

**EPC - AHP at 1X800  
MW DARLIPALI  
STPP, STAGE-II**

# VOLUME- IA

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

EPC OF ASH HANDLING SYSTEM AT 1X800  
MW NTPC DARLIPALI STAGE-II, ODISHA.

BHARAT HEAVY ELECTRICALS LIMITED



# TECHNICAL CONDITIONS OF CONTRACT (TCC)

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## CHAPTER-I : PROJECT INFORMATION

| Sl. No.                        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Details                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1                              | <b>Project Title</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1X800 MW Darlipali Super Thermal Power Project, Stage-II                                                                                                                                                                                                                                                                                                                                            |
| 2                              | <b>Customer</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | M/s NTPC LIMITED                                                                                                                                                                                                                                                                                                                                                                                    |
| 3                              | <b>Location</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Darlipali Super Thermal Power Station is located in Sundargarh District of Odisha. Sundargarh is connected to all major towns in Odisha by road. The latitude and longitude of the project are 21°55'00" (N) 83°53'35" (E) respectively.                                                                                                                                                            |
| 4                              | <b>Nearest Airport</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | The nearest commercial airport, Veer Surendra Sai Airport Jharsuguda, is about 40 Km from the project site.                                                                                                                                                                                                                                                                                         |
| 5                              | <b>Access By Road/Rail/Major Cities</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                  | It is connected to Rourkela and Sambalpur by State Highway SH-10. The Project is located north of Raigarh – Jharsuguda National Highway, NH-200 and is approachable from Gandhi Chowk (near Brajarajnagar) through 15 Km long road. Nearest major town is Jharsuguda, located at a distance of 25 Km from the project.<br><br>The nearest Railway Station is Brajarajnagar at 20 Km on SEC Railway. |
| 6                              | <b>Temperature</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Climatological data from nearest observatory is furnished in End User's Technical Specification of Darlipalli project is attached as ANNEXURE-6                                                                                                                                                                                                                                                     |
| 7                              | <b>Seismic Zone</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Seismic Design Criteria is furnished in End User's Technical Specification of Darlipalli project is attached as ANNEXURE-6                                                                                                                                                                                                                                                                          |
| <b>INSTRUCTIONS TO BIDDERS</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1.1                            | The Bidder shall visit project site and acquire full knowledge and information about conditions prevailing at site and in & around the plant premises, together with site conditions, transportation routes, various distances, all the statutory, obligatory, mandatory requirements of various authorities and all information that may be necessary for preparing the bid and entering into the Contract. All costs for and associated with site visits shall be borne by the bidder. |                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1.2                            | Other contractors would be working in this area and their structures are to be protected. The material brought and stacked for construction should not make hindrance to other contractors.                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1.3                            | The information given herein is for general guidance and shall not be contractually binding on BHEL/Owner. All relevant site data /information as may be necessary shall have to be obtained /collected by the Bidder.                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1.4                            | The contractor, in the event of this work awarded to him, shall establish an office at site and keep posted an authorized, responsible officer with valid Power of Attorney for the purpose of the contract.                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                     |

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## CHAPTER-I : PROJECT INFORMATION

|                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                          |  |       |                             |              |                                        |        |                                                                |        |            |
|------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|--|-------|-----------------------------|--------------|----------------------------------------|--------|----------------------------------------------------------------|--------|------------|
|                                                                                          | Any order or instructions of the 'Engineer' or his duly authorized representative, communicated to the contractor's representative at site office will be deemed to have been communicated to the contractor at his legal address.                                                                                                                                                                                                                                                                                                                                             |                                                                                          |  |       |                             |              |                                        |        |                                                                |        |            |
| 1.6                                                                                      | <p>No claim will be entertained by BHEL on ground of lack of knowledge and the contractor's rates shall be deemed to have taken this into account.</p> <table><tr><td colspan="2">Bidders may fix up their site visit in consultation with below mentioned contact person:</td></tr><tr><td>Name:</td><td>Shri Ramesh Babu Kolakaluri</td></tr><tr><td>Designation:</td><td>Addl GM ( Project Director (Darlipali)</td></tr><tr><td>Email:</td><td><a href="mailto:kramesh.babu@bhel.in">kramesh.babu@bhel.in</a></td></tr><tr><td>Ph no:</td><td>7077728548</td></tr></table> | Bidders may fix up their site visit in consultation with below mentioned contact person: |  | Name: | Shri Ramesh Babu Kolakaluri | Designation: | Addl GM ( Project Director (Darlipali) | Email: | <a href="mailto:kramesh.babu@bhel.in">kramesh.babu@bhel.in</a> | Ph no: | 7077728548 |
| Bidders may fix up their site visit in consultation with below mentioned contact person: |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                          |  |       |                             |              |                                        |        |                                                                |        |            |
| Name:                                                                                    | Shri Ramesh Babu Kolakaluri                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                          |  |       |                             |              |                                        |        |                                                                |        |            |
| Designation:                                                                             | Addl GM ( Project Director (Darlipali)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                          |  |       |                             |              |                                        |        |                                                                |        |            |
| Email:                                                                                   | <a href="mailto:kramesh.babu@bhel.in">kramesh.babu@bhel.in</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                          |  |       |                             |              |                                        |        |                                                                |        |            |
| Ph no:                                                                                   | 7077728548                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                          |  |       |                             |              |                                        |        |                                                                |        |            |

Note: - The bidder is advised to visit and examine the site of WORKS and its surroundings and obtain for himself on his own responsibility all information that may be necessary for preparing the bid and entering into the CONTRACT. All costs for and associated with site visits shall be borne by the bidder.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-II : SCOPE OF WORK

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|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>02.00.00</b> | <b>BROAD SCOPE:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>02.01.00</b> | <p><b>Intent of Specification</b></p> <p>The specification has been prepared for complete scope of the package for Design, Engineering, Manufacture, Supply, Civil (including Levelling &amp; Grading , Roads and Drain in AHP-area) , Structural, Architectural works, Erection, Testing &amp; Commissioning and handing over works for the Ash handling system for 1 x 800 MW Darlipali Super Thermal Power Project Stage- II, Sundargarh, Odisha. NTPC is the Owner of the power plant. BHEL is the Principal EPC contractor who is responsible for the establishment of the Thermal Power Project for 1 x 800 MW DARLIPALI STPS, Stage-II. The scope of this package shall be on the basis of single point responsibility, completely covering all the activities and services in respect of all the equipment &amp; works specified and covered in the scope matrix and as per the enclosed End user's NIT document no. amendments and clarifications and other enclosures &amp; annexures as attached along with this Technical conditions of contract (TCC) except for items/ systems which are listed in exclusions list, however commercial terms and conditions shall be as per BHEL's NIT,TCC GCC documents.</p> |
| <b>02.01.01</b> | <p>Before submitting the bid, the <b><u>Bidder should inspect and examine the project site and its surroundings</u></b> and should satisfy themselves as to the nature of the ground and subsoil, the quantities and nature of work, materials necessary for completion of the work and their availability, means of access to site and in general shall himself obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect his offer. No consequent extra claims on any misunderstanding or otherwise shall be allowed by BHEL under any circumstances post award of the contract.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>02.02.00</b> | <b>SCOPE OF SUPPLY AND SERVICES</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>02.03.00</b> | <p>The scope of supply &amp; services includes System design, Basic and Detail Engineering, Sizing &amp; Selection of Equipment, 3D modelling, Manufacturing, Procurement, Inspection &amp; Testing, painting, Supply of Mechanical, Electrical, C&amp;I Equipment / items, Technological structures, other structures, Start-up spares, commissioning spares, Packing &amp; Forwarding, Transportation to the site including customs clearance/ port clearance, Receipt at Site, Unloading, Storage, Preservation, Security, Intra-site transport &amp; handling at site, Statutory clearances, Civil, Structural, Architectural works, Erection, Testing &amp; Commissioning, Supply of paint and Painting at site, System integration, Trial Run, Operation and maintenance, Training, Performance Guarantee Test and Handing Over of complete Ash Handling System as EPC turnkey package.</p>                                                                                                                                                                                                                                                                                                                           |
| <b>02.03.01</b> | <p>Any additional items required for the completeness and satisfactory performance of the complete Ash Handling system though not explicitly mentioned in Mechanical, Electrical, C&amp;I, Civil &amp; structural scope matrix, Electrical and C&amp;I scope matrix, enclosed annexures etc. in this specification or NTPC technical specification shall also be in Bidder's scope of supply &amp; works. BHEL will not supply any item (except items specifically excluded and mentioned under BHEL</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

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## CHAPTER-II : SCOPE OF WORK

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|          | scope of supply in this specification) for making the system complete. It is the total responsibility of the bidder to make the system complete in all aspect before handing over.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 02.03.02 | The responsibility of bidders includes technical coordination (including participation in Technical co-ordination, Project/Contract review meetings with NTPC/BHEL), finalization of drawings/ documents, submission of engineering drawings/ documents ,3D modelling drawings and processing of their approvals by NTPC /BHEL. Bidder shall be solely responsible for submission & approval of drawings, composite layouts, flow diagrams, Technical data sheets, QAP, Field Quality Plans, Erection manual, Commissioning procedures, O&M manuals, as built drawings after E&C of all equipment, PG test procedures, Inspection & Testing Procedures from NTPC/BHEL in time and shall plan the activities accordingly.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 02.04.00 | <b>TECHNICAL SPECIFICATION &amp; SCOPE OF WORK- MECHANICAL</b><br>The scope of work includes supply and E&C of complete ash handling system with all its auxiliary systems including lean slurry and HCSD slurry disposal, Air conditioning and Ventilation systems.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 02.05.00 | <b>TECHNICAL SPECIFICATION &amp; SCOPE OF WORK - ELECTRICAL &amp; C&amp;I</b><br>Refer <b>Annexure-3</b> For Terminal Points, Exclusions and detailed scope of Electrical & C&I Scope of bidder                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 02.06.00 | <b>TECHNICAL SPECIFICATION &amp; SCOPE OF WORK - CIVIL AND STRUCTURAL:</b><br>Scope of work for the design of Civil, Structural & Architectural Engineering and for the structures list in the scope matrix involves: <ol style="list-style-type: none"> <li>1. The Bidder shall provide Design details and complete Design documents of substructure, superstructure and other relevant drawings for the structures list in the scope matrix.</li> <li>2. Design and drawings of equipment foundations associated with structures listed in the scope shall be done as a part of the main structure without any extra cost to BHEL.</li> <li>3. Structure / building wise civil arrangement drawings, showing plan, elevation/section as required with complete load data for various loads and load combinations prepared by Mechanical vendor / their bidder.</li> <li>4. Floor plans, elevations, cross sections etc., views of all buildings.</li> <li>5. Submission of detail design &amp; drawings of sub structure &amp; superstructure involving RCC, structural steel &amp; architectural details.</li> <li>6. Submission of Design &amp; drawings of equipment foundations.</li> <li>7. Submission of design &amp; drawings of all floors including ground level grade slab along with equipment foundations, approach roads, trenches, paving, sumps, surrounding drains, Sewage water and waste water drainage system etc.,</li> <li>8. Submission of architectural drawings.</li> <li>9. Designs &amp; drawings shall also be submitted in both PDF, AUTO CADD, EXCEL/ WORD formats</li> <li>10. Design <i>staad</i> files shall be submitted along with design documents.</li> <li>11. Submitted drawings shall contain section wise quantities of RCC, Structural steel &amp; R/F steel</li> <li>12. Submission of 3D model mentioned elsewhere is in the scope of bidder.</li> </ol> |

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## CHAPTER-II : SCOPE OF WORK

13. Submission of detailed fabrication drawings.
14. Submission of As-built drawings.
15. Approval of drawings prepared by the bidder shall not relieve the bidder of his responsibility regarding the adequacy of design and correctness of the drawing.
16. The bidder shall also be required to review & revise the already approved design / drawings and / or include the substitution in steel sections depending upon material availability, unforeseen site condition and project time schedule requirements. These may have to be resorted to even after completion and approval of construction / fabrication drawings, without any extra cost to BHEL-ISG.
17. The bidder shall make efforts and ensure optimum design of the systems leading to saving in cost for BHEL and are leading to saving in completion time of the project, meeting customer Technical requirement and following the IS codes / Good construction practices including.
18. Bidder shall keep in mind the layout and shall take care of the overlapping with other facilities of the power plant.
19. Civil & Structural design and detail engineering of all facilities of AHP package in the scope of the bidder is to be done in-house. Scope matrix may please be referred regarding DOW for Civil & structural design. If the design is to be outsourced due to lack of suitable resources, bidder has to take prior approval for design outsourcing from BHEL. The design agency shall have prior experience in designs of power /material /steel/plant structures.
20. During detail engineering, General arrangement drawings to be submitted for first review / approval along with Cat-II/Cat-I approved Mechanical GA drawings.
21. Wherever required in the absence of inserts plates etc. HILTI make or any other approved anchor fasteners supply & fixing to be included in the scope of bidder.
22. Foundations for BAH, shall be kept 800 mm below FGL to facilitate for movement of machineries after the foundation work.
23. In case of any underground piping considered, the wrapping and coating of the pipes as per the NTPC specification shall be in bidder's scope.
24. The scope of civil, structural and architectural works shall include, site clearance, dismantling of existing structures/substructures/facilities, micro site levelling, preparation of Civil & Structural design & drawings (Including 3D modelling in Tekla) and getting approval of the same from the Employer. Construction of all civil, structural and architectural works including supply of all construction materials for all buildings, equipment and facilities for the project. The nature of work generally involves, piling (if required), earthwork in excavation in all types of soil and rock including controlled blasting/ mechanical means, de-watering, backfilling around completed structures, plinth filling, disposal of surplus earth/rock/excavated material/dismantled material, concreting including reinforcement and form work/ slip form, masonry work, plastering, corrosion protection measures including painting, un-insulated / sandwiched insulated

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## CHAPTER-II : SCOPE OF WORK

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|          | <p>metal wall cladding, roofing and flooring including permanent steel decking, false ceiling, under deck and over deck insulation, acid and alkali resistant lining, fabrication of all structures, pre assembly of fabricated structures, transportation of fabricated structures and erection of steel structures and miscellaneous steel works (i.e., steel staircase, cable supports, pipe supports, ladders, walkways, railing, chequered plate, grating, grizzly, inserts, monorail beam, monorail door, debris chute, stools, liners etc.), painting of structures, foundation bolt, grouting, paving, gravel filling, providing pre-cast covers, damp proofing, roof water proofing, anti-weed treatment, roads, drainage, sewerage, final grading and site clearance before handing over and any other item of work required for completion of all systems under the scope of work complete as per Technical Specifications &amp; amendments.</p> <p>25. The works covered under the scope of the bidder have to be executed in an existing power station. The bidder shall take all necessary precautions to protect the existing equipment, structures, facilities and buildings etc. from damage. In case any damage occurs due to activities of the bidder on account of negligence, ignorance, accidental or any other reason whatsoever, the damage shall be made - good by the bidder at his own cost to the satisfaction of the Owner. The bidder shall take all necessary safety measures to avoid any harm, injury to his workers/staff from the equipment / facilities of the power station.</p> |
| 02.06.01 | <b>BROAD SCOPE FOR EXECUTION OF CIVIL &amp; STRUCTURAL WORK:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 02.06.02 | The scope of civil work to be performed under this specification consists of Geotechnical investigation, design, engineering, construction, fabrication, erection and providing all labour, materials, consumables, equipment, temporary works, temporary storage sheds, temporary colony for labour and staff, temporary site offices, constructional plants, fuel supply, transportation and all incidental items not shown or specified but reasonably implied or necessary for the completion and proper functioning of the ash handling plant, all in strict accordance with the specifications including revisions and amendments thereto as may be required during the execution of work.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 02.06.03 | The works covered under the scope of the bidder have to be executed in an existing power station. The bidder shall take all necessary precautions to protect the existing equipment, structures, facilities and buildings etc. from damage. In case any damage occurs due to activities of the bidder on account of negligence, ignorance, accidental or any other reason whatsoever, the damage shall be made - good by the bidder at his own cost to the satisfaction of the Owner. The bidder shall take all necessary safety measures to avoid any harm, injury to his workers/staff from the equipment / facilities of the power station.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 02.06.04 | All construction materials including cement, reinforcement steel, coarse & fine aggregate, structural steel, construction water and foundation bolts etc., shall be arranged by the Bidder.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

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## CHAPTER-II : SCOPE OF WORK

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| 02.06.05 | <p><b>Setting Up of Civil Quality Laboratory:</b></p> <p>BHEL shall set up centralised civil quality laboratory in the close vicinity of the work site wherein routine test shall be performed by the service provider for all civil contractors working for the project. The civil lab building and the testing equipment shall be excluded from the Contractor's scope.</p> <p>Sampling of all construction materials, cube casting for concrete (required number of cubes to be arranged by contractor), etc. shall be carried out by contractor, transported to the laboratory and handed over to the service provider of the centralized laboratory for routine testing and documentation.</p> <p>All field test like slump test (at batching plant/ field), soil test for compaction (MDD), test for road work, etc. shall be carried out by the contractor without any extra cost to BHEL.</p> <p>In case, third party testing related to the scope of work is required to be conducted for any reason whatsoever, the same shall be arranged/conducted by the contractor without any extra cost to BHEL.</p> <p>Contractor shall depute their representative QA/QC Engineer and Supporting Staff at site/lab during testing and documentation, etc. for satisfactory conductance of the routine test.</p> <p>In view of above scope matrix for the routine testing, contractor does not absolve from their responsibility for satisfactory performance of the work done as per terms and conditions of the contract.</p> <p><b>Note:</b><br/>Contractor to note that BHEL shall set up centralised civil quality laboratory after about (09) nine months from the commencement of contract period. Till such time until the Civil Lab set up by BHEL is functional the contractor should make his own arrangement for alternative testing at site or through tie-up with NCCBM / IITs / NITs / other reputed laboratories approved by CUSTOMER/BHEL .</p> |
| 02.06.06 | <p>Preliminary geotechnical investigation in the proposed area has been carried out by the Owner and the bore-log data is furnished in sub-section-D-1-12(C) of PART-B: (BOOK 4 OF 5 – CIVIL) of NTPC Tender document, as an annexure.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 02.06.07 | <p>The onus of correct assessment /interpretation and understanding of the existing subsoil condition / data lies with the Bidder. If bidder feels furnished data is inadequate, he may carry out his own geotechnical investigational site before bidding for his information at no extra cost and time to owner.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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| 02.06.08 | Such data collected by bidder is only for the purpose of bidding and it shall not be a part of Technical documents related to this package. However, final design shall be based upon the Detailed geotechnical investigation, which is to be conducted by successful bidder as per the clause 7.00.00 of PART-B: (BOOK 4 OF 5 – CIVIL) after placement of award. The Bidder should note that nothing extra whatsoever on account of variation between the foundation system assumed by bidder before bidding and that finalized based on the detailed geotechnical investigation after award, shall be payable. No time extension in the bidding time will be given to bidder for carrying out geotechnical investigation.                                                                                                                                                                                                                                                |
| 02.06.09 | Successful bidder shall carryout his own detailed soil investigation for facilities under this package and shall be as per the scheme approved by owner. The scheme for geotechnical investigation shall be as given at End User's TECHNICAL SPECIFICATION FOR EPC PACKAGE PART – B (BOOK 4 OF 5 – CIVIL WORKS) SECTION - VIA Clause 7.00.00 of Civil specification and shall be approved by owner before execution. Geotechnical investigation work shall get executed by the Contractor through the agencies as mentioned in Clause No. 7.07.03. However, no time extension shall be given on account of soil investigation carried out by the Bidder. The geotechnical investigation report shall be prepared with detailed recommendations regarding type of foundation and allowable bearing pressure for various structures/ facilities and other soil parameters. The report shall be submitted for Owner's approval prior to commencement of design of foundation. |
| 02.06.10 | The Bidder shall make the layout and levels of all structures from the general grid of the plot and the nearest GSI benchmark or other acceptable benchmark of Government department. The Bidder shall be solely responsible for the correctness of the layout and levels and shall also provide necessary instruments, materials, access to works, etc., to the Engineer for general checking of the correctness of the civil works.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 02.06.11 | All the quality standards, tolerances, welding standards and other technical requirements shall be strictly adhered to. The Bidder shall fully apprise himself of the prevailing conditions at the proposed site, climatic conditions including monsoon pattern, soil conditions, local conditions and site complete specification of coal handling plant, lime stone handling plant and gypsum handling plant and bio mass handling furnished by end customer M/s. NTPC shall be followed back to back basis without any deviation.                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 02.06.12 | All construction materials including cement, reinforcement steel, coarse & fine aggregate, structural steel etc., shall be arranged by the Bidder. Approach road and drains from main plant road to all Ash Handling Structures to be constructed by the bidder. All temporary access road required during construction shall be provided by the bidder.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 02.06.13 | The work shall be carried out according to the design/drawings to be developed by the Bidder and approved by the end customer. For all buildings, facilities, systems, structures, etc., necessary layout and details are to be developed by the Bidder keeping in view the statutory and functional requirements and providing enough space and access for operation, use and maintenance. The Bidder's work shall cover the complete requirements as per IS codes, fire safety norms, requirements of various statutory bodies, best prevailing practices and to the                                                                                                                                                                                                                                                                                                                                                                                                     |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-II : SCOPE OF WORK

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|          | complete satisfaction of the BHEL and end customer. The bidder shall arrange all the statutory/railway clearance and charges of the same shall also be borne by the bidder.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 02.06.14 | In case of any conflict between stipulations in various portions of the specification, most stringent stipulation would be applicable for implementation by the Bidder without any extra cost to the Employer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 02.06.15 | <b>TOOLS &amp; PLANTS (TO BE DEPLOYED BY CONTRACTOR)</b><br>All T&Ps required to successfully complete the scope of work is in bidder's scope.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 02.07.00 | <b>BROAD SYSTEM DESCRIPTION</b><br>The ash handling system comprises majorly Bottom ash handling system and Fly ash handling system with all sub-systems and auxiliary systems. Bidder to refer NTPC tender specification and clarifications/corrigendum/Amendment for complete details. However, Bidder to follow the scope matrix as attached in <b>Annexure-2</b> .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 02.08.00 | <b>DESIGN BASIS/INPUTS</b> <ol style="list-style-type: none"> <li>1. Refer NTPC NIT specifications for ash handling system.</li> <li>2. Refer <b>Annexure-09</b> for Ash collection data.</li> <li>3. The various sludges from ETP, DM Plant, RO Reject, PT Plant, FGD System etc. shall be discharged to ash slurry sump. The same shall be considered during the design of slurry disposal system.<br/><i>Additional make up water to be considered in case the above sludge is not coming to slurry sump.</i></li> <li>4. Fly ash classification: As per the Technical Specification.</li> <li>5. Instrument Air System<br/>The total instrument air requirement for the complete AHP is considered as 25Nm<sup>3</sup>/min for this unit from the main plant compressed air system. BHEL shall provide the following two air receivers at the following locations inside the plant. <ul style="list-style-type: none"> <li>• 1 No. (10m<sup>3</sup> capacity) at One Point Near ESP Unit #1</li> <li>• 1 No. (10m<sup>3</sup> capacity) at One Point Near Silo utility building</li> </ul> Tap off from the Instrument air receiver outlet along with valves, mountings, Instrument air distribution piping, solenoid valves, fittings, supports, field instruments (as applicable), associated electrical and C&amp;I equipment are in the bidder's scope.<br/>If any additional Air receiver is required for Ash handling system other than the above two, it shall be in bidder's scope.</li> <li>6. <b>Common Water System</b><br/>The water requirement for the complete Ash handling system package shall be met through various water pumps specified in the NTPC single line flow diagrams and NTPC specification.</li> <li>7. <b>Pipe racks and cable racks</b><br/>Bidder to note that some of the pipes and cable trays of BHEL shall be routed in the pipe rack/cable rack to be provided by the bidder. The tentative details are provided in <b>Annexure-4</b>.</li> </ol> |

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| 02.09.00 | <b>3D MODELLING SYSTEM</b><br>All the facilities pertaining to Ash handling plant including pipe racks and cable racks shall be made in 3D modelling system as detailed in NTPC specification. BHEL's pipes and cable trays that are supported in bidder's pipe rack/cable rack, also needs to be modelled.                                                                                                                                                                                                                                                                                                                   |
| 02.10.00 | <b>PAINTS</b><br>The Bidder's scope of work includes supply of paints and painting of all equipment/items and structures as per stipulated requirements in the specification and NTPC's standard color-coding scheme.                                                                                                                                                                                                                                                                                                                                                                                                         |
| 02.11.00 | <b>PRE-COMMISSIONING AND COMMISSIONING ACTIVITIES</b><br>The Bidder's scope shall include all pre-commissioning and commissioning activities, materials and services as detailed in the other portion of NTPC NIT specifications (Erection Condition of Contract) including supply of all consumables, temporary equipment & piping (if any), instruments as per scope, labor, skilled manpower's etc.                                                                                                                                                                                                                        |
| 02.12.00 | <b>GUARANTEE TESTS</b><br>The guarantee tests for various equipment and systems shall be carried out as specified under chapter of Functional Guarantees. All special equipment, tools and tackles, instruments, measuring devices required for the successful conductance of Guarantee Tests shall be provided by the Bidder, free of cost. All costs associated with the tests shall be included in bid price. All statutory clearances necessary for guarantee tests shall be obtained by the bidder from respective authorities without any additional cost to BHEL.                                                      |
| 02.13.00 | <b>SPECIAL TOOLS &amp; TACKLES AND TEST/MEASURING EQUIPMENT</b><br>One set of all special tools and tackles including testing, calibrating and measuring instruments required for erection, assembly, disassembly and maintenance & testing of all equipment/systems for the package shall be supplied by the Bidder. The Bidder shall not use these special tools, tackles and testing/measuring equipment for erection/commissioning purposes and shall be new and in an unused condition, when they are handed over to the Employer. A list of all such special tools and tackles shall be submitted along with the offer. |
| 02.14.00 | <b>SPARES:</b><br>Bidder's scope shall include supply of start-up & Commissioning spares. Special and separate packing & box-marking for items meant for tools and tackles which are to be handed over directly to customer, is required.                                                                                                                                                                                                                                                                                                                                                                                     |
| 02.14.01 | -Void-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 02.14.02 | <b>Commissioning spares</b><br>Start-up and commissioning spares as required for the completion and commissioning of AHP are to be dispatched to the site prior to the requirement of commissioning of equipment/system(s).                                                                                                                                                                                                                                                                                                                                                                                                   |

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| 02.15.00 | <p><b>GENERAL NOTES TO BIDDERS:</b></p> <ol style="list-style-type: none"><li>1. BHEL reserves the right to request for any additional information and also reserves the right to reject the proposal of any bidder, if in the opinion of BHEL, qualification data is incomplete or the bidder is found not qualified to satisfactorily perform the works.</li><li>2. Notwithstanding anything stated above, BHEL reserves the right to assess bidder's capability and capacity to perform, should the circumstances warrant such assessment in the overall interest of the Project.</li><li>3. The bid shall be complete in all respects and shall necessarily contain but not limited to Technical description, Technical data sheets of equipment and systems, Schematic diagrams, System Process &amp; Instrumentation Diagrams (P&amp;ID), Guarantee declaration schedules. Spares shall meet the project scope and technical specification requirement.</li><li>4. The NTPC Technical specification, General Technical Specifications/ Requirements, Amendments and BHEL GCC, HSE given with this specification, which shall be read with this technical specification and shall form part of the tender.</li><li>5. Bidder shall provide details of important conditions, local representatives, Erection Tools &amp; Plants, Bought Out Items, Quality Assurance programme, Project Schedule, Milestone Schedule, Any other Additional Information.</li><li>6. BHEL reserves the right to demand/seek any additional information and clarification from the Bidder after submission of his bid for examination and evaluation of bid. Bidder shall furnish the same without any pre-conditions.</li><li>7. In case of any ambiguity, conflict in the standard &amp; specification &amp;/or interpretation of clauses in this enquiry spec. and its enclosures the decision of BHEL shall be final and binding and any change due to this shall have no price implication on BHEL and shall have to be absorbed by successful bidder.</li><li>8. Clarifications, if any shall be sorted out, before submission of the bid. Bidders shall raise all ambiguities, conflict in the standard &amp; specification and/or interpretation of clauses, if any, in this enquiry spec. and its enclosures during pre-bid stage itself, failing which it shall be understood that bidder has no issue and at later date successful bidder shall have no right to take any technical and commercial advantage out of any ambiguity, conflict in the standard &amp; specification and/or interpretation of clauses and the decision of BHEL shall be final and binding and any change due to this shall have no price implication on BHEL and shall have to be absorbed by successful bidder.</li><li>9. Bidders shall submit the offer strictly in line with the technical specifications and instructions provided in this document. In case the requirements mentioned in these documents are not complied with, the offers may be considered as incomplete and would become liable for rejection.</li></ol> |
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|          | <p>10. Bidder to note that bidder's credentials will be examined as per the conditions specified in the NIT specification and same shall be submitted to NTPC for approval. Placement of PO on successful bidder is subjected to the vendor approval received from NTPC. Sub vendors/ Makes of all the items, equipment/components are also subjected to NTPC/ BHEL approval.</p> <p>11. All Bidders to submit their credentials and formats attached in Technical requirements and 3K attachments along with offer in 3 sets for submission to NTPC for vendor approval. If NTPC/ BHEL does not approve any vendor the price bid of the vendor will not be opened. Further, on obtaining the order, the Successful Vendor shall submit his reputed sub vendor list, reputed makes/data sheets of all equipment/components &amp; documents as desired by NTPC for approval. If any of the sub vendor including his own make, does not have the approval of NTPC/ BHEL, the same may be replaced with another NTPC approved sub Vendor without any price implications to BHEL. It is the complete responsibility of the bidder to obtain "sub vendor approval" from NTPC for all equipment &amp; components being supplied. Any delay in sub vendor's approval should not affect the project schedule. All sub-vendor approvals should be obtained within two weeks from the date of LOA.</p> |
| 02.16.00 | <p>Tool and Plants: All the T&amp;Ps required for the execution of the package till handing over of the Unit to end customer shall be in the scope of Bidder.</p> <p><b>BHEL shall not provide any T&amp;Ps for this scope of work.</b> All T&amp;Ps required for handling of items / materials and complete execution of work is to be arranged by the Contractor. However, if in any unforeseen circumstances, requirement of any T&amp;Ps (available with BHEL at site) arises, on request of bidder the same may be provided on chargeable basis but BHEL reserves the right of provision of such T&amp;Ps. Charges shall be applied as per BHEL norms and guidelines and direction of engineer in-charge.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 02.17.00 | Supply and E&C of any other associated equipment/items/Structures/Buildings not specifically mentioned here in this specification but required for successful operation, completion, installation, and operation of the AHP shall be deemed to be have been included in bidder's scope of work and bidder to quote accordingly.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 02.18.00 | Notwithstanding the details furnished in this document, it shall be the responsibility of the Contractor to complete the work in all respects, commission and complete integrated trial operation of system & performance tests of AHP to the satisfaction of End user/BHEL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 02.19.00 | Bidder shall take all necessary precautions to protect all the existing equipment, structures, facilities and buildings etc. from the damage. In case any damage occurs due to the activities of the Bidder on account of negligence, ignorance, accidental or any other reason whatsoever, the damage shall be immediately rectified by the Bidder at their own cost to the satisfaction of NTPC/BHEL. The Bidder shall also take all necessary safety measures during erection/                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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|          | commissioning activities, at their own cost, to avoid any harm or injury to his/other's workers and staff from the equipment and facilities of the power plant.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 02.20.00 | During construction/erection Ash Handling System, if any existing structure/equipment etc. shall foul with AHP System/area, then the rerouting/relocate of the existing structure/equipment including design and supply shall be in the scope of bidder.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 02.21.00 | Bidder shall take all necessary precautions to protect all the existing equipment, structures, facilities and buildings etc. from the damage. In case any damage occurs due to the activities of the Bidder on account of negligence, ignorance, accidental or any other reason whatsoever, the damage shall be immediately rectified by the Bidder at his own cost to the satisfaction of NTPC/BHEL. The Bidder shall also take all necessary safety measures during erection/commissioning activities, at his own cost, to avoid any harm or injury to his/other's workers and staff from the equipment and facilities of the power plant.                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 02.22.00 | <b>NO TECHNICAL OR COMMERCIAL DEVIATIONS ARE ALLOWED IN THIS TENDER.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 02.23.00 | <b>ERECTION &amp; COMMISSIONING, OPERATION &amp; MAINTENANCE</b><br><br>Bidder to refer respective chapters for erection and commissioning in the NIT Specification. Bidder shall strictly adhere to the same and follow the erection & commissioning terms and conditions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 02.24.00 | <b>Storage and Security</b><br><br>Construction of open storage yard and closed storage shed for the storage of materials (Including free supply items of BHEL) shall be in the bidder's scope:<br><br><div style="text-align: center;"> <b>a) Closed storage shed:</b><br/><br/>           Construction of temporary closed covered storage shed for storage &amp; preservation of all supplied material (of Mechanical and electrical) for this package with brick wall construction, concrete flooring, sloped roof, rolling shutters, RCC column with max. span of 6 meters, RCC beams at every 3m height from finished floor level, brick infill up to total height of shed. (Including inside and peripheral illumination of Closed storage shed)<br/><br/>           OR<br/><br/>           Construction of temporary closed covered storage shed for storage &amp; preservation of all supplied material (of Mechanical and electrical) for this package in PEB closed storage shed or closed shed with RCC column foundation, plinth beams, concrete         </div> |

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|          | <p>flooring, steel structure with roof truss and covered with color coated sheets in all sides, rolling shutters. Windows and access doors shall be provided and it shall be in the scope of bidder. (Including inside and peripheral illumination of Closed storage shed)</p> <p><b>b) Open storage yard:</b></p> <p>Bidder shall make ready open storage yard suitably to obtain storage clearance from the customer. Bidder shall also consider fencing/illumination of open storage and site fabrication area as and when allocated at site.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 02.25.00 | <p><b>Site Activities</b></p> <p>All site activities like unloading, receipt, storage, security &amp; handling material, civil/structural works in the bidder's scope and BHEL's free issue items in this package, erection and commissioning, trial run &amp; PG test, handing over the complete system to customer shall be in bidder's scope.</p> <ol style="list-style-type: none"><li>1. Bidder shall be responsible to ensure correct implementation of their design of civil and structural works at site and erection of all electrical and Mechanical items.</li><li>2. Storage space shall be allotted by BHEL/Customer either inside/outside the plant premises based on availability of space. Further levelling/ grading shall be done by bidder for proper storage of material.</li><li>3. Vendor to ensure sufficient manpower throughout the project for erection and commissioning activities on all equipment's, systems etc.</li><li>4. Erection of all items shall be in line with the "Erection &amp; Commissioning manual"</li><li>5. Cost of repair/replacement of damaged equipment /parts, if any, including material &amp; maintenance works shall be borne by successful bidder.</li><li>6. Presence of foreign materials and blockages of ash flow path are bound to happen during initial operation and after restarting the boiler. Removal of such blockages, clearing of ash and cleaning of debris/area etc... are in the scope of bidder.</li><li>7. Making opening in the ESP hoppers or other areas for mounting of Ash handling items like fluidising pad etc... are in the scope of bidder.</li><li>8. The fabrication yard, the open yard and closed yard may be relocated as per the project requirements. The vendor must ensure appropriate lifting arrangements and manpower for shifting the items to the desired location, without any cost implication to BHEL.</li><li>9. All the T&amp;P [Tool and plant] required for the execution of the package till handing over of AHP package to end customer shall be in the scope of bidder.</li></ol> |

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|          | <p>10. Bidder shall make their own arrangements well in advance for erection equipment such as crane, hydra, Farhana, trolley, truck, trailer, all tools &amp; tackles, via chain pulley block, wire ropes, grinding machine, welding machines (including single phase portable welding machine), cutting sets, coupler, pulling &amp; lifting tools such as slings, D-shackles, winches, etc. including precision measuring instruments that are required for E&amp;C purposes.</p> <p>11. It shall be the sole responsibility of bidder to do measurement, prepare and maintain all protocols at all stages during E&amp;C (Foundation handing over, erection, commissioning etc..). Getting approval on protocols from BHEL/NTPC is bidder's responsibility.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 02.26.00 | <p><b>Operation and Maintenance of Ash Handling System:</b></p> <p><b>The operation and Maintenance of this Ash Handling EPC package including all BHEL supplied Equipment's for this AHP package till hand over of the Ash Handling System to Customer shall be in bidder scope. Bidder to ensure deputation of sufficient manpower for operation of the plants in shifts as per the site requirement. Bidder to note that all consumables/tool tackles /manpower required during the period of O&amp;M, shall be included in the scope of bidder and no additional payment will be made by BHEL in this regard.</b></p> <p>Bidder shall record complete AHP drives operations data like time of start / stop time of various drives of AHP, MW generation &amp; ash evacuation data for each hopper, number of evacuation cycles completed in each pass / field, etc. Bidder shall prove the PG test parameters during O&amp;M and ensure that system is streamlined so that the designed Operating Hours is achieved, which is needed for handing over of the system.</p> <p>Bidder shall maintain WORK PERMIT ISSUE / CANCELLATION Slips for all types of Electrical Isolation &amp; Service resuming. Bidder shall maintain, Safety Log book for Clearance with signatures of all concerned engineers from Site operations, Mechanical, Electrical and C&amp;I department of Bidder &amp; BHEL for all types of drive /system Operations from DCS. Standard SAFE ELECTRICAL OPERATION procedures to be followed strictly by bidder.</p> |
| 02.27.00 | <b>OTHER SPECIFIC CONDITION</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 02.27.01 | <p><b>INSURANCE:</b> - BHEL shall arrange comprehensive insurance policy for total supply &amp; services for main equipment/ system covering transit risks &amp; loss, destruction or damage during handling at site, storage, civil works, erection, testing and commissioning up to trial operation/ completion of unit(s) including theft, sabotage, fire, lightning and other natural calamities.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

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Inland Transit cum Storage and E&C Insurance shall be in BHEL Scope. Complete project insurance is under BHEL scope. Copy of MCE policy will be provided to the successful bidder in due course of time.

In case of damage/loss/theft of goods at any stage starting from “in transit” till final handing over to BHEL, the seller/ contractor will support BHEL for lodging claim with insurance company. Registering FIR with police department as applicable shall be in the scope of Seller/contractor. FIR/Insurance claims are to be lodged by the seller/ contractor within the time period as required in the insurance policy. Responsibility of completing all formalities with Police department & Insurance surveyor will be with seller.

In case the damage/ loss/ theft of materials is attributable to negligence/ failure in discharging the duties and obligations of the successful bidder, the expenses incurred for repair/ replacement of such components in excess of the amount realized from the underwriters, limited to Normal Excess (Deductible Franchise) shall be recovered from the successful bidder.

c) In case the claim is not honoured by the insurance company for the lapses of seller/ contractor, the seller/ contractor to arrange for repair/replacement of such items without any cost implication to BHEL.

d) It will be responsibility of the successful bidder to replenish the items lost/ damaged in time without hampering the schedule of work and without waiting for settlement of insurance claim. Amount received from the underwriters on settlement of insurance claim shall be passed on to the successful bidder as and when available.

e) The vendor/ contractor shall send Prior Dispatch intimation to the Insurance agency about the value of consignment, dispatch details, along with copy of invoice, LR / RR, Packing List/ delivery Challan, e-way bill etc. indicating the items dispatched (with their weights). A copy of the above intimation shall also be sent by the vendor/ contractor to BHEL. Failure in doing so, if results in the rejection of claim by the underwriter shall be the sole responsibility of the bidder and any loss due to this shall be made good by the bidder at its own cost.

f) Details of insurance policy and contact details of insurance company shall be provided to the successful bidder after placement of order.

g) It is the entire responsibility of the successful bidder to insure their workmen against accident and injury while at work as required by the relevant rules and to pay compensation, if any, to their workmen as per statutory act. The successful bidder shall also insure their staff against accident/ injury with Workmen’s compensation policy, group personal insurance, etc., as may be applicable.

h) The successful bidder shall take insurance covering for all materials (excluding plant material), tools & plants, manpower, workers, etc., required to be provided & deployed for the job by the bidder.

i) These insurance covers have to be taken prior to start of work and they shall make available the policy to Construction Manager, BHEL for necessary verification before start of work. However, irrespective of such verification/ acceptance, sole responsibility to maintain adequate insurance cover at all times during the period of contract shall lie with the successful

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|          | <p>bidder. Regarding aforesaid insurance cover, the successful bidder shall directly deal with the insurance company for all matters regarding the insurance in his scope.</p> <p>j) Successful bidder shall timely intimate dispatches/ discrepancy during contract operation, to the underwriter. The name of the underwriter and Policy No shall be intimated in due course of time.</p> <p>k) Insurance as applicable for field work such as third-party liability, workmen compensation, Seller/Contractor's own Tools &amp; Plants and automobile shall be arranged by the Seller/ Contractor (and cost of such insurance shall be included in the quoted price), which shall include but not limited to the following:</p> <p>1) Workmen's Compensation Insurance</p> <p>This insurance shall protect the Contractor against all claims applicable under the Workmen's Compensation Act, 1948 (Government of India). This policy shall also cover the Contractor against claims for injury, disability disease or death of his or his Sub-Contractor's employees, which for any reason are not covered under the Workmen's Compensation Act, 1948. The liabilities shall not be less than the following:</p> <p>Workmen's Compensation : As per Statutory Provisions</p> <p>Employee's Liability : As per Statutory Provisions</p> <p>2) Comprehensive Automobile Insurance</p> <p>This insurance shall be in such a form to protect the Contractor against all claims for injuries, disability, disease and death to members of public including the Employer's men and damage to the property of other arising from the use of motor vehicles during on or off the Site operations, irrespective of the Ownership of such vehicles. The liability covered shall be as herein indicated:</p> <p>Fatal Injury : Rs.100,000 each person</p> <p style="padding-left: 150px;">: Rs.200,000 each occurrence</p> <p>Property Damage : Rs.100, 000 each occurrence</p> <p>3) Comprehensive General Liability Insurance</p> <p>The insurance shall protect the Contractor against all claims arising from injuries, disabilities, disease or death of members of public or damage to property of others, due to any act or omission on the part of the Contractor, his agents, his employees, his representatives and Sub-Contractors or from riots, strikes and civil commotion.</p> <p>The hazards to be covered will pertain to all the Works and areas where the Contractor, his Sub-Contractors, his agents and his employees have to perform work pursuant to the Contract.</p> <p>The above is only illustrative list of insurance covers normally required and it will be the responsibility of the Contractor to maintain all necessary insurance coverage to the extent both in time and amount to take care of all his liabilities either direct or indirect, in pursuance of the Contract.</p> |
| 02.27.02 | It is the entire responsibility of the successful bidder to insure their workmen against accident and injury while at work as required by the relevant rules and to pay compensation, if any, to                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |

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|          | <p>their workmen as per statutory act. The successful bidder shall also insure their staff against accident/ injury with Workmen's compensation policy, group personal insurance, etc., as may be applicable.</p> <p>Lodging and settlement of the claim shall be the responsibility of the successful bidder. Necessary documents, if any, required for settlement of insurance claim shall be provided by BHEL.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 02.27.03 | <p>Bidder to note that, for the purpose of End User's specification/conditions which requires item/component of same make to be used across various packages/system, Bidder shall obtain permission before procurement of such items. Bidder shall mandatorily procure the such "same make" requirement items from BHEL in case of the item is manufactured by BHEL.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 02.27.04 | <p>For the items, manufactured by BHEL, or for which BHEL Make is approved by End User as indicated in the attached End User's documents, bidder shall take quotation from BHEL and if the rates quoted by BHEL for the items is less, the items shall be procured from BHEL keeping in view the market viability of the product.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 02.28.00 | <p>As part of the overall project management activity, the successful bidder shall be responsible for proper co-ordination of erection activities during various phases of execution of the contract. The successful bidder shall identify a person designated as construction manager, with whom BHEL shall interact on matters related to execution of the contract. The construction manager shall be the single point contact person on behalf of the successful bidder. BHEL shall interact with the construction manager only on all matters on co-ordination between BHEL and the successful bidder.</p> <p>The successful bidder shall confine all field operations to those works which can be reformed without subjecting the equipment and materials to adverse effects, during inclement weather conditions, like monsoon, storms, etc and during other unfavourable construction conditions. No field activities shall be performed by the successful bidder under conditions which might adversely affect quality &amp; efficiency thereof, unless special precautions or measures are taken by the successful bidder in proper and satisfactory manner in the performance of such works and with the concurrence of the engineer. Such unfavourable construction conditions in no way relieve the successful bidder of their responsibility to perform the works as per the schedule.</p> <p>The successful bidder shall supply all skilled workmen like welders, gas cutters, electricians, riggers, sarangs, erectors, fitters, instrument machines etc, in addition to other skilled, semi-skilled and unskilled workmen required for all the works of handling and transportation from site store to erection site, erection, testing and commissioning contemplated under this specification. Only fully trained and competent manpower with previous experience on the job shall be employed. They shall hold valid certificates wherever necessary. BHEL reserves the right to decide on the suitability of the workers and the other personnel who will be employed by the successful bidder. BHEL reserves the right to insist on removal of any employee of the successful</p> |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-II : SCOPE OF WORK

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|          | <p>bidder at any time, if they find him unsuitable and the successful bidder shall forthwith remove him.</p> <p>The supervisory staff employed by the successful bidder shall be technically qualified and experienced in the area of work. They shall ensure proper out turn of work and discipline on the part of labour put on the job by the successful bidder and in general see that the works are carried out in a safe and proper manner and in coordination with other labour and staff employed directly by BHEL or other agencies' of BHEL and BHEL's client/ consultant.</p> <p>The successful bidder shall also furnish daily labour report showing by classification the number of employees engaged in various categories of work a progress report of work as required by BHEL engineer.</p> <p>The work shall be executed under the usual conditions affecting major power plant construction and in conjunction with numerous other operations at site. The successful bidder and his personnel shall co-operate with other personnel, and other successful bidders, coordinating his work with others and proceed in a manner that shall not delay or hinder the progress of work as a whole.</p> <p>The successful bidder's supervisory staff shall execute the work in the most substantial &amp; workman like manner within stipulated time. Accuracy of work and aesthetic finish are essential part of this contract. The successful bidder shall be responsible to ensure that assembly &amp; workmanship conform to the dimensions &amp; tolerance given in the drawing/ instruction given by BHEL engineer from time to time.</p> <p>It is the responsibility of the successful bidder to engage his workman in shifts or on overtime basis for achieving the target set by BHEL during erection, commissioning and testing period. Bidder's quoted rate shall include all these contingencies.</p> <p>For rendering commissioning assistance during running of the unit till handing over of the set, dedicated team along with an exclusive supervisor need to be deployed by the successful bidder to attend the incidental works of commissioning as per the instruction of BHEL commissioning engineer. They shall be equipped with all necessary hand-tools to attend all the incidental works during commissioning.</p> |
| 02.29.00 | <p><b>Watch &amp; Ward</b></p> <p>The contractor shall be responsible for Security of all equipment in his custody issued by BHEL/brought by him against pilferage, damage, etc. The contractor shall also be custodian of the items installed, operated and maintained by him, till handing over.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

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| 02.30.00 | <p><b>NOTE:</b></p> <ol style="list-style-type: none"><li>1. The End user's specification, General specifications/Requirements, Amendments, Clarifications, Pre-bid &amp; Post-bid queries and BHEL-HSE manual are part of this specification and shall be read with this technical specification. Bidder shall submit a signed copy of this Tender Enquiry Specification along with all enclosures as Technical Offer with the Bid without any Deviation.</li><li>2. For the items manufactured by BHEL or for which BHEL Make is approved by customer as indicated in the end user's specification, bidder shall take quotation from BHEL and if the rates quoted by BHEL for the items is less, the items shall be procured from BHEL keeping in view the market viability of the product.</li><li>3. Bidder shall provide the Illumination, Earthing, Lightning protection for all areas where Civil OR Structural is in bidder scope.</li><li>4. Bidder to note that completion of engineering within the L1 schedule is a major milestone, so bidder shall put all endeavor to complete the same without linking to dispatch. As dispatches shall be sequential and it may so happen that actual requirement to site as per supply period, mentioned in L1 schedule is staggered/beyond the engineering completion schedule. In such event successful bidder shall not delay the ordering of BOI/ SMI on the pretext /issues of deferred supply period, shelf life of item, warranty issue etc. All care to be taken by the bidder in this regard during offer preparation. Similarly, during contract execution successful bidder will ensure the same while ordering BOI to their sub-vendor such that there is no hindrance in drawing submission &amp; engineering.</li><li>5. Complete Detailed Engineering Drawings, Calculations, Selection of Components etc. shall be reviewed and approved by BHEL and Plant Owner during Detail Engineering. All such Detailed Engineering Drawings, Calculations, Selection of Components shall be documented/stored/archived at BHEL.</li><li>6. -Void-</li><li>7. Training of end user's personnel at equipment manufacturer's factory premises and O&amp;M training at site, as per equipment manufacturer's standard training modules as per BHEL NIT &amp; Technical conditions of contract, amendments &amp; agreements till placement of order is also in the scope of bidder.</li><li>8. During detail engineering, successful bidder has to submit all the drawings/documents and any other documentation through Document Management System (DMS) like Wrench portal, etc. Bidder would be provided access to the DMS for drawing. /doc. approval and adequate training manuals will be available to bidder; which bidder has to get conversant with. Necessary IT related information will have to be collected by successful bidder after award of contract, by coordinating with BHEL-IT team. All the documentation flow should happen in</li></ol> |
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|          | <p>this document management system only.</p> <p>9. Any national and international codes and/or standards used in the design of the plant and equipment shall be shown by the Contractor to the Employer as and when required during contract period. Cost of same shall be deemed included in the total cost quoted by the bidder.</p> <p>10. BHEL shall not provide any T&amp;Ps for this scope of work. All T&amp;Ps required for handling of items / materials and complete execution of work is to be arranged by the Contractor.</p> <p>11. However, if in any unforeseen circumstances, requirement of any T&amp;Ps (available with BHEL at site) arises, on request of bidder the same may be provided on chargeable basis but BHEL reserves the right of provision of such T&amp;Ps. Charges shall be applied as per BHEL norms and guidelines and direction of engineer in-charge.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 02.31.00 | <p><b>Dispatch Markings</b></p> <p>Each package/ Drum delivered under the Contract shall be marked by Supplier as per details listed below and such marking must be distinct and in English language.</p> <ol style="list-style-type: none"> <li>1) Name and address of the consignee (to be intimated at the time of dispatch clearance)</li> <li>2) Dispatched by: (Vendor name)</li> <li>3) LR No. Package No./ Total Package No eg: 1 of N, 2 of N; where N=Total no of packages in a particular consignment.</li> <li>4) Type of Supply: "<b>Main equipment supply</b>"/"<b>Commissioning Spares</b>" as the case may be. Besides above necessary, packing shall bear a special marking "TOP", "BOTTOM", "DO NOT TURN OVER", "KEEP DRY", "HANDLE WITH CARE", etc.</li> <li>4) Compliance to Material Tracking System and Consignment Tracking System as per the SPMS guidelines.</li> </ol> <p>No item / equipment shall be dispatched without obtaining Material Dispatch clearance certificate from from BHEL irrespective of inspection categories.</p> <p>The Contractor shall ensure that all the plant and equipment are suitably packed and protected to prevent damage or deterioration during its transportation to site, handling and storage at site till the time of its installation. The ownership of all such packing material shall stand transferred to the Purchaser/ Employer upon dispatch of the plant and equipment.</p> |
| 02.32.00 | <p><b>E-way bill</b></p> <p>E-Way bill is to be generated by the bidder/ bidder's sub-vendor for transport of materials to the Project site, same shall be arranged by the bidder.</p> <p>The Seller/ Contractor shall be responsible for the issuance of e-way bill and other compliances relating to e-way bill as per GST law.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 02.33.00 | <p><b>Intellectual Property &amp; Licenses</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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|          | <p>The copyright in all drawings, documents and other materials containing data and information furnished to the BHEL/Owner by the Contractor herein shall remain vested in the Contractor or, if they are furnished to the BHEL/Owner directly or through the Contractor by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party. BHEL/Owner shall however be free to reproduce and use all drawings, documents and other material furnished to the BHEL/Owner for the purpose of the contract, if required, for operation and maintenance and Renovation &amp; Modernization of the Facilities (Throughout actual or intended life of facility whichever is longer).</p> <p>All intellectual property rights that arise due to the execution of the delivery by the Seller and by its employees or third parties involved by the Seller for the performance of the contract shall be promptly notified by the Seller to the BHEL and shall be deemed to belong to the BHEL. The Seller shall be obligated to cooperate with the Buyer and do everything necessary to obtain or perfect the above-mentioned rights in favour of the BHEL.</p> <p>The Seller/contractor represents and guarantees that the delivery does not infringe on any of the intellectual property rights of third parties. In the event a third party makes a claim, the Seller shall also be obligated to do everything necessary to obtain or establish the alternate acceptable arrangement pending resolution of any (alleged) claims by third parties.</p> <p>The Seller/contractor agrees to indemnify, defend and hold harmless the BHEL/Owner, its officers, employees, agents, representatives, successors, assignees or any of the Buyer's customers buying or using the goods or services specified herein, against any actual or alleged infringement of such intellectual property interests, claims by third parties in this regard and shall pay to the Buyer merely on demand without demur and without requiring the Buyer to furnish any proof of such claim, such sum as indicated in the demand towards any liabilities, damages, penalties, injuries, claims, demands, actions, cost and expenses etc. suffered as a result thereof.</p> <p>The Seller/contractor agrees that its liability under this clause shall be unlimited.</p> |
| 02.34.00 | <p><b>Limitation of Liability</b></p> <p>Except in cases of criminal negligence or willful misconduct, the aggregate liability of the Seller/ Contractor to the BHEL, whether under the Contract, in tort or otherwise, shall not exceed the total Contract Price, provided that this limitation shall not apply to any obligation of the Contractor to indemnify the Employer with respect to patent infringement.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 02.35.00 | <p><b>Disposal of Surplus Material</b></p> <p>"Ownership of any Plant and Equipment in excess of the requirements for the Facilities (i.e. surplus material) shall revert to the Contractor upon Completion of the Facilities and Guarantee Test or at such earlier time when the Owner/End-User/End user's consultant/BHEL and the Contractor agree that the Plant and Equipment in question are no longer required for the Facilities, provided</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

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|          | <p>quantity of any Plant and Equipment specifically stipulated in the Contract shall be the property of the Owner whether or not incorporated in the Facilities. The Contractor shall remove from the site such surplus material brought by him in pursuance of the Contract, subject to the Contractor producing the necessary clearance from the relevant authorities (Customs, GST etc.), if required by law, in respect of re-export or disposal of the surplus material locally. The liability for the payment of the applicable taxes/duties, if any, on the surplus material so re-exported and/or disposed locally shall be that of the Contractor.</p> <p>The Contractor shall also indemnify to keep the Owner/End-User/BHEL harmless from any act of omission or negligence on the part of the Contractor in following the statutory requirements with regard to removal/disposal of surplus material. The Indemnity-cum-Undertaking Agreement shall be furnished by contractor as per proforma enclosed in End-User's Tender NIT Section-VII (Part 3 of 3 - Forms and Procedures). Further, in case the laws require the Employer to take prior permission of the relevant Authorities before handing over the surplus material to the Contractor, the same shall be obtained by the Contractor on behalf of the OWNER/BHEL.</p> |
| 02.36.00 | <p><b>Others</b></p> <ol style="list-style-type: none"> <li>Bidders are requested to carefully examine and understand the specifications, scope of work etc. and seek clarifications, if required, to ensure that they have understood the specifications, scope of work. Bidder's offer should not carry any sections like clarifications, interpretations and/ or assumptions.</li> <li>All the Tender Documents, addenda, corrigenda, BHEL clarifications etc. shall automatically become a part of the Order/ Contract after its finalization.</li> <li>Orders/ Guidelines/ Circulars issued by various ministries/ authorities of Govt. of India as issued from time to time shall be applicable for this tender/ contract (even if issued before or after the bid submission end date) for provisions/ restrictions as given from time to time.</li> </ol> <p>This shall include but not limited to the provisions/ restrictions for E-invoicing, Preference to Make in India, Restrictions on Procurement from a country which shares a land border with India, MSME Guidelines and Government e-Marketplace and any other provision/ restriction.</p>                                                                                                                                                                                |
| 02.37.00 | <p><b>ROYALTY/ SEIGNIORAGE CHARGES</b></p> <ol style="list-style-type: none"> <li>The Bid Price shall be inclusive of any Royalties or Seigniorage Fee or Cess or other charges payable on the quarried or mined metal, minerals, or minor minerals, as the case may be, at the rate(s) prevailing as on due date of Bid Submission.</li> <li>The contract price shall be including all applicable Royalty for Construction materials as per the rates in clause no. i above and the Bidder to quote their price accordingly. The Royalty amount will not be reimbursed by BHEL.</li> <li>In the event of there being a statutory increase in the rates of royalty charges/ fresh levy of royalty on materials, the increase/ fresh levy shall be reimbursed to the Contractor upon submission of original challan of having made the payments at revised rates and necessary proof of payments as required by M/s NLCIL for reimbursement and realization of reimbursement from NLCIL to BHEL.</li> </ol>                                                                                                                                                                                                                                                                                                                                   |

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|          | <p>iv. In the event of there being a decrease in such rates, the decrease shall be recovered from the Contractor.</p> <p>v. The increase or decrease in Royalty shall be w.r.t the rate as per enclosed notification as referred in Clause no. i above.</p> <p>vi. The total reimbursement of increase or decrease in royalty charges or new levies (positive or negative) as specified above, to be paid or recovered, shall however be calculated on the quantity of materials actually considered while making the royalty payments to the concerned authorities, or the theoretical consumption of these materials (calculated on the basis of the volume of concrete or fill accepted for payment), whichever is less, and on the basis of documentary evidence of Govt. Notification.</p> <p>vii. However, the Contractor will settle claims, if any, on account of over charge by the State Authorities.</p> <p>viii. If there is a demand by statutory bodies at a later date from BHEL/ contractor for payment of royalty for construction materials, the same will be paid by contractor or recovered from Contractor and paid by BHEL. BHEL's decision regarding modality of payment for the demand is with BHEL &amp; binding on the Contractor. Any penalty levied by the statutory bodies in this regard or any other reason on account of royalty/ seigniorage fee for Construction materials will be to contractor's account.</p> <p>ix. The component of Royalties or Seigniorage Fee or Cess or other charges, if applicable in a running account bill, shall only be released by the Purchaser to the Contractor on submission of the following documents in original</p> <p style="padding-left: 40px;">A) In case the Contractor is the primary license holder of the quarry / mines:</p> <p style="padding-left: 80px;">i) Vehicle wise challan / transit permit and proof of payment of royalty, and</p> <p style="padding-left: 80px;">ii) Any other document required as per the relevant Acts/Rules of the concerned state.</p> <p style="padding-left: 40px;">B) In case the Contractor is the purchaser of soil/earth, sand, stone/aggregates, metals, minerals or minor minerals:</p> <p style="padding-left: 80px;">i) Purchase voucher and vehicle wise challan / transit permit and proof of payment of royalty, and</p> <p style="padding-left: 80px;">ii) Any other document required as per the relevant Acts/Rules of the concerned state.</p> <p>x. In the event of non-availability of royalty/statutory documents along with RA Bill, BHEL site at its discretion may opt to withhold relevant amount from the running RA Bills and process the bill further to maintain proper cash flow and continuity of work.</p> <p>The Contractor shall pay and indemnify the Employer against any default in payment of Royalties or Seigniorage Fee or Cess or other charges by the Contractor or the agency from which the Contractor purchases soil/earth, sand, stone/aggregates, metals, minerals or minor minerals.</p> |
| 02.38.00 | Gate passes for materials, workmen, tools and plants (T&Ps), and any other related items shall be issued in the name of the Prime Bidder or as may be instructed by the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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|  | Owner/Customer. Notwithstanding the above, the Prime Bidder and its sub-agencies shall remain responsible for complying with all applicable statutory requirements, including but not limited to obtaining labour licences, ESIC, EPF, and any other mandatory registrations or approvals. |
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# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-III : FACILITIES IN THE SCOPE OF BIDDER/BHEL (FACILITY MATRIX)

| 03.00.00 Facilities in the Scope of Bidder/BHEL |                                                                                                                |       |        |                                                                                                                                                                                                                                                                   |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sl. No                                          | Description<br><br>PART I                                                                                      | Scope |        | Remarks                                                                                                                                                                                                                                                           |
|                                                 |                                                                                                                | BHEL  | Bidder |                                                                                                                                                                                                                                                                   |
| 03.01.00                                        | <b>Establishment:</b>                                                                                          |       |        |                                                                                                                                                                                                                                                                   |
| 03.01.01                                        | <b>For Construction Purpose:</b>                                                                               |       |        |                                                                                                                                                                                                                                                                   |
| a                                               | <b>Open space for office</b>                                                                                   | Yes   |        | Location will be finalized after joint survey with owner.                                                                                                                                                                                                         |
| b.1                                             | <b>Open space for storage</b>                                                                                  |       | Yes    | Construction of open storage yard shall be in the bidder's scope<br><br>Bidder shall also consider fencing/illumination of open storage and site fabrication area as and when allocated at site.<br><br>Location will be finalized after joint survey with owner. |
| b.2                                             | <b>Construction of Closed Storage Shed</b>                                                                     |       | Yes    | Construction of closed storage shed for the storage of materials (Including BHEL free supply items if, any) shall be in the bidder's scope                                                                                                                        |
| c                                               | Construction of bidder's office, canteen and storage building including supply of materials and other services |       | Yes    |                                                                                                                                                                                                                                                                   |
| d                                               | Bidder's all office equipment, office / store / canteen consumables                                            |       | Yes    |                                                                                                                                                                                                                                                                   |
| E                                               | Canteen facilities for the bidder's staff, supervisors and engineers etc.                                      |       | Yes    |                                                                                                                                                                                                                                                                   |

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## CHAPTER-III : FACILITIES IN THE SCOPE OF BIDDER/BHEL (FACILITY MATRIX)

| 03.00.00 Facilities in the Scope of Bidder/BHEL |                                                                                                                                |       |        |                                                                                                                                         |
|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-------|--------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Sl. No                                          | Description<br><br>PART I                                                                                                      | Scope |        | Remarks                                                                                                                                 |
|                                                 |                                                                                                                                | BHEL  | Bidder |                                                                                                                                         |
| F                                               | Firefighting equipment like buckets, extinguishers etc.                                                                        |       | Yes    |                                                                                                                                         |
| G                                               | Fencing of storage area, office, canteen etc. of the bidder                                                                    |       | Yes    |                                                                                                                                         |
| H                                               | Development of land provided for office, storage, fabrication yard, etc.                                                       |       | Yes    |                                                                                                                                         |
| 03.01.02                                        | <b>For living purpose of the bidder:</b>                                                                                       |       |        |                                                                                                                                         |
| A                                               | Open space for labour colony                                                                                                   |       | Yes    | Bidder has to make his own arrangements for shelter and transportation of labour as per requirement.                                    |
| B                                               | Labour Colony with internal roads, sanitation, complying with statutory requirements                                           |       | Yes    | Construction Plan shall be approved by BHEL/Customer.<br><br>Bidder to refer Annexure-A (Standard Guidelines for workers Accommodation) |
| 03.02.00                                        | <b>Electricity:</b>                                                                                                            |       |        |                                                                                                                                         |
| 03.02.01                                        | <b>Electricity for construction purposes (for Site/Project works only) 3 Phase 415/440 V within project premises</b>           |       | Yes    | <b>Refer Clause 03.12</b>                                                                                                               |
| A                                               | Single point source                                                                                                            | Yes   | Yes    |                                                                                                                                         |
| B                                               | Further distribution including all materials, Energy Meter, Protection devices and its service                                 |       | Yes    | At contractor's own cost.                                                                                                               |
| C                                               | Distribution of Electricity for the office, stores, canteen, of the contractor which include supply of materials and execution |       | Yes    | At contractor's own cost.                                                                                                               |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-III : FACILITIES IN THE SCOPE OF BIDDER/BHEL (FACILITY MATRIX)

| 03.00.00 Facilities in the Scope of Bidder/BHEL |                                                                                                                |       |        |                                                                   |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------|-------|--------|-------------------------------------------------------------------|
| Sl. No                                          | Description<br><br>PART I                                                                                      | Scope |        | Remarks                                                           |
|                                                 |                                                                                                                | BHEL  | Bidder |                                                                   |
| D                                               | Supply, installation and connection of energy meter including operation and maintenance                        |       | Yes    | At contractor's own cost. Calibration certificate to be provided. |
| E                                               | Duties and deposits including statutory clearances if applicable                                               |       | Yes    | At contractor's own cost.                                         |
| F                                               | Demobilization of all the facilities after completion of works                                                 |       | Yes    | At contractor's own cost.                                         |
| 03.02.02                                        | <b>Electricity for office, stores, canteen etc. of the bidder</b>                                              |       |        |                                                                   |
| A                                               | Single point source                                                                                            |       | Yes    | Contractor has to make his own arrangements                       |
| B                                               | Further distribution including all materials, Energy Meter, Protection devices and its service                 |       | Yes    | At contractor's own cost.                                         |
| C                                               | Duties and deposits including statutory clearances if applicable                                               |       | Yes    | At contractor's own cost.                                         |
| 03.02.03                                        | <b>Electricity for living accommodation of the bidder's staff, engineers, supervisors, labour Hutment etc.</b> |       |        | <b>Contractor has to make his own arrangements</b>                |
| A                                               | Single point source                                                                                            |       | Yes    |                                                                   |
| B                                               | Further distribution including all materials, Energy Meter, Protection devices and its service                 |       | Yes    | At contractor's own cost.                                         |
| C                                               | Payment/Duties and deposits including statutory clearances if applicable                                       |       | Yes    | At contractor's own cost.                                         |
| 03.03.00                                        | <b>Water Supply:</b>                                                                                           |       |        |                                                                   |
| 03.03.01                                        | For construction purposes:                                                                                     |       | Yes    | <b>Refer clause 03.13</b>                                         |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-III : FACILITIES IN THE SCOPE OF BIDDER/BHEL (FACILITY MATRIX)

| 03.00.00 Facilities in the Scope of Bidder/BHEL |                                                                                                                                                                      |       |        |                                                                    |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|--------------------------------------------------------------------|
| Sl. No                                          | Description<br><br>PART I                                                                                                                                            | Scope |        | Remarks                                                            |
|                                                 |                                                                                                                                                                      | BHEL  | Bidder |                                                                    |
| A                                               | Making the water available at single point                                                                                                                           |       | Yes    | Refer Clause 3.14- Construction water                              |
| B                                               | Further distribution as per the requirement of work including supply of materials and execution                                                                      |       | Yes    |                                                                    |
| 03.03.02                                        | <b>Water supply for bidder's office, stores, canteen etc.</b>                                                                                                        |       |        | <b>Contractor has to make his own arrangements</b>                 |
| A                                               | <b>Making the water available at single point</b>                                                                                                                    |       | Yes    | At contractor's own cost                                           |
| B                                               | <b>Further distribution as per the requirement of work including supply of materials and execution</b>                                                               |       | Yes    | At contractor's own cost                                           |
| 03.03.03                                        | <b>Water supply for Living Purpose</b>                                                                                                                               |       |        | <b>Contractor has to make his own arrangement at his own cost.</b> |
| A                                               | Making the water available at single point                                                                                                                           |       | Yes    | At contractor's own cost.                                          |
| B                                               | <b>Further distribution as per the requirement of work including supply of materials and execution</b>                                                               |       | Yes    | At contractor's own cost.                                          |
| 03.04.00                                        | <b>Lighting</b>                                                                                                                                                      |       |        |                                                                    |
| A                                               | For construction work (supply of all the necessary materials)<br>1. At office/storage area<br>2. At the preassembly area<br>At the construction site /area           |       | Yes    | At contractor's own cost                                           |
| B                                               | For construction work (execution of the lighting work/ arrangements)<br>1. At office/storage area<br>2. At the preassembly area<br>3. At the construction site /area |       | Yes    | At contractor's own cost                                           |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-III : FACILITIES IN THE SCOPE OF BIDDER/BHEL (FACILITY MATRIX)

| 03.00.00 Facilities in the Scope of Bidder/BHEL |                                                                                                                       |       |        |                                                                               |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|-------|--------|-------------------------------------------------------------------------------|
| Sl. No                                          | Description<br><br>PART I                                                                                             | Scope |        | Remarks                                                                       |
|                                                 |                                                                                                                       | BHEL  | Bidder |                                                                               |
| C                                               | Providing the necessary consumables like bulbs, switches, etc. during the course of project work                      |       | Yes    | At contractor's own cost                                                      |
| D                                               | Lighting for the living purposes of the bidder at the colony / quarters                                               |       | Yes    | At contractor's own cost                                                      |
| 03.05.00                                        | <b>Communication facilities for site operations of the bidder</b>                                                     |       |        |                                                                               |
| A                                               | Téléphone, fax, internet, intranet, e-mail etc.                                                                       |       | Yes    | At contractor's own cost                                                      |
| 03.06.00                                        | <b>Demobilization of all the above facilities</b>                                                                     |       | Yes    | At contractor's own cost                                                      |
| 03.07.00                                        | <b>Erection Facilities</b>                                                                                            |       |        |                                                                               |
| 03.07.01                                        | <b>Engineering works for construction:</b>                                                                            |       |        |                                                                               |
| A                                               | Providing the erection/constructions drawings for all the equipment covered under this scope                          |       | Yes    |                                                                               |
| B                                               | Drawings for construction methods                                                                                     | Yes   | Yes    | In consultation with BHEL                                                     |
| C                                               | As-built drawings where ever deviations observed and executed and also based on the decisions taken at site           |       | Yes    | Changes are to be marked in drawing & handover to BHEL on completion of work. |
| D                                               | Preparation of site erection schedules and other input requirements as per Form-14.                                   | Yes   | Yes    | In consultation with BHEL                                                     |
| E                                               | Review of performance and revision of site erection schedules in order to achieve the end dates and other commitments | Yes   | Yes    | In consultation with BHEL                                                     |
| F                                               | Weekly construction / erection schedules based on Sl. No. E                                                           |       | Yes    | In consultation with BHEL                                                     |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-III : FACILITIES IN THE SCOPE OF BIDDER/BHEL (FACILITY MATRIX)

| 03.00.00 Facilities in the Scope of Bidder/BHEL |                                                                                                                                                                                                                                          |       |        |                                                                                  |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|----------------------------------------------------------------------------------|
| Sl. No                                          | Description<br><br>PART I                                                                                                                                                                                                                | Scope |        | Remarks                                                                          |
|                                                 |                                                                                                                                                                                                                                          | BHEL  | Bidder |                                                                                  |
| G                                               | Daily work plan based on Sl. No. F                                                                                                                                                                                                       |       | Yes    | In consultation with BHEL                                                        |
| H                                               | Periodic visit of the senior official of the bidder to site to review the progress so that works is completed as per schedule. It is suggested this review by the senior official of the bidder should be done once in every two months. |       | Yes    |                                                                                  |
| I                                               | Preparation of preassembly bay                                                                                                                                                                                                           |       | Yes    |                                                                                  |
| J                                               | Laying of racks for gantry crane if provided by BHEL or brought by the contractor /bidder himself                                                                                                                                        |       | Yes    |                                                                                  |
| 03.08.00                                        | <b>Transportation</b>                                                                                                                                                                                                                    |       |        |                                                                                  |
| a                                               | For site personnel of the bidder                                                                                                                                                                                                         |       | Yes    |                                                                                  |
| b                                               | For bidder's equipment and consumables (T&P, Consumables etc.)                                                                                                                                                                           |       | Yes    |                                                                                  |
| 03.09.00                                        | <b>Fabrication &amp; Erection Facilities</b>                                                                                                                                                                                             |       |        |                                                                                  |
| 03.09.01                                        | Engineering works for construction:                                                                                                                                                                                                      |       |        |                                                                                  |
| a                                               | Providing the erection/constructions drawings for all the equipment covered under this scope                                                                                                                                             |       | Yes    |                                                                                  |
| b                                               | Drawings for construction methods                                                                                                                                                                                                        |       | Yes    | In consultation with BHEL                                                        |
| c                                               | As-built drawings where ever deviations observed and executed and also based on the decisions taken at site                                                                                                                              |       | Yes    | Changes are to be marked in drawing & handed over to BHEL on completion of work. |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-III : FACILITIES IN THE SCOPE OF BIDDER/BHEL (FACILITY MATRIX)

| 03.00.00 Facilities in the Scope of Bidder/BHEL |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |       |        |                           |
|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|---------------------------|
| Sl. No                                          | Description<br><br>PART I                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Scope |        | Remarks                   |
|                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | BHEL  | Bidder |                           |
| d                                               | Shipping lists etc. for reference and planning the activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |       |        | Not Applicable            |
| e                                               | Preparation of site construction / erection schedules and other input requirements as per Form-14.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |       | Yes    | In consultation with BHEL |
| f                                               | Review of performance and revision of site construction / erection schedules in order to achieve the end dates and other commitments                                                                                                                                                                                                                                                                                                                                                                                                                                                             |       | Yes    | In consultation with BHEL |
| g                                               | Weekly construction / erection schedules based on Sl. No. e                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |       | Yes    | In consultation with BHEL |
| h                                               | Daily work plan based on Sl. No. g                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |       | Yes    | In consultation with BHEL |
| i                                               | Periodic visit of the senior official of the bidder to site to review the progress so that works is completed as per schedule. It is suggested this review by the senior official of the bidder should be done once in every two months.                                                                                                                                                                                                                                                                                                                                                         |       | Yes    |                           |
| j                                               | Preparation of preassembly bay                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |       | Yes    |                           |
| k                                               | Laying of racks for gantry crane if provided by BHEL or brought by the contractor /bidder himself                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |       | Yes    |                           |
| 03.10.00                                        | <b>Land/Open Space:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |       |        |                           |
| 03.10.01                                        | Availability of land within plant boundary is very limited and the bidder has to plan and use the existing land considering the use of land by other Civil /mechanical/ electrical contractors and the storage of plant machineries and materials. The existing land shall be shared by all erection agencies. BHEL shall provide free of charge limited open space for office, storage shed and laydown area as and where made available by Customer. It is the responsibility of the bidder to construct sheds, fabrication yard, establish batching pant, provide all utilities and dismantle |       |        |                           |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-III : FACILITIES IN THE SCOPE OF BIDDER/BHEL (FACILITY MATRIX)

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | and clear the site after completion of work or as and when required, as a part of his scope of work.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 03.11.00 | <b>Labour and Staff Colony:</b><br><br><b>Following are in the Bidder's scope of work for labour &amp; staff colony:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 03.11.01 | BHEL shall not provide any space or residential accommodation to the contractor for his staff or labour and the contractor has to make his own arrangements at his cost. Labour colony is to be developed by bidder for all the labourers required to be deployed for the works. Bidder has to identify the land for labour colony at their cost and no land will be given by BHEL for labour colony purpose. The contractor to develop/ construct labour colony/ hutment fulfilling the minimum requirements as specified in the "HSE Plan for Site Operations by Subcontractors" enclosed along with this tender as well as meeting the statutory norms.<br><br>Ownership of the labour hutment shall be of the contractor and contractor shall keep BHEL indemnified from any statutory obligations/ legal compliances w.r.t. labour hutment establishment during as well as after the completion of contract. |
| 03.11.02 | Land for labor colony shall be arranged by Contractor at their own cost as per availability outside project area. Necessary levelling/ dressing of land shall be done by the contractor. All arrangement for electricity and drinking/service water to be arranged by the contractor within his quoted price. The contractor shall provide adequate water arrangement for drinking/ washing/ bathing with required toilets, drainage system, and electrification etc. in labour colony at his own cost.                                                                                                                                                                                                                                                                                                                                                                                                           |
| 03.11.03 | Development of Bidder's temporary staff colony and labour colony having adequate no. of rest rooms along with toilets & fencing etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 03.11.04 | All Civil and Structural work associated with drinking and service water for Bidder's labour and other personnel at the work site/colony/offices including pump houses, pipes, overhead tank, tube wells etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 03.11.05 | Providing and maintaining facilities for safety, welfare, drinking water and sanitation, hygiene, biennial health check-up etc. for construction workers at their workplaces as well as at labour & staff colonies.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 03.11.06 | Development and maintenance of above facilities for construction workers deployed by the Contractor shall solely rest with the Contractor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-III : FACILITIES IN THE SCOPE OF BIDDER/BHEL (FACILITY MATRIX)

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 03.11.07 | Contractor shall ensure maintenance of workmen/labour colony in line with BHEL' standard Guidelines <b>(As per Annexure A- Standard Guidelines for Worker's Accommodation / Establishments at BHEL-Project Sites).</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 03.11.08 | Contractor shall maintain one centralized store cum bar bending yard at his own cost. Hard surfacing of this yard and all-around drains shall be carried out by the contractor at his own cost within the quoted rate. The construction of cement storage sheds for unloading of cement bags, stacking properly in the storage sheds shall be carried out by the contractor at his own cost within the quoted rate.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 03.11.09 | <p><b>Installation of necessary amenities and temporary infrastructure for construction activities at Project site locations.</b></p> <p>Following are the minimum amenities to be provided by the bidder within the quoted price including removal/disposal of the same in environment friendly manner after its intended use/completion of scope of work:</p> <ol style="list-style-type: none"> <li>Labour rest sheds near work spot.</li> <li>Canteen facility creation.</li> <li>Drinking water facility.</li> <li>Labour Bio toilets near work spot in sufficient nos. with regular cleaning &amp; maintenance arrangement. Exclusive arrangement of Bio toilets to be made at site for ladies.</li> <li>Labour colony should have all hygienic condition, dining hall, toilets, proper sewerage system, good drinking water arrangements.</li> </ol> <p>Recreational facilities, etc.</p> |
| 03.12.00 | <b>Construction Power:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 03.12.01 | <p><b>Construction power (three phase, 415 V/ 440 V)</b> shall be provided by BHEL free of cost at one point near the site at a distance of <b>approx. 500M within 06 months</b> from the date of start of work. Further, distribution shall be arranged by the contractor at his own cost and services.</p> <p>However, contractor has to deploy DG Sets to meet power requirement in case of delay in availability of single source or any kind of power interruptions during the course of the project at no extra cost to BHEL.</p> <p>If any other voltage level (other than normally available) is required, the same shall be arranged by the contractor from power supply as above. Contractor shall be responsible for fulfilment of all requirements including statutory requirements in this regard.</p>                                                                              |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-III : FACILITIES IN THE SCOPE OF BIDDER/BHEL (FACILITY MATRIX)

|          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 03.12.02 | Contractor shall deploy and install required energy meter, cables, fuses, distribution boards, switchboards, bus bars, earthing arrangements, protection devices and any other installation as specified by statutory authority/act. Contractor shall also obtain approvals of appropriate authority and pay necessary fees, levies etc. towards the clearance of such installations, prior to use.                                                                                                                 |
| 03.12.03 | Sufficient power factor compensation equipment like capacitor shall be provided by contractor for reactive loads like welding machines etc. In case of any fine/penalty on account of low power factor, same shall be shared by contractor proportionately according to power consumption.                                                                                                                                                                                                                          |
| 03.12.04 | Contractor shall make necessary arrangements for onward distribution of construction power taking due care of surrounding construction activities like movement of cranes & vehicles, civil work, fabrication/construction/assembly/ erection etc. and safety of personnel. It may become necessary to relocate some of the installations to facilitate work by other agencies or by him.                                                                                                                           |
| 03.12.05 | It shall be the responsibility of the Contractor to provide, maintain the complete installation on the load side of the supply with due regard to the safety requirements at site. All cabling and installations shall comply in all respects with the appropriate statutory requirements. The installation and maintenance of this shall be done by licensed and experienced electrician.                                                                                                                          |
| 03.12.06 | While reasonable efforts will be made to ensure continuous electric power supply, interruptions cannot be ruled out and no claim from the Contractor shall be entertained on this account such as idle labour, extension of time etc. The Contractor shall adjust his working shift accordingly and deploy additional manpower, if necessary, so as to achieve the target.                                                                                                                                          |
| 03.12.07 | Contractor to note that till construction power is made available by BHEL; contractor shall make his own arrangement like DG set etc. The contractor shall also take the approval/ permission of statutory authorities for his DG set installation. The Contractor has to make his own arrangement for the same as required to carry out the job under the scope of work within the quoted rate. Nothing extra shall be paid on this account of DG set up and running for construction and office, maintenance etc. |
| 03.12.08 | Contractor shall be well equipped with back-up power supply arrangement like DG set and diesel operated welding machine etc. to tackle situations arising due to failure of supplied power, so as to ensure continuity and completion of critical processes that are underway at the time of power failure or important activities planned in immediate future.                                                                                                                                                     |
| 03.12.09 | BHEL is not responsible for any loss or damage to the Contractor's equipment as a result of variations in voltage or frequency or interruptions in power supply.                                                                                                                                                                                                                                                                                                                                                    |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-III : FACILITIES IN THE SCOPE OF BIDDER/BHEL (FACILITY MATRIX)

|          |                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 03.12.10 | The bidder will have to procure & install General mobile illumination system during construction right from start of his work. This system will include temporary pole lighting, portable lighting towers with DG back-up, within the quoted price. The illumination should be such that minimum illumination requirement as specified by Indian standards for general illumination is maintained.                    |
| 03.12.11 | Supply of electricity shall be governed by Indian Electricity Act and Installation Rules and other Rules and Regulation as applicable. The contractor shall ensure usage of electricity in an efficient manner and the same may be audited by BHEL time to time. In case of any major deviation from normally accepted norms is observed, BHEL will reserve the right to impose penalty as deemed fit for such cases. |
| 03.13.00 | <b>Construction water:</b>                                                                                                                                                                                                                                                                                                                                                                                            |
| 03.13.01 | Construction water shall be the responsibility of Bidder during all stages of construction. However, construction water may be provided by BHEL at one point on chargeable basis. Bidder shall arrange for further distribution/transportation to required location by their own. Charges for construction water shall be decided by BHEL, which shall be intimated during the execution stage.                       |
| 03.13.02 | The Contractor should make arrangements for storage of sufficient quantity of water required for work. The agency should also construct sumps (if required) of suitable size for storage of construction water as per their requirement for use in construction purposes.                                                                                                                                             |
| 03.13.03 | Contractor to satisfy himself that the water drawn by him is fit for construction / consumption and adequately treat such water at his cost when it is not found fit for the said purposes. Necessary tests as per FQP to be carried out time to time and reports to be submitted to BHEL.                                                                                                                            |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-IV : TIME SCHEDULE

| 04.00.00 | <p><b>TIME SCHEDULE-</b> Time is the essence of this Contract and shall be strictly adhered to by the Contractor. The program of supplying, erecting, testing, commissioning and completion of facilities identifying the key phases in various areas of work like design procurement, manufacture, field activities shall be as per detailed L2 PERT Network to be submitted by Bidder and mutually discussed and agreed after issue of LOA .</p> <p>The completion period from the issuance of the LOA , the Complete work of EPC PACKAGE of ASH HANDLING SYSTEM shall be completed within 34 months.</p>                                                                                                                                                                                                                                                                                                                                    |                              |       |             |                          |   |                   |                   |   |                      |                  |   |                                         |                  |   |                                                         |                              |   |                                                |                              |   |                          |                  |   |                            |                  |   |                                 |                  |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|-------|-------------|--------------------------|---|-------------------|-------------------|---|----------------------|------------------|---|-----------------------------------------|------------------|---|---------------------------------------------------------|------------------------------|---|------------------------------------------------|------------------------------|---|--------------------------|------------------|---|----------------------------|------------------|---|---------------------------------|------------------|
| 04.01.00 | <p><b>Zero date - Date of Issuance of LOA shall be considered as the Zero Date for the Package</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                              |       |             |                          |   |                   |                   |   |                      |                  |   |                                         |                  |   |                                                         |                              |   |                                                |                              |   |                          |                  |   |                            |                  |   |                                 |                  |
| 04.02.00 | <p><b>Schedule of important Activities:</b></p> <table border="1"> <thead> <tr> <th>Sl no</th><th>Description</th><th>Unit#1<br/>from Zero date</th></tr> </thead> <tbody> <tr> <td>1</td><td>Basic Engineering</td><td>Within 1.5 Months</td></tr> <tr> <td>2</td><td>Detailed Engineering</td><td>Within 15 Months</td></tr> <tr> <td>3</td><td>Dispatch and Completion of the Supplies</td><td>Within 23 Months</td></tr> <tr> <td>4</td><td>Readiness of Bottom Ash-Hopper with sealing arrangement</td><td>Within 25 Months <b>(M1)</b></td></tr> <tr> <td>5</td><td>Readiness/Commissioning of AHP for Coal firing</td><td>Within 31 Months<b>(M2)</b></td></tr> <tr> <td>6</td><td>Readiness of HCSD system</td><td>Within 32 Months</td></tr> <tr> <td>7</td><td>Erection and Commissioning</td><td>Within 33 Months</td></tr> <tr> <td>9</td><td>Completion of Facilities of AHP</td><td>Within 34 Months</td></tr> </tbody> </table> |                              | Sl no | Description | Unit#1<br>from Zero date | 1 | Basic Engineering | Within 1.5 Months | 2 | Detailed Engineering | Within 15 Months | 3 | Dispatch and Completion of the Supplies | Within 23 Months | 4 | Readiness of Bottom Ash-Hopper with sealing arrangement | Within 25 Months <b>(M1)</b> | 5 | Readiness/Commissioning of AHP for Coal firing | Within 31 Months <b>(M2)</b> | 6 | Readiness of HCSD system | Within 32 Months | 7 | Erection and Commissioning | Within 33 Months | 9 | Completion of Facilities of AHP | Within 34 Months |
| Sl no    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Unit#1<br>from Zero date     |       |             |                          |   |                   |                   |   |                      |                  |   |                                         |                  |   |                                                         |                              |   |                                                |                              |   |                          |                  |   |                            |                  |   |                                 |                  |
| 1        | Basic Engineering                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Within 1.5 Months            |       |             |                          |   |                   |                   |   |                      |                  |   |                                         |                  |   |                                                         |                              |   |                                                |                              |   |                          |                  |   |                            |                  |   |                                 |                  |
| 2        | Detailed Engineering                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Within 15 Months             |       |             |                          |   |                   |                   |   |                      |                  |   |                                         |                  |   |                                                         |                              |   |                                                |                              |   |                          |                  |   |                            |                  |   |                                 |                  |
| 3        | Dispatch and Completion of the Supplies                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Within 23 Months             |       |             |                          |   |                   |                   |   |                      |                  |   |                                         |                  |   |                                                         |                              |   |                                                |                              |   |                          |                  |   |                            |                  |   |                                 |                  |
| 4        | Readiness of Bottom Ash-Hopper with sealing arrangement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Within 25 Months <b>(M1)</b> |       |             |                          |   |                   |                   |   |                      |                  |   |                                         |                  |   |                                                         |                              |   |                                                |                              |   |                          |                  |   |                            |                  |   |                                 |                  |
| 5        | Readiness/Commissioning of AHP for Coal firing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Within 31 Months <b>(M2)</b> |       |             |                          |   |                   |                   |   |                      |                  |   |                                         |                  |   |                                                         |                              |   |                                                |                              |   |                          |                  |   |                            |                  |   |                                 |                  |
| 6        | Readiness of HCSD system                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Within 32 Months             |       |             |                          |   |                   |                   |   |                      |                  |   |                                         |                  |   |                                                         |                              |   |                                                |                              |   |                          |                  |   |                            |                  |   |                                 |                  |
| 7        | Erection and Commissioning                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Within 33 Months             |       |             |                          |   |                   |                   |   |                      |                  |   |                                         |                  |   |                                                         |                              |   |                                                |                              |   |                          |                  |   |                            |                  |   |                                 |                  |
| 9        | Completion of Facilities of AHP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Within 34 Months             |       |             |                          |   |                   |                   |   |                      |                  |   |                                         |                  |   |                                                         |                              |   |                                                |                              |   |                          |                  |   |                            |                  |   |                                 |                  |
| 04.03.00 | <p><b>Intermediate Milestones</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                              |       |             |                          |   |                   |                   |   |                      |                  |   |                                         |                  |   |                                                         |                              |   |                                                |                              |   |                          |                  |   |                            |                  |   |                                 |                  |
| 04.03.01 | <p><b>Provision of Penalty in case of slippage of Intermediate Milestones:</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                              |       |             |                          |   |                   |                   |   |                      |                  |   |                                         |                  |   |                                                         |                              |   |                                                |                              |   |                          |                  |   |                            |                  |   |                                 |                  |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

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|          | In case of slippage of Two Major Intermediate Milestones, mentioned as M1 & M2 above, delay Analysis shall be carried out on achievement of each of these two Intermediate Milestones in reference to F-14.                                                                                                        |                                      |
| 04.03.02 | Two Major Intermediate Milestones are identified as M1 and M2.                                                                                                                                                                                                                                                     |                                      |
|          | <b>Milestone</b>                                                                                                                                                                                                                                                                                                   | <b>Tentative Completion Schedule</b> |
|          | Readiness of Bottom Ash-Hopper with sealing arrangement                                                                                                                                                                                                                                                            | Within 25 Months <b>(M1)</b>         |
|          | Readiness/Commissioning of AHP for Coal firing                                                                                                                                                                                                                                                                     | Within 31 Months <b>(M2)</b>         |
| 04.03.03 | In case delay in achieving M1 Milestone is solely attributable to the contractor, 0.5% per week of executable contract value*, limited to maximum 2% of executable contract value, will be withheld.                                                                                                               |                                      |
| 04.03.04 | In case delay in achieving M2 Milestone is solely attributable to the contractor, 0.5% per week of executable contract value*, limited to maximum 3% of executable contract value, will be withheld.                                                                                                               |                                      |
| 04.03.05 | Amount already withheld, if any against slippage of M1 milestone, shall be released only if there is no delay attributable to contractor in achievement of M2 Milestone.                                                                                                                                           |                                      |
| 04.03.06 | Amount required to be withheld on account of slippage of identified intermediate milestone(s) shall be withheld out of respective milestone payment (corresponding RA Bill) and balance amount (if any) shall be withheld @10% of RA Bill amount from subsequent RA bills.                                         |                                      |
| 04.03.07 | Final deduction towards LD (if applicable), on account of delay attributable to contractor shall be based on final delay analysis on completion/ closure of contract. Withheld amount, if any due to slippage of identified intermediate milestone(s) shall be adjusted against LD or released as the case may be. |                                      |
| 04.03.08 | In case of termination of contract due to any reason attributable to contractor before completion of work, the amount already withheld against slippage of intermediate milestones shall not be released and be converted into recovery.                                                                           |                                      |
| 04.03.09 | Contractor shall make all possible efforts to expedite the activities, in case of delay of any intermediate milestone, to maintain overall project completion schedule.                                                                                                                                            |                                      |

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## CHAPTER-IV : TIME SCHEDULE

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| 04.03.10 | *Executable Contract Value - Value of work for which inputs/ fronts were made available to contractor and were scheduled for execution till the date of achievement of that milestone.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 04.03.11 | <p>Inputs exchange between the EPC vendor and BHEL in line with the scope defined in the relevant annexures shall be progressive.</p> <p>Detailed L3 Schedule, including inputs requirement dates from BHEL, shall be prepared and submitted by Vendor for approval of BHEL. Detailed (L3) Schedule: The Contractor shall submit detailed L3 schedule to the BHEL within 60 days from LOA for review and approval of the same wherein the activities viz supply of Plant &amp; Equipment and services to be provided under the Contract(s) shall be further bifurcated month wise in line with agreed L-2 schedule. The detailed L3 Schedule is to be submitted in hard copy as well as soft copy to BHEL for approval.</p> <p>To meet above schedule in general, and any other intermediate targets set, to meet customer/project schedule requirements, vendor shall arrange &amp; augment all necessary resources from time to time on the instructions of BHEL.</p>                                                   |
| 04.03.12 | Bidder may note that there are certain structures which shall be in close vicinity to the Main BTG Area. Completion of those equipment foundations and related works shall be prioritized in consultation with BHEL Resident Manager at site, so that BHEL's works in the main plant area doesn't hamper.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 04.04.00 | <p><b>Guarantee/ Warrantee/ Defect Liability period</b></p> <p>The Contractor warrants that the Facilities or any part thereof shall be free from defects in the design, engineering, materials and workmanship of the Plant and Equipment supplied and of the work executed.</p> <p>The Guarantee/ warrantee/ defect liability Period shall be "Eighteen (18) months from the date of Completion of the Facilities (or any part thereof) or twelve (12) months from the date of Operational Acceptance of the Facilities (or any part thereof), whichever first occurs", unless specified otherwise in the TCC.</p> <p>If during the Defect Liability Period any defect should be found in the design, engineering, materials and workmanship of the Plant and Equipment supplied or of the work executed by the Contractor, the Contractor shall promptly, in consultation and agreement with the Owner/End User's Consultant/BHEL regarding appropriate remedying of the defects, and at its cost, repair, replace</p> |

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or otherwise make good (as the Contractor shall, at its discretion, determine) such defect as well as any damage to the Facilities caused by such defect. The Contractor shall not be responsible for the repair, replacement or making good of any defect or of any damage to the Facilities arising out of or resulting from any of the following causes:

- (a) improper operation or maintenance of the Facilities by the Owner.
- (b) operation of the Facilities outside specifications provided in the Contract.
- (c) normal wear and tear.

Further, the Contractor's obligations under the above clause shall not apply to

- (a) any materials that are supplied by the BHEL under (BHEL-Supplied Plant, Equipment and Materials), are normally consumed in operation, or have a normal
- (b) any designs, specifications or other data designed, supplied or specified by or on behalf of the Owner or any matters for which the Contractor has disclaimed responsibility herein.

Owner/BHEL shall give the Contractor a notice stating the nature of any such defect together with all available evidence thereof, promptly following the discovery thereof.

The Contractor may, with the consent of the Owner/BHEL, remove from the Site any Plant and Equipment or any part of the Facilities that are defective if the nature of the defect, and/or any damage to the Facilities caused by the defect, is such that repairs cannot be expeditiously carried out at the Site.

If the repair, replacement or making good is of such a character that it may affect the efficiency of the Facilities or any part thereof, the Owner/BHEL may give to the Contractor a notice requiring that tests of the defective part of the Facilities shall be made by the Contractor immediately upon completion of such remedial work, whereupon the Contractor shall carry out such tests.

If such part fails the tests, the Contractor shall carry out further repair, replacement or making good (as the case may be) until that part of the Facilities passes such tests. The tests in character

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shall in any case be not less than what has already been agreed by the Owner/ End user/ End-User's consultant and the Contractor for the original equipment/part of the Facilities.

If the Contractor fails to commence the work necessary to remedy such defect or any damage to the Facilities caused by such defect within a reasonable time (which shall in no event be considered to be less than fifteen (15) days), BHEL may, following notice to the Contractor, proceed to do such work, and the reasonable costs incurred by the BHEL in connection therewith shall be deducted by the BHEL from any monies due to the Contractor or claimed under the Performance Security.

If the Facilities or any part thereof cannot be used by reason of such defect and/or making good of such defect, the Defect Liability Period of the Facilities or such part, as the case may be, shall be extended by a period equal to the period during which the Facilities or such part cannot be used by the Owner because of any of the aforesaid reasons. Upon correction of the defects in the Facilities or any part thereof by repair/replacement, such repair/replacement shall have the Defect Liability Period extended by a period of twelve (12) month from the time such replacement/repair of the Facilities or any part thereof.

All guarantee/ warranty/ Defects Liability and Latent Defects Liability are by the Successful bidder.

"Facilities" means the Plant and Equipment to be supplied and installed, as well as all the Installation Services to be carried out by the Contractor for the Tendered scope/ Package.

"Completion" means that the Facilities have been completed operationally and structurally and put in a tight and clean condition, and that all work in respect of Pre-commissioning of the Facilities has been completed; and Commissioning has been attained as per Technical Specifications.

"Pre-commissioning" means the testing, checking and other requirements specified in the Technical Specifications that are to be carried out by the Contractor in preparation for Commissioning.

"Commissioning" means operation of the Facilities by the Contractor; which operation is to be carried out by the Contractor for the purpose of carrying out Guarantee Test(s).

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|          | <p>“Operational Acceptance” means the acceptance by the Purchaser/ Employer of the Facilities, which certifies the Contractor’s fulfilment of the Contract in respect of Functional Guarantees of the Facilities.</p> <p>a) Operational Acceptance shall occur in respect of the Facilities when the Guarantee Test has been successfully completed and the Functional Guarantees are met.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 04.05.00 | <p><b>Latent defects Liability</b></p> <p>At the end of the Defect Liability Period, the contractor liability ceases except for latent defects. The contractor's liability for latent defects warranty shall be limited to a period of five (5) years from the end of Defect Liability Period. For the purpose of this clause, the latent defects shall be the defects inherently lying within the material or arising out of design deficiency which do not manifest themselves during the Defect Liability Period, but later.</p> <p>In case, there is any dispute between regarding latent defects, a third party as mutually agreed upon by the Owner, BHEL and the Contractor shall be engaged by the Owner/End-User/End user’s consultant for settling the dispute.</p> <p>The third party, so engaged by the Owner/End-User/End user’s consultant, shall be paid fee plus reasonable expenditures incurred in the execution of its duties as mentioned above. In case of latent defect being proved, such costs shall be recoverable from the Contractor and the Contractor shall bear and reimburse such costs to the Owner/End-User/End user’s consultant. If the dispute regarding latent defects cannot be settled as above, then the dispute shall be settled as per provision of contract.</p> |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-V: SUB- QUALIFICATION/ PROVENNESS REQUIREMENT

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| 05.00.00 | <b>SUB- QUALIFICATION/PROVENNESS REQUIREMENT</b><br><br>Bidder to note that following Sub-Qualification requirements to be met and further clearance to be taken from BHEL/Owner for vendor approval as per procedure laid down for vendor approval from Owner. Only BHEL & Owner approved vendor shall be considered before placement of order on sub-vendors and same has to be ensured by the successful bidder. The provenness requirement shall be reckoned as on 06.11.2025 unless otherwise specified in the respective clause.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 05.01.00 | <b>Ash Slurry Disposal Pumps :</b><br><br>The ash slurry pumps to be supplied shall be from such manufacturers who have in the past supplied and installed ash slurry pumps for similar duty applications and have at least two (2) nos. pumps of same models that are being offered having capacity not less than <b>1000 Cubic Meters</b> per hour at each of the two (2) different stations which are in successful operation for at least one (1) year.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 05.02.00 | <b>Positive Displacement Pumps for High Concentration Slurry Disposal System</b><br><br>a. The positive displacement pumps for high concentration slurry disposal System to be supplied shall be from such manufacturers/suppliers who have in the past supplied and installed positive displacement pumps for high concentration slurry disposal System for similar duty applications and have at least two (2) nos. pumps of same models that are being offered having capacity not less than 150 m3/hr which should have been in successful operation for at least one (1) year.<br><br>b. Design and Engineering Agency for High Concentration Slurry Disposal System Design agency/agencies for high concentration slurry disposal system should be either an high concentration slurry disposal system supplier meeting the qualification of <b>Clause A.1. (e)</b> , for the offered system or consultancy organization who has designed and engineered similar system(s) for handling not less than 40 tonnes of ash per hour, for coal / lignite fired power station(s) and the system(s) should have been in successful operation in at least one (1) plant for at least one (1) year. |
| 05.03.00 | <b>Ash conveyors (in case of Dry Bottom Ash Handling)</b><br><br>The Bidder/ its Sub- vendor should have designed, manufactured/ got manufactured, erected and commissioned at least one (1) number integrated bulk material handling plant (essentially comprising of conveying i.e. trough belt conveyor system or pipe conveyor system) including all associated structural steel works and electrical works of 600 Metric tonnes per hour rated capacity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-V: SUB- QUALIFICATION/ PROVENNESS REQUIREMENT

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|          | or above for ash (bulk density 0.75 T/m3) or other minerals of equivalent volumetric capacity which should have been in successful operation for at least one (1) year. The reference ash conveyor (trough belt/ pipe) systems should be of the same type i.e. trough belt conveyor system or pipe conveyor system, as is being offered by the Bidder/ its Sub-vendor.                                                                                                                                                                                                     |
| 05.04.00 | <b>Note: Bidder to note that for above Sub-Qualification/Provenness criteria requirements clearance to be taken from BHEL/Owner for approval of Sub-contractor. Only BHEL/Owner approved Sub-contractor shall be considered. Accordingly, before placement of order on sub-contractor, same has to be ensured. Provenness criteria of all other Items/Equipments which shall be part of the package and required for the completion of the package shall have to be met by the bidder in line with the attached End User Specification attached in Annexure 6 &amp; 7.</b> |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-VI: LIMITING GUARANTEE POWER AND FUNCTIONAL GUARANTEE

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| <b>06.00.00</b> | <b>Limiting Guarantee Power and Performance Guarantee</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>06.01.00</b> | <p><b>Station Auxiliary Power Consumption</b></p> <p>The station auxiliary power consumption for the subject package shall not exceed 4600 KW with duty factors (Refer Annexure-13). Bidder shall submit declaration regarding the same shall be submitted along with technical bid. Bidder shall furnish equipment wise power consumption for list of equipment drives with corresponding weightage factors. Liquidated damages shall be applied on account of shortfall in auxiliary power consumption during PG test.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>06.01.01</b> | BHEL shall levy LD for any increase per kW at the rate of US \$ 5,245 (US Dollar Five Thousand Two Hundred and Forty-Five only) per 1 kW increase in Auxiliary Power Consumption.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>06.02.00</b> | <p><b>PERFORMANCE GUARANTEE</b></p> <p>The parameters/capabilities to be demonstrated for various systems/ equipment shall as per Sec-VI, Part-A, Sub sec-IV, Functional Guarantees &amp; Liquidated Damages and its amendments, Clarifications etc. and elsewhere of End User's NIT specification and amendments (Annexure-6&amp;7). Liquidated damages shall be applied as per End User's NIT specification on account of shortfall in equipment guaranteed parameters during PG test. The PG test procedures specified in the NTPC specification shall be adhered while conducting PG test.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>06.03.00</b> | <b>LIQUIDATED DAMAGES/PENALTIES FOR SHORTFALL IN GUARANTEED PERFORMANCE PARAMETERS:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>06.03.01</b> | <p>In case the results of the performance Guarantee tests as stipulated in the specifications show that the equipment have failed to meet the guaranteed performance requirements, the seller/ contractor shall carry out the modification, if necessary within 90 days of such tests. If the equipment fails to meet the guaranteed parameters at the end of above specified period of 90 days purchaser may at his discretion reject the equipment or accept after assessing the liquidated damages to be payable by the seller/contractor.</p> <p>Alternatively, in case the seller/ contractor does not fulfil the guaranteed parameters, BHEL may undertake to rectify the system/ equipment and expenditure incurred along with any other incidentals shall be recovered from the seller/ contractor. In case of un-remedied any excess consumption of Auxiliary Power consumptions and shortfall of other guarantee parameters for the ordered package as agreed by the seller/contractor in the contract, the seller/contractor shall be liable to pay BHEL by way of LD/Penalty for performance shortfall as stipulated in line with End user's technical specification Sec-VI, Part-A, Sub sec-IV, Functional Guarantees &amp; Liquidated Damages and its amendments, Clarifications etc and elsewhere. If any applicable for this contract.</p> |
| <b>06.03.02</b> | The liquidated damages shall be prorated for the fractional parts of the deficiencies.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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| 06.03.03 | Contractor's aggregate liability to pay liquidated damages for failure to attain the functional guarantee shall not exceed twelve percent (12%) of the Contract Price.     |
| 06.03.04 | Where ever Liquidated Damages (LD) is recoverable as per the terms of the contract, the same shall be recovered from the contractor along with GST (as and if applicable). |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-VII : TERMS OF PAYMENT AND OTHER COMMERCIAL TERMS

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| <b>07.00.00</b> | <b>PAYMENT TERMS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>07.01.00</b> | <b>Supply for Plant and Equipments (excluding Mandatory Spares and Type Tests)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>07.01.01</b> | <p><b>70 % of Total Ex-Works Supply Price Component</b> of the Contract Price for each identified equipment upon despatch of equipment from manufacturer's works on pro-rata basis on production of invoices and satisfactory evidence of shipment (as listed below) including Material Despatch Clearance Certificate (MDCC) issued by the Owner's Corporate QA &amp; I representative.</p> <p><b>Note:</b> Before commencement of supplies, the Contractor shall submit QAP and obtain BHEL/Owner approval.</p> <p>Following documents to be submitted by Contractor: FOR DISPATCH INTIMATION / RECOGNITION OF DISPATCH</p> <ol style="list-style-type: none"> <li>a) Legible scanned copy of the following documents by e-mail immediately on dispatch for dispatch intimation.</li> <li>b) GST compliant invoice</li> <li>c) LR / Courier receipt / RR (indicating Invoice No., no. of boxes, PTL (if applicable) etc.) and Bill of Lading or AWB for imported items</li> <li>d) Packing List: Must indicate No. of boxes/bundles/packages, Packing size, Gross weight and net weight of each package, Contents of the package with cross reference to BBU item no. or item serial no. and Quantity of each item separately</li> <li>e) Submission of documentary evidence by the Contractor towards having taken the insurance policy(ies.) in terms of relevant provisions of and acceptance of same by the OWNER/BHEL.</li> <li>f) Dispatch Clearance.</li> <li>g) E-way bill, as may be applicable</li> <li>h) COO - Certificate of Origin (For imported items)</li> <li>i) Packing List: Must be indicating No. of boxes, Packing size, Gross weight and net weight of each package, Contents of the package with cross reference to BoM item code no. or item serial no. and Quantity of each item separately</li> <li>j) Duty drawback (if applicable) documents: As per applicable law</li> </ol> <p><b>Note:</b> - Above list is tentative in nature and will be finalised at the time of WORK ORDER.</p> <p><b>Note:</b></p> |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-VII : TERMS OF PAYMENT AND OTHER COMMERCIAL TERMS

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|          | <ul style="list-style-type: none"> <li>i. BHEL may require certain original (physical) dispatch documents for billing to BHEL's customer. Such original documents, as insisted by BHEL, shall be submitted to BHEL in original within 7 days from the date of removal of goods/ generation of the document, whichever is earlier.</li> <li>ii. BHEL may insist on using online dispatch intimation/ document submission/ data entry system during execution of the order/ contract. BHEL may also insist on preparation of certain documents/ details in specific formats. The seller/ contractor shall comply with the same.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 07.01.02 | <p><b>20% of Ex-works price</b> of Supply Price Component of the Contract Price for each identified equipment on receipt of equipment at site (Quantity/ tonnage basis/ or as per approved billing schedule) on pro-rata basis and physical verification and certification/ acceptance by the Owner for the equipment received in good condition and stored at site.</p> <p>Collection of Material Receipt Certificate from Site/ Owner and its submission for claiming the payment shall be the responsibility of the Contractor.</p> <p>Documents to be submitted by vendor:</p> <ul style="list-style-type: none"> <li>a) LR / Courier receipt / RR (indicating Invoice No., no. of boxes, PTL (if applicable) etc.) (For indigenous supplies)</li> <li>b) Bill of Lading or Air Way Bill (For imported items)</li> <li>c) COO - Certificate of Origin (For imported items)</li> <li>d) Packing List: Must be indicating No. of boxes, Packing size, Gross weight and net weight of each package, Contents of the package with cross reference to BoM item code no. or item serial no. and Quantity of each item separately</li> <li>e) Duty drawback (if applicable) documents: As per applicable law</li> <li>f) E-way bill as may be applicable.</li> <li>g) On furnishing the confirmation from the contractor that all the payments due w.r.t. the Bought-out Items are paid to their Sub-vendor(s) as per the agreed payment terms between Contractor and their sub-vendor.</li> </ul> <p>Collection of Material Receipt Certificate from Site/ Owner and its submission for claiming the payment shall be the responsibility of the Seller/ Contractor.</p> |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-VII : TERMS OF PAYMENT AND OTHER COMMERCIAL TERMS

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| 07.01.03 | <b>Four Percent (4%) of Ex-Works Supply Price Component</b> of the contract price on Successful Completion of Trial/Initial Operation including all associated auxiliaries and ancillary works and certification by the Owner / BHEL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 07.01.04 | <p><b>Four Percent (4%) of Ex-Works Supply Price Component</b> of the contract price on Successful Completion of applicable Performance Guarantee Tests, to be conducted along with Trial/Initial operation as specified in Technical Specifications and issuance of Completion Certificate and certification by Owner/ BHEL.</p> <p>However, if for reasons attributable to BHEL/Owner, the performance Guarantee (PG) Test of the Facilities or the relevant part thereof cannot be successfully completed within the period of 01 (one) month from the date of Completion of Trial Operation, then 50% of the amount due on "Completion of Trial / Initial Operation along with PG Test" shall be released to the contractor without submission of any BG.</p> <p>Further, if for reasons attributable to BHEL/Owner, in case the performance Guarantee (PG) Test of the Facilities or the relevant part thereof cannot be successfully completed within the period of one year from the date of Completion of Trial Operation, then pending 50% amount shall be released upon submission of Bank Guarantee of equivalent value. Such BG shall be released after successful conductance of PG test.</p> |
| 07.01.05 | <p><b>Two Percent (2%) of Ex-Works Supply Price Component</b> of the contract price on successful completion of applicable Performance Guarantee Tests to be conducted after Trial/Initial operations as specified in Technical Specifications and issue of Operational Acceptance Certificate.</p> <p>However, if for reasons not attributable to contractor, in case the performance Guarantee (PG) Test of the Facilities or the relevant part thereof to be conducted after Trial/Initial operations cannot be successfully completed within the period of one year from the due date of completion of such PG test(s), then aforesaid 2% amount shall be released upon submission of Bank Guarantee of equivalent value. Such BG shall be released after successful conductance of PG test.</p>                                                                                                                                                                                                                                                                                                                                                                                                       |
| 07.01.06 | <p><b>Notes:</b></p> <ol style="list-style-type: none"> <li>The Initial Operation of the complete Facilities as an integral unit shall be conducted as per clause End User's Specification Clause 26.02.00 of Part-C (GTR), Section-VI (Technical Specifications).</li> <li>The basis for the pro-rata payments at 07.01.01 and 07.01.02 above shall be the Billing Break-up (BBU) to be finalised subsequently after award of Contract. The Billing Break Up shall be generally on item rate basis. However, for the items which are generally supplied and billed on weight (tonnage) basis, the Billing Break-Up may be considered on weight (tonnage) basis.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

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## CHAPTER-VII : TERMS OF PAYMENT AND OTHER COMMERCIAL TERMS

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|          | c. <i>Payment will be released within 45 days (MSE vendors) and 60 days (Non-MSE Vendors) after submission of complete set of valid documents, as specified under respective payment terms.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 07.02.00 | -Void-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 07.02.01 | -Void-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 07.02.02 | -Void-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 07.03.00 | <p><b>For Local Transportation</b></p> <p>All Plant and Equipment including recommended spares (if ordered) Hundred Percent (100%) of Local Transportation charges (including port clearance, port handling and port charges etc., if applicable, and inland transit insurance charges) for the plant and equipment shall be paid to the Contractor pro-rata to the value of the equipment received at site and on production of invoices by the Contractor. The aggregate of all such pro-rata payments shall, however, not exceed the total amount identified in the Contract for Local Transportation. However, where item wise local transportation charges (including port clearance, port handling and port charges etc., if applicable) have been identified in the Contract, the payment for the same shall be made after receipt of the equipment at site, based on the charges so identified in the Contract.</p> |
| 07.04.00 | <b>For CIVIL WORKS:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 07.04.01 | <p><b>90 % (Ninety percent)</b> of the total Civil Works Price Component of Contract Price shall be paid progressively on certification by the BHEL engineer for the quantum of work completed and by BHEL/Owner field quality surveillance representative for the successful completion of quality check points involved in the quantum of work billed.</p> <p>Further, break up (if any) for activities involved in completion of work shall be mutually agreed during execution of contract.</p>                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 07.04.02 | <b>Four Percent (4%) of total Civil Works Price Component</b> of the contract price on Successful Completion of Trial/Initial Operation including all associated auxiliaries and ancillary works and its certification by the Owner / BHEL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 07.04.03 | <p><b>Four Percent (4%) of total Civil Works Price Component</b> of the contract price on successful completion of applicable Performance Guarantee Tests to be conducted along with Trial/Initial operation as specified in Technical Specifications and issuance of Completion Certificate by the BHEL/Owner.</p> <p>However, if for reasons attributable to BHEL/Owner, the performance Guarantee (PG) Test of the Facilities or the relevant part thereof cannot be successfully completed within the period of 01 (one) month from the date of Completion of Trial Operation, then 50% of the amount due on "Completion of Trial / Initial Operation along with PG Test" shall be released to the contractor without submission of any BG.</p>                                                                                                                                                                         |

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|          | Further, if for reasons attributable to BHEL/Owner, in case the performance Guarantee (PG) Test of the Facilities or the relevant part thereof cannot be successfully completed within the period of one year from the date of Completion of Trial Operation, then pending 50% amount shall be released upon submission of Bank Guarantee of equivalent value. Such BG shall be released after successful conductance of PG test.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 07.04.04 | <p><b>Two Percent (2%) of total Civil Works Price Component</b> of the contract price on successful completion of applicable Performance Guarantee Tests to be conducted after Trial/Initial operations as specified in Technical Specifications, and issuance of Operational Acceptance Certificate by the Owner/BHEL.</p> <p>However, if for reasons attributable to the BHEL/Owner, in case the performance Guarantee (PG) Test of the Facilities or the relevant part thereof to be conducted after Trial/Initial operations cannot be successfully completed within the period of one year from the due date of completion of such PG test(s), then aforesaid 2% amount shall be released upon submission of Bank Guarantee of equivalent value. Such BG shall be released after successful conductance of PG test and issuance of Operational Acceptance Certificate by the Project Manager.</p> |
| 07.04.05 | <i>The payment for running bills will normally be released within 30 days of submission of running bill complete in all respects with all documents. It is the responsibility of the contractor to make his own arrangements for making timely payments towards labour wages, statutory payments, outstanding dues etc. and other dues in the meanwhile. 60% of RA Bills complete and correct in all respects and certified by BHEL Engineer, shall be paid within 15 days of receipt. Balance payment shall be within 30 days.</i>                                                                                                                                                                                                                                                                                                                                                                    |
| 07.05.00 | <b>For Payment of Site Fabricated Structural Works:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 07.05.01 | <p><b>90 % (Ninety percent)</b> of the total <b>Site Fabricated Structural Works Price Component of the Contract Price</b> shall be paid progressively on certification by the BHEL/Owner for the quantum of work completed and by BHEL/Owner field quality surveillance representative for the successful completion of quality check points involved in the quantum of work billed.</p> <p>Further, break up (if any) for activities involved in completion of work shall be mutually agreed during execution of contract in line with GCC.</p>                                                                                                                                                                                                                                                                                                                                                      |
| 07.05.02 | <b>Four Percent (4%) of Site Fabricated Structural Works Price Component of the Contract Price</b> on Successful Completion of Trial/Initial Operation including all associated auxiliaries and ancillary works and certification by the project manager of owner/customer/ BHEL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 07.05.03 | <b>Four Percent (4%) of total Site Fabricated Structural Works Price Component of the Contract Price</b> on Successful Completion of applicable Performance Guarantee Tests, to be conducted along with Trial/Initial operation as specified in Technical Specifications and issuance of Completion Certificate for Unit-I by project manager of owner/customer/ BHEL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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|          | <p>However, if for reasons attributable to BHEL/Owner, the performance Guarantee (PG) Test of the Facilities or the relevant part thereof cannot be successfully completed within the period of 01 (one) month from the date of Completion of Trial Operation, then 50% of the amount due on "Completion of Trial / Initial Operation along with PG Test" shall be released to the contractor without submission of any BG.</p> <p>Further, if for reasons attributable to BHEL/Owner, in case the performance Guarantee (PG) Test of the Facilities or the relevant part thereof cannot be successfully completed within the period of one year from the date of Completion of Trial Operation, then pending 50% amount shall be released upon submission of Bank Guarantee of equivalent value. Such BG shall be released after successful conductance of PG test.</p> |
| 07.05.04 | <p><b>Two Percent (2%) of total Site Fabricated Structural Works Price Component of the Contract Price</b> on Successful completion of applicable Performance Guarantee Tests to be conducted after Trial/Initial operations as specified in Technical Specifications and issue of Operational Acceptance Certificate.</p> <p>However, if for reasons attributable to BHEL/Owner, in case the performance Guarantee (PG) Test of the Facilities or the relevant part thereof to be conducted after Trial/Initial operations cannot be successfully completed within the period of one year from the due date of completion of such PG test(s), then aforesaid 2% amount shall be released upon submission of Bank Guarantee of equivalent value. Such BG shall be released after successful conductance of PG test.</p>                                                  |
| 07.05.05 | <p><i>The payment for running bills will normally be released within 30 days of submission of running bill complete in all respects with all documents. It is the responsibility of the contractor to make his own arrangements for making timely payments towards labour wages, statutory payments, outstanding dues etc. and other dues in the meanwhile. 60% of RA Bills complete and correct in all respects and certified by BHEL Engineer, shall be paid within 15 days of receipt. Balance payment shall be within 30 days.</i></p>                                                                                                                                                                                                                                                                                                                               |
| 07.06.00 | -VOID-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 07.07.00 | <b>For Installation Services – Erection and Commissioning - excluding Civil works and Site Fabricated Structural Works Portion:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 07.07.01 | <p><b>Ninety Percent (90%) of the Installation Services – Erection and Commissioning component of Contract Price (excluding Civil and Site Fabricated Structural works)</b> shall be paid on pro-rata basis against progressive erection of the identified equipment on certification by the BHEL/Owner for the quantum of work completed and on certification by the Project Manager's field quality assurance &amp; surveillance representative for the successful completion of quality check points involved in the quantum of work.</p>                                                                                                                                                                                                                                                                                                                             |
| 07.07.02 | <p><b>Four Percent (4%) of Installation Services – Erection and Commissioning component</b> of the contract price on Successful Completion of Trial/Initial Operation including all associated</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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|          | auxiliaries and ancillary works and certification by the Owner / BHEL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 07.07.03 | <p><b>Four Percent (4%) of Installation Services – Erection and Commissioning component</b> of the contract price on Successful Completion of applicable Performance Guarantee Tests, to be conducted along with Trial/Initial operation as specified in Technical Specifications and issuance of Completion Certificate and certification by owner/customer/ BHEL.</p> <p>However, if for reasons attributable to BHEL/Owner, the performance Guarantee (PG) Test of the Facilities or the relevant part thereof cannot be successfully completed within the period of 01 (one) month from the date of Completion of Trial Operation, then 50% of the amount due on "Completion of Trial / Initial Operation along with PG Test" shall be released to the contractor without submission of any BG.</p> <p>Further, if for reasons attributable to BHEL/Owner, in case the performance Guarantee (PG) Test of the Facilities or the relevant part thereof cannot be successfully completed within the period of one year from the date of Completion of Trial Operation, then pending 50% amount shall be released upon submission of Bank Guarantee of equivalent value. Such BG shall be released after successful conductance of PG test.</p> |
| 07.07.04 | <p><b>Two Percent (2%) of Installation Services – Erection and Commissioning component</b> of the contract price on successful completion of applicable Performance Guarantee Tests to be conducted after Trial/Initial operations as specified in Technical Specifications and issue of Operational Acceptance Certificate.</p> <p>However, if for reasons attributable to BHEL/Owner, in case the performance Guarantee (PG) Test of the Facilities or the relevant part thereof to be conducted after Trial/Initial operations cannot be successfully completed within the period of one year from the due date of completion of such PG test(s), then aforesaid 2% amount shall be released upon submission of Bank Guarantee of equivalent value. Such BG shall be released after successful conductance of PG test.</p>                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 07.07.05 | <p><b>Note:</b></p> <ol style="list-style-type: none"> <li>1. The Initial Operation of the complete Facilities as an integral unit shall be conducted as per End User's Clause. 26.02.00 of Part-C (GTR), Section-VI (Technical Specifications).</li> <li>2. The payment for running bills will normally be released within 30 days of submission of running bill complete in all respects with all documents. It is the responsibility of the contractor to make his own arrangements for making timely payments towards labour wages, statutory payments, outstanding dues etc. and other dues in the meanwhile. 60% of RA Bills complete and correct in all respects and certified by BHEL Engineer, shall be paid within 15 days of receipt. Balance payment shall be within 30 days.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 07.08.00 | <b>For Type Test (as applicable) :</b> 100% of each Type Test Charges shall be paid to the Contractor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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|          | upon conductance of the corresponding Type Test and Certification by the BHEL Engineer thereon.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 07.09.00 | <b>-VOID-</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 07.10.00 | <p><b>For Payment terms for Training</b></p> <p>100% of amount for each training module shall be paid upon completion of the corresponding module on certification by the Owner/Customer/BHEL.</p> <p>The basis for the pro-rata payments for this shall be the Billing Break-up (BBU) to be finalised subsequently after award of Contract.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 07.11.00 | <b>DOCUMENTS TO BE SUBMITTED BY VENDOR</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 07.11.01 | <p><b>FOR CLAIMING ERECTION &amp; COMMISSIONING, CIVIL &amp; STRUCTURAL PAYMENT:</b></p> <p>Along with GST invoice, Running Account Bill (RAB) &amp; Measurement Book (MB), in BHEL format, following additional documents need to be submitted:</p> <ul style="list-style-type: none"> <li>i. Proof of wages paid (up to previous RAB / Invoice).</li> <li>ii. Monthly EPF remittance challan (if applicable). Up to previous RAB / Invoice)</li> <li>iii. Monthly ESI remittance challan Up to previous month)/ W.C. Insurance Policy, Valid Labor License (if applicable).</li> <li>iv. FQP/Quality Plan documents as approved by BHEL.</li> <li>v. Any other document as informed by BHEL.</li> <li>vi. Bank Guarantee, if applicable as per Notes of payment terms.</li> </ul> <p><b>FOR CLAIMING PAYMENT AGAINST COMMISSIONING (NO LOAD), TRIAL OPERATION, PG/ DEMONSTRATION TEST(S) AT SITE, HANDING OVER:</b></p> <ul style="list-style-type: none"> <li>i. GST invoice</li> <li>ii. Certification for completion of activity as per payment terms from BHEL/Customer.</li> <li>iii. HR compliances, store NOC and any other documents, as per checklist, if any issued by REGION/ISG during detailed LOA or execution of the contract, Compliance of these is required before 1st retention payment release.</li> </ul> |
| 07.12.00 | <p><b>PRICE VARIATION CLAUSE: -</b></p> <p>PVC shall be applicable for Supply &amp; E&amp;C portions, Civil and Structural Package as per Appendix-2 (PVC) and in line with the NIT, amendment's clarifications there off, if there is delay beyond original overall completion schedule not attributable to vendor.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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|          | <p>Any and all the other commercial terms and conditions shall be in line with the BHEL's NIT,GCC Commercial Terms and Conditions attached along with this document.</p> <p><b>Documents required for claiming PVC amount:</b></p> <ul style="list-style-type: none"><li>i. GST compliant invoice</li><li>ii. PVC calculation duly approved by BHEL</li></ul> <p>All documents in support of PVC calculation</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 07.13.00 | <p><b>NON-PAYMENT OF INTEREST</b></p> <p>Notwithstanding anything to the contrary contained in any other document comprising the contract, no interest shall be payable to the Seller/Contractor on any money or balances including but not limited to the security amount, bank guarantee amount, EMD, retention money, any bills or any amount withheld which may become due owing to difference or misunderstanding or any dispute between the BHEL and the Contractor, or any delay on the part of BHEL in making periodical or final payment or any other aspects incidental thereto.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 07.14.00 | <p><b>BILLING BREAK UP (BBU)</b></p> <p>The basis for the pro-rata payments above shall be the Billing Break-up (BBU) to be finalized subsequently after award of Contract.</p> <p>The Contractor shall prepare and submit to BHEL for approval within 7 days from the date of LOA, a break-up of the Contract Price in the currencies of the Contract in line with <b>Annexure 16</b>.</p> <p>The aggregate sum of the Contractor's price break-up shall be equal to the Total Contract Price. The break-up thus submitted shall be approved by BHEL.</p> <ul style="list-style-type: none"><li>a) In case Installation Price (excluding Civil and Site Fabricated Structural works price) is less than 10 % of Total Contract Value, the amount by which it is lower shall be retained proportionately from the Ex-works component of Contract price while releasing payments due on receipt of equipment, and no interest shall be payable on the retained amount. The aforesaid retained amount shall be paid on Final Taking Over of the plant.</li><li>b) -void-</li><li>c) In case the Civil Works Price (including Structural works price) is less than 30 % of Total Contract Value, the amount by which it is lower shall be retained proportionately from the Ex-Works component of Contract price while releasing payments due on dispatch of equipment, and no interest shall be payable on the retained amount. The aforesaid</li></ul> |

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|          | <p>retained amount shall be paid on pro-rata basis upon completion of Civil Works including Structural works (if any) corresponding to the respective equipment and its certification by the Project Manager of Owner/BHEL.</p> <p>d) In case the Civil Works Price (including Structural Works Price) is more than 50 % of Total Contract Value, the amount by which it is higher shall be retained while releasing progressive payments due on completion of civil works (including Site Fabricated Structural works), and no interest shall be payable on the retained amount. The aforesaid retained amount shall be paid along with payment due on completion of Trial Operation / Completion of Facilities.</p> <p>The price break-up shall be interlinked with the agreed detailed PERT Network of the Contract, setting forth starting and completion dates for the various key phases of the Facilities and the submitted Break-up of the Contract Price for Main Equipment supplies shall contain the date of dispatch necessarily.</p> <p>The unit / set / system / package for the purpose of the payment shall be either as per price format or mutually agreed during approval of billing schedule. Further, the BHEL reserves the right to withhold and deduct any amount for the agreed scope of work not completed/ partially completed/ pending punch points etc. Decision of the BHEL in this regard shall be final and binding on the seller/ contractor.</p> <p>The Billing Break Up shall be generally on item rate basis. However, for the items which are generally supplied and billed on weight (tonnage) basis, the Billing Break-Up may be considered on weight (tonnage) basis.</p> <p>Any payment under the Contract, subsequent to Advance payment, shall be made only after the Contractor's price break-up is approved by the BHEL.</p> <p>Further, the BHEL reserves the right to withhold any amount for the agreed scope of work, not completed/ partially completed/ pending punch points etc. Decision of the BHEL in this regard shall be final and binding on the seller/ contractor.</p> |
| 07.15.00 | <p><b>Amount linked to Safety Aspects/ compliance to Safety Rules:</b></p> <p>Amount linked to Safety Aspects/ compliance to Safety Rules' should be equal to 1 % of the cumulative total of Service Portion of the Contract, i.e. Civil + Installation/ Erection + Site Fabricated Structural Works.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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|          | <p>The amounts linked to Safety Aspects / Compliance to Safety Rules including aforesaid retained amount shall be payable in part or full based on safety compliance duly certified by Project Manager and Safety-in-charge on quarterly basis.</p> <p style="padding-left: 40px;"><b>A.</b> 10% amount (calculated as 0.1 Y of the service portion amount of RA bill) shall be linked to Fatal/Major Accidents, and</p> <p style="padding-left: 40px;"><b>B.</b> 90% amount (calculated as 0.9 Y of the service portion amount of RA bill) shall be linked to various Safety Aspects specified in HSE Plan for Site operation by Contractor.</p> <p>While raising each RA Bill, Contractor shall claim Amount linked to Safety Aspects/ Compliance to Safety in such a manner that amount claimed is equal to Y% of the service portion (i.e. Civil/ Installation/ Erection/Structural Works etc.) of RA Bill.</p> <p>Where</p> <p style="padding-left: 40px;">Y= 1% of Total Amount for Construction/service portion of the contract i.e. Civil Installation/Erection, Site Structural Works etc.)</p> |
| 07.15.01 | <p>The amount as elaborated at para-A shall be withheld from first and second monthly RA bill of the respective quarter/three-month period and shall be released in part or full based on safety compliance duly certified by Project Manager and Safety-in-charge on quarterly basis. The amount for the entire quarter (i.e. RA bills raised during a 3-month period) shall be paid to the Contractors at the end of that three months' period along with 3rd/last RA Bill for the quarter/three months' period upon complying the following conditions:</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 07.15.02 | <p>Amount of RA bill linked to FATAL/ Major Accidents (0.1 Y of the service portion amount of RA bill as mentioned above)</p> <p style="padding-left: 40px;">a) <b>No fatal injury</b> or accident-causing death in that three months' period.</p> <p style="text-align: center;"><b>And</b></p> <p style="padding-left: 40px;">b) <b>No Major injury</b> or accident causing 25% or more permanent disablement to workmen or employees in that three-month period. Permanent disablement shall have the same meaning as indicated in The Workmen's Compensation Act' 1923.</p> <p>In case of any fatal injury or accident as elaborated above occurs during that three-month period, the stipulated amount (0.1Y) subject to minimum of <b>Rs 10 Lakh per fatality</b> shall be forfeited and shall not be payable to the contractor under the contract. In case, the amount to be deducted/forfeited exceeds the amount linked to Fatal/ Major Accidents, the same shall be</p>                                                                                                                        |

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|          | <p>recovered from remaining Amount (0.9Y) linked to Compliance of Safety Rules and/or any other payments immediately due to the contractor under the Contract.</p> <p>In case of any Major injury or accident causing <b>25%</b> or more permanent disablement to workmen/worker or employees occurs during that three-month period, <b>Rs 4 lakh per Major injury</b> shall be deducted from the amount (0.1Y) linked to Fatal/ Major Accidents and shall not be payable to the Contractor under the contract. In case, the amount to be deducted/forfeited exceeds the amount linked to Fatal/ Major Accidents, the same shall be recovered from remaining Amount (0.9Y) linked to Compliance of Safety Rules and/or any other payments immediately due to the Contractor under the Contract.</p> <p>Further, in case, Contractor doesn't raise RA Bills in any three-month period/quarter and if any fatal injury and/or major accident takes place in that period, Construction Manager shall deduct the amount [<b>Rs 10 Lakh per fatality and Rs 4 lakh per Major injury</b>] pertaining to this particular quarter from his next RA bill/due payment. In case, the amount to be deducted/forfeited exceeds the amount linked to Safety, the same shall be recovered from any other payments immediately due to the contractor under the Contract.</p> <p>The amount deducted/forfeited as mentioned above shall be in addition to the compensation payable to the workmen / employees under the relevant provisions of the Workmen's Compensation Act' 1923 and rules framed there under or any other applicable laws as applicable from time to time.</p> |
| 07.15.03 | <p><b>Amount of RA Bill linked to Compliance of Safety Rules (0.9Y i.e. 90% of amount as elaborated as mention at clause).</b></p> <p>Aforesaid amount (on quarterly basis) shall be payable to Contractor in five equal parts under five heads as under:</p> <p><b>(i) Amount payable on deployment of required Safety Personnel</b></p> <p>One fifth of the amount specified at clause 07.15.00.B (calculated as 0.18Y of Service portion amount of RA Bill), on quarterly basis, shall be paid upon certification by Construction Manager in consultation with Safety dept. that required number of Safety personnel as per HSE ORGANIZATION have been deployed. The aforesaid amount linked to deployment of requisite safety personnel shall be paid as under:</p> <p>a) 50% of the amount referred in 07.15.03 (i), for deployment of Safety Supervisors shall be paid on pro-rata basis depending upon the actual no. of Safety Supervisors deployed vis-à-vis actual requirement:</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-VII : TERMS OF PAYMENT AND OTHER COMMERCIAL TERMS

(Amount to be paid=  $0.09Y \times \text{Service portion of RA bill amount} \times (a/b)$ )

Where 'a' is actual no. of Safety supervisors deployed.

**And**

'b' is required no. of Safety supervisors as per HSE Plan for site operation by contractor.

In case, actual no. of Safety supervisors deployed is more than requisite number (i.e.  $a/b$  is more than 1), the amount to be paid shall be restricted to 0.09Y.

- b) 50% of the amount referred in clause 07.15.03 (i),, for deployment of Safety Officers shall be paid on pro-rata basis depending upon the actual no. of Safety Officers deployed vis-à-vis actual requirement:

(Amount to be paid) =  $0.09Y \times \text{Service portion of RA bill amount} \times (a/b)$

Where 'a' is actual no. of Safety Officers deployed

**And**

'b' is required no. of Safety Officers as per HSE plan for site operation by contractor. In case, actual no. of Safety Officers deployed is more than requisite number (i.e.  $a/b$  is more than 1), the amount to be paid shall be restricted to 0.09Y.

- a) In case aforesaid requisite no. of Safety personnel are not deployed by contractor, amount not to be paid as calculated above for that particular quarter/three-month period shall be forfeited and shall not be payable to the contractor under the contract.

### **(ii) Amount payable on providing requisite Personal Protective Equipment & Safety Equipment**

One fifth of the amount specified at Clause 07.15.00.B (calculated as 0.18Y of Service portion amount of RA Bill), on quarterly basis, shall be paid upon certification by Construction Manager in consultation with Safety dept. that contractor has adhered to the requirements of Personal Protective Equipment.

In case of non-compliance by contractor, warning letter/Noncompliance shall be issued by Construction Manager /Safety Officer of BHEL. Further, if more than two such warning

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-VII : TERMS OF PAYMENT AND OTHER COMMERCIAL TERMS

letters/Non-Compliance Memos are issued in a quarter/three monthly period, above mentioned amount for that particular quarter/three-month period shall be forfeited and shall not be payable to the contractor under the contract.'

**Note: - The agency should ensure sufficient inventory of personal protective equipment (PPEs) prior to initial mobilization. After identifying the need of the required PPEs for various activities performed at the site, an additional inventory of approx. 20% of required PPEs should be maintaining during the execution of the work. If sub agency fails to provide the PPEs to worker the same may be issued by BHEL and cost for the PPEs will be recovered from the contractor from regular RA Bill with 30 % overhead charges.**

### **(iii) Amount payable on providing requisite Safety Induction and Training**

One fifth of the amount specified at Clause 07.15.00B (calculated as 0.18Y of Service portion amount of RA Bill), on quarterly basis, shall be paid upon certification by Construction Manager in consultation with Safety dept. that contractor has adhered to the requirements of imparting Safety training as per Clause 9.0 (HSE Training & Awareness) to at least 90% of its employees/workmen (who have not been previously provided with requisite training) in a quarter/ three months' period. In case contractor fails in meeting the aforesaid requirement, above mentioned amount for that particular

quarter/three-month period shall be forfeited and shall not be payable to the contractor under the contract.

### **(iv) Amount payable on providing requisite Medical and First Aid Amenities**

One fifth of the amount specified at clause 07.15.00B (calculated as 0.18Y of Service portion amount of RA Bill), on quarterly basis, shall be paid upon certification by Construction Manager in consultation with Safety dept. that contractor has adhered to the requirements of Medical Facilities & First Aid Amenities. In case contractor fails to provide Medical Facilities and First aid amenities as per requirement even on one incidence in any quarter/three-month period, above mentioned amount for that particular quarter/three-month period shall be forfeited and shall not be payable to the contractor under the contract.

### **(v) Amount payable on compliance to Work Permit System**

One fifth of the amount specified at Clause 07.15.00B (calculated as 0.18Y of Service portion amount of RA Bill), on quarterly basis, shall be paid upon certification by Construction Manager in consultation with Safety dept. that contractor has adhered to the requirements of Work Permit System). In case of non-compliance by contractor, warning letters/Non-Compliance Memos shall

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-VII : TERMS OF PAYMENT AND OTHER COMMERCIAL TERMS

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|          | <p>be issued by Construction Manager/ Safety Officer of BHEL. In case of issuance of more than two such warning letters/Non-Compliance Memos in a quarter/three monthly period, above mentioned amount for that</p> <p>particular quarter/three-month period shall be forfeited and shall not be payable to the contractor under the contract.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 07.16.00 | <p><b>Secured Recoverable Advances:</b> Interest Free Secured Mobilization Advance. will be payable under exceptional circumstances on certification of BHEL Construction Manager at Site.</p> <p><b>5% of Interest Free Mobilization Advance shall be applicable only on Total Civil + Installation/ Erection + Structural Works in line with the Approved Customer BBU.</b></p> <p>A) For Establishment of Site Office and Posting of Site Manager and team consisting of Construction/Erection Engineers, Quality Engineer, Safety Engineer etc. as required in Site Office – <b>1.0%</b>.</p> <p>B) For Start of Civil Works at Site including the Mobilization of the Required T &amp; P as required for execution of the Civil Works at site – <b>2.0 %</b>.</p> <p>C) For Start of Structural Fabrication Works including the Establishment of Site Facilities, Deployment of T &amp; Ps as required– <b>2.0 %</b>.</p> <p>The Requirements of T&amp;Ps for the start of works defined (C) shall be in line with the Project Requirement and as certified by the project manager of BHEL.</p> <p>Note: -</p> <ol style="list-style-type: none"> <li>1. BHEL Site-CM shall be the deciding authority for assessing the admissibility of advance payment to contractor.</li> <li>2. In case contractor do not fulfil the agreed conditions of payment of earlier mobilization advance, BHEL Construction Manager will have the authority to not allow the subsequent mobilization advance to contractor.</li> </ol> <p><b>Note:</b> Advance payment shall be released within 45 days of receipt of a complete and valid set of documents required for claiming advance payment, in accordance with the provisions of the GCC and above clauses.</p> |
| 07.17.00 | <p><b><u>Price Bid Basis</u></b></p> <p>a) <b>Price Basis for supply (plant and equipment): Ex-works Basis</b>, inclusive of type test, transportation/freight packing &amp; forwarding charges including sea-worthy packing (wherever applicable), all taxes &amp; duties, levies etc., except Goods &amp; Service Tax (GST). All import</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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## CHAPTER-VII : TERMS OF PAYMENT AND OTHER COMMERCIAL TERMS

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implications including but not limited to Basic Customs Duty, Education cess, antidumping duty, safeguard duty etc. applicable for imported items shall be included in the ex-works price of plant and equipment including spares.

- b)** Ownership of the Plant and Equipment (including spare parts) to be supplied shall be transferred to the Owner when the Plant and Equipment (including spares) are loaded on to the mode of transport to be used to convey the Plant and Equipment (including spares) from the works to the site.
- c) Price Basis for E&C, Civil & Structural works and other Services:** Basic price basis inclusive of all taxes & duties, levies etc., except Goods & Service Tax (GST).

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-VIII : DRAWINGS AND DOCUMENTS SUBMISSION

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| <b>08.00.00</b> | <b>DOCUMENTS / INFORMATION TO BE FURNISHED ALONGWITH TECHNICAL OFFER:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>08.01.00</b> | <p>Bidder shall furnish the following details in their technical offer:</p> <ul style="list-style-type: none"> <li>Bidder shall furnish the following details in their technical offer:</li> <li>Electrical Load list/Feeder list with type/rating/power requirement.</li> <li>Auxiliary power consumption of all the equipment as per Specification.</li> <li>Un-priced price schedule mentioning "Quoted" against each item in BHEL</li> <li>Filled in "Attachment-3K format"</li> <li>Water requirement and Instrument air requirement.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>08.02.00</b> | <p>Bidder shall furnish the following details after placement of LOI.</p> <ul style="list-style-type: none"> <li>List of Self Manufacturing Items with indicating manufacturing place.</li> <li>Sub-vendor list and Sub-vendors Qualification details with documentary proof as per NTPC requirement.</li> <li>Billing break-up schedules for supply and services.</li> <li>Engineering document</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>08.03.00</b> | <p><b>Other Drawing related information:</b></p> <ul style="list-style-type: none"> <li>The number of copies/prints/CD-ROMs/manuals to be furnished for various types of document is as per NIT specification and as finalised by BHEL after placement of order.</li> <li>List of drawings shall be as per the MDL furnished in the NTPC specification.</li> <li>All drawing and data sheet are to be submitted in standard sheets having approved title blocks. Customer's, Customers' Consultant's and BHEL's name has to be incorporated in all the drawings.</li> <li>3-D models compatible with PDMS software and IPMS software for the complete system and coordinating with BHEL other units for alignment will be in the scope of bidder. During detailed engineering bidders shall submit the same along with the GA/OGA drawings for approval.</li> <li>3D modelling of complete AHP buildings, AHP pipe racks, AHP MCC Buildings shall be carried out by successful bidder. Along with GA/OGA drawings the 3D modelled drawings shall also be submitted for approval.</li> <li>Bidder shall furnish Erection and Commissioning manpower requirement, consumables, tools and tackles requirement for commissioning of the system.</li> <li>All Manuals shall be supplied in proper bound books or in folders.</li> <li>Approval of documents does not absolve the contractor from his contractual obligations.</li> <li>All drawings submitted shall indicate the type, size, arrangement, weight of each component, breakdown for packing and shipping, the external connections, fixing arrangements required, the dimensions required for installation with other</li> </ul> |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-VIII : DRAWINGS AND DOCUMENTS SUBMISSION

equipment and material, clearances required between various portions of the equipment and any other information that is relevant or requested for.

- Submission of O & M manuals, as built drawings/ doc. shall be in the Bidder's scope.
- Successful bidder has to submit AUTOCAD drawings along with pdf copies.
- All Flow diagrams, Equipment drawings, GA Drawings/Schemes shall be submitted with separate sheet indicating complete BOM. The same shall be reflected in BBU. BBU shall be furnished by the successful bidder after award of contract considering the BBU system-wise like Coarse ash removal system, Fly ash evacuation system, Ash Conveyor System, Ash classification system, Bagging system etc. Also, BBU shall indicate the amount towards Hardware, gaskets and miscellaneous items.
- Bidder shall submit Painting schedule for approval by customer and Painting for all equipment shall be as per approved painting schedule. All equipment shall be despatched in painted condition.
- All items/equipment except pipes, structural steel, ash vessels and refractory shall be despatched in transport- worthy and storage - worthy packing/shipment boxes. BBU No, Quantity, Item Description details shall be legibly marked on at least 2 sides of packing/shipment boxes. Loose items are not acceptable.
- Successful bidder shall furnish the detailed packing /shipment box details with information such as packing box size, type of packing, weight of each consignment, sequence no. of dispatch, no. of consignment for each deliverable item against each billing break up units/ billable blocks.
- Successful bidder shall submit "Storage Instructions" for the storage (at site) for the entire equipment in bidder's scope of supply within 4 weeks from the date of LOI and the bidder shall ensure that the Shipment list/ Packing list and Storage Instructions are available at site before the items/equipment reach the site.
- Successful bidder shall submit Field Quality Plan for Receipt & Storage within 4 weeks from the date of LOI.
- Successful bidder shall submit Field Quality Plan for Erection & Commissioning within 8 weeks from the date of LOI.
- Approval of documents does not absolve the contractor from his contractual obligations.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-IX : TERMINAL POINTS

|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| <b>09.00.00</b> | <b>TERMINAL POINTS</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>09.01.00</b> | <p>The terminal points for the Ash Handling Plant are as follows:</p> <p><b>STARTING:</b></p> <ul style="list-style-type: none"> <li>a) Boiler seal plate.</li> <li>b) Eco, Eco outlet Duct, AH-ESP Duct, APH, ESP Hopper's outlet flange.</li> </ul> <p><b>ENDING:</b></p> <ul style="list-style-type: none"> <li>a) In case of Wet Bottom ash and Coarse ash (Eco, Eco outlet duct, APH, AH-ESP Duct): Outlet of discharge chute for truck loading in Dewatering bin, (as applicable).</li> <li>b) In case of Dry Bottom ash and Coarse ash (Eco, Eco outlet duct, APH, AH-ESP Duct): Outlet of Retractable chute (unloading spout) and Ash conditioner with chute in Bottom ash Main Silo and Intermediate Silo, (as applicable).</li> <li>c) Bottom ash and Coarse ash slurry : Slurry disposal Piping up to 8319.6E/9849.2N</li> <li>d) Fly ash (Dry): Outlet of Ash conditioner and Unloading retractable chutes (unloading spout) in HCSD cum Main Fly ash Silos.</li> <li>e) Fly ash (Dry): Bagging with conveying &amp; storage system and truck loading facility.</li> <li>f) Fly Ash slurry (HCSD) – HCSD Slurry disposal Piping up to 8319.6E/9849.2N</li> <li>g) Ash water recovery system pipe – From Ash water tank to Co-ordinate 8319.6E/9849.2N.</li> </ul> |
| <b>09.02.00</b> | <p>The terminal points/tapping points for the various water and air lines are as follows:<br/>Bidder to note that only tapping point will be given by BHEL. Isolation valves and valve station with instrumentation at the tapping point and subsequent piping to the AHP consumption points shall be in bidder's scope.</p> <ul style="list-style-type: none"> <li>(i) Raw water/CTBD water: 10m near the Ash water tank.</li> <li>(ii) Clarified water/Seal water : 10m near the BA Slurry pump house</li> <li>(iii) Clarified water : 10m near Silo Utility building</li> <li>(iv) DMCW (passivated) : <ul style="list-style-type: none"> <li>a) 10m near Compressor house-1</li> <li>b) 10m near BA Slurry pump house</li> </ul> </li> <li>(v) Potable water : <ul style="list-style-type: none"> <li>a) 10m near AHP MCC room. Tank is in bidder's scope.</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                         |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-IX : TERMINAL POINTS

|                      |                                                                                                      |
|----------------------|------------------------------------------------------------------------------------------------------|
|                      | b) 10m near Silo utility building. Tank is in bidder's scope.                                        |
| (vi) Service water : | At one point in AHP area. Further distribution including tank is in bidder's scope.                  |
| (vii) Service Air :  | At one point in AHP Area. Further distribution as applicable in AHP Area shall be in bidder's scope. |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-X : LIQUIDATED DAMAGES

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| 10.00.00 | <b>LIQUIDATED DAMAGES FOR DELAYED DELIVERY</b><br><br>Timely dispatch/delivery and completion of other schedules as stipulated in Order/Contract shall be the essence of Order/Contract. If the Seller/Contractor fails to complete the dispatch/delivery and other schedules within the time period stipulated in Order/Contract, or within any extension of time granted by BHEL, it shall be lawful for BHEL to recover damages for breach of Order/Contract and hereunder. |
| 10.01.00 | <b>LD for delay in successful completion of Facilities:</b><br><br>One half of one percent (1/2%) of contract value, for each week of delay in successful Completion of Facilities of the Unit under the package as per the scope of work of the Contractor.<br><br>The total amount of Liquidated Damages for delay under the contracts will be subject to a maximum of 5 % of the total contract price.                                                                      |
| 10.02.00 | Wherever Liquidated Damages (LD) is recoverable as per the terms of the contract, the same shall be recovered from the contractor along with GST (as and if applicable).                                                                                                                                                                                                                                                                                                       |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-XI : EXCLUSIONS

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| 11.00.00 | <b>EXCLUSIONS:</b><br>Following equipment/items and systems are excluded from bidder's scope w.r.t. NIT specifications, MOMs, amendments and clarifications (as per enclosures as floated along with this enquiry): |
| 11.01.00 | <b>Supply of all HT motors</b> are excluded from bidder's scope as HT motors will be free issue to bidder by BHEL, however its E&C alignment with drive system (as applicable) shall be in bidder' scope.           |
| 11.02.00 | <b>Supply of HT Switchgear</b> is excluded from the scope of bidder and will be free issue to bidder by BHEL, however its E&C shall be in bidder scope.                                                             |
| 11.03.00 | Supply of DCS System along with HMI and VMS for the AHP System is excluded from the bidder's Scope.                                                                                                                 |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-XII : ENCLOSURES

**12.00.00**

### **LIST OF ENCLOSURES:**

Following enclosures are an integral part of this technical enquiry and must be signed and stamped and submitted along with the offer (enclosed in soft form in wrench website, link for downloading is given separately):

- ANNEXURE-1 PROJECT INFORMATION
- ANNEXURE-2 AHP SCOPE MATRIX
- ANNEXURE-3 SCOPE MATRIX ELECTRICAL AND C&I
- ANNEXURE-4 PLOT PLAN
- ANNEXURE-5 NTPC ASH FLOW DIAGRAMS
- ANNEXURE-6 NTPC NIT SPECIFICATIONS
- ANNEXURE-7 CLARIFICATIONS & AMENDMENTS
- ANNEXURE-8 AHP ATTACHEMENT 3K NTPC FORMAT
- ANNEXURE-9 ASH DISTRIBUTION DATA
- ANNEXURE-10 APPROVED GA DRAWINGS (VOID)
- ANNEXURE-11 HSE MANUAL
- ANNEXURE-12 LIST OF DO'S AND DONT'S FOR AHP
- ANNEXURE-13 GUARANTEED POWER CONSUMPTION
- ANNEXURE-13A Guarantee Declaration Functional Guarantee
- ANNEXURE-14 Topographical survey reports
- ANNEXURE-15 Terminal Points FPS hydrant
- ANNEXURE-16-Price Break-Up Format
- ANNEXURE-17- Suggested T&P for Civil and Structural Works
- ANNEXURE 18-Standard guidelines for labour colony or worker accommodation.
- ANNEXURE-19- Workers accommodation floor plan and elevations
- ANNEXURE-20- Declaration for provenness
- ANNEXURE-20A DECLARATION REGARDING SOURCING OF THE SYSTEMS RELATED TO COMPLETION OF THE ASH HANDLING SYSTEM
- ANNEXURE-21- Input Data to AHP vendor for Ash Level Low, High and 3DLS/ NOGS for ESP Hoppers.
- ANNEXURE 22 - RF LEVEL SWITCH SPEC

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-XII : ENCLOSURES

- Annexure 23 Tentative Road Layout
- Annexure 24 Tentative Levelling and Grading area for AHP and CHP Bidder.
- APPENDIX 2 PRICE VARIATION CLAUSE
- **Note: Bidder shall download above documents and shall be submit declaration to BHEL for confirming that bidder has gone through all technical specification, amendment & clarification of end user and BHEL of technical enquiry specification issued with this tender.**

NOTE: BHEL specification has to be read in conjunction with the End User's NIT specification, clarifications & Amendments (As per Annexure-6&7) along with all other annexures listed above. Declaration has to be submitted by bidder to BHEL that they have gone through all technical specification, amendments & clarifications of End User as well as BHEL's along with all other annexures enclosed as part of technical enquiry specification issued with this tender.

**In the event of any conflict or ambiguity between the specifications for any particular equipment, system, design criteria, in the standard &/or specification, &/or interpretation of clauses in this enquiry specification &/or its various annexures, the more significant and stringent of the two requirements shall prevail and the decision of BHEL shall be final & binding, which bidder has to adhere to the same without any additional cost & time implication whatsoever to BHEL. Any other interpretation of the contrast clauses (If any) in the specification & its annexures, derived by bidder shall be brought for the discussion during pre-bid stage only and once the contract is awarded, any other interpretation shall not be entertained, which are not in line with the intent of the specification/BHEL's interpretation.**

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-XIII : TAXES & DUTIES

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| 13.00.00 | <b>TAXES &amp; DUTIES</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 13.01.00 | <p>The contractor shall pay all (save the specific exclusions as enumerated in this clause) taxes, fees, license, charges, deposits, duties, tools, royalty, commissions, other charges, etc. which may be levied on the input goods &amp; services consumed and output goods &amp; services delivered in course of his operations in executing the contract. In case BHEL is forced to pay any of such taxes/duties, BHEL shall have the right to recover the same from his bills or otherwise as deemed fit.</p> <p>However, provisions regarding <b>GST</b> on output supply (goods/service) and TDS/TCS as per Income Tax Act shall be as per following clauses.</p> |
| 13.02.00 | <b>GST (Goods and Services Tax)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 13.02.01 | <p>GST as applicable on output supply (goods/services) are excluded from contractor's scope; therefore, contractor's price/rates shall be <b>exclusive</b> of GST. Reimbursement of GST is subject to compliance of following terms and conditions. BHEL shall have the right to deny payment of GST and to recover any loss to BHEL on account of tax, interest, penalty etc. for non-compliance of any of the following condition.</p>                                                                                                                                                                                                                                 |
| 13.02.02 | <p>The admissibility of GST, taxes and duties referred in this chapter or elsewhere in the contract shall be limited to direct transactions between BHEL &amp; its Contractor. BHEL shall not consider GST on any transaction other than the direct transaction between BHEL &amp; its Contractor.</p>                                                                                                                                                                                                                                                                                                                                                                   |
| 13.02.03 | <p>Contractor shall obtain prior written consent of BHEL before billing the amount towards such taxes. Where the GST laws permit more than one option or methodology for discharging the liability of tax/levy/duty, BHEL shall have the right to adopt the appropriate one considering the amount of tax liability on BHEL/Client as well as procedural simplicity with regard to assessment of the liability. The option chosen by BHEL shall be binding on the Contractor for discharging the obligation of BHEL in respect of the tax liability to the Contractor.</p>                                                                                               |
| 13.02.04 | <p>Contractor has to submit GST registration certificate of the concerned state. Contractor also needs to ensure that the submitted GST registration certificate should be in active status during the entire contract period.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 13.02.05 | <p>Contractor/Vendor has to issue Invoice/Debit Note/Credit Note indicating HSN/SAC code, Description, Value, Rate, applicable tax and other particulars in compliance with the provisions of relevant GST Act and Rules made thereunder.</p>                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 13.02.06 | <p>Vendor has to submit GST compliant invoice within the due date of invoice as per GST Law. In case of delay, BHEL reserves the right of denial of GST payment if there occurs any hardship to BHEL in claiming the input thereof. In case of goods, vendor has to provide scan copy of invoice &amp; GR/LR/RR</p>                                                                                                                                                                                                                                                                                                                                                      |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-XIII : TAXES & DUTIES

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|          | to BHEL before movement of goods starts to enable BHEL to meet its GST related compliances. Special care should be taken in case of month end transactions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 13.02.07 | Vendor has to ensure that invoice in respect of such services which have been provided/completed on or before end of the month should not bear the date later than last working day of the month in which services are performed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 13.02.08 | <p>Subject to other provisions of the contract, GST amount claimed in the invoice shall be released on fulfilment of all the following conditions by the Contractor: -</p> <ol style="list-style-type: none"><li>Supply of goods and/or services have been received by BHEL.</li><li>Original Tax Invoice has been submitted to BHEL.</li><li>Contractor/ Vendor has submitted all the documents required for processing of bill as per contract/ purchase order/ work order.</li><li>In cases where e-invoicing provision is applicable, vendor/contractor is required to submit invoice in compliance with e-invoicing provisions of GST Act and Rules made thereunder.</li><li>Contractor has filed all the relevant GST return (e.g. GSTR-1, GSTR-3B, etc.) pertaining to the invoice submitted and submit the proof of such return along with immediate subsequent invoice. In case of final invoice/ bill, contractor has to submit proof of such return within fifteen days from the due date of relevant return.</li><li>Respective invoice has appeared in BHEL's GSTR - 2A for the month corresponding to the month of invoice and in GSTR-2B of the month in which such invoices has been reported by the contractor along with status of ITC availability as "YES" in GSTR-2B. Alternatively, BG of appropriate value may be furnished which shall be valid at least one month beyond the due date of confirmation of relevant payment of GST on GSTN portal or sufficient security is available to adjust the financial impact in case of any default by the contractor.</li><li>Contractor has to submit an undertaking confirming the payment of all due GST in respect of invoices pertaining to BHEL.</li></ol> |
| 13.02.09 | Any financial loss arises to BHEL on account of failure or delay in submission of any document as per contract/purchase order/work order at the time of submission of Tax invoice to BHEL, shall be deducted from contractor's bill or otherwise as deemed fit.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 13.02.10 | TDS as applicable under GST law shall be deducted from contractor's bill.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-XIII : TAXES & DUTIES

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| 13.02.11 | Contractor shall comply with the provisions of e-way bill wherever applicable. Further wherever provisions of GST Act permit, all the e-way bills, road permits etc. required for transportation of goods needs to be arranged by the contractor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 13.02.12 | Contractor shall be solely responsible for discharging his GST liability according to the provisions of GST Law and BHEL will not entertain any claim of GST/interest/penalty or any other liability on account of failure of contractor in complying the provisions of GST Law or discharging the GST liability in a manner laid down thereunder.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 13.02.13 | In case declaration of any invoice is delayed by the vendor in his GST return or any invoice is subsequently amended/alterd/deleted on GSTN portal which results in any adverse financial implication on BHEL, the financial impact thereof including interest/penalty shall be recovered from the Contactor's due payment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 13.02.14 | Any denial of input credit to BHEL or arising of any tax liability on BHEL due to non-compliance of GST Law by the Contractor in any manner, will be recovered along with liability on account of interest and penalty (if any) from the payments due to the Contactor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 13.02.15 | In the event of any ambiguity in GST law with respect to availability of input credit of GST charged on the invoice raised by the contractor or with respect to any other matter having impact on BHEL, BHEL's decision shall be final and binding on the contractor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 13.03.00 | <p><b><u>Variation in Taxes &amp; Duties:</u></b></p> <p>Any upward variation in GST shall be considered for reimbursement provided supply of goods and services are made within schedule date stipulated in the contract or approved extended schedule for the reason solely attributable to BHEL. However downward variation shall be subject to adjustment as per actual GST applicability.</p> <p>In case the Government imposes any new levy/tax on the output service/goods after price bid opening, the same shall be reimbursed by BHEL at actual. The reimbursement under this clause is restricted to the direct transaction between BHEL and its contactor only and within the contractual delivery period only.</p> <p>In case any new tax/levy/duty etc. becomes applicable after the date of Bidder's offer but before opening of the price Bid, the Bidder/Contractor must convey its impact on his price duly substantiated by documentary evidence in support of the same before opening of price bid. Claim for any such impact after opening the price bid will not be considered by BHEL for reimbursement of tax or reassessment of offer.</p> |
| 13.04.00 | <p><b><u>Income Tax:</u></b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-XIII : TAXES & DUTIES

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|          | <b>TDS/TCS</b> as applicable under Income Tax Act, 1961 or rules made thereunder shall be deducted/collected from contractor's bill.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 13.05.00 | <p><b><u>BOCW Act &amp; Cess Act</u></b></p> <p><b>BOCW Cess is to be borne by contractor and the quoted price shall be inclusive of BOCW cess is any. Refer Annexure-I for BOCW Act &amp; Cess Act.</b></p> <p><b><u>Bidder may please note that the sub-contractor/bidder of BHEL engaging building or construction worker in connection with building or other construction work, are required to follow the procedures enumerated below:</u></b></p>                                                                                                                                                             |
| 13.05.01 | It shall be the sole responsibility of the contractor as employer to ensure compliance of all the statutory obligations under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder.                                                                                                                                                                                                                                                                     |
| 13.05.02 | It shall be sole responsibility of the contractor engaging Building Workers in connection with the building or other construction works in the capacity of employer to apply and obtain registration certificate specifying the scope of work under the relevant provisions of the Building and Other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 from the appropriate Authorities.                                                                                                                                                                                         |
| 13.05.03 | It shall be responsibility of the contractor to furnish a copy of such Registration Certificate within a period of one month from the date of commencement of Work.                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 13.05.04 | It is responsibility of the contractor to register under the Building and other Construction Workers' Welfare Cess Act, 1996 and deposit the required Cess for the purposes of the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 at such rate as the Central Government may, by notification in the Official Gazette, from time to time specify. However, before registering and deposit of Cess under the Building and other Construction Workers' Welfare Cess Act, 1996, the contractor will seek written prior approval from the Construction Manager. |
| 13.05.05 | It shall be sole responsibility of the contractor as employer to get registered every Building Worker, who is between the age of 18 to 60 years of age and who has been engaged in any building or other construction work for not less than ninety days during the preceding twelve months as Beneficiary under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996.                                                                                                                                                                                        |
| 13.05.06 | It shall be sole responsibility of the contractor as employer to maintain all the registers, records, notices and submit returns under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder.                                                                                                                                                                                                                                                            |
| 13.05.07 | It shall be sole responsibility of the contractor as employer to provide notice of poisoning or occupation notifiable diseases, to report of accident and dangerous occurrences to the concerned authorities under the Building and other Construction Workers' (Regulation of Employment and                                                                                                                                                                                                                                                                                                                        |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER-XIII : TAXES & DUTIES

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|          | Conditions of Service) Act, 1996 and the rules made thereunder and to make payment of all statutory payments & compensation under the Employees' Compensation Act, 1923.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 13.05.08 | <p>It shall be the responsibility of the sub-contractor as employer to make payment/deposit of applicable cess amount on the extent of work involving building or construction workers engaged by the sub-contractor within a period of one month from the receipt of payment. It shall also be responsibility of the Contractor to furnish BHEL on monthly basis, Receipts/ Challans towards Deposit of the Cess under the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder along with following statistics:</p> <ol style="list-style-type: none"> <li>Number of Building Workers employed during preceding one month.</li> <li>Number of Building workers registered as Beneficiary during preceding one month.</li> <li>Disbursement of Wages made to the Building Workers for preceding wage month.</li> <li>Remittance of Contribution of Beneficiaries made during the preceding month</li> </ol> |
| 13.05.09 | <b>BHEL shall not reimburse the contractor the Cess amount deposited for the purposes of the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 under the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder.</b> Also BHEL shall not reimburse the Fee paid towards the registration of establishment, fees paid towards registration of Beneficiaries and Contribution of Beneficiaries remitted.                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 13.05.10 | It shall be responsibility of the Building Worker engaged by the Contractor and registered as a beneficiary under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 to contribute to the Fund at such rate per mensem as may be specified by the State government by notification in the Official Gazette. Where such beneficiary authorizes the contractor being his employer to deduct his contribution from his monthly wages and to remit the same, the contractor shall remit such contribution to the Building and other construction Workers' Welfare Board in such manner as may be directed by the Board , within the fifteen days from such deduction.                                                                                                                                                                                                                            |
| 13.05.11 | <b>Bidders may please note that the quoted price is inclusive of BOCW (which will be reimbursed by BHEL as per sub-clause 9 above) , however, If at any point of time during the contract period, non-compliance of the provisions of the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder is observed, BHEL reserves the right to deduct the applicable cess (1%) on the contract value and penalty ( if any, imposed by Cess Authorities) from the payables on account of non-compliance.</b>                                                                                                                                                                                                                                                                                          |
| 13.05.12 | The contractor shall declare to undertake any liability or claim arising out of employment of building workers and shall indemnify BHEL from all consequences / liabilities / penalties in case of non-compliance of the provisions of the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter-XIV: Inspection & Testing and Dispatch

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| <b>14.00.00</b> | <b>Inspection &amp; Testing and Dispatch</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>14.01.00</b> | <p><b>Inspection and Testing (including electrical and C&amp;I)</b></p> <ol style="list-style-type: none"> <li>Bidder shall give 15 days' advance written notice of equipment being ready for testing. The customer / Inspector, unless the witnessing of the tests is virtually waived, will attend such tests within 15 days of the date on which the equipment is notified as being ready.</li> <li>Type &amp; routine test report / certificates shall include details of standard to which the tests are performed, test parameters, acceptance criteria, test set up etc. used during the testing along with the test piece details / rating and the detailed test record and final test result.</li> <li>All inspection, measuring and test equipment used by the contractor shall be calibrated periodically. Bidder shall maintain all relevant records of periodic calibration, instrument identification, and shall provide for inspection by bidder wherever asked specifically; bidder shall calibrate measuring / