecting walkway from tower monitor to service platform/ mooring dolphins.	5%
			h	After construction of control room at HOJ-I.	10%
			i	After construction of control room at OT-II.	10%
			j	After revamping of control room of HOJ-II.	5%
			k	After successful commissioning, handing over and PESO clearance of the entire project.	20%
					100%

Sl.No.	Description	Price(in Rs)	Mile stone Break-up and payment as percentage of work given in column 3		Description
2	“Design, fabrication /casting, supply, Erection of pre-casting elements (if any), testing, commissioning and handing over all onshore civil work such as fire fighting pump house, pipe rack pedestals and fire water tank foundation and control rooms super structures required for the Fire-fighting facilities at HOJ-I, HOJ-II, Barge Jetty I&II and upcoming Outer Terminal –II (OT-II) under two cover systems as per scope of work detailed in the tender document.	Quoted and accepted rate of BOQ Sl.No.2	a	Approval of design	5%
			b	Completion of piling and pile cap of Tanks Foundation	10%
			c	Completion of piling for the pump house	10%
			d	Completion of tank fabrication & erection.	15%
			e	Completion of construction of pump house.	15%
			f	Completion of all civil work for Electrical & Mechanical items for HOJ-I, HOJ-II & OT-II.	5%
			g	Completion of Civil Structures (trestle) for Laying shore fire fighting pipelines.	10%
			h	Construction of control room and other civil works related to Mechanical & Electrical equipments of Barge Jetties.	10%
			i	After successful commissioning, handing over and PESO clearance of the entire project.	20%
					100%
3.	Design, manufacture, fabrication, supply, Erection, testing, commissioning and handing over of all mechanical, pipeline works for fire fighting system as per OISD-	Quoted and accepted rate of BOQ Sl.No.3	a	Approval of design	5%
			b	Supply and erection of Pumps & other equipments of Pump House.	10%
			c	Supply of HOJ-I Fire Fighting Equipment including tower monitors.	5%
			d	Supply of HOJ-II Fire Fighting Equipment including tower monitors.	5%

156(2017) including electrical & instrumentation and necessary gas detection system of Fire-fighting facilities at HOJ-I, HOJ-II, Barge Jetty I&II and upcoming Outer Terminal –II (OT-II) under two cover systems as per scope of work detailed in the tender document..	e	Supply of OT-II Fire Fighting Equipment including tower monitors.	5%
	f	Completion of erection of HOJ-I Fire Fighting equipments including tower monitors.	5%
	g	Completion of erection of HOJ-II Fire Fighting equipments including tower monitors	5%
	h	Completion of erection of OT-II Fire Fighting equipments including tower monitor.	5%
	i	Supply and Completion of erection of BJ-I & BJ-II Fire Fighting equipments including monitors.	5%
	j	Completion of revamping of substations at HOJ-I& HOJ-II including supply of all components.	10 %
	k	Completion of supply, installation and erection of Piping system.	10%
	g	Completion of all Electrical &Instrumentation works.	10%
	h	After successful commissioning, handing over and PESO clearance of the entire project.	20%

Sl. No.	Description	Price (in Rs)	Mile stone Break-up and payment as percentage of work given in column 3.	Description
4.	Operation & Maintenance for 12 years including two years defect liability period.	BoQ Sl. No. 4(a)----4(l)	Monthly Payments [(1/12) of relevant period under BOQ sl no-4]	-----

PART-1**SECTION- XI****Break up of Tentative items****Tentative items for OT-II, HOJ-I&II and BJ-I&II**

Tentative Bill of Quantities for augmentation of Fire Fighting Facilities in compliance with OISD-156 standard of HOJ-1,HOJ-2 & 2 Nos. Barge Jetties, HDC Complex, Kolkata Port Trust			
	Tentative Bill of quantities for Civil work		
Sl.No.	Description	Quantity	units
(A)	Construction		
1	Control Room - (20M X 10M) for HOJ-1	200	Sq.M
	a.)Sub structures	348	Cu.m
	b.)Interiors		Lot
2	Control Room - (20M X 10M) for HOJ-2		
	a.)Modification & Interiors		Lot
3	Control Room - (10M X 10M) for BJ-1& BJ-2	100	Sq.M
	a.)Sub structures & Deck Slab	222	Cu.m
	b.)Interiors		Lot
4	Tower monitor foundation		
	a.) Sub-Structure	1184.4	Cu.m
	b.) Super Structure		Lot
5	Pipe pedetals		
	a.) Delivery line from OT-II Pump House to Hoj-II - 32"	134	Nos.
	b.)Deliver line from HOJ-II to HOJ-I-32"	105	Nos.
	c.)Delivery line for HOJ-1 to BJ-1 & BJ-2-24"	150	Nos.
6	Firefighting pipeline trestle in HOJ-I&II.		Lump Sum

7	Connecting walkway (Tower Monitor to Jetty Head/Service platform) in HOJ-I&II.		Lump Sum
(B)	Procurement		
1	Pipelines		
	a.) 32" Delivery line from OT-II Pump House to HOJ-II	800	Mtrs.
	b.)32" Delivery line for HOJ-1 & HOJ-2	1450	Mtrs.
	c.)24" Delivery Line for BJ-1 & BJ-2	1400	Mtrs.
	d.)4" SS line	3650	Mtrs.
	e) 3" SS line for ROV instument air	3650	Mtrs.
	f.)3" MS line	3650	Mtrs.
2	Quick release mooring hook	8	Nos.
3	Foam booster pumps - 40m3/hr at 17kg/cm2	2	Nos.
4	Remote operated Tower Monitors - 360m3/hr	6	Nos.
5	Jumbo nozzles -360 m3/hr	6	Nos.
6	Monitors	8	Nos.
7	Air comprsor with Dryer for instruments	2	Nos.
6	Potable fire equipments		Lot
(C)	Fabrication and Erection		
2	Pipelines		
	a.) 32" Delivery line from OT-II Pump house to HOJ-II	800	Mtrs.
	b.)32" Delivery line for HOJ-1 & HOJ-2	1450	Mtrs.
	c.)24" Delivery Line for BJ-1 & BJ-2	1400	Mtrs.
	d.)4" SS line	3650	Mtrs.
	e) 3" ss pipe line for	3650	Mtrs.
	f.)3" MS line	3650	Mtrs.
3	Equipments		
	a.)Tower Monitors	6	Nos.
	b.)Jumbo Nozzles	6	Nos.

	c) Form booster pumps	2	Nos.
	d) Air compressor	2	Nos.
	e) ss tubing for instrumentation	1	Lot
	f.) Monitors	8	Nos.
5	Grit blasting and Painting for pipe lines		
	a.) 32" Delivery line from OT-II to HOJ-II	2042	Sq.M
	b.)32" Delivery line for HOJ-1 & HOJ-2	3702	Sq.M
	c.)24" Delivery Line for BJ-1 & BJ-2	2682	Sq.M
	d.)3" MS line	1008	Sq.M
(D)	Electrical and Instrumentation		
	a.) Panels	1	Lot
	b.) Power Cables	1	Lot
	c.) Cables Trays	1	Lot
	e.)Control Cables		Lot
	f.)Pressure Transmitters/Switches	20	No.
	g.)Pressure Gauges	23	No.
	h.)Flow Transmitters	3	No.
	i.)Deluge Valves	6	No.
	j.)PLC	3	No.
	k.) Control Systems	3	No.
	l.) Fire Detection System	3	No.
	m.)Gas Detection System	3	No.
	n.)Power Back Up	1	No.
	o.)Compressor	3	No.

Break up of Tentative items
for OT-II

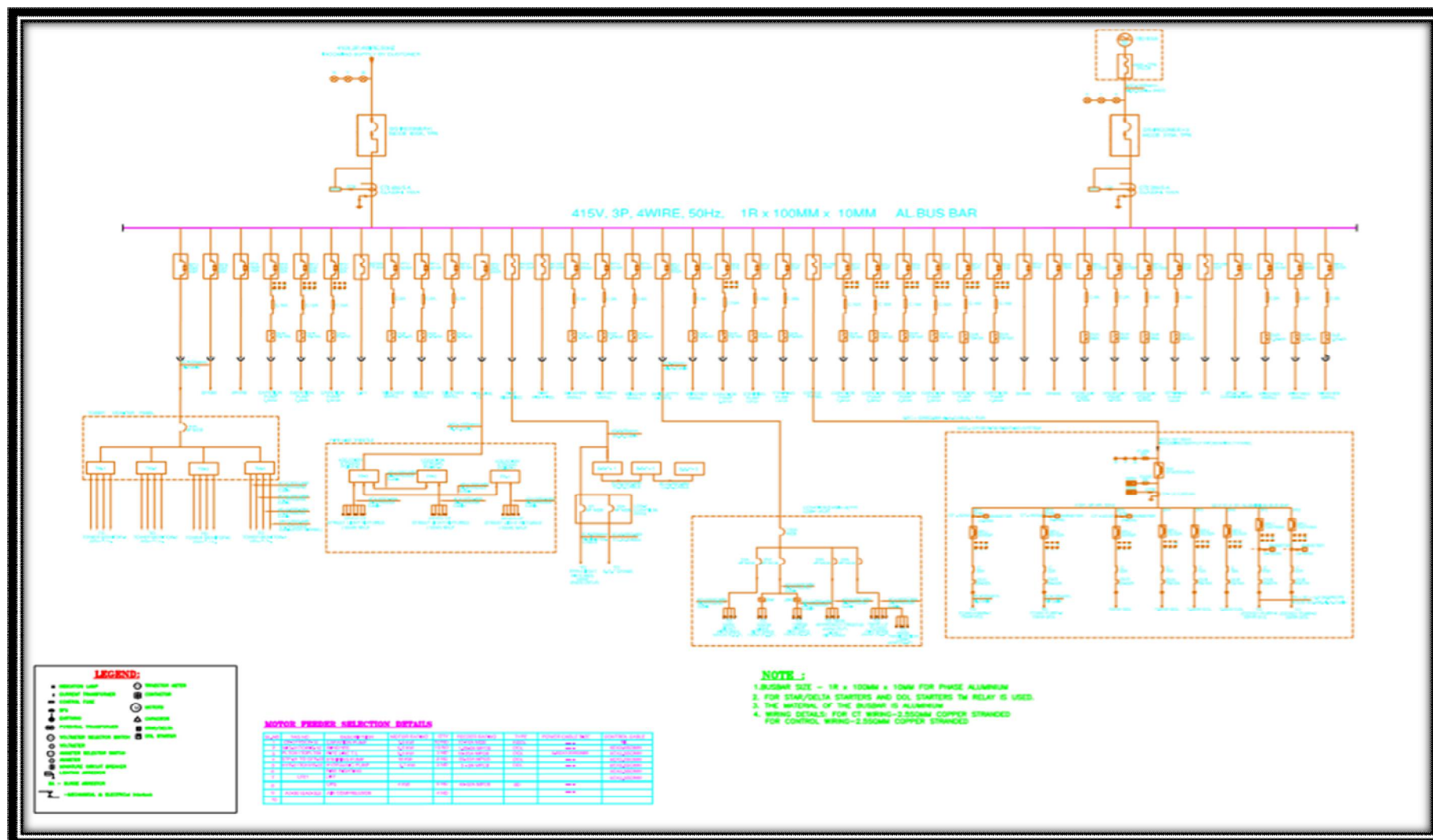
Augmentation of Fire Fighting Facilities in compliance with OISD-156 standard of OT-II, HDC Complex,Kolkata Port Trust			
Sl.No.	Description	Quantity	Units
(A)	Facilities at landfall area near OT-II jetty		
1	Fire Water Tanks(Each 10000 KL)-2 nos.		
	a.) Foundation for 2 tank-nos.	5064	Cu.m
	b.)Plates	752	Tons
	c.)Nozzles for tanks-2 nos.		Lot
	d.)Structural steels for tanks-2 nos.	150	MT
	e.)Initial filling of Water for Fire Water Tanks each 10000 KL	1	Lot
	f.)Sump (for filling water to tanks)-5 M x 3 M x 2 M	19	Cum.
2	Pump House		
	a.)Pump house - (50M X 12M)	600	Sq.M
	b.)Foundation for Pumps	70	Cu.m
	c.)EOT Crane - 10T capacity	1	No.
3	Civil Pedestals for Suction Header:		
	a.)Suction Header-32"	8	Nos.
4	Pipe material cost for suction header		
	a.) 32" Pipe line	42	Mtrs.

5	Pump equipment cost		
	a.)Diesel driven pumps - 720 m3/hr at 16kg/cm2	6	Nos.
	b.)Jockey pumps - 70m3/hr at 16kg/cm2	3	Nos.
	c.)Foam pumps - 40m3/hr at 17kg/cm2	2	Nos.
6	Equipments erection cost in F.W.P.House		
	a.)10 Ton Crane	1	no.
	b.)Pumps	11	nos.
7	Painting,Scaffolding & Sand Blasting cost for tanks		
	a.)Grit Blasting for tanks-2 nos.	10978	Sq.M
	b.)Painting for tanks- 2nos.	10978	Sq.M
	c.)Scaffolding for tanks - 2nos.	6531.2	Sq.M
8	Fabrication and Erection cost for tank & suction header		
	a.)Tanks	1	Nos.
	b.) 32" Suction Header Line	42	Mtrs.
(B)	Facilities at Jetty end		
1	Control Room		
	a.)size: 20 M x 10 M	200	Sq.M
	b.)Interiors		Lot
2	Pipe pedetals for F.W. Network		
	a.)Deliver line for OT-II -24"	42	Nos.
3	Valves & Fittings		
	a.)Flanges and fittings		Lot
	b.)Valves		Lot
4	Pipe material cost		
	a.) 14" Re-circulation line	60	Mtrs.

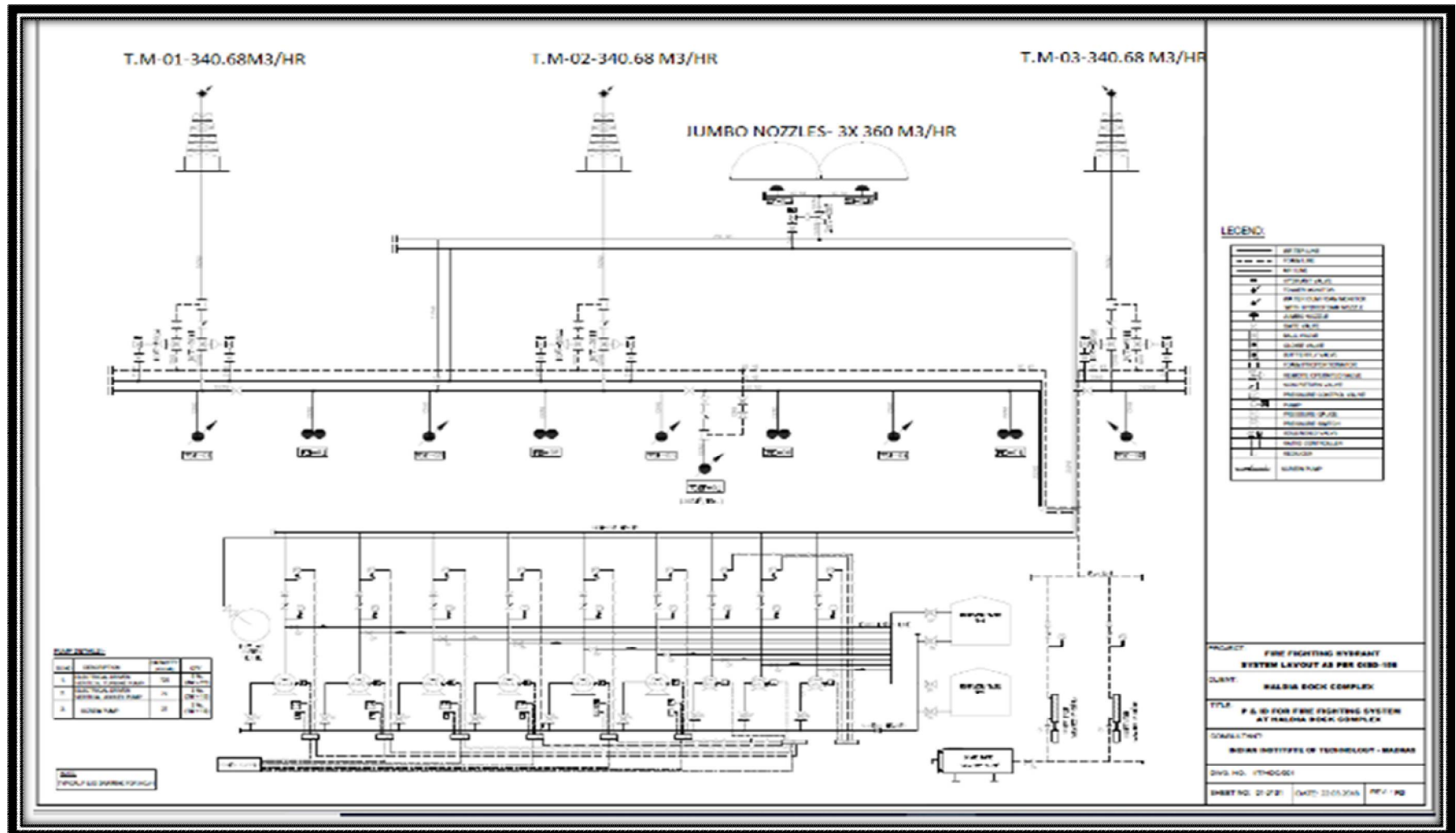
	b.)24" Delivery line for OT-II	250	Mtrs.
	c.)4" SS line	250	Mtrs.
	d.)3" MS line	250	Mtrs.
	e.) 3" Air line	250	Mtrs.
5	Grit blasting and Painting for pipe lines		
	a.) 32" Suction Header Line	107	Sq.M
	b.) 14" Re-circulation line	66	Sq.M
	b.)24" Delivery line	480	Sq.M
	e.)3" MS line	70	Sq.M
	f.) 3" MS for Air line	70	Sq.M
6	Fabrication and Erection		
	a.) 14" Re-circulation line	60	Mtrs.
	b.)24" Delivery line for OT-II	250	Mtrs.
	c.)4" SS line	250	Mtrs.
	d.)3" MS line	250	Mtrs.
	e.) 3" Air line	250	Mtrs.
(C)	Fire Fighting System		
1	Firefighting Equipment cost		
	a.)Remote operated Tower Monitors - 360m3/hr	3	Nos.
	b.)Jumbo nozzles -360 m3/hr	3	Nos.
	c.)Monitors	4	Nos.
2	d.)Potable fire equipments Equipments erection cost		Lot
	a.)Tower Monitors	3	nos.
	b.)Jumbo Nozzles	3	nos.
	c.) Monitors	4	nos.
(D)	Electrical & Instrumentation		

