

ATTACHMENT -1-SCHEDULE OF PREBID CLARIFICATION

| SL NO. | VOLUME/ SECTION | CLAU SE NO. | PAGE NO. | SPECIFICATION REQUIREMENT | CLARIFICATIONS | REASON FOR CLARIFICATIONS | BHEL REPLIES |
|--------|--|-------------|--|--|--|--|--|
| 1. | NIT & Price bid | 20 & 4.0 | 4 of 5 of NIT 5.1 PTP Price Schedule Indian Bidder | Bidder's to note that Concrete & Reinforcement Steel is in BHEL Scope, they shall be free issued by BHEL. However for bid evaluation of the pre-treatment plant, Bidder's total price shall be determined after adding cost of Concrete & Reinforcement Steel as per rate specified [Rs. 5,468 per cum for Concrete RCC &Rs. 40,320 per MT for Reinforcement Steel] in the Bidder's total price for pre-treatment Plant | We understand that complete civil work s including Concrete & Reinforcement Steel is in BHEL scope (Ref. Clause 5.0 scope of supply (civil) section – I , Sub section 1A , Page 7/1336 Bidder to give qty of the steel and RCC for evaluation purpose. | There is contradiction in civil scope of work with NIT and technical specifications & price bid. | Specification requirement is clear. Bidder to please follow technical specification. |
| 2. | SPECIFIC ATION NO: PE-TS-410-158-A001 SECTION : I SUB-SECTION : IA REV. NO. 01 | 1.0 & 5.0 | Page 5 of 1336 & Page 7 of 1336 | The intent of this specification is to cover design, engineering, complete civil design of entire Pre-treatment plant (excluding Chemical house and Centrifuge Building), manufacture, fabrication, assembly, inspection & testing at vendor's & sub-vendor's works, painting, forwarding, supply and delivery at site including start up and commissioning spares, mandatory spares, properly packed for transportation, loading/unloading / handling and storage at site, in site transportation, assembly, erection and commissioning, supervision of civil work for entire Pre treatment plant, trail run, preparation and | Please confirm whether Civil design for works other than chemical house & Centrifuge building is in the scope of the bidder. We understand that bidder has to provide only civil input drawings to BHEL& BHEL will prepare corresponding Civil construction drawing. Kindly confirm our understanding. | For better clarity. | Bidder to note that Civil design of complete pre treatment plant is in Bidder's scope except chemical house and centrifuge building. Further detailed Civil Input drawing of Chemical house and centrifuge building shall be provided by bidder. The corresponding CIVIL drawing prepared by BHEL / CIVIL agency, based on civil assignment drawing of bidder will |

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| | | | | <p>submission of drawing/documents including "As Built" drawings &</p> <p>Detailed Civil Input drawing shall be provided by bidder. Successful bidder shall furnish civil assignment drawings. The corresponding CIVIL drawing prepared by BHIEL / CIVIL agency, based on civil assignment drawing of bidder will be furnished to the successful bidder for concurrence.</p> | <p>be furnished to the successful bidder for concurrence. Bidder to also refer Amendment # 1.</p> | | |
| 3. | <p>SPECIFIC ATION NO.: PE- TS-410- 158-A001 SECTION : I SUB- SECTION : IA REV. NO. 01</p> | 2.68 | Page 7 of 1336 | <p>All consumables, bulk chemicals like alum, lime, poly electrolyte etc., required for pre commissioning, trial run, PG test till hand over of the plant shall be in the scope of the Bidder.</p> | <p>Please inform on the minimum time period for the Trail run and PGTR.</p> | For better clarity. | Bidder to note that all the chemicals are excluded from Bidder's scope. Bidder to also refer Amendment # 1. |
| 4. | <p>SPECIFIC ATION NO.: PE- TS-410- 158-A001 SECTION : I SUB- SECTION : IA REV. NO. 01 & DWG NO: PE-DG- 410-158- A001</p> | 7.3 | Page 8 of 1336 | <p>DESIGN CRITERIA AND TECHNICAL DETAILS</p> <p>The hydraulic circuit of the complete Pretreatment plant shall be designed in such a way that water from Aerator shall flow by gravity up to the clarified water tank and/or Filtered Water Sump as the case may be under various flow rates up to maximum flow. & P&ID FOR PRETREATMENT PLANT</p> | <p>Please note that since the filter water sump is not part of the package We understand that Pretreatment plant shall be designed in such a way that water from Aerator shall flow by gravity up to the clarified water tank as per the P&ID for the Pretreatment Plant. Please confirm our understanding</p> | For better clarity since there is contradiction in the tender specifications & P&ID & the filtered water sump is not in our scope of supply. & Filtered water sump is not a part of the package. | Bidder understanding is correct. Bidder to also refer Amendment # 1. |

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| 5. | SPECIFIC ATION NO.: PE- TS-410- 158-A001 SECTION : I SUB- SECTION : IA REV. NO. 01 | 7.13 | Page 9 of 1336 | DESIGN CRITERIA AND TECHNICAL DETAILS A minimum free board of 300 mm shall be provided in all the water retaining structures of PT Plant (such as Aerator, Stilling chamber, all the channels, Clarifiers, Clarified water tank, Overhead filtered water tank, Sludge sump, Backwash water collection sump, Chemical tanks etc.) above the maximum water level/ overflow level as the case may be excluding the thickness of the slab / beam thickness if any. | We understand that Overhead filtered water tank, Sludge sump, Backwash water collection sump are not part of the scope of this package. Please confirm our understanding | For better clarity | Bidder to note that Clarified water tank, overhead filtered water tank & backwash water collection sump are excluded from Bidder's scope. Bidder to also refer Amendment # 1 |
| 6. | SPECIFIC ATION NO.: PE- TS-410- 158-A001 SECTION : I SUB- SECTION : IA REV. NO. 01 & SPECIFIC ATION NO.: PE- TS-410- 158-A001 SECTION : I SUB- SECTION : ID | 8.6 & 18.22 | Page 12 of 1336 & Page 111 of 1336 & Page 21 of 1336 | The Chlorination System will be complete with Electrically Operated Monorail Hoist, Chlorine Ton Containers, Booster Pumps, Strainers, Pipe Works and Diffuser Systems up to points of injection and all other necessary accessories and auxiliaries. The Chlorinators will be connected with Chlorine Ton Containers. The water to the Booster Pumps will be supplied from Service Water Header. All the necessary equipment (Chlorinators, Chlorine Ton Containers, etc.) will be located indoor at ground floor of the Chemical House as addressed above. & DATASHEET –A FOR PRE TREATMENT PLANT & SITE VISIT BEFORE SUBMISSION OF OFFER. Bidder to note that 5 ppm continuous chlorine will be dosed by chlorination plant vendor in stilling chamber. Bidder to take care while selection of MOC due to effect of chlorine. | We understand that the chlorination system is not part of the scope of this package. Please confirm our understanding | For better clarity Since there is contradiction in the clause 8.6 & 18.22. | Bidder to note that chlorination system is excluded from bidder's scope. However technical requirement of chlorination plant as indicated in technical specification shall be taken care to design the Pre-treatment plant. Further in line with the technical specification requirement (Section II, Sub Section IIA, Clause No. 6.05.00, Page 146 of 1336) The operation of the Chlorination System for River Water Pre-Treatment shall be semi-automatic and envisaged through the Raw water Pre-treatment plant PLC and shall be in bidder's scope. The minimum number of I/Os required for the Chlorination System is 60 numbers. |

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| 7. | <p>SPECIFIC ATION NO.: PE- TS-410- 158-A001 SECTION : I SUB- SECTION : IA REV. NO. 01 & SPECIFIC ATION NO.: PE- TS-410- 158-A001 SECTION : I SUB- SECTION : ID</p> | 8.6 | <p>Page 14 of 1336 & Page 112 of 1336</p> | <p>PT PLANT CLARIFIER SLUDGE DISPOSAL SYSTEM Two (2) numbers sludge feed pumps along with electric motor drive (2x100%) (2W+1S) (Verticalcentrifugal pumps along with electric motor drive) shall be provided to pump sludge to the thickener. & SLUDGE TRANSFER PUMPS Numbers Two (2) (1Working +1Standby)</p> | <p>We understand that the total no. of sludge transfer pump is 2 (1W+1S). Please confirm our understanding.</p> | <p>Since there is contradiction in the tender document for the no. of sludge transfer pump.</p> | <p>Bidder to consider this in the Pre-Treatment plant and design the Pre-Treatment plant accordingly. Bidder to refer amendment # 1.</p> |
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| 8. | SPECIFIC ATION NO.: PE- TS-410- 158-A001 SECTION : I SUB- SECTION : IA REV. NO. 01 | 8.8 | Page 15 of 1336 | PAINTING All other parts of the PT plant shall be painted with one coat of primer and three coats of chlorination rubber paint and total thickness shall be 200 microns | We understand that same is applicable to the part under bidder scope only Paint for the civil structural work will be part of the civil package. Please confirm our understanding. | For better clarity | Bidder to note that the painting of Civil structures has been excluded from bidder's scope. However painting for other equipments except Civil scope shall be under bidder's scope in line with technical specification. |
| 9. | SPECIFIC ATION NO.: PE- TS-410- 158-A001 SECTION : I SUB- SECTION : IA REV. NO. 01 | 15.0 | Page 18 of 1336 | CIVIL DESIGN EVALUATION CRITERIA: For all the civil works for which civil design is in Bidder's scope evaluation shall be done for the total concrete & reinforcement quantity quoted by the Bidder. The bids will be evaluated based on the Pre treatment plant prices quoted by the bidder and quantities of reinforcement steel and concrete used in the Pre treatment plant (except Chemical house & Centrifuge Building) quoted by the bidder | We understand that the Chlorination room / shed including the foundation and dosing tank with in the chemical house is part of the chemical house hence we do not have considered the civil work BOQ in price bid Please confirm our understanding. | For Better clarity | Bidder understanding is correct. |
| 10. | SPECIFIC ATION NO.: PE- TS-410- 158-A001 SECTION : I SUB- SECTION : IA REV. NO. 01 | 1.0 & 7.0.00 23.0.0 0 | Page 80 of 1336 & Page 112 of 1336 & Page 125 of 1336 | MANDATORY SPARES LIST FOR PRE TREATMENT PLANT Spares for Vertical Wet Pit Pumps SLUDGE TRANSFER PUMPS Type Vertical Centrifugal Non Clog type THICKENER SUPERNATANT TRANSFER PUMP Type Vertical Centrifugal type | Please give the spare list for the Vertical Centrifugal Non Clog type pumps | Since as per the datasheet vertical centrifugal pumps have been asked where as in the mandatory spares lists spares for vertical wet pit pumps have been asked. | The spares for all type of Vertical pumps shall be applicable. |

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| 11. | TECHNIC AL SPECIFIC ATIONS FOR PT PLANT_K OTHAGU DEMTS REV 01_Part1 | | Page 93 of 1336 | Key plan for pretreatment plant | As per key plan FGL is +101.5. kindly provide natural ground levels or provide contour plan for proposed pre- treatment plant | Bidder to note that site shall be fully levelled and graded as per plot plan by BHEL. Bidder to only consider micro grading in his scope for civil designing purpose. | |
| 12. | SPECIFIC ATION NO.: PE- TS-410- 158-A001 SECTION : I SUB- SECTION : ID REV. NO. 01 | 17.00. 00 | Page 121 of 1336 | THICKENER Guaranteed TSS in treated effluent (supernatant) < 100 mg/l Water overflow rate (max) Suitable to provide efficient settlement and removal of solidsto maintain Suspended Solids concentration 50 ppmmaximum in treated effluent | We understand that Guaranteed TSS will be 100 ppm in treated effluent. Please confirm our understanding. | As there is contradiction in the tender documents for TSS in treated effluent from thickener as 100 ppm & 50 ppm. Hence we understand that the same will be 100 ppm. Please clarify. | Bidder to refer amendment # 1. |
| 13. | SPECIFIC ATION NO.: PE- TS-410- 158-A001 SECTION : IIREV. NO. 01 & SPECIFIC ATION NO.: PE- TS-410- 158-A001 SECTION : I SUB- | 5.01.0 0 & 1.00.0 0 | Page 126 of 1336 & Page 110 of 1336 | Aerator Plan area shall not be less than 0.03 m ² per m ³ /hr. & CASCADE AERATOR Design minimum surface flow rate for Aerator m ² /m ³ /hr 0.04 | We understand that the cascade aerator min surface flow rate shall be 0.03 m ² per m ³ /hr as per section-II of the tender document. Kindly confirm our understanding. | As there is contradiction in the Section-II & Section-I of the tender document. | Specification requirement is clear. Bidder to please follow technical specification. |

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| | SECTION : ID REV. NO. 01 | | | | | | | | |
| 14. | SPECIFIC ATION NO.: PE-TS-410-158-A001 SECTION : II SUB-SECTION :IIA Rev-01 | 2.01.19 | Page 135 of 1336 | SCOPE OF SUPPLY AND SERVICES One (1) number Electrically Operated Monorail Hoist of 1.0 Ton safe working capacity and complete with all accessories for handling of Backwash Water Disposal Pumps within Backwash Waste Sump cum Pump House. | We understand that the same is not in our scope of supply as Backwash Waste Sump cum Pump House is not a part of package . Please clarify. | As Filters along with backwash disposal pumps & sump is not part of the package scope. Hence we understand that the Electrically operated monorail hoists for backwash waste sump cum pump house is not part of scope | Bidder understanding is correct. Bidder to also refer amendment # 1. | | |
| 15. | SPECIFIC ATION NO.: PE-TS-410-158-A001 SECTION : IIREV. NO. 01 | 6.05.00 | Page 145 of 1336 | OPERATION AND CONTROL PHILOSOPHY The operation and control philosophy for RWTS is highlighted below: Trip Permissive: Level in the corresponding dosing tank is low. DMF Unit will be automatically isolated from the system under the conditions as follows: DMF Unit : On output of predetermined volume of treated water or high turbidity, whichever occurs earlier. | We understand that the same is not applicable to PT plant vendor as DMF is not part of this packages scope Kindly confirm our understanding. | Since DMF is not included not part of this package scope so operation philosophy for DMF is not applicable | Bidder understanding is correct. | | |
| 16. | SPECIFIC ATION NO.: PE-TS-410-158-A001 SECTION : IIREV. NO. 01 | 9.0.00 | Page 152 of 1336 | BID EVALUATION CRITERIA With reference to Bid Evaluation Criteria, Bidder may please refer to Lead Specification - Volume I-Part-B of this Bid Document | We have not received the documents. Please provide the same. In the absence of the bid evaluation criteria we presume that there is no chemical or power loading on the bid evaluation criteria. | Please note that we could not locate the same in the tender documents. | This clause stand deleted. Bidder to also refer amendment # 1 | | |

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| 17. | SPECIFIC ATION NO.: PE- TS-41 0- 158-A001 ISECTIO N : I SUB- SECTION :IC REV. NO. 01 | 7 | 106 of 1336 | PLC Shall be Connected to DCS Through Serial Link with OPC Compliant For monitoring /Control. For Detailed ,Please Refer PLC Architecture Diagram | As Per PLC Configuration PTP & Sludge Disposal System drawing No: (PE- DM-410-145-1900 Configuration diagram, our scope ends at Ethernet port of PLC located in PLC room hence OFC Cable Between PLC to DCS Shall be in BHEL / others Scope | As per PLC System Configuration diagram, our scope ends at Ethernet port of PLC located in PLC room. | Confirmed that FO cable b/w PLC to DCS is in BHEL scope. |
| 18. | SPECIFIC ATION NO.: PE- TS-41 0- 158-A001 ISECTIO N : I SUB- SECTION :IC REV. NO. 01 | 12 | 107 of 1336 | Supplied System Shall Provide Group Alarm to be Hard wired to plant DCS | We presume that any Hard wired Cable, Cable Trays, Supports, installation etc between field Instruments /PLC to DCS Shall be in BHEL/Owners Scope. Please clarify. Please refer PTP & Sludge Disposal System drawing No: (PE-DM-410-145-1900) for the same. | As per PLC System Configuration diagram, our scope ends at Ethernet port of PLC located in PLC room. | Confirmed that any cable b/w PLC to DCS is in BHEL scope. Further scope of Cable trays, accessories & cable trays supporting system shall be in line with the SECTION : I, SUB-SECTION :IB, ELECTRICAL SCOPE BETWEEN BHEL & VENDOR, Sr. No. 6.0, Page 100 of 1336 in Technical specification. |
| 19. | SPECIFIC ATION NO.: PE- TS-41 0- 158-A001 | 6.01.0 0 | 142 of 1336 | The operation of River Water Pre-Treatment System (RWPS) control shall be semi- automatic through a PLC based control system with PC based workstations located in RWPS Chemical House Control Room. The PLC shall be connected to the common BOP network for remote operation / monitoring from CCR. BOP network shall be interfaced with DDCMIS through soft links. | As per our understanding the CCR will be located in the BOP network location. As the location of the same is not known, we exclude the FO Cable, tray, Supports between CCR and Chemical House. If required please Clearly mention the Quantity of Cable Length, Tray, Supports to be consider by Bidder. | The location of the CCR in BOP network is not known. | Bidder to note that in line with the PLC system configuration diagram attached at SECTION II, SUB- SECTION :IC, Page 519 of 1336 bidder to consider one number OWS in CCR room and the FO cable b/w OWS and PLC network shall be in bidder scope of supply. The approx. |

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| 20. | SPECIFICATION NO.: PE-TS-410-158-A001 | 1.01.01 | 508 of 1336 | STANDARD TECHNICAL SPECIFICATION FOR CONTROL AND INSTRUMENTATION There shall be redundant bidirectional OPC Link Between DDCMIS and each Package PLC including PADO for Monitoring /Performance Activities. | As Per PLC Configuration PTP & Sludge Disposal System drawing No: (PE-DM-410-145-1900) OFC /Any Cable , Tray, Supports Between PLC to DCS Shall be in BHEL Scope, We have not considered this cable & cabling system in bidder Scope. | Please note that we do not know the location of the DDCMIS/ DCS | fibre optic cable length to be laid between Chemical house of pre treatment plant and CCR is 600 meters. Further scope of Cable trays, accessories & cable trays supporting system shall be in line with the SECTION : I, SUB-SECTION :IB, ELECTRICAL SCOPE BETWEEN BHEL & VENDOR, Sr. No. 6.0, Page 100 of 1336 in Technical specification. |
| 21. | SPECIFICATION NO.: PE-TS-410-158-A001 | 1.04.00 | 508 of 1336 | All Local PLCs Shall be Supplied from one manufactures for all plants and shall provide unified hardware and software platform for realising all the control and monitoring functions | Please provide details of other PLCs Systems Models nos, unified hardware and software plat forms for Selecting PLC to RWPTP System | To match with other systems | PLC shall be supplied as per BHEL/customer approved make. |

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| 22. | SPECIFIC ATION NO.: PE- TS-41 0- 158-A001 | 1.06.0 1 | 508 of 1336 | STANDARD TECHNICAL SPECIFICATION FOR CONTROL AND INSTRUMENTATION The redundant Upper Level Network of each Package PLC System will be connected to redundant server to be located in Plant engineers room . Suitable Fiber Optical cable shall be used for redundant interconnection. | As Per PLC Configuration PTP & Sludge Disposal System drawing No: (PE- DM-410-145-1900) ,scope for OFC/Any Cable for Plant engineers room is not shown/Mentioned with PT System, hence we have excluded any hard wired Cable /OFC, Cable Trays, Supports, installation etc between PLC/Instruments to Plant engineers room . Please confirm | Please note that we do not know the location of the plant engineer's room. | Noted. The mentioned query does not pertain in Bidder's scope. |
| 23. | SPECIFIC ATION NO.: PE- TS-41 0- 158-A001 | 2.11.0 | 510 of 1336 | Interface with Common DDCMIS System | As Per PLC Configuration PTP & Sludge Disposal System drawing No: (PE- DM-410-145-1900) OFC Cable Between PLC to DCS Shall be in BHEL Scope, We have not considered this cable, trays, supports in bidder Scope the same cable & cabling system in BHEL/owner scope. | | Pls refer our reply at Sr. No. 18 above. |
| 24. | SPECIFIC ATION NO.: PE- TS-41 0- 158-A001 | | 519 of 1336 | PLC System Configuration | We understand that bidder's scope ends at Ethernet port of PTP PLC. Any Other Cable, Cable trays, supports, installation, and termination Shall be in BHEL Scope. | There are contradiction in various clauses of the tender specifications and the PLC configuration diagram. We have followed the PLC configuration diagram for scope clarity. | Pls refer our reply at Sr. No. 18 above. |
| 25. | SPECIFIC ATION NO.: PE- TS-41 0- 158-A001 | | 519 of 1336 | PLC System Configuration HMI In LCR | We didn't envisage any cable, Tray between RWPTP PLC to LCR. Kindly conform the same If required Please provide Distance Between RWPTP PLC Area to LCR | Please note that we do not know the location of the LCR. | Bidder to note that LCR is PLC control room of Pre treatment plant. |

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| 26. | SPECIFIC ATION NO.: PE- TS-41 0- 158-A001 | | 519 of 1336 | PLC System Configuration HMI In CCR | We didn't envisage any cable, Tray between RWPTP PLC to CCR. Kindly conform the same If required Please provide Distance Between RWPTP PLC Area to CCR | Please note that we do not know the location of the CCR. | Bidder to note that in line with the PLC system configuration diagram attached at Section II, SUB- SECTION : IIC, Page 519 of 1336 the FO cable b/w PLC and HMI in CCR shall be in bidder scope of supply. The approx. fibre optic cable length to be laid between Chemical house of pre treatment plant and CCR is 600 meters. |
| 27. | SPECIFIC ATION NO.: PE- TS-41 0- 158-A001 | | 519 of 1336 | PLC System Configuration Remote I/O panel Placed in Raw Water Pump house | Any Cable between RWPTP PLC to Remote I/O Panel placed in Raw Water Pump House Shall be in BHEL Scope. Kindly Conform the same If required Please Provided Quantity of Cable, Trays, Supports Between RWPTP PLC to Pump house. | Please note that we do not know the location of the Raw water pump house. | Bidder to note that in line with the PLC system configuration diagram attached at Section II, SUB- SECTION : IIC, Page 519 of 1336 the FO cable b/w OWS in raw water pump house and PLC network shall be in bidder scope of supply. The approx. fibre optic cable length to be laid between Chemical house of pre treatment plant and raw water pump house is 3500 meters. Further scope of Cable trays, accessories & cable trays supporting system shall be in line with the SECTION : I, SUB- SECTION : IB, ELECTRICAL SCOPE |

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| | | | | | | | BETWEEN BHEL & VENDOR, Sr. No. 6.0, Page 100 of 1336 in Technical specification. |
| 28. | SPECIFIC ATION NO.: PE- TS-41 0- 158-A001 | | 618 of 1336 | CABLE BOQ | We understand that in BOQ for cable provided in the referred specification is indicative for cable format and this not the actual requirement. We have considered C&I cable requirement as per scope of supply in tender i.e., from Inst to JB's. | The Bidder's scope of cabling is only from instruments to JB and shall be 1P x 0.5 Sqmm. All other cables are excluded from our scope. | Please follow technical specification. |
| 29. | TECHNIC AL SPECIFIC ATIONS FOR PT PLANT_K OTHAGU DEM TPS REV 01_Part2 | Q | Page 638 of 1336 Miscellane ous scope of work | Boundary walls, Chain link/barbed wire fencing & gates wherever required around any buildings/area. Any modification to the existing plant boundary wall to make it suitable for the requirement of proposed plant shall be carried out by the EPC contractor. | Pre treatment plant area is within the boundary of TPS, hence there is no no Boundary walls, Chain link/barbed wire fencing & gates please confirm | For clarity | Bidder to note that the section IID (General Technical requirement of Civil) shall be referred for civil design only. However scope for Pre treatment plant equipment including Civil design scope shall be as indicated in Section-I, Further Boundary walls, Chain link/barbed wire fencing are not applicable for Pre treatment plant. |
| 30. | General | | | Cable for UPS Charging, Including trays, Supports | As Per Electrical Split Sheet If one end /both end equipment in vendors scope then power & control cable, Cabling system by BHEL Scope. Kindly conform the same | Any Electrical power & control cable shall be in BHEL Scope. | Please follow technical specification. |

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| 31. | General | | | | OFC and Hard wire Cable , Tray Between RWPTP to LCP Located in centrifuge Building | As Per Electrical Split Sheet If one end /both end equipment in vendors scope then power & control cable, Cabling system by BHEL Scope. Kindly conform the same Any Cable, Tray, Supports Outside Battery Limit Shall be in BHEL Scope. Kindly Conform the same. | Bidder Cable Scope ends at JB, Located Near Instruments | Please follow technical specification. |
| 32. | General | | | | Cable outside Battery Limit | | | Please follow technical specification. |
| 33. | PE-DG-410-158-A001 Sheet 1 of 2 | | | | P&ID FOR PRE TREATMENT PLANT Motorised plug valves for Lime Dosing System Motorised diaphragm valves for alum & poly Dosing System | Please note that the line size of the chemical dosing line is small and availability of motorised plug and diaphragm valves are less. Hence we presume the same as manual valves | Availability of motorised plug valves & diaphragm valves are less in the market. And the dosing pumps can be controlled by PLC hence we do not envisage any requirement of auto valves in chemical dosing line. | Please follow technical specification. |