SLD ELECTRICAL SYSTEM

Annexure-IV

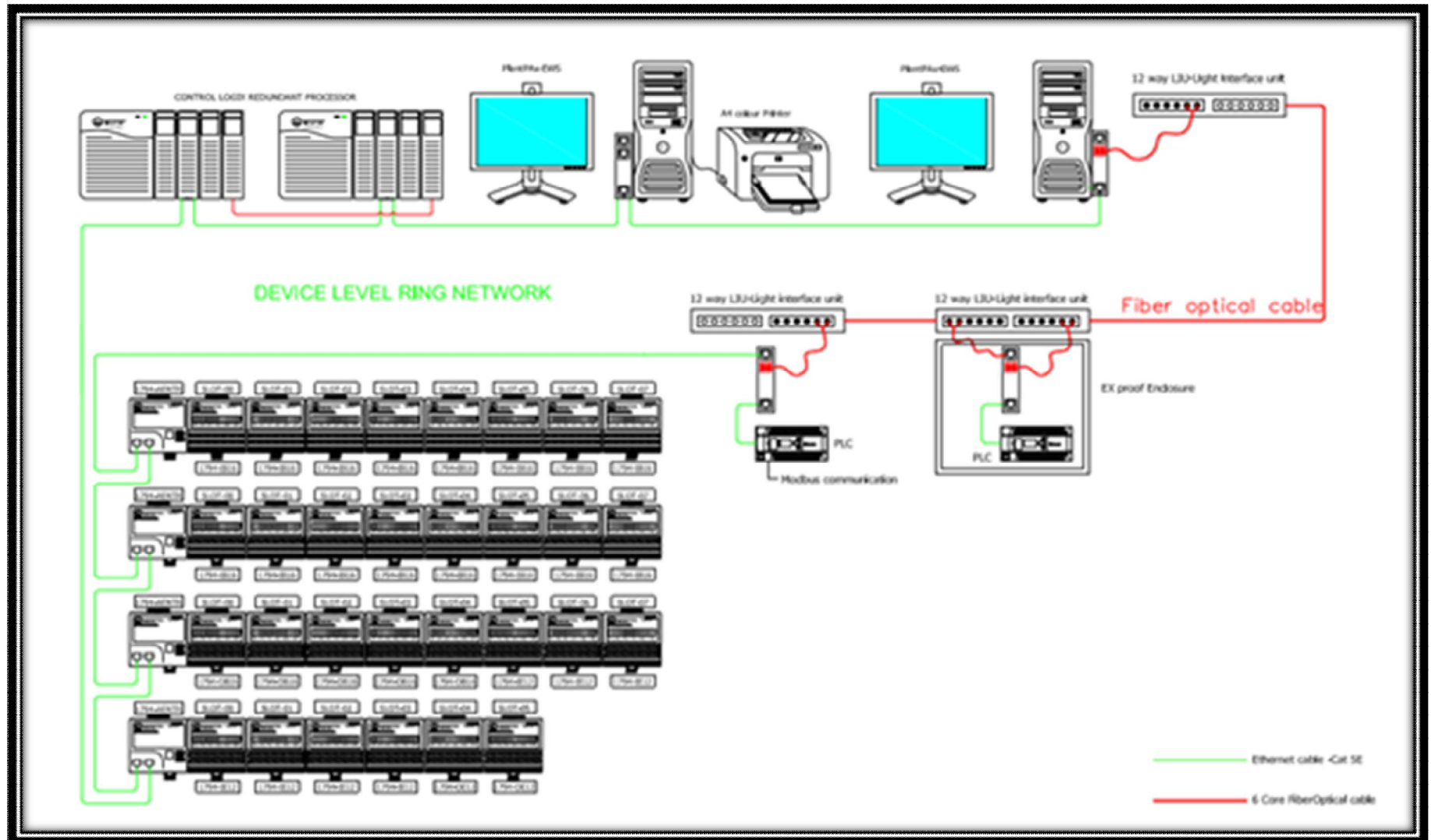


Annexure-V



SLD COMMUNICATION SYSTEM

Annexure-VI



1. INTRODUCTION

1.1 About Project

Haldia Dock Complex (HDC) is proposed to do the augmentation of fire fighting system for the existing jetties viz. HOJ-1(LPG-40000 DWT),HOJ – 2 (LPG-40000 DWT),BJ-1(POL-3000 DWT) and BJ-2 (3000 DWT) and new fire fighting facilities at OT-II as per OISD-156 for handling of vessels at their different jetties to handle of liquid cargoes including Propane, Butane, LPG and POL products. HDC would like to install fire-fighting system as per OISD -156 standards. New Fire fighting system shall be provided by the contractor. Installation and commissioning of such fire fighting system along with the civil works shall be carried out without hampering the day to day operations of HOJ-1, HOJ-2,BJ-1 & BJ-2 except in exceptional cases where work cannot be progressed without shut down of the jetty.

Since OT-II will be a new jetty there will be no day to day work hampering as a result of construction/hot work/in the proposed jetty. However, the contractor has to maintain close co-ordination with civil contractor engaged for erection of OT-II jetty. Any dispute between the EPC contractor of fire-fighting project and the civil contractor of the OT-II jetty may be referred to HDC. The decision of HDC in this regard will be final and binding on both the parties.

HDC may arrange shut down of each jetty on case to case basis for completion of the total work of installation, testing and commissioning of the new fire fighting system along with civil work. However, the shut down may be arranged by HDC only on prior written request by the contractor or as mutually agreed by contractor and HDC.

1.2 Description of Project

Now HDC is planning to upgrading and augmentation of their fire fighting systems for the following jetties:

- i. HOJ – 1
- ii. HOJ – 2
- iii. BJ – 1
- iv. BJ – 2

- v. OT-II (green field fire fighting system)

i) Fire fighting facilities for the OT-2 jetty

1. Construction of the Fire Fighting control room with necessary interiors with false floor at Minimum 100 Meters away from the jetty pipeline manifold including associated marine civil works.
2. Fixed Tower monitors as per OISD 156 with foam facilities.
3. Water curtain with required number of Jumbo nozzles.
4. Adequate number of ground monitors with foam facilities on the jetty.
5. Adequately sized hydrant lines with double hydrants of the manifold area of the jetty .
6. The marine associated civil works for the fire fighting system viz. foundation of Tower monitors, including piles(if any), foundation of Ground Monitors, hydrants etc are included in the scope of main jetty works of the civil contractor as laid down in para 1.1.
7. All structural works which are required for the fire fighting system.
8. Electrical and instrumentation system related to fire fighting facilities of the OT-2 jetty Entire interiors and instruments like tower monitor control system, gas-detection systems, UPS and PLC systems.
9. Illumination of the Jetty, Approach road, Escape route (if any), main road facing the terminal. Flame proof LED fitting at the Jetty, approach trestle, Escape route and 1 no. 30 meter High Mast with 18 nos. LED fittings of 500 W each on the main road shall be provided for illumination.

ii) Fire fighting facilities for the HOJ-2 jetty

1. Revamping & modification of the existing Fire Fighting control room with necessary interiors with false floor as will be required .
2. The fire fighting including associated marine civil works for the foundation of Tower monitors, including piles(if any), foundation of Ground Monitors, hydrants etc and the hydrant pipeline trestle (AS PER DRAWING No. IITM/DOE/HDC/INT/FFF/BH-03) .
3. Fixed Tower monitors as per OISD 156 with form facilities

4. Water curtain with required number of Jumbo nozzles
5. Adequate number of ground monitors with form facilities on the jetty
6. Adequately sized hydrant lines with double hydrants of the manifold area of the jetty
7. All structural works which are required for the fire fighting system.
8. Electrical and instrumentation system related to fire fighting facilities of the HOJ-2 jetty.
9. Entire interiors and instruments like tower monitor control system, gas-detection systems, UPS and PLC systems.
10. Illumination of the Jetty, Approach road, escape route (if any), firefighting pipeline trestle, main road facing the terminal.
Flame proof LED fitting at the Jetty, approach trestle, escape route (if any), firefighting pipeline trestle and 1 no. 30 meter High Mast with 18 nos. LED fittings of 500 W each on the main road shall be provided for illumination.
11. Revamping and modification of the existing substation near HOJ-II along with supply of all Electrical panels, breakers, Transformer, switchgear etc will be under the scope of the contractor.

iii) Fire fighting facilities for the HOJ-1 jetty

1. Construction of the Fire Fighting control room with necessary interiors with false floor at Minimum 100 Meters away from the jetty pipeline manifold including associated marine civil works.
2. The fire fighting including associated marine civil works for the foundation of Tower monitors, including piles(if any), foundation of Ground Monitors, hydrants etc and the hydrant pipeline trestle (AS PER DRAWING No. IITM/DOE/HDC/INT/FFF/BH-03) .
3. Fixed Tower monitors as per OISD 156 with form facilities
4. Water curtain with required number of Jumbo nozzles
5. Adequate number of ground monitors with form facilities on the jetty
6. Adequately sized hydrant lines with double hydrants of the manifold area of the jetty
7. All structural works which are required for the fire fighting system.
8. Electrical and instrumentation system related to fire fighting facilities of the HOJ-1 jetty.
9. Entire interiors and instruments like tower monitor control system, gas-detection systems, UPS and PLC systems.
10. Revamping and modification of the existing substation near HOJ-I along with supply of all Electrical panels, breakers, Transformer, switchgear etc will be under the scope of the contractor

11. Illumination of the Jetty, Approach road, escapes route (if any), fire fighting pipeline trestle, main road facing the terminal.
Flame proof LED fitting at the Jetty, approach trestle, escape route (if any), fire fighting pipeline trestle and 1 no. 30 meter High Mast with 18 nos. LED fittings of 500 W each on the main road shall be provided for illumination.

iv) Fire fighting facilities for the Barge jetties.

1. Construction of common Fire Fighting control room for both the barge jetties with necessary interiors and false floor including associated Marine civil works.
2. Adequate number of ground monitors with form facilities on the barge.
3. Adequately sized hydrant lines with double hydrants of the manifold area of the barge
4. All structural work's modifications which are required for the fire fighting system.
5. Electrical and instrumentation system related to fire fighting facilities of the Barge Jetty 1 & 2 , Entire interiors and instruments like tower monitor control system, gas-detection systems, UPS and PLC systems.
6. Illumination of the Jetty, approach road, Flame proof LED fitting at the Jetty, fire fighting pipeline trestle and escape route (if any).

OT-II, HOJ-1, HOJ-2,BJ-1 & BJ-II :

Haldia Dock Complex has proposed to augment the fire fighting system at **HOJ-1, HOJ-2,BJ-1 & BJ-II** and proposed Jetty at OT-II as per OISD-156 for handling LPG vessels at OT-II, HOJ-1 & HOJ-2 for handling 40000 DWT Propane, Butane, LPG vessels and **BJ-1& BJ-2** for handling 3000 DWT POL and LPG barges.

HDC would also like to install fire-fighting system as per OISD -156 standards for these jetties. As per OSID-156 for handling 40000 DWT LPG vessels and 100000 DWT POL vessels, the water requirement would be 17280 KL. So the design calculations for water have been done by considering single fire contingency as per OISD-156 latest edition. **The details of fire water pumps and storage fire water reservoirs are as under:**

Hence the no. of fire water pumps requirement would be 720 M3/hr @16 kg/cm² - 6 nos. (4 working + 2 standby) , Jockey pumps capacity would be 70 m3/hr @ 16 kg/cm² (2 working + 1 stand by) and foam pumps capacity would be 40 m3/hr (1 working + 1 stand by). At OT-II, HOJ-1 and HOJ-2 three independent nos. of tower monitors of capacity 6000 lpm each and

three independent nos. of Jumbo nozzles of capacity 6000 lpm each will be installed. These tower monitors as well as jumbo nozzle will be operated and controlled by PLC based control system which will be installed in dedicated control room. Four independent fire ground water monitors & eleven nos. Hydrants of capacity 600 lpm each shall be provided at each jetty of OT-II, HOJ-I and HOJ-2. Two independent fire ground water monitors and hydrants shall be provided at BJ-1 & BJ-2.

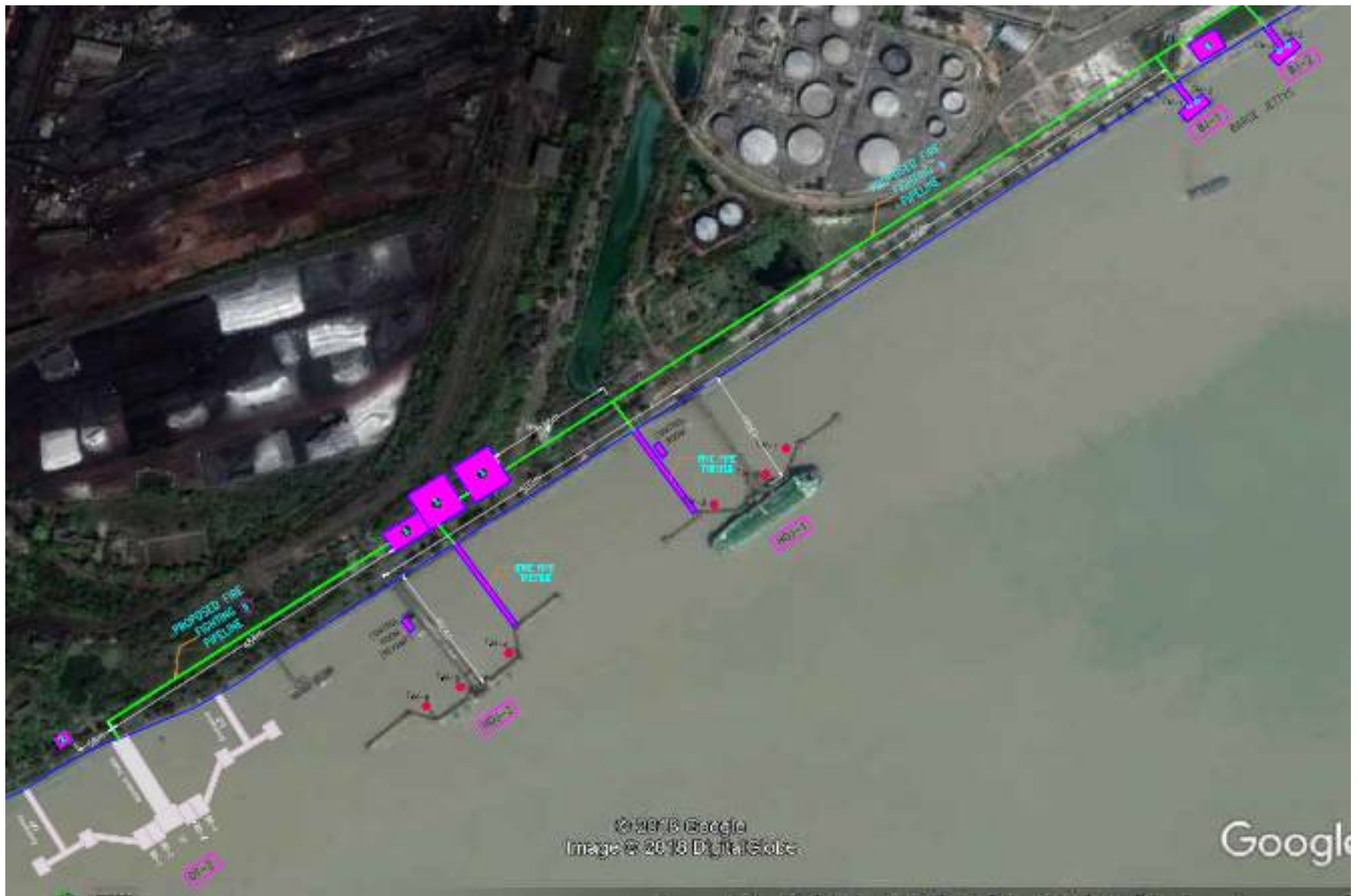
Two dedicated above grounded steel tank capacity of each tank is 10000 kL will be built in order to meet water demand calculations as per OISD-156. These tanks will be constructed as per API-650 and ASTM A 106 Gr.B pipe line will be laid from pump house to HOJ-1, HOJ-II, OT-II , Barge Jetty-1 & 2 to supply water for tower monitor, ground monitor and hydrants as well as jumbo nozzles etc.

A common fire pump house will be constructed near to HOJ-II in which main pumps, jockey pumps, foam pump, foam tanks, control room, control panels and electrical panels etc. will be accommodated. 10 Ton capacity EOT crane will be erected inside the Pump house for erection and maintenance of the equipments installed.

An individual control rooms will be constructed for each jetty which will control the main fire pumps, jockey pumps, tower monitors, jumbo nozzles, fire detection system and gas detection etc.

As per OISD-156, the jockey pumps should always be ON and OFF in auto mode whenever line pressure drop to 7 kg/cm², with help of pressure switch/transmitter where as the main pumps should be ON in auto mode and it should OFF in manual mode.

1.3 Site Location



Google Layout

1.3a) Lighting Arrangement:

All jetties shall be provided with Flame proof lighting as per OISD-156/Dock Safety Regulations.

The road illumination adjacent to Barge Jetties is beyond the scope of the contractor.

The contractor shall also provide necessary flame proof LED lightings on complete corridor (approach trestle and fire-fighting pipe trestle) to gate in between HOJ-I and Barge Jetty-I. On the main road of OT-II, HOJ-I and HOJ-II, a 30 m High Mast with 18 nos LED fittings of 500 W each shall be provided.

Lighting Pole: Street light poles of 10 meters height with 120 watts LED lamps on the approach from jetty to jetty (OT II to HOJ II to HOJ I to BJ I to BJ II) to pump house and control room shall be provided.

1.3b) All Accessories like LT and HT Switch Gear, transformer, Battery rooms, wash rooms, staff rooms etc. shall be under the scope of the contractor. The contractor shall also make provisions to receive two incoming power source from wagon tippler substation (about 1.2 kM distance) and lock entrance substation (1.5 kM approx. distance) with cables under the scope of contractor. Provide SCADA system for all control rooms.

1.4 Project Scope:

The facility requirement at various sites is as mentioned in the following table

Sl. No .	Facilities	OT-II	HOJ-1	HOJ-2	BJ-1	BJ-2
I	Ship Size	Upto 100,000 DWT POL Products and for LPG-upto 40000 DWT as per table-1&2 of OISD-156	Upto 100,000 DWT POL Products and for LPG-upto 40000 DWT as per table-1&2 of OISD-156	Upto 100,000 DWT POL Products and for LPG-upto 40000 DWT as per table-1&2 of OISD-156	Max. POL barge size should not be exceed 3000DWT as per table-1&2 of OISD-156	Max. POL barge size should not be exceed 3000DWT as per table-1&2 of OISD-156
1	Fire water network with all Necessary equipment & components	Fire water system with all necessary equipments & components shall be provided as per OISD-156. The pipeline sizing has to be done as per the OISD-156 requirements by considering minimum 7kg pressure at the farthest point of the fire hydrants of OT-II,HOJ-I,HOJ-2 and BJ-I and II.				
2	Installation of new pumps & it's associated piping, electrical, instrumentation, Civil work etc	All fire water main pumps both operating & standby pump should be with diesel prime mover of capacity (approx.) 6 x 720 M3/hr @ 16 bar (4 workings + 2 Standby) and three jockey pumps of capacity(approx.) 70 M3/hr @ 16 Bar (2 working + 1 Standby) may be supplied and installed to keep network pressurized as per OISD-156 latest edition.				
3	Fire Water Reservoir	Water storage requirement for fire protection facilities based on OISD 156 guidelines and it is for 6 hours of running capacity of pumps with portable fire Water Reservoir capacity 17,280 KL(approx.). So that TWO independent fire water tanks of capacity 24 M x 20 M as per API-650 with internal and external epoxy painting shall be provided nearer to HOJ-II, OT-II to cater all five jetties				
4	Common Pump House	New RCC common pump house with 10 Ton EOT Crane of size 51 M x 12 M not less than this size, to accommodate all fire water pumps, jockey pumps and foam pumps, foam tanks , pumps & accessories and control room in 1 st floor.				
5	Fire fighting pipeline trestle in HOJ I & HOJ II.	New Firefighting pipeline trestle to be constructed from shore to mooring dolphins which will be used to routing the fire-fighting pipelines and related works.				

6	Fire fighting equipments viz					
	a.)Tower Monitors	3 x 5678 LPM	3 x 5678 LPM	3 x 5678 LPM	Monitors : 2 x 1892 lpm	Monitors: 2x 1892 lpm
	b.)Jumbo Nozzles	3 x 6000 LPM	3 x 6000 LPM	3 x 6000 LPM	----	2 x 300 lpm
	c.)Under Deck Nozzle	-----	-----	27 nos.(approx.)	---	--
	d)Water Hydrants & Water monitors	4 nos.	4 nos.	4 nos.	Hydrants & monitors: 2 nos.(approx.)	Hydrants & Monitors: 2 nos.(approx.)
7.	Foam pump capacity and Foam tank capacity	Foam pump = 40 m3 per hr @ 17 Bar (1 working + 1 standby) Foam Tank Capacity: 80 m3				
8	New Foam tank with level indicator (radar type), manhole, filter capacity of 150 mm dia. With SS strainer, Breather valve, sludge trap, drain valve, lifting hooks, operating platform & ladder facility.	Yes, as per requirement				
9	Fire fighting Control room	Control room as per requirement	Control room as per requirement	Existing HOJ-II control room will be revamped	Common Control room for BJ-I&II as per requirement of size minimum of 6M x 6	

		of size minimum of 15M x 12 M	of size minimum of 10M x 20 M	by providing necessary interiors, false flooring and painting.	M.	
10	Entire remote control system including instrumentation and electrical and electronic equipments with associated SCADA system.	As per design requirements of OISD-156.	As per design requirements of OISD-156.	As per design requirements of OISD-156.	As per design requirements of OISD-156.	As per design requirements of OISD-156.
11	EOT crane	10 TON capacity				
12	Compressor	The sizing of the compressor as per the requirement of OISD-156 and annexure-1 of addendum-III.				
13	Fire Detection System	As per design requirements of OISD-156.	As per design requirements of OISD-156.	As per design requirements of OISD-156.	As per design requirements of OISD-156.	As per design requirements of OISD-156.
14	Gas Detection System	As per design requirements of OISD-156.	As per design requirements of OISD-156.	As per design requirements of OISD-156.	Not required	Not required
15	Fire Fighting equipments	As per the requirements of OISD-156 and PESO.	As per the requirements of OISD-156 and PESO.	As per the requirements of OISD-156 and PESO.	As per the requirements of OISD-156 and PESO.	As per the requirements of OISD-156 and PESO.
16	Lighting	Lux level requirements as per the relevant	Lux level requirements as per the relevant	Lux level requirements as per the relevant OISD/IS/ Dock safety	Lux level requirements as per the relevant OISD/IS/ Dock safety regulation	Lux level requirements as per the

		OISD/IS/Dock safety regulation	OISD/IS/Dock safety regulation	regulation		relevant OISD/IS/ Dock safety regulation
17	Water Spray nozzles	As per design requirements of OISD-156.	As per design requirements of OISD-156.	As per design requirements of OISD-156.	Not required	Not required

1.5 Design Period:

Design life of the entire facility shall be 25 years.

1.6 Piping:

Piping MOC shall be ASTM A106 Gr B Std. Schedule.

1.7 Civil

Detail scope of civil will be available in Table 1 at page no-336 of Volume-2 of the Tender document.

1.8 Electrical systems:

Power for operating various equipment like pumps and lighting shall be drawn as per single line diagrams. The requirements in SLD as per **Annexure- III** is minimum & indicative. Contractor shall carry out his own design and arrive at the requirements. Electrical systems as required at various locations as mentioned in PART NO.3 in **Table No.2**

1.9 Instrumentation:

Details scope of instrumentation will be available in the subsequent chapters.

1.10 Miscellaneous:

Vents, Drains, isolation valves wherever required shall be provided by Contractor.

During Fabrication /erection, requirement of power, water, air, handling crane, welding equipment at site shall be in the Contractor's scope.

1.11 Underground cables/Piping/ Abandoned Foundations:

During execution of work, Contractor shall identify and inform the COMPANY about underground facilities like cables, piping or abandoned foundations encountered in the current project sites and affecting the current scope of works. These facilities shall be re-routed/re-located by the Contractor with prior intimation & due approval of HDC.

1.12. Site Condition: `

1.12.1 Wind data:

For the purpose of design of the berth, wind loads have been considered with the following wind velocities.

Basic wind speed = 50m/sec

Wind speed in operating condition = 24m/sec

1.12.2 Tidal data

As per IPA report June 2016 details received, the tidal data are tabulated in Table- 3.1.

Table 3.1.Tidal Level

Description	Level (m)
Highest High Water (HHW)	(+) 7.26 m CD
Mean High Water Spring (MHWS)	(+) 5.70 m CD
Mean High Water (MHW)	(+) 5.01 m CD
Mean High Water Neaps (MHWN)	(+) 4.26 m CD
Local Mean Water Level (LMWL)	(+) 3.23 m CD
Mean Low Water Neaps (MLWN)	(+) 2.10 m CD
Mean Low Water (MLW)	(+) 1.34 m CD
Mean Low Water Springs (MLWS)	(+) 0.80 m CD
Lowest Low Water (LLW)	(-) 0.07 m CD

1.12.3 Current Data:

- The maximum flow velocity may be considered as 3.00 m/s for both way water flows as per the client recommendation.

1.12.4 Rainfall Data

- This region is mainly exposed to south-west monsoon from June to September and an average monthly rainfall of over 250 mm is experienced (July and August are the wettest months having monthly rainfall as high as 400 mm).
- During north-west monsoon from November to February monthly average rainfall of less than 50 mm is experienced.
- The average annual rainfall is around 1500 mm and the average number of rainy days in a year with rainfall of 25mm or more is about 20.

1.12.5 Temperature

- In Haldia, there is a seasonal variation in the temperature. April and May are hotter month whereas December and January is colder months.
- The highest temperature so far recorded is 44.9°C during the month of May in 1975 and the lowest temperature is 6.9°C recorded during the month of December 1975. Design range of effective temperature is (+/-) 25°C.

1.12.6 Visibility

It is learnt that visibility at Haldia is better compared to Kolkata as the area is free from industrial smoke. At times due to heavy rain poor visibility is reported during the south-west monsoon. On an average fog is reported on 5-7 days in each month from November to February during mornings.

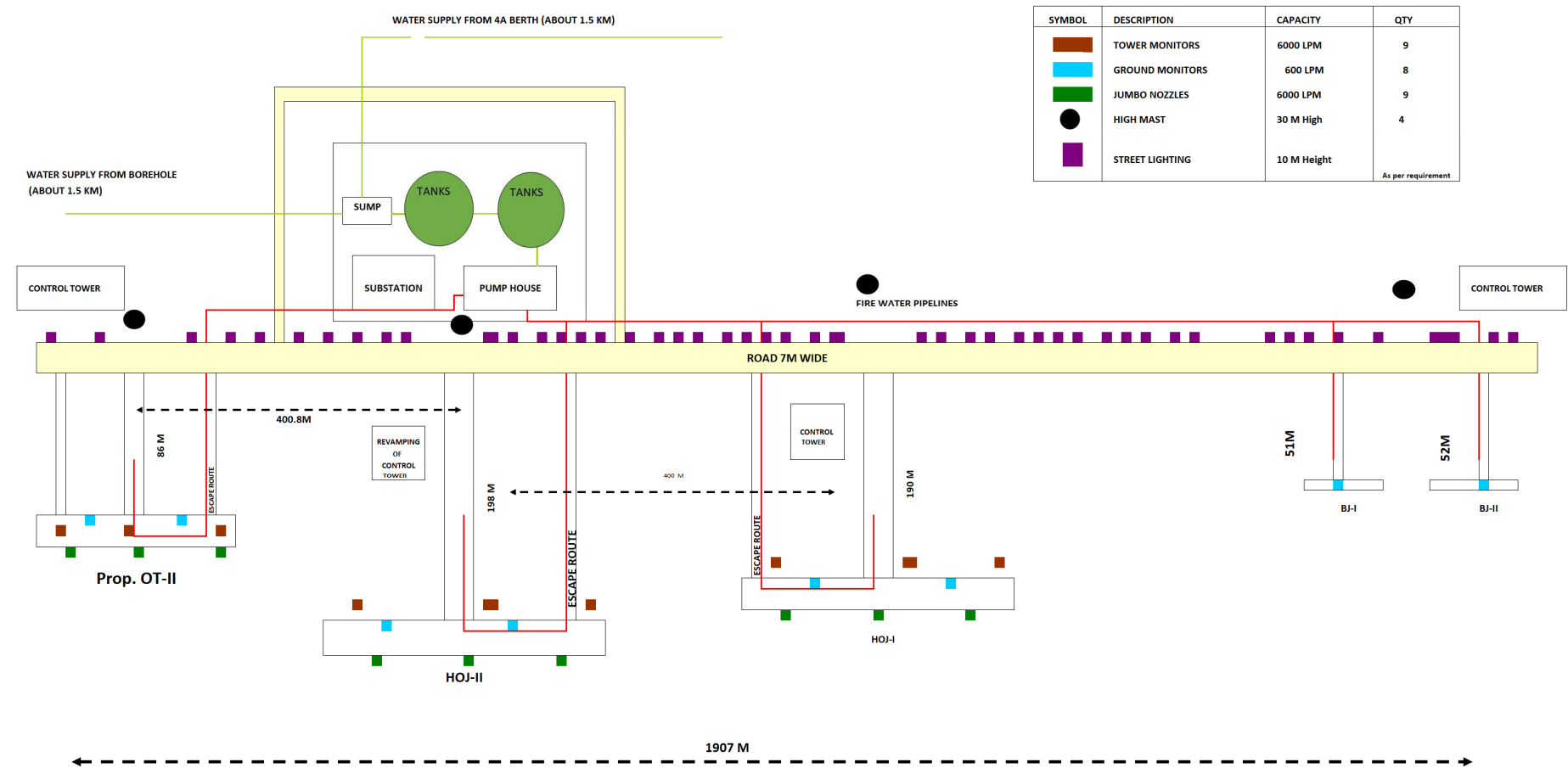
1.13. Definition of Terms:

Following definitions apply to this specification:

- "Employer" means Board of Trustees of Haldia Dock Complex, Kolkata Port Trust, a body corporate under the Major Port Trust Act, 1963 by Government of India (as amended) acting through its Chairman, Deputy Chairman or the Chief Manager (Port Planning and Development Department) or any other officers so nominated by the Board.
- "Engineer" means the General Manager (Engineering) of Haldia Dock Complex, KoPT.
- "Engineer's Representative" means the Team Leader of the Project Management Consultant appointed by Kolkata Port Trust and he shall be resident at the project site and act as representative of the Engineer.

- “Design Consultant” means ‘Project Management Consultancy(PMC)’ appointed by HDC,KoPT to apprise the design & GFC drawing of fire fighting pump house & jetty, fire fighting systems as per OISD 156 to be done by the successful bidder for the civil , Mechanical, Electrical, Instrumentation of fire fighting works and suggest modification of the same to suit site conditions as and when required.
- “Contractor” means the successful bidder for this project.
- “Vendor” Means the specialized agency supplying equipment and material.

1.14: Schematic layout diagram:



BANK GUARANTEE FOR ADVANCE

[To be submitted on Non-judicial Stamp Paper of worth not less than INR 50.00]

To,
**The Board of Trustees,
for the Port of Kolkata.**

BANK GUARANTEE NO. DATE

Name of issuing Bank

Name of Branch

Address

In consideration of the **Board of Trustees for the Port of Kolkata**, a body corporate - duly constituted under the Major Port Trusts Act, 1963 (Act 38 of 1963), (hereinafter referred to as "**The Trustees**") having awarded to Shri/Messrs a Proprietary/Partnership/Limited/Registered Company, having its Registered Office at (hereinafter referred to as "**The Contractor**", which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns), a **CONTRACT** by issue of Trustees' Work Order No. dated for
"

....."

and the same having been unequivocally accepted by the Contractor resulting in a CONTRACT bearing no.

and the Trustees having agreed to make advance payment to the Contractor for mobilization, amounting to **INR** (**Indian Rupees**), against **Bank Guarantee** amounting to **INR** (**Indian Rupees**), to be furnished by the Contractor.

We, Branch, Kolkata/Haldia, do, on the advice of the Contractor, hereby undertake to indemnify and keep indemnified the Trustees to the extent of the said sum of **INR** (**Indian Rupees**) only.

We, Branch, Kolkata/Haldia, further agree that if a written demand is made by the Trustees through any of its officials for honouring the Bank Guarantee constituted by these presents, we, Branch, Kolkata/Haldia, shall have no right to decline to cash the same for any reason whatsoever and shall cash the same and pay the sum so demanded to the Trustees within a week from the date of such demand by an A/c Payee Banker's Cheque drawn in favour of "Kolkata Port Trust", without any demur. Even if there be any dispute between the Contractor and the Trustees, this would be no ground for us, (Name of Bank), Branch, Kolkata/Haldia, to decline to honour the Bank Guarantee in the manner aforesaid. The very fact that we, Branch, Kolkata...../Haldia, decline or fail or neglect to honour the Bank Guarantee in the manner aforesaid, shall constitute sufficient reason for the Trustees to enforce the Bank Guarantee unconditionally, without any reference, whatsoever, to the Contractor.

2. We, Branch, Kolkata/Haldia, further agree that a mere demand by the Trustees at anytime and in the manner aforesaid, is sufficient for us, Branch, Kolkata/Haldia, to pay the amount covered by this Bank Guarantee in full and in the manner aforesaid and within the time aforesaid without reference to the contractor and no protest by the contractor, made either directly or indirectly or through Court, can be valid ground for us, Branch, Kolkata/Haldia, to decline or fail or neglect to make payment to the Trustees in the manner and within the time aforesaid.
3. We, Branch, Kolkata/Haldia, further agree that the Bank Guarantee herein contained shall remain in full force and effect, during the period that is taken for the due performance of the said contract by the contractor and that it shall continue to be enforceable till all the dues of the Trustees under and/or by virtue of the terms and conditions of the said contract, have been fully paid and its claim satisfied and/or discharged in full and/or till the Trustees certify that the terms and conditions of the said contract have been fully and properly observed/fulfilled by the contractor and accordingly, the Trustees have discharged the Bank Guarantee, subject however, that this guarantee shall remain valid up to and inclusive of day of

20..... and subject all so that the provision that the Trustees shall have no right to demand payment against this guarantee after the expiry of 6 (six) calendar months from the expiry of the aforesaid validity period up to or any extension thereof made by us, Branch, Kolkata/Haldia, in further extending the said validity period of this Bank Guarantee on Non-judicial Stamp Paper of appropriate value, as required/determined by the Trustees, only on a written request by the Trustees to the Contractor for such extension of validity of this Bank Guarantee.

4. We, Branch, Kolkata/Haldia, further agree that, without our consent and without affecting in any manner our obligations hereunder, the Trustees shall have the fullest liberty to vary from time to time any of the terms and conditions of the said contract or to extend the time for full performance of the said contract including fulfilling all obligations under the said contract by the contractor or to postpone for any time or from time to time any of the powers exercisable by the Trustees against the contractor and to forebear or enforce any of terms and conditions relating to the said contract and we, Branch, Kolkata/Haldia, shall not be relieved from our liability by reason of any such variation or extension being granted to the contractor or for any fore-bearance, act or commission on the part of the Trustees or any indulgence by the Trustees to the contractor or by any such matter or thing of whatsoever nature, which under the law relating to sureties would, but for this provision, have effect of so relieving us, Branch, Kolkata/Haldia.
5. We, Branch, Kolkata/Haldia, do also agree that the Trustees, at their option, shall be entitled to enforce this Guarantee against us Branch, Kolkata/Haldia as principal debtor in the first instance, without producing against the Contractor and notwithstanding any security or other guarantee that the Trustees may have in relation to the Contractor's liabilities.
6. We, Branch, Kolkata/Haldia, lastly undertake not to revoke this Bank Guarantee during its currency, except with the previous consent of the Trustees, in writing.

SIGNATURE
NAME
DESIGNATION
(Duly constituted attorney for and on behalf of)
BANK
BRANCH
KOLKATA/HALDIA

(OFFICIAL SEAL OF THE BANK)

Note: In case of foreign Bank Guarantee, it shall be routed through any Branch of corresponding Nationalized/Scheduled Bank in India and such corresponding Bank shall confirm the same and standby for all the commitments under the Bank Guarantee. In all cases, any dispute regarding Bank Guarantee will be adjudicated under the jurisdiction of Kolkata High Court.

In case the Bank Guarantee is submitted from/routed through a foreign branch of a Nationalized/Scheduled Bank of India, the Bank Guarantee submitted not on Non-judicial Stamp Paper may also be acceptable.

BIDDING FORM-VII**PRICE SCHEDULE**

[To be filled up and uploaded, duly signed & stamped]

“Design, manufacture, fabrication, supply, Erection, testing, commissioning and handing over Fire-fighting facilities at HOJ-I, HOJ-II, Barge Jetty I&II and upcoming Outer Terminal –II (OT- II) in EPC mode under two cover systems including Comprehensive operation and maintenance for 10 (ten) years after defect liability period of 02 (two) years.”

SI No	DESCRIPTION	QTY.	Price in Indian Rs (NOT TO BE QUOTED)	Applicable GST %		
				CGST	SGST	IGST
1.	“Design, fabrication/casting, supply, Erection of pre-casting elements (if any), testing, commissioning and handing over all offshore civil work required for the Fire-fighting facilities at HOJ-I, HOJ-II, Barge Jetty I&II as per scope of work detailed in the tender document..	1 Unit	X			
2.	“Design, fabrication/casting, supply, Erection of pre-casting elements (if any), testing, commissioning and handing over all onshore civil work such as firefighting pumphouse, pipe rack pedestals and fire water tank foundation and control rooms super structures required for the Fire-fighting facilities at HOJ-I, HOJ-II, Barge Jetty I&II and upcoming Outer Terminal –II (OT-II) under two cover systems as per scope of work detailed in the tender document..	1 Unit	Y			

3.	Design, manufacture, fabrication, supply, Erection, testing, commissioning and handing over of all mechanical, pipeline works for fire fighting system as per OISD-156(2017) including electrical & instrumentation and necessary gas detection system of Fire-fighting facilities at HOJ-I, HOJ-II, Barge Jetty I&II and upcoming Outer Terminal –II (OT-II) under two cover systems as per scope of work detailed in the tender document..	1 Unit	Z			
4. (a)	Operation & Maintenance for 1 st Year, i.e. during defect liability period of EPC Contract.	12 Months	0.95 % of(X+Y+Z)			
4. (b)	Operation & Maintenance for 2 nd Year, i.e. during defect liability period of EPC Contract.	12 Months	1.04 % of(X+Y+Z)			
4. (c)	Comprehensive Operation & Maintenance for 1 st Year, i.e. after defect liability period.	12 Months	1.15 % of(X+Y+Z)			
4. (d)	Comprehensive Operation & Maintenance for 2 nd Year.	12 Months	1.26 % of(X+Y+Z)			
4 (e).	Comprehensive Operation & Maintenance for 3 rd Year.	12 Months	1.39 % of(X+Y+Z)			
4. (f)	Comprehensive Operation & Maintenance for 4 th Year.	12 Months	1.53 % of(X+Y+Z)			
4. (g)	Comprehensive Operation & Maintenance for 5 th Year.	12 Months	1.68 % of(X+Y+Z)			
4. (h)	Comprehensive Operation & Maintenance for 6 th Year.	12 Months	1.85 % of(X+Y+Z)			

4. (i)	Comprehensive Operation & Maintenance for 7 th Year.	12 Months	2.04 % of(X+Y+Z)			
4. (j)	Comprehensive Operation & Maintenance for 8 th Year.	12 Months	2.24 % of(X+Y+Z)			
4. (k)	Comprehensive Operation & Maintenance for 9 th Year.	12 Months	2.45 % of(X+Y+Z)			
4. (l)	Comprehensive Operation & Maintenance for 10 th Year.	12 Months	2.70 % of(X+Y+Z)			

NOTE:

- a) The tenderer shall furnish the quoted amount online through MSTC only. No price to be quoted in this page except in the online in MSTC portal . Quoting of price in this page liable to be disqualification and rejection of the offer.
- b) The Tenderer is required to furnish applicable GST only in this page.
- c) The Tenderer is required to quote the BOQ sl no-1,2 &3 in the MSTC portal and need not to quote the BOQ sl no-4.

Reply to Pre-bid queries during pre-bid meeting**Annexure A**

Sl no	Ref clause/sl. no	<u>Bidders queries</u>	<u>Clarifications/confirmations</u>
01	Ship size: Clause no- 1.4, Page 23 of Volume-2	What is maximum DWT of the LPG vessel to be considered.	The relevant table at sl no-1 under clause no-1.4 of volume 2 may be referred to.
02	LPG & LNG handling	Whether LPG and LNG may be handled on the same jetty.	LPG and LNG vessel cannot be handled simultaneously on the same jetty as per guidelines of PESO and there should minimum 500 m distance between the two manifolds of LNG and LPG.
03	EPC	The contract is of EPC kind but the same is not mentioned in the title.	The project to be in the EPC mode. The same has been incorporated as "IN EPC Mode" in the Addendum-III.
04	P&ID and SLD diagrams	P&ID and SLD diagrams not attached in the tender document.	The same have been included in the Addendum-III.
05	Section XI Page 125 of Volume -1	The different items as mentioned in bill of quantities is minimum or tentative.	The quantities as mentioned are tentative only. The bidder has to design and fix up the final quantity.
06	Section VII Page 81 of Volume-1	"All Oil Jetties" may be defined.	It will be incorporated in Addendum-III as 'HOJ-I, HOJ-II, OT-II, and 2 Nos. Barge Jetties'.
07	Drawings of existing pipelines and structures	As the old equipment dismantling/re-routing for installation over New equipment is under the scope of the contractor, the drawings of existing	The same will be made available during detail engineering stage to the successful bidder.

		pipelines and structures are to be supplied.	
08	Comprehensive operation & maintenance: Section VII Page 81 of Volume-1	HDC has asked for O&M contract for 10 years after completion of defect liability period of 2 years. Whether fire fighting work is included in the scope of the contractor	For the operation and maintenance of the fire fighting equipments of the proposed project. The fire fighting manpower has been kept beyond the scope of the project.
09	Payment Terms: Clause no- 8.0, Page 84 of Volume-1	In the payment terms it is not clearly mentioned regarding payment at different stages. HDC should appreciate that for a smooth project, the cash flow is very important.	The payment Terms and agreed to revise payment terms on stages which will be incorporated in Addendum-III.
10	Shut Down	How the Job can be done in HOJ-I and HOJ-II as it handles vessels continuously.	The Berth Shut Down will be provided one by one as per the prior request of the contractor and preparedness from their end.
11	Liquidated damages Clause no- 13.0, Page 86 of Volume-1	Whether the LD will be applicable over the O&M cost also.	The bidders stated that the O&M cost is different than the project cost and the delay for the project should not be considered on O&M cost. They requested to modify the LD clause .....10% of contract value excluding O&M Cost. Accordingly, LD clause has been modified and has been included in Addendum-III.
12	Performance guarantee Clause no- 14.0, page 87 of Volume-I	It is written that the EMD of the successful bidder would be converted to into part of the performance guarantee for the project.	The EMD of the successful bidder would be converted into part of security deposit and then security deposit to be converted to performance guarantee. The same has been included in the Addendum-III.
13	Default Clause	No default clause is found in the tender	Suitable default clauses are available in the General Conditions

		document	of Contract.
14	Performance guarantee against operation and maintenance	Performance guarantee against operation and maintenance should be valid for 10 years. Bidders intimated that the bank will not issue Bank guarantee for such long period	The Performance guarantee shall be for two years and subsequently the same shall be renewed.

Reply to Pre-bid queries**Annexure-B**

SI No	Volume	page no	Clause no	As specified in Tender Clause	Bidders queries	KoPT's reply
1.	Vol. 1	8	3.5.iii (Note. Iv)	Earnest Money Deposit (EMD) may also be deposited in the form of an irrevocable and unconditional Bank Guarantee [as per the form added in Section-XII], from any Kolkata/Haldia Branch of a Nationalized/Scheduled Bank of India. In such case an amount of Rs. 10.00 lakhs (Ten Lakhs) to be deposited through Axis Bank gateway and the balance amount of EMD may be submitted in the form of BG.	We request you to kindly accept full amount of EMD in form of Bank guarantee	Tender conditions prevail
2.	Vol. 1	17	4.3	When splitting of tender quantity is not possible purely on technical ground, Trustees reserve the right not to negotiate price with MSE if their price is within the band of L1+15% in comparison	Based on the aforesaid we request you to kindly confirm to us on the applicability of the Public Procurement for MSE -order 2012 policy for this LSTK tender. Regarding the applicability of Public Procurement for MSE - Order 2012 for LSTK tender, we wish to draw your attention to a	Splitting of tender quantity is not applicable in the instant tender.

				with L1 price of non-MSE for consideration of award of order for 20% of tender quantity against any item as per new public procurement policy.	recent Bombay High Court order dtd. 25th July 2017 vide Writ Petition (L) No. 1261 of 2017 between Sterling & Wilson Pvt. Ltd and Nuclear Power Corpr, where the Hon. Bombay High court order mentions that the applicability of MSE clause of Public Procurement for a Works Contract involving Design Engineering Supply Installation Testing Commissioning is contrary to the provision of the Act and / or the Policy	
3.	Vol. 1	67	6.69.2	<p><u>Liquidated Damage:</u></p> <p>If the Contractor fails to complete the work within the stipulated dates [as per GCC Clause No. 6.65 (Completion period)] or such extension thereof, as communicated by the Engineer, in writing, the Contractor shall pay as compensation (Liquidated Damage) to the Trustees and not as a penalty, as per the following:</p> <p>In case of handing over the Contract Job after the scheduled</p>	We understood that the LD is applicable for the base contract value only i.e excluding the comprehensive operation & maintenance for 10 years. Please confirm	As per Sl. 19 of Addendum III.

				completion period, Liquidated Damage @ ½% of the Contract Price [excluding GST] , for every week or part thereof, beyond the scheduled date of completion, will be deducted from the Contractor's bill. Provided always the amount of such compensation shall not exceed 10 % of the cost the Contract Price [excluding GST].		
4.	Vol. 1	82	Section VII. Clause 1.r	<u>STATUTORY APPROVALS:</u>	We shall assist you with necessary documentation, drawing and required demonstration of performance test to statutory approval team. Necessary fees shall be paid by HDC directly to authority. Please confirm.	Application will be submitted by HDC along with necessary fees. Refer Addendum Sl. no. 12
5.	Vol. 1	82	Section VII. Clause 1.o	Comprehensive Maintenance:	Please clarify, whether supervisor/technician for O&M is required for 24x7, 365 days or only quarterly visit is required. Scope of O&M shall be maintain the system ensure its operation during fire condition. Fire Fighting personal shall not be included in	Supervisors /technicians for O&M are required 24x7, 365 days and the firefighting personnel are excluded in O&M. Addendum Sl. no. 15 may be referred.

					O&M.	
6.	Vol. 1	8	Section VII.B Clause8.	Payment Terms:	<p>Payment terms are not clear. We request you to kindly approve following Payment Terms;</p> <p>1. ADVANCE: 10% of total contract value (exluding O&M) as intrest free advance against submission of equivalent amount of Bank Guarantee</p> <p>2. CIVIL Work: 80% of civil & Structrual work component of shall be paid on Pro-rata basis against submission of RA bills. 10% of civil & structural work after completion of work and submission of PBG.</p> <p>3. Complete work excluding Civil and O&M component: a. Supply Part: 70% progressive payment against reciept of material at site/fabrication yard on pro rata basis against submission of RA bills. 15% progressive payment against installation on pro-rata basis against submission of RA bills. 5% on successful testing,</p>	Refer Addendum-III Sl. no.17.

					<p>Commissioning & Handing over of project.</p> <p>b. Erection/Installation: 80% progressive payment against erection/installation on pro rata basis against submission of RA bills. 10% on successful testing, Commissioning & Handing over of project.</p> <p>4.Operation & Maintenance Component: 100% on Monthly Basis during O&M period.</p> <p>All our running account bills should be paid within 15 days of bill submission and final bill within 30 days of bill submission. There will be no retention money on any of our invoices.</p>	
7.	Vol. 1	94	Section VII.B Clause 34.	The Employer shall appoint a PMC, at the cost of the Employer, for stage-wise close project monitoring, technical inspection and	Please provide the name of PMC. Also confirm that any requirement from PMC which is above OISD requirement shall be treated as extra.	PMC will be decided in due course of time, at this juncture name will not be given and the EPC Contractor has to undergo OISD audit before settling the final bill.

				certification of materials & workmanship, including erection, commissioning , etc. [in connection with Design, Manufacture, fabrication, supply, erection, testing, commissioning and handing over Fire-fighting facilities at HOJ-I, HOJ-II, Barge Jetty I&II and upcoming Outer Terminal –II (OT-II)].		
8.	Vol. 1	111	Price Schedule - 4	Price Schedule:	The column appeared in price schedule is only for taxation. Kindly provide the prices schedule with amount column	Price schedule with amount column would be available in online price schedule of MSTC Portal. The bidders should not disclose their price in any manner in the Techno-commercial offer.
9.	Vol. 1	126	Part-I, Section-XI	Bill of quantities:	Please confirm that the item & quantity mentioned in the BOQ is not minimum quantity to be supplied and other item & quantity from BOQ which is required as per technical specification will be decided during detail engineering. Please	Quantities and sizes are tentative. It may change as per the actual design.

					also confirm that the type of contact i.e. contract shall be works contract on LSTK.	
10.	Vol. 1	126	Part-I, Section-XI	Quantities:	Please confirm that the sizes and quantity given is tentative. We have to design system & select sizes complying to OISD-156 requirement.	Quantities and sizes are tentative. It may change as per the actual design
11.	Vol. 1	126	Part-I, Section-XI	Control Room(10M x 10M) for BJ-1 & BJ-2:	As per Part-1, Section-VII, scope of work control room at HOJ-1, OT-II(New) & HOJ-II (Modification in existing PH) in our scope. However as per prices schedule control room for BJ-1 & 2 is also required. Kindly clarify.	One Combined Control room for Barge Jetty – I & Barge Jetty-2 to be constructed at a suitable place (onshore).
12.	Vol. 2	18	Section, 1, Clause 1.2, Point.4	Ground monitors with foam facilities:	Please clarify, whether ground monitors required with fixed foam system or foam barrel.	Yes the contractor has to fix the foam system as will run on the jetty.
13.	Vol. 2	18	Section, 1, Clause 1.2, Point.8	Electrical and Instrumentation system for the operation of the OT-2 terminal:	Electrical and Instrumentation required for operation of only fire fighting system is in our scope. Electrical and Instrumentation for other system shall not be in our scope. Kindly confirm.	Entire Electrical & Instrumentation related to fire fighting system and lighting on the jetty are in the scope of the contractor.
14.	Vol. 2	19	Section, 1, Clause	Electrical and Instrumentation system	Electrical and Instrumentation required for operation of only fire	Entire Electrical & Instrumentation related to fire fighting system and

			1.2, Point.8	for the operation of the HOJ-2 terminal:	fighting system is in our scope. Electrical and Instrumentation for other system shall not be in our scope. Kindly confirm.	lighting on the jetty are in the scope of the contractor.
15.	Vol. 2	19	Section, 1, Clause 1.2, Point.8	Electrical and Instrumentation system for the operation of the HOJ-1 terminal:	Electrical and Instrumentation required for operation of only fire fighting system is in our scope. Electrical and Instrumentation for other system shall not be in our scope. Kindly confirm.	Entire Electrical & Instrumentation related to fire fighting system and lighting on the jetty are in the scope of the contractor.
16.	Vol. 2	23	Section, 1, Clause 1.4, Sl. No: 1	Ship Sizes:	The ship sizes mentioned in table is maximum and we have to design system as per OISD-156 for the ship sizes given. Kindly confirm.	The relevant table at Sl. no-1 under clause no-1.4 of volume 2 may be referred to.
17.	Vol.2	24	Section, 1, Clause 1.4, Sl. No: 8	Foam Pump & Foam Tank:	Foam pump & tank capacity given is not minimum. We can provide the foam pump & tank capacity fulfilling the OISD-156 requirement. Kindly confirm.	Yes, it shall be as per latest OISD-156 Standard.
18.	Vol. 2	26	Section, 1, Clause 1.4, Sl. No: 12	Compressor:	This compressor is required only for detection system & ROV operation. Kindly confirm. Please provide the data sheet and capacity of compressor as OISD-156	Yes, compressor air is required for operating ROV, Data sheet is attached and the capacity of compressor will be arrived on the basis of air requirement for

					is silent of capacity and type of compressor.	number of ROV's to be operated. Attached as Annexure-I in Addendum-III.
19.	Vol. 2	27	Section, 1, Clause 1.4, Sl. No: 16	Lighting:	Please clarify the scope of lighting. Whether we need to consider lighting for entire jetty in our scope	Yes, contractor shall consider lighting system at all five jetties in their scope as per OISD standard.
20.	Vol. 2	27	Section, 1, Clause 1.4	Clean Agent system for control room:	As per OISD-156, Clean agent system need to consider for control room. However the requirement of same is not there in technical specification. We propose NOVEC-1230 clean agent system for protection of control room meeting the requirement of OISD-156. Kindly confirm.	Clean agent system should be as per OISD-156 Standard and to be supplied by the contractor at his cost.
21.	Vol. 2	28	Section, 1, Clause 1.6	Piping:	Please provide the PMS/VMS for piping & valves for following services: Fire Water Line - Wet Fire Water Line - Dry Foam Concentrate Line Foam Solution Line Pneumatic Air Line.	PMS for fire hydrant line : ASTM A 106 Grade B standard schedule PMS for Valves is ASTM A 216 Gr.WCB. RF. PMS for foam concentrate line and Foam solution line is ASTM A 312 TP Grade 316 and PMS for Pneumatic line is ASTM A 312 TP GRADE 316.
22.	Vol. 2	28	Section, 1, Clause 1.7	Civil:	Please provide Table 1 as mentioned in this clause.	Please refer section 15, Clause 15.2 of vol.2 of tender document.
23.	Vol. 2	28	Section, 1, Clause 1.8	Electrical System:	Please provide SLD for electrical system as mentioned in this clause.	SLD of electrical system is attached as Annexure-IV in Addendum-III.

24.	Vol. 2	28	Section 1, Clause 1.11	Underground cables/piping/abandoned foundations.	Kindly provide the drawings of existing under ground facilities. If same is not available, any facilities need to be re-routed during execution stage, shall be treated as extra. Kindly confirm.	Available drawings will be provided during detail engineering stage after placement of Order.
25.	Vol.2	33	Section 2, Clause 2.2, Point.8	Under deck fire fighting system (only for steel piles):	Please provide the details & drawings of steel piles need to be protected with Fire Fighting system.	Available drawings will be provided during detail engineering stage after placement of Order.
26.	Vol.2	33	Section 2, Clause 2.2, Point.18	DCP Protection:	As the jetty is envisaged to handle POL & LPG, Fixed DCP system is not required as per OISD. Hence fixed DCP system not required to consider in the bid. Kindly confirm	Portable DCP system to be provided as per OISD-156.
27.	Vol. 2	44	Section 3, Clause 3.1.d	Water filling line:	1. Please provide the distance between Fire Water Reservoir and Source water pipeline. 2. Please provide the size of Source pipeline and pressure and flow available. 3. Please mark the tentative route to be followed on drawing.	Under ground sump of size 20KL RCC sump shall be built near fire water tanks.
28.	Vol. 2	46	Section 3, Clause 3.1.j	All equipment and Accessories connected with Fire Protection system shall be UL/FM approved.	Fire Protection system equipment shall be UL/FM/ISI approval as applicable. Kindly confirm.	Yes, all fire protection equipments shall be UL/FM listed.

29.	Vol. 2	46	Section 3, Clause 3.1.j	All the field hardware for this integration of the existing pumps viz. Pressure Transmitter.....	Please provide the details of existing pumps and location that we need to integrate. Also provide the type of integration required.	No existing pumps are available. All new pumps to be installed.
30.	Vol. 2	47	Section 3, Clause 3.1.j	Status of all fire water pumps and jockey pumps to be displayed in main control room/ SCADA room also.	1. We shall provide 1 annunciation window in Control Room/ SCADA Room. Kindly Confirm. 2. Kindly provide the location of control room/SCADA room where pump status is required.	1. On the HOJ-I, HPJ-II & OT-II control room with SCADA. 2. Control room to be 100 M from the service platform.
31.	Vol. 2	47	Section 3, Clause 3.1.j	Auto start of tower monitor system shall also linked with hydrocarbon leak detection and alarm so that FWP's should start automatically in the pump house. Hydrocarbon detection system will be installed and commissioned by HDC. PLC shall have sufficient spare I/O.	1. Please note that the tower monitor is generally manual and in case of fire, it should be operated through remote control room. Hence the tower monitor shall be manual operated and no interlinking of same is required with detection system. Kindly confirm 2. As per this clause Hydrocarbon detection is HDC scope. However as per various clauses in specification gas detection system is in our scope. Kindly clarify, whether gas detection system in our scope or HDC. 3. Please provide the list of I/O need to consider in PLC for integration with gas detection system.	Yes, Tower monitors will be operated in two modes in case of fire, Monitors will operate from local control room as well as through PLC if needed, which will be in the Control rooms of respective Jetties. No interlinking is required with gas detection system. The Gas detection system is in the scope of the EPC Contractor. Refer addendum SI.No. 32.
32.	Vol. 2	52	Section	Dry Chemical Powder	Dry chemical Powder (DCP)	Yes

			3, Clause 3.9	(DCP) Protection shall be provided:	Protection shall be provided using Manual Extinguisher as per OISD-156. Kindly confirm.	
33.	Vol. 2	53	Section 3, Clause 3.10	The monitor is tapped from firewater network system through a motorised gate valve.....	The isolation valve for remote operated tower monitor shall be Motorised gate valve not ROV. Kindly confirm.	ROV shall be Triple –off set Butterfly valve/Knife Edge Gate Valve with flanged end/CCOE approved MOV.
34.	Vol. 2	53	Section 3, Clause 3.11	Automatic Water Curtain System (Jumbo Nozzle):	Generally Jumbo curtain nozzle is manual operated from remote panel using MOV or deluge valve. Here in this clause QBD detection is asked for detection system, which is not recommended as Berth will have hoses and other thing which can damage QBD. Hence Manual operated Water curtain system (Jumbo Nozzle) shall be provided. Kindly confirm.	ROV shall be operated through gas detection system sensors or directly with ROV.
35.	Vol. 2	55	Section 3, Clause 3.13	Fire Hose:	As per Section - 3 Cl. No. 3.1 h. of Design Philosophy type-B hose to be considered where as in Cl. No. 3.13 of technical specification the type-A hose to be considered . Please confirm.	Fire hose shall be Reinforced Rubber lined as per IS-636 type-B UL approved or equivalent.
36.	Vol. 2	55	Section 3, Clause 3.14	Compressed Air system:	As per this clause compressor is required for pneumatic controlled valve. However as per Clause 3.10 above, MOV is considered for remote operation. Kindly Clarify what need to consider. 2. As per this clause 2 Nos	Sl.No.1:If any vendor supply CCOE approved MOV, HDC will go with MOV only. Incase of vendors regretted to supply CCOE MOV, HDC will go with Air Operated ROV with air compressors (1W+1S). The capacity of air compressor will be

					compressor is required. However in BOQ 3 Nos of compressor is mentioned. Kindly clarify.	decided during detail engineering. Any how we required MOV for Re-circulation line at Pump House. Sl.no 2: Two nos. compressor(1 Working and 1 Standby) to be considered.
37.	Vol. 2	56	Section 3, Clause 3.15	Fire Detection Alarm & Communication System:	Kindly provide schematic and SLD for Fire Detection and Alarm System.	This SLD may not be required at this stage and this will vary from supplier to supplier. Bidder should go with OISD-156 standard requirement.
38.	Vol. 2	57	Section 3, Clause 3.15.3	Communication System:	Kindly provide detailed specification of communication system. Also provide the schematic/SLD for communication system.	SLD of communication system attached as Annexure-VI in Addendum-III.
39.	Vol. 2	57	Section 3, clause 3.15.5	Gas Detection system:	As per clause 3.1.j of section 3 hydrocarbon detection is HDC scope. However as per this clause same is in our scope. Kindly clarify. 2. kindly provide schematic/SLD for gas detection system. 3. Kindly provide the detailed specification like type of detectors, controllers, SIL protection required	Gas detection system is in the scope of the contractor only. Data sheet for gas detection is attached. The gas detection are SIL-3 rated.
40.	Vol. 2	64	Section 4, Clause 4.4	Area wise scope of work details.:	Kindly provide the SLD/schematic for Electrical scope.	Attached as Annexure-IV in Addendum-III

41.	Vol. 2	64	Section 4, Clause 4.4	with existing substation has to be revamped.....	Kindly provide the details of existing substation and location. Also clarify the scope we need to consider in existing substation.	Intending bidder may visit site to get full information about existing substation. However, they will have to design regarding new electrical installation within the available area.
42.	Vol. 2	64	Section 4, Clause 4.4	Incoming power cable for this MCC shall be considered with suitable feeders shall be made.	1. Please provide the location of feeder and distance from MCC panel we need to consider. 2. Kindly confirm that feeder shall have the required spare feeder to cater requirement of new fire fighting facility.	The contractor has to collect all the data during the site visit before the bidding.
43.	Vol. 2	65	Section 4, Clause 4.4	New earthing grid shall be connected to existing main earth grid:	Kindly provide the location and distance of existing earth grid.	The contractor has to collect all the data during the site visit before the bidding.
44.	Vol. 2	76	Section 4, Clause 4.15.1.C	Day tanks of capacity for 10 hours running at 75% load.:	As per OISD-156, diesel tank shall be provided for 6 hours operation. However as per this clause same is required for 10 hours. Kindly clarify what need to consider.	As per OISD 156 STD clause no-4.3.5 each engine shall have an independent fuel tank adequately sized for 6 hours continuous running of pump. If the contractor provide 10 hours of operation of pump, it will be acceptable.
45.	Vol. 2	81	Section 4, Clause 4.16	General Specification of Generator Set:	1. Kindly confirm that DG is required for 1 x 100% load of fire fighting system. 2. Kindly provide the location for DG set. Also clarify whether any shed is required for same.	Yes, adjacent to the substation. Shed is required.
46.	Vol. 2	154	Section 5.	Capacity of Pump, tank:	The various capacity & quantity of pumps, tanks given in this clause is	The capacities and quantities mentioned in the tender

					not minimum. We have to design system complying to OISD-156 requirement Kindly Confirm.	documents are tentative only. The contractor should design jetty fire-fighting system as per OISD-156 standard.
47.	Vol. 2	206	Section 5.	The max. allowable flow/velocity in the system should be not more than 2.5m/s:	As per OISD-156 velocity up to 5m/s is allowed. Kindly confirm.	Yes, for better engineering practice it is better to consider suction side max. 2 m/sec and delivery 4 m /sec.
48.	Vol. 2	206	Section 5.	Tower Monitors:	As per OISD-156, Tower Monitor shall be provided with fire proofing. Kindly confirm whether we need to consider fire proofing for same or not.	Yes to be provided.
49.	Vol. 2	217	Section 5, 5.7.9	Foam tank & Foam pump capacity:	The various capacities of pumps, tanks given in this clause is not minimum. We have to design system complying to OISD-156 requirement Kindly Confirm.	The capacities and quantities mentioned in the tender document are tentative only. The contractor shall design jetty fire fighting system as per OISD-156 standard.
50.	Vol. 2	267-276	Section 9	Painting Scheme:	Please clarify the applicable painting scheme from Table 1 to Table 5 given in specification for following: 1. Fire Water piping (MS) 2. Fire Water Piping (GI) 3. Foam Piping (SS) 4. Structure Steel 5. Foam Tank(SS)	Fire water piping shall be ASTM A 106 GR B. Foam piping shall be ASTM A 312 TP 316 and structural steel shall be IS 800/IS 2062 and foam tank shall be ASTM A 312 TP GR 316 (Min 6 mm thick).
51.	Vol.2	283	Section	Control System for electrical operated tower	As per Section 1, clause 1.2 tower monitors as well as jumbo nozzle	Both systems should there be hard wired system for the local control

			11,	monitor, foam monitors Deluge valve of jumbo nozzle, monitor using hard wired relay based control panel.	will be operated and controlled by PLC based control system. However as per this clause this is with hardwire system Kindly clarify.	room and PLC for the centralized control room.
52.	Vol. 2	283	Section 11,	PLC Based control panel:	Please provide the detailed specification for PLC panel.	The Panel should be vendor defined as per the latest control system.
53.	Vol. 2	283	Section 11,	Control System for Gas Detection system:	Please provide the specification for control system for gas detection system. Also clarify whether any SIL certification is required for same.	The control system shall have hot redundancy. SIL certification is not mandatory. However, if it is provided by the vendor, it will be acceptable.
54.	Vol. 2	283	Section 11,	Control System for Fire Detection System:	Kindly provide detailed specification for Fire Detection system. Also confirm that whether any redundancy is required. If yes, please provide the redundancy level.	The Vendor recommendation will be accepted.
55.	Vol. 2	288	Section 11, Clause 11.6.2	SCADA:	Please provide the detail specification for SCADA system.	The SCADA has to be designed by the contractor. Drawing enclosed as Annexure-VI in Addendum-III.
56.	Vol. 2	289	Section 11, Clause 11.6.4.ii	Main Fire Alarm Control Panel shall be PC-PLC based located in main control room:	This panel shall be fire fighting control room to control the operation of pumps. Kindly confirm.	The pump operation cannot be done from the Control room.
57.	Vol. 2	336	Section 15, Table-1	Tower Monitor Structure:	As per Sl. No 4 (Offshore structures) of Table 1, Concrete structure for tower monitor is required. However as per drawing no:	Please follow as per drawing. Tower monitor shall be of Steel structure.

					IITM/DOE/HDC/AUGFT/HOJ-1&2/S002, Steel Structure is considered for tower monitor. Kindly clarify, what need to consider.	
58.	Vol. 2	336	Section 15, Table-1	Only concrete structure for tower monitor.	Kindly provide the drawing for tower monitor required for OT-II	The foundation structure will not be in this scope. The same will be done on other tender. HDC will supply the drawings of OT-II substructure.
59.	Vol. 2	7	Section 17, Data sheet for Diesel Engine	Diesel Engine for fire water pump shall be UL Listed/FM Certified:	As pumps are non UL/FM, diesel engine for same shall be as per TAC ie. Non-UL/FM approved. Kindly confirm.	All pumps and equipments shall be UL/FM listed.
60.	Vol. 2	8	Section 17, 3, point 32	Acoustic housing/enclosure noise specification. &	The Fire Fighting Pumps are not meant to be continuous operating equipment, the firefighting pumps are meant to be operational only during the worst case scenarios i.e. in case of a fire condition taking place. The fire fighting pumps comes with a sound level of 105 dB to 110 dB. Hence no acoustic housing/enclosure shall be provided for same. Kindly confirm.	Yes, no acoustic housing/enclosure is required for fire water pumps.
61.	Vol. 2		Section 17	Data sheets:	Please provide specification/Datasheet for following items: 1. Pressure Relief Valve 2. ROV (If required)	This is a EPC Contract. Data sheets for major items have been provided, however the contractor has to design the remaining items.

					3.International Shore connection 4.Expansion Bellow 5.Fire Proofing 6.Deluge Valve 7.Solenoid Valve 8. Spray Nozzle	
62.	General			Make up water for fire water tank:	Please clarify the scope of Make up water arrangement for fire water tank.	Make-up water will be supplied by HDC.
63.	General			Supply of Foam pipe:	Kindly provide schematic for foam storage & distribution system	P&ID for fire fighting system enclosed as Annexure-V in Addendum-III may be referred.
64.	General			Control Room Drawing:	Please share the existing control room drawing to be revamped.	Available drawings will be provided during detail engineering stage after placement of Order.
65.	General			P&ID for Fire Protection system:	Please share the P&ID of Fire protection system as mentioned in the technical specification	P&ID for fire fighting system enclosed as Annexure-V in Addendum-III may be referred.
66.	General			Pump House:	Pump House size mentioned in BOQ 50x20 but as per Cl. No. 1.4 the size of pump house mentioned 51x20. Please confirm which dimension to be considered.	Clause no-1.4 shows: New RCC common pump house with 10 Ton EOT Crane of Size 51MX12M not less than this size, to accommodate all fire water pumps, Jockey Pumps and foam pump and foam tanks. Refer annexure-VII in addendum-III.
67.	General			Fire Water Tank:	Water reservoir is mentioned in clause no-1.4of technical specification 24mx20m, we found that size is not adequate to hold 10000 KL water. Please confirm correct dimension to be considered.	Size of the tank given in tender document is tentative only. The design is on the scope of the Contractor.

68.	General			Hydrotest:	As per Section - 3 Cl. No. 3.1 i. of Design Philosophy hydro test to be carried out as per OISD 156 but there is no such pressure for hydro test mentioned in OISD 156. Please confirm.	Generally design philosophy of hydro testing of pipe line shall be 1.5 times operating pressure.
69.	General			Layout Drawing:	Kindly provide following drawings in Autocad 1. IITM/DOE/HDC/INT/EFF/ML-01 2. OJH-1, OJH-2, OT-2 and BJ-1 & BJ-2 drawing 3. Existing equipment layout details drawing like pipe routing, pipe rack, manifold etc. for all jetties 4. Layout drawing of existing facilities (Above ground/Under ground) on shore. 5. Road details.	Auto CAD drawing cannot be provided to the bidder. However, the successful bidder may visit HDC drawing office to collect data for preparation of their drawings.
70.	General			Hazard Area Classification:	Kindly provide the hazard area classification drawing.	The successful bidder will have to prepare the drawing.
71.	General			Mobile Fire Fighting Equipemnt:	Please confirm whether we need to consider Mobile fire fighting equipment foam tender, water tender, DCP tender in our scope. If yes, please provide the specification for same.	Only as per OISD 156 STD.
72.	General			General:	Please confirm that any kind of dismantling of existing facilities in HOJ-1, HOJ-2, BJ-1 & BJ-2 is not in our scope.	All work which comes under this scope of work will be in the bidder's scope.

73.	Vol.2	19	Scetion-1,CI-1.2	Fire fighting facilities for the HOJ-2 jetty. 1. Revamping of the existing Fire Fighting control room with necessary interiors with false floor.	HDC/KPT may kindly elaborate the scope under "necessary interiors".	HOJ-2 fire control room is master command control room for the firefighting system of the Five jetties so the required interiors to be provided to accommodate necessary instruments/accessories.
74.	Vol.2	18,19,20	Scetion-1,CI-1.2	Adequate number of ground monitors with foam facilities on the jetty	We are considering the quantity of Ground monitors as mentioned in tender drg no. IITM/DOE/HDC/INT/FFF/ML-01.HDC/KPT to conform.	All the tender drawing are tentative only. The bidder should follow as per OISD 156.
75.	Vol.2	24	Scetion-1,CI1.4, item-6(c)	Under Deck Nozzles	Only quantity is mentioned. Design density, Specification and size of nozzles may please be furnished.	Bidder should follow the OISD 156.
76.	Vol.2	24	Scetion-1,CI1.4, item-6(d)	Facilities in OT-II d)Water Hydrants & Water monitors	Ist column is blank. Kindly clarify whether Hydrant and monitors are to be provided as per the qty. shown in Drg.No. IITM/DOE/HDC/INT/FFF/ML-01	Yes. However, all the tender drawing are tentative only. The bidder should follow as per OISD 156.
77.	Vol.2	26	Section1, CI.1.4, sl. 13	Fire detection system	Detection for the areas as mentioned in the tender doc, clause No.3.15.1, Last para will be provided. HDC/KPT may kindly confirm	Bidder should follow the OISD 156.
78.	Vol.2	28	Section1, CI.1.11	<u>Underground cables/Piping/ Abandoned Foundations:</u> During execution of work, Contractor shall identify and inform the	Such work shall be cost compensated as per mutually agreed terms and conditions between the contractor and HDC/KPT. Kindly confirm/clarify.	The bidder should visit the site and get all the information regarding the underground services.

				COMPANY about underground facilities like cables, piping or abandoned foundations encountered in the current project sites and affecting the current scope of works. These facilities shall be re-routed/re-located by the Contractor with prior intimation & due approval of HDC.		
79.	Vol.2	32	Section-2, Cl-2.1 Para 5	It shall be noted that requirements of Governmental Authority, Chief Controller of Explosive of e.g. Petroleum and Explosives safety Organization (PESO), Nagpur, India, Oil Industries Safety Directorate (OISD-156) shall govern when these are more stringent than requirements specified in the technical specifications mentioned in this document.	Systems mentioned in the tender document only shall be provided. HDC/KPT to clarify/confirm.	Tender conditions prevailed.
80.	Vol.2	39	Sec-2, Cl. 2.5.3	<u>Water Supply for Construction:</u> The Contractor will	HDC/KPT may kindly furnish the source of Water supply and distance from the work site.	The bidder should visit the site to collect the required information.

				have to make his own arrangements for supply of water to his labor camps and for works. All plumbing installations, pipe network and distribution system will have to be carried out by the Contractor at his own cost.		
81.	Vol.2	39	Sec-2, Cl. 2.5.4	<u>Power Supply for Construction:</u> Contractor may obtain necessary temporary power connection from nearest source of HDC, if available and permitted by Port authority, on chargeable basis. Else he may make alternative arrangements of his own. Contractor shall make his own arrangements for temporary distribution of power at various construction locations.	It is requested that HDC/KPT may kindly provide the Alternate source of power.	Bidders should arrange his own DG set at his own cost and arrangement.
82.	Vol.2	45	Sec-3, Cl:3.1(f)	Double headed fire hydrants as per OISD 156 latest edition,	As per drg.No. IITM/DOE/HDC/INT/FFF/ML-01, Qty of hydrants jetty wise is	Yes. However, all the tender drawing are tentative only. The bidder should follow as per OISD

				spaced at an interval of 30/45 Meters between two consecutive hydrants.	mentioned and will be provided. HDC/KPT may confirm the Quantity.	156.
83.	Vol.2	44	Sec-3, Cl:3.1(d)	(i) Design, procure, supply water filling line.... . The filling lines with suitable size flange provision to get connected to source water pipe to be laid from the existing source.	Location and distance of source of water from proposed site of new fire reservoir may be furnished.	The bidder should visit the site and get all the information regarding the source of the water.
				(ii) Above ground ring main network are to be laid on RCC Piping sleepers at a minimum height.....	"Ring main network" is not clearly understood. We are considering piping network as per tender drg.No. IITM/DOE/HDC/INT/FFF/ML-01. HDC/KPT to clarify/confirm.	Tender condition prevails.
84.	Vol.2	47	Sec-3, Cl:3.1(last but one bullet)	Auto start of tower monitor system shall also linked with hydrocarbon leak detection and alarm so that FWPs should start automatically in the pump house. <u>Hydrocarbon Detection System will be installed and commissioned by HDC.</u>	Please furnish the details of interface required.	All the interfaces will be with PLC. Gas detection system is under the scope of the EPC contractor. May please refer Sl. No. 32 of Addendum-III.
85.	Vol.2	211	Sec-5, Cl.5.7.1(ii i)	The external hydrants shall be provided at a spacing of not exceeding 30 m. throughout the	We are considering the quantity of Hydrants and monitors as per drg No. IITM/DOE/HDC/INT/FFF/ML-01. HDC/KPT may kindly confirm.	All the tender drawing are tentative only the bidder should follow as per OISD 156.

				jetty terminal. Every alternate hydrant shall be replaced by water monitors. Hydrant / monitors shall be placed alongside the berth for easy accessibility.		
86.	Vol.2	235	Section-7, Cl.7.1 last bullet of page-235	Any discrepancy of line fouling or shifting due to..... The necessary modification shall be done by contractor with due approval of owner/consultant.	Such works shall be cost compensated as per mutually agreed terms and conditions between the contractor and HDC/KPT.HDC/KPT to confirm.	This is a EPC tender and no extra cost will be paid.
87.	Vol.2	348	Section-17, Cl.17.6	CLEAN AGENT FIRE EXTINGUISHING SYSTEM: The system should be checked once in 6 months for agent quality and pressure of refillable Containers. Detection system should be checked once in 3 months after putting gas release on manual mode to avoid discharge of gas. Smoke detectors should be cleaned once in three months	Clean Agent Fire extinguishing system is mentioned under 10 years operation and Maintenance. This system is not mentioned under the scope of work of supply. HDC/KPT may clarify regarding Maintenance.	This system shall be installed in the control rooms by the EPC contractor at his cost. Please refer reply Sl. No. 26.
88.	General point		IITM/DO E/	Master Layout of proposed Fire Fighting	Total length of Pipe rack for proposed hydrant pipeline shown	Bidder should calculate since it is a EPC contract.

			HDC/INT /F FF/ML-01	system	in magenta colour is in the scope of Bidder. Kindly confirm. If not, total length of pipe rack may be furnished.	
89.	General point				What is the size of jetty? Dimensional drawing of jetty layout including manifold area may be made available in order to plan and assess the Fire fighting piping.	The bidder should visit the site and get all the information regarding the jetty layouts.
90.	General point				Approved/preferred makes of the following items are not mentioned in the tender doc: a) CS Pipes fittings and flanges b) SS pipe fittings and flanges c) Foam tank, level indicator and level switch d) First Aid Hose reel	The list of approved vendors in the tender document.
91.	Vol.2	28,59, 115	Sec.1 Cl 1.8, Cl 4.2(b) Cl.4.19.3	Electrical System Detailed Engineering General requirement	Single Line Diagram (SLD) is written to be attached with the Tender. But the same is missing in the tender document. Please furnish the SLD with equipment rating	Attached as Annexure-IV with Addendum -III.
92.	Vol.2	57	SEC.1 Cl.4.1	Scope of Works	Battery limit of the Tender in terms of electrical system is not clear. Please clarify the same.	As per Annexure-VII of Addendum-III.
93.	Vol.2	64-65	Cl. 4.4	Area wise scope of works	We understand that the existing substation is to be revamped to accommodate for the electrical equipment for the proposed fire	The bidder should visit the site and get all the information.

					fighting system. Kindly furnish us the details of the existing substation with equipment details & disposition.	
94.	General		---	Layout drawings	Location of the existing substation which is to be revamped is not clear in the drawing The location may please be clarified to us.	The bidder should visit the site and get all the information.
95.	General		---	Layout drawings	Location of control rooms for OT-2 and BJ-1/2 is not clear in the drawing. The location may please be clarified to us.	The bidder should visit the site and get all the information.
96.	Vol.2	18 &23	SEC.1 Cl.1.2 Cl. 1.4	Description of Project Project Scope	We understand that new control room is to be constructed for HOJ-1 and for BJ-1/2. The existing control room of HOJ-2 is to be revamped. Kindly let us know if the new control room is also required to be constructed for OT-2.	Refer SI.No. 11 of Addendum-III.
97.	Vol.2	18	Sec.1 Cl.1.2	Description of Project	We understand that all the control rooms required to be constructed or revamped are for purpose of control & monitoring exclusively for fire fighting system under the scope of this Tender. Please confirm.	Annexure-VII of Addendum-III may be referred.
98.	Vol.2	27	Sec.1 Cl.1.4 SL.16	Project Scope	The scope of lighting is not clear. Is it limited to the premises coming under this Tender e.g. Fire pump house, control rooms, etc?. Kindly furnish the name of the areas/premises which are required to be illuminated under	Annexure-VII of Addendum-III may be referred.

					this Tender.	
99.	Vol.2	62	Cl.4.3	Indicative scope of supply, Table No. 2	Open areas and streets/roads coming under scope of this Tender is not clear. We request you to kindly let me know the details of open areas and roads for which we can consider street light poles and high mast. No. of lighting high mast may kindly also be indicated. Also, please specify length of roads to be illuminated and no. of lighting high mast to be considered.	Annexure-VII of Addendum-III may be referred.
100.	Vol.2	51-52	Cl. 3.9	Fire Fighting Facilities	Kindly let us know the areas/premises for which flame proof light fittings are required to be considered.	Flame Proof lighting is as per the OISD 156 and PESO guide lines.
101.	Vol.2	63	Cl.4.3 Table 2 Sl.17	Design, supply,.....	We understand that internal illumination shall be limited to the control rooms, fire water pump house and revamped substation only. Please specify if internal illumination needs to be provided for any more premises.	Annexure-VII of Addendum-III may be referred.
102.	Vol.2		Cl. 4.3 Table 2	Design, supply,.....	Can we consider normal light fittings (non-flame proof) for internal illumination i.e. control rooms, fire water pump house, substation building?	OISD/ PESO guide lines prevails. Annexure-VII of Addendum-III may be referred.
103.	Vol.2	63	CL.4.3 Table No.2	Indicative scope of supply,	Kindly furnish rating in kVAR and voltage level of capacitor banks for estimation purpose.	Design is in the scope of the bidder.

			SL.7			
104.	Vol.2	63	Sec.4 CL.4.3 Table No.2 Sl.17	Indicative scope of supply,	Purpose of providing ASB - Auxiliary power supply distribution board AC is not clear. Please elaborate.	The backup power should be calculated based on the total demand of the firefighting system.
105.	Vol.2	64	Sec.4 Cl.4.4	Area wise Scope of works	We understand that lighting transformer is required to be considered for lighting loads. Voltage level at which this transformer receive power and incoming cable length along with source identification may please be furnished.	The Bidder should visit the site and collect the data.
106.	Vol.2	64	Sec.4 Cl.4.4	Area wise Scope of works	As SLD is missing and power distribution scheme is not clear, kindly let us know the electrical equipment to be considered e.g. transformer, LT busduct, PCC, MCC, etc along with incoming voltage level, incoming cable quantities and incoming source identification.	The Tentative SLD is enclosed as Annexure-IV of Addendum-III.
107.	Vol.2	64	Sec.4 Cl.4.4	Area wise Scope of works	It is not clear whether one integrated PLC needs to be provided for all the control room and common fire water pump house or separate PLC is required to be provided to each control room. In case of one integrated PLC, please Specify location of main PLC	The individual control panels will be in the respective control rooms. The integrated PLC will be placed in the HOJ-2 control Room. The PLC shall be with hot redundancy. 100% UPS back up for six hours.

					system and server. No. of UPS shall be considered accordingly.	
108.	Vol.2	64	Sec.4 Cl.4.4	Area wise Scope of works	Please specify the location at which main fire alarm for fire detection and alarm system is to be located. Also, please specify number of fire detection and alarm panels.	Each jetty will have individual fire alarm system with interlinking with the main PLC, the number of detectors are as per OISD 156.
109.	Vol.2	65-66	CL.4.5 (a)	Lighting fixtures, lamps and complete accessories / associated equipments required for lighting of jetties / Approach road/ lighting shall be energy efficient LED lamps fixtures shall be provided. The exact number of fixtures required for different locations shall be worked out during detailed engineering and shall fulfill the minimum illumination level criteria as per the OISD guidelines.	For outdoor lighting, please confirm type of light fittings, LED or Non-LED and flame proof or non-flame proof.	Bidder should consider LED light fittings confirming to OISD-156/Peso guidelines. Annexure-VII of Addendum-III may be referred.
110.	Vol.2	67	SEC.4 CL 4.6 (d)	<u>General Requirement:</u> Contractor shall perform fabrication, supply, erection and painting of steel structural supports	Kindly specify the location and route length for which overhead cables are required to be considered. This is required for	The above ground cables will be On the jetty and approach trestle only. The bidder should visit site for collecting the length.

				<p>required for various electrical equipment such as overhead cable trays etc.</p> <p>Execution of work if any underground or above ground existing facilities are encountered, the contractor has to ensure that the new facilities being constructed do not interfere with the existing facilities. Contractor shall inform the company of such facilities and re-routing of these facilities shall be done by the company.</p>	<p>estimation of cable structures, etc.</p>	
111.	Vol.2	104	Sec.4 Cl.4.18	<p>HT Switchgear: This specification covers the requirements of 33 kV Switchgear complete with all accessories for the firefighting facilities.</p>	<p>Requirement of 33kV switchgear is not clear. Is it for providing a 33kV breaker panel at upstream of transformer? If so, only two nos. of 33kV breaker panels are required for two nos. of transformers. Location of 33kV panels may please be specified.</p>	<p>The upstream of the transformer, the bidder should consider only VCB. The capacity of the above should be designed as per the available incomer at site.</p>
112.	Vol.2	115	Sec.4 Cl. 4.19	<p>LT Switchgear</p>	<p>Specifications are given for PCC as well as PMCC. Should we consider two levels of 415 V distributions, first PCC and then MCC. Alternatively, we may consider</p>	<p>The EPC contractor may consider PMCC also; the design is in his scope.</p>

					PMCC getting fed directly from the transformers. Please clarify.	
113.	Vol.2	117	Sec.4 CL-4.19.4	LT Switchgear: Design and Construction - Power cum Motor Control Centre (PMCC)	LT Switchgears (PCC/PMCC) are said to be with IP-52 degree of protection. LT switchgear compartment, specially incomers of high current rating, with IP- 52 may be difficult to get, hence we request to accept IP-42 class of protection. for incomer panels and IP-52 for other panels. Please respond.	The area specific requirement in line with NIT should be complied with.
114.	Vol.2	128	Sec.4 CL. 4.20	240V UPS	Type of UPS battery is not clear. Please specify type of battery for the UPS, VRLA (SMF), Lead Acid Plante or Lead Acid Tubular. Also, please specify number, capacity and location of UPS.	UPS battery should be jell type and the location of the UPS shall be at HOJ-2.
115.	Vol.2	137	Sec.4 CL. 4.21.10	Special tests on cables	The type tests are said to be conducted on each size of each lot of FRLS cables. Is it not sufficient to furnish type test reports on identical cables ? Please respond.	Tender conditions prevail.
116.	Vol.2	128 & 129	Cl.4.20.01 Cl. 4.20.03	240V UPS Design & construction.....	Clause 4.20.01 says that critical lighting shall be fed from 240V UPS, whereas, Clause 4.22.03 says that emergency light is said to have built in 24 battery, battery charger and 1x5W LED lamp. Please clarify.	In the control rooms from the UPS and in the fire pump house from the battery charger.

117.	Vol.2	144-145	Sec-4 Cl.4.23.3	General Requirement (Cabling system)	Clause 4.23.3 says that, in case of horizontal formation, the highest voltage cables shall be laid in the top most position. However this clause further says that 33kV cable will be placed on bottommost tier. This is confusing. Please clarify.	Tender condition prevails. However, the EPC contractor shall design as per good engineering practices.
118.	Vol.2	147	Sec.4 Cl.4.23.8	<u>Spare list:</u> Suitable quantity of commissioning and successful running for 2 years spares list shall be Submitted for approval.	List of spares for 2 years shall be submitted for successful running. Is it along with the offer or during detailed engineering after award of contract?	During the detailed engineering stage.
119.	Vol.2	287	Sec. 11 Cl.11.6.1	Hard wired relay based control panel	The operation, monitoring & Data acquisition shall be based on hardwired relay based control panel. Please confirm.	Refer reply Sl. 51.
120.	Vol.2	288	Sec. 11 CL11.6.2	SCADA system	"SCADA system is for remote monitoring" is written. Purpose of this SCADA is not clear. Is it same as PLC which may be required for monitoring along with control? Please clarify.	YES it is same of PLC
121.	Vol.2	289	Sec. 11 CL.11.6.4	Instrumentation Scope of Work for Fire Fighting system for all four jetties.	The clause says local fire alarm control panel shall be provided in pump house, whereas, main fire alarm shall be in control room. Please clarify whether fire detection and alarm system will be only one or four in numbers as	Fire detection and gas detection system are four numbers each will be located in respective control rooms along with the receptive alarms.

					there are four control rooms and one electrical substation building.	
122.	General Electrical	.....	.....	.....	Please specify number & location of electrical substations to be revamped. Is space available for extending the existing substation. Please furnish the equipment layout in the substation. We understand that any new substation is out of scope of this Tender	Two substations are available at site same has to be revamped. The party may visit the site for details.
123.	General Electrical	.....	.....	.....	The outcomes of pre-bid conference held recently with other bidders may please be furnished to us.	Will be uploaded along with addendum-III.
124.	General Electrical	-----	-----	-----	The electrical substation is required to be as near as possible to the fire water pump house to optimize the number and sizes of the cables. The cable route length from substation to the proposed fire water pump house may please be furnished.	Bidder shall visit site and get the location related information.
125.	General Electrical	-----	-----	-----	It is mentioned, all equipment shall be suitable for hazardous areas. Kindly let us know area/premise wise zone of protection (e.g. 0, 1, 2) and type of protection (e.g. l, d, p, q, s) to be followed for this Tender for various electrical equipment.	All the equipment is to be provided as per the ZONE of protection as per the OISD guide lines.

126.	Vol.2	18	Sec.1, CI-1.2 Descripti on of Project	<p>Fire fighting facilities for the OT-2 jetty:</p> <p>8. Electrical and instrumentation system for the operations of the OT-2 terminal.</p> <p>9. Entire interiors and instruments like tower monitor control system, gas-detection systems, UPS and PLC systems</p>	<p>1. List of measurements & Controls as applicable for this tender may please be indicated for Operation of OT-2 Terminal.</p> <p>2. Please clarify type of instruments in tower monitor control system.</p> <p>3. Please clarify type of gas analysis system.</p>	All the facilities are as per the OISD 156.
127.	Vol.2	19	Sec.1, CI-1.2	<p>Fire fighting facilities for the HOJ-2 jetty:</p> <p>8. Electrical and instrumentation system for the operations of the c terminal</p> <p>9. Entire interiors and instruments like tower monitor control system, gas-detection systems, UPS and 1. PLC systems</p>	<p>1. List of measurements & Controls as applicable for this tender may please be indicated for Operation of HOJ-2 Terminal.</p> <p>2. Please clarify type of instruments in tower monitor control system.</p> <p>3. Please clarify type of gas analysis system</p>	All the facilities are as per the OISD 156.
128.	Vol.2	19	Sec.1, CI-1.2	<p>Fire fighting facilities for the HOJ-1 jetty:</p> <p>8. Electrical and</p>	<p>1. List of measurements & Controls as applicable for this tender may please be indicated</p>	All the facilities are as per the OISD 156

				instrumentation system for the operations of the HOJ-1 terminal 9. Entire interiors and instruments like tower monitor control system, gas-detection systems, UPS and PLC systems.	for Operation of HOJ-1 Terminal. 2. Please clarify type of instruments in tower monitor control system. Please clarify type of gas analysis system.	
129.	Vol.2	19-20	Sec.1, CI-1.2	Fire fighting facilities for the Barge jetties.: 5. Electrical and instrumentation system for the operations of the terminal. 6. Entire interiors and instruments like tower monitor control system, gas-detection systems, UPS and PLC systems.	1. List of measurements & Controls as applicable for this tender may please be indicated for Operation of Barge jetties.. 2. Please clarify type of instruments in tower monitor control system. 3. Please clarify type of gas analysis system.	All the facilities are as per the OISD 156
130.	Vol.2	23	Sec.1, CI-1.4, SI.2 Project Scope	2) Installation of new pumps & it's associated piping, electrical, instrumentation, Civil work etc	Please provide list of measurement & controls.	All the facilities are as per the OISD 156
131.	General	...	...	Type of Instrument	Type of instrument is not indicated	Please refer with the DATA sheets.

					in the Tender document. Please clarify all Transmitters (say pressure transmitter) are 4-20mA signal ?	
132.	General	--	----	Measurement & Control List	Please provide the List of Measurement & Controls as applicable for this Tender.	Tender condition prevails.
133.	General	---	---	Vendor/Make List	No make pertaining to instrumentation items like pressure gauge, pressure switch, pressure transmitter, flow transmitter, level transmitter, etc., are indicated in the Tender document. As such, all such instrumentation items will be considered & supplied from the Approved list of MECON.	Check with the vender list if it not listed the same to be approved by HDC .
134.	Vol.2	57	Sec.4 Cl.4.1	Scope of Work	Battery limit of the Tender in terms of electrical system is not clear. Please clarify the same.	Refer reply Sl. 92
135.	Vol.2	64-65	Sec.4 Cl.4.4	Area wise scope of works	We understand that the existing substation is to be revamped to accommodate for the electrical equipment for the proposed fire fighting system. Kindly furnish us the details of the existing substation with equipment details & disposition.	Refer reply Sl. 93
136.	General	---	---	Layout drawings	Location of the existing substation which is to be revamped is not clear in the drawing The location may please be clarified to us.	Refer reply Sl. 94

137.	General	---	....	Layout drawings	Location of control rooms for OT-2 and BJ-1/2 is not clear in the drawing. The location may please be clarified to us.	Refer reply Sl. 95
138.	Vol.2	18 & 23	Sec.1 CL. 1.2 & Cl.1.4	Description of Project Scope	We understand that new control room is to be constructed for HOJ-1 and for BJ-1/2. The existing control room of HOJ-2 is to be revamped. Kindly let us know if the new control room is also required to be constructed for OT-2.	Refer reply Sl. 96
139.	Vol.2	18	Sec.1 Cl.1.2	Description of Project	We understand that all the control rooms required to be constructed or revamped are for purpose of control & monitoring exclusively for fire fighting system under the scope of this Tender. Please confirm.	Refer reply Sl. 97
140.	Vol.2	27	Sec.1 Cl.1.4 Sl.16	Description of Project Scope	The scope of lighting is not clear. Is it limited to the premises coming under this Tender e.g. Fire pump house, control rooms, etc ?. Kindly furnish the name of the areas/premises which are required to be illuminated under this Tender.	Refer reply Sl. 98
141.	Vol.2	62-64	Sec.4 Cl.4.3 Table 2	Indicative scope of supply, Table No. 2	Open areas and streets/roads coming under scope of this Tender is not clear. We request you to kindly let me know the details of open areas and roads for which we can consider street light poles and	Refer reply Sl. 99

					high mast. No. of lighting high mast may kindly also be indicated. Also, please specify length of roads to be illuminated and no. of lighting high mast to be considered.	
142.	Vol.2	51-52	Sec.3; Cl. 3.9	Fire Fighting Facilities	Kindly let us know the areas/premises for which flame proof light fittings are required to be considered.	Refer reply Sl. 100
143.	Vol.2	63	Sec.4; Cl. 4.3 Table 2	Design, supply, ...	We understand that internal illumination shall be limited to the control rooms, fire water pump house and revamped substation only. Please specify if internal illumination needs to be provided for any more premise.	Refer reply Sl. 101
144.	Vol.2	62	Sec.4; Cl 4.3 Table 2	Design, supply,	Can we consider normal light fittings (non-flame proof) for internal illumination i.e. control rooms, fire water pump house, substation building?	Refer reply Sl.102
145.	Vol.2	63	Sec.4; Cl 4.3 Table 2 SL.7	Indicative scope of supply, Table No. 2	Kindly furnish rating in kVAR and voltage level of capacitor banks for estimation purpose.	Refer reply Sl. 103
146.	Vol.2	63	Sec.4; Cl 4.3 Table 2 Sl.17	Indicative scope of supply, Table No. 2	Purpose of providing ASB - Auxiliary power supply distribution board AC is not clear. Please elaborate.	Refer reply Sl. 104
147.	Vol.2	65	Sec.4; Cl 4.4 Para 2	Area wise Scope of works	We understand that lighting transformer is required to be considered for lighting loads.	Refer reply Sl. 105

			Line 2		Voltage level at which this transformer receive power and incoming cable length along with source identification may please be furnished.	
148.	Vol.2	64	Sec.4; Cl 4.4	Area wise Scope of works	As SLD is missing and power distribution scheme is not clear, kindly let us know the electrical equipment to be considered e.g. transformer, LT busduct, PCC, MCC, etc along with incoming voltage level, incoming cable quantities and incoming source identification.	Refer reply Sl. 106
149.	Vol.2	64	Sec.4; Cl 4.4	Area wise Scope of works	It is not clear whether one integrated PLC needs to be provided for all the control room and common fire water pump house or separate PLC is required to be provided to each control room. In case of one integrated PLC, please specify location of main PLC system and server. No. of UPS shall be considered accordingly.	Refer reply Sl. 107
150.	Vol.2	64	Sec.4; Cl 4.4	Area wise Scope of works	Please specify the location at which main fire alarm for fire detection and alarm system is to be located. Also, please specify number of fire detection and alarm panels.	Refer reply Sl. 108
151.	Vo.2	65	Sec-4	Lighting fixtures, lamps	For outdoor lighting, please	Refer reply Sl. 109

			CI 4.5 (a)	and complete accessories / associated equipments required for lighting of jetties / Approach road/ lighting shall be energy efficient LED lamps fixtures shall be provided. The exact number of fixtures required for different locations shall be worked out during detailed engineering and shall fulfil the minimum illumination level criteria as per the OISD guidelines.	confirm type of light fittings, LED or Non-LED and flame proof or non-flame proof.	
152.	Vol.2	67	Sec-4 CI 4.6 (d)	Contractor shall perform fabrication, supply, erection and painting of steel structural supports required for various electrical equipment such as overhead cable trays etc. Execution of work if any underground or above ground existing facilities are encountered, the contractor has to ensure that the new facilities being constructed do	Kindly specify the location and route length for which overhead cables are required to be considered. This is required for estimation of cable structures, etc.	Refer reply Sl. 110

				not interfere with the existing facilities. Contractor shall inform the company of such facilities and re-routing of these facilities shall be done by the company.		
153.	Vol.2	104	Sec.4 Cl.4.18	HT Switchgear: This specification covers the requirements of 33 kV Switchgear complete with all accessories for the firefighting facilities.	Requirement of 33kV switchgear is not clear. Is it for providing a 33kV breaker panel at upstream of transformer? If so, only two nos. of 33kV breaker panels are required for two nos. of transformers. Location of 33kV panels may please be specified.	Refer reply Sl. 111
154.	Vol.2	115	Sec.4 Cl.4.18	LT Switchgear:	Specifications are given for PCC as well as PMCC. Should we consider two levels of 415 V distribution, first PCC and then MCC. Alternatively, we may consider PMCC getting fed directly from the transformers. Please clarify.	Refer reply Sl. 112
155.	Vol.2	117	Sec.4 CL-4.19.4	LT Switchgear: Design and Construction - Power cum Motor Control Centre (PMCC)	LT Switchgears (PCC/PMCC) are said to be with IP-52 degree of protection. LT switchgear compartment, specially incomers of high current rating, with IP-52 may be difficult to get, hence we request to accept IP-42 class of protection. for incomer panels	Refer reply Sl. 113

					and IP-52 for other panels. Please respond.	
156.	Vol.2	128	Sec.4; Cl.4.2 0	240V AC UPS system	Type of UPS battery is not clear. Please specify type of battery for the UPS, VRLA (SMF), Lead Acid Plante or Lead Acid Tubular. Also, please specify number, capacity and location of UPS.	Refer reply Sl. 114
157.	Vol.2	137	Sec.4 Cl. 4.21.10	Special tests on cables	The type tests are said to be conducted on each size of each lot of FRLS cables. Is it not sufficient to furnish type test reports on identical cables? Please respond.	Refer reply Sl. 115
158.	Vol.2	128 & 129	Sec.4 4.20.01 4.22.03,	240V UPS Design & construction.....	Clause 4.20.01 says that critical lighting shall be fed from 240V UPS, whereas, Clause 4.22.03 says that emergency light is said to have built in 24 battery, battery charger and 1x5W LED lamp. Please clarify.	Refer reply Sl. 116
159.	Vol.2	144	Sec.4 Cl 4.23.3	General Requirement (Cabling system)	Clause 4.23.3 says that, incase of horizontal formation, the highest voltage cables shall be laid in the top most position. However this clause further says that 33kV cable will be placed on bottommost tier. This is confusing. Please clarify.	Refer reply Sl. 117
160.	Vol.2	147	Sec.4 Cl.4.23.	Spare list: Suitable quantity of commissioning and	List of spares for 2 years shall be submitted for successful running.	Refer reply Sl. 118

			8	successful running for 2 years spares list shall be Submitted for approval.	Is it along with the offer or during detailed engineering after award of contract?.	
161.	Vo.2	282-283	Sec.11 CI-11.1	Scope of work for Instrumentation	Control & monitoring system of fire fighting system is not clear. On one hand it is said that Control & monitoring shall be done through hardwired relay based control panel. On the other hand it is said to be through PLC. Please clarify.	Refer reply Sl. 51
162.	Vol.2	287	Sec. 11 CL.11.6.1	Hard wired relay based control panel	The operation, monitoring & data acquisition shall be based on hardwired relay based control panel. Please confirm.	Refer reply Sl. 51
163.	Vol.2	288	Sec. 11 CL.11.6.2	SCADA system	"SCADA system is for remote monitoring" is written. Purpose of this SCADA is not clear. Is it same as PLC which may be required for monitoring along with control ? Please clarify.	Refer reply Sl. 120
164.	Vol.2	289	Sec. 11 CL.11.6.4	Instrumentation Scope of Work for Fire Fighting system for all four jetties.	The clause says local fire alarm control panel shall be provided in pump house, whereas, main fire alarm shall be in control room. Please clarify whether fire detection and alarm system will be only one or four in numbers as there are four control rooms and	Refer reply Sl. 121

					one electrical substation building.	
165.	General	---	---	---	Specify number & location of electrical substations to be revamped. Is space available for extending the existing substation? Please furnish the equipment layout in the substation. We understand that any new substation is out of scope of this Tender.	Annexure-VII of Addendum-III may be referred.
166.	General	---	---	---	The outcomes of pre-bid conference held recently with other bidders may please be furnished.	Refer reply Sl. 123
167.	General	---	---	---	The electrical substation is required to be as near as possible to the fire water pump house to optimize the number and sizes of the cables. The cable route length from substation to the proposed fire water pump house may please be furnished.	Refer reply Sl. 124
168.	General	---	---	---	It is mentioned, all equipment shall be suitable for hazardous areas. Kindly let us know area/premise wise zone of protection (e.g. 0, 1, 2) and type of protection (e.g. I, d, p, q, s) to be followed for this Tender for various electrical equipment.	Refer reply Sl. 125.

169.	Vol. 2	48	Section-3, CI-3.2, last bullet,	For ports terminals handling ships of less than 50,000 tonnes capacity one set of fire water Pumps shall be provided which will cater to both tower mounted monitors as well as hydrant service and water curtains, and for Port terminal handling ships of 50,000 tonnes or larger two sets of Fire water Pumps shall be provided for:	Point not clear. HDC/KPT may kindly clarify what is meant by " larger two sets of Fire water Pumps "	Bidder should follow OISD-156(2017) for the pump selection.
170.	Vol. 2	53	Section-3, CI-3.11, 3 rd para	Automatic water curtain system shall be tapped from separate firewater network system and majorly consists of deluge valve along with isolation valves, strainers, piping network for water curtain, detection network.	We are considering tapping for water curtain system from Hydrant line. Kindly confirm.	Fire water Curtin will not be provided with the deluge system. So go with taping with isolation valve.
171.	Vol. 2	55	Section-3 CI.3.14, 1st para	The compressed air system is planned for all pneumatic controlled valves in the fire fighting system and user requirements during the operation	user requirements of compressed air (Quantity and quality) may please be furnished by HDC/KPT	Bidder should calculate the capacity of the air compressor. The quality of the air should meet the requirements of the ROV.

				of the jetty. The system consists of the 2 nos. (1W+1S) of Non-lubricated, the capacity of Air cooled Screw compressors will be finalized during detail engineering. The Air compressors should have the following equipments.		
172.	Vol. 2	---	Annexure	Data sheets	Data sheet for Foam Filling pump may please be furnished	Data sheets are enclosed in the tender document.
173.	Vol. 2	---	General		(i)Please furnish Battery limit for planning On-shore facilities like pump house, water reservoir etc	Bidder should refer the tender document.
174.	Vol. 2	---	General		(ii) Chain Link fencing is shown in the tender layout drawing. Details are not available in the tender document. HDC/KPT to clarify whether this is in the scope of Bidder.	Tender layout drawing is tentative only the fire water tanks and pump house should be segregated with chain link fencing which is under the scope of the bidder.
175.	Vol. 2	---	General		(iii) Type of Road whether rigid or flexible may be clarified by HDC/KPT.	The road should be only for the approach for the firewater tanks and fire pump house for the makeup water and for the maintenance bidder should take appropriate road.
176.	Vol. 2	---	General		"Single Line Diagram" indicating the	Attached as Annexure-IV of

					details of the incomers for main receiving Power.	Addendum-III.
177.	Vol. 2	---	General		<p>i. From Tender document, it is observed that while Main Fire water Pumps Working + Standby) and Foam Pumps (Working + Standby) are Diesel Engine driven, Jockey Pumps are and few other small drive are motor driven (All LT drives). The source of incoming power with voltage level and distance from battery limit, may please be made available for planning of 'Substation' and further distribution of power.</p> <p>ii. We feel, availability of 415V LT power from a nearby source from the battery limit may suffice the requirement -- but this is also not specifically clear from the tender document. This may please be clarified</p> <p>iii. We assume that technical specification for 33KV Switchgear, as attached</p>	<p>i) Please go through the tender, all the main pumps are diesel driven.</p> <p>ii) & iii) For All electric works bidder should work out the exact requirements for the firefighting system, and jetty lighting system only.</p>

					with the tender document, is not applicable for the domain of work specified. (Fire Fighting and Protection System entirely based on LT network). HDC/KPT to clarify/confirm..	
178.	Vol.2	33 & 34	Sec.2 Cl. 2.3.1	Power System Studies which include Load Flow studies, Short Circuit Analysis, Motor Starting Studies and Harmonic Analysis'	Load Flow studies, Short Circuit Analysis, Motor Starting Studies and Harmonic Analysis' is not relevant and is not applicable for the subject job. This also needs to be ascertained/ clarified.	Bidder should do the energy balancing properly.
179.	Vol.2	57	Sec.3 Cl.3.15.3	Adequate communication system like telephone/Public Address System/Paging System/ intrinsically safe Walkie-talkie system should be considered	Telephone, Public address system, Paging system and Walkie Talkie systems are specified in this clause. Please let us know, if some of or all these communication systems are to be considered.	Bidder should plan proper system for the communications.
180.	Vol.2	64-65	Sec.4 CL.4.4	Area wise scope of works DC system	50AH, 110V battery, battery charger and DCDB are written to be considered in this clause. Kindly clarify the purpose and location of this DC system.	DC system may applicable in the control room.
181.	General	----	---	-----	Catering to all the electrical installations e.g. motors, welding sockets, light fittings, etc at all the four jetties from one common	Bidder can propose LDB in the respective control rooms.

					substation room will involve a lot of voltage drop in cables due to long distances. Please forward your views.	
182.	General	----	---	-----	Please let us know if lighting of all the jetties is to be considered. If yes, please furnish us detailed general arrangement of jetties to facilitate us plan the jetty illumination. Also, please specify the type of fittings to be considered for the jetties. Whether it is flame proof or non-flame proof?	The bidder should visit site and collect the information.
183.	General	----	---	-----	Lighting is written to be required in general terms for all the areas. Please specify the specific areas/premises/locations for which lighting is to be considered in this fire fighting package. As plant is existing, lighting must be there on place.	Bidder should consider lighting for the jetties, control rooms, approach tussle, fire pump house, fire hydrant corridor and other locations which required for the firefighting purpose. May Refer Annexure-VII of Addendum III.
184.	General	----	---	-----	We understand that Air conditioning/ ventilation of Control room/pump house/ substation is not in the Bidder's scope. HDC?KPT may kindly confirm.	Bidder should consider Air conditioner for the control room, interiors required for the control room with suitable fire prevention for working on Oil Jetties.
185.	Vol.1& Vol.2	25 vol.2 & 126 Sl.3	Sec.1 CL.1.4(9) BOQ	Size of control room	Clause 1.4 (9) of Volume-2 says that size of control room for BJ-1/2 is 6Mx6M, whereas, BOQ in Volume-1 says that this size is 10Mx10M.	All sizes are tentative only bidder should finalize required size of the building.

		vol.1			Please clarify.	
186.	General	----	---	-----	We understand that one common MCC or PMCC is required to be considered to cater the electrical load requirement of common fire water pump house and all the four jetties and this MCC or PMCC shall be located in the revamped substation room. Please confirm.	Yes bidder should plan accordingly only.
187.	General(Civil)	-----	-----	For area development ,depth of filling and area required to develop	Details not available in tender document. Details/clarification to be furnished by Client.	The bidder should visit the site and ascertain the requirement
188.	General(Civil)	-----	-----	Details of area to be considered for dismantling for area leveling	Details not available in tender document. Details/clarification to be furnished by Client.	The bidder should visit the site and ascertain the requirement
189.	General(Civil)	-----	-----	Details of Roads and approaches such as length of Road and road width	Details not available in tender document . Details/clarification to be furnished by Client	The bidder should visit the site and ascertain the requirement
190.	General(Civil)	-----	-----	Details of Pipe way bridges, pipe racks, pipe sleepers, pipe support, cable trenches/racks, cable trays such as Length and width etc	Details not available in tender document . Details/clarification to be furnished by Client	The tentative pipe routing layout is given the tender bidder should finalize the same
191.	General(Civil)	-----	-----	Details of pre cast RCC trench such as length and width for under	Details not available in tender document. Details/clarification to be furnished by Client	Bidder should finalize after the detailed design

				ground cables		
192.	General(Civil)	-----	-----	RCC walkway, footpath, RCC pipe culverts	Details not available in tender document. Details/clarification to be furnished by Client	RCC walkways will come at fire water tanks only on need basis.
193.	General(Civil)	-----	-----	Extent and details of RCC Pavements of Type-I ,Type-II and Type III. Whether piling is envisaged below pavements	Details not available in tender document. Details/clarification to be furnished by Client	After completing the confirmatory bore holes bidder can decide.
194.	General(Civil)	-----	-----	Foundation details for tanks indicating dia of pile, number of piles, length of piles etc	Details not available in tender document. Details/clarification to be furnished by Client	Bidder has do decide the above details
195.	General(Civil)	-----	-----	Foundation details like pumps, vessels, tanks along with size and number of foundations to consider piles	Details not available in tender document. Details/clarification to be furnished by Client	Bidder has do decide the above details.
196.	General(Civil)	-----	-----	Detailed report of soil investigation with recommendation and type of treatment for soil	Details not available in tender document. Details/clarification to be furnished by Client	After completing the confirmatory bore holes bidder can decide
197.	General(Civil)	-----	-----	Details of foot path and emergency walk ways such as length and width etc	Details not available in tender document. Details/clarification to be furnished by Client	Bidder has do decide the above details after detailed engineering
198.	General(Civil)	-----	-----	Details of Electrical rooms like Substation, Control room, UPS	Details not available in tender document. Details/clarification to be furnished by Client	The bidder should visit the site and ascertain the requirements and sizes can be decided after

				room and MCC panel room , with sizes		detailed engineering
199.	General(Civil)	-----	-----	Length and height of earthen embankment for consideration of lining/pitching	Details not available in tender document . Details/clarification to be furnished by Client	The bidder should visit the site and ascertain the requirements and height can be decided if required after detailed engineering
200.	General(Civil)	-----	-----	Details of compound wall/boundary wall	Details not available in tender document . Details/clarification to be furnished by Client	Compound wall / Boundary walls are not there in this project
201.	General(Civil)	-----	-----	Any soil improvement to be considered below floors at ground General(Civil)level and below the roads	Details not available in tender document. Details/clarification to be furnished by Client.	Bidder has to decide after detailed design
202.	Vol.1	85	Sec-VII Cl.8	8.0 PAYMENT TERMS NO ADVANCE payment will be made. Payment will be made within thirty (30) days from the date of receipt of unambiguous triplicate bills/ Challan.	It is mentioned that – No advance payment will be made. We request you to amend it to provide us a mobilization advance as 10% of contract value against Bank Guarantee.	Please refer Sl. No. 17 of Addendum-III.
203.	Vol.2	33	Sec. 2 Cl. 2.2 Sl. No.8	8.Under Deck Fire Fighting System (only for Steel Piles)	We request you to please provide us the details of the steel piles of the existing jetties so that we can include in our design consideration, work out the cost accordingly and submit our offer.	The bidder should visit the site and ascertain the requirement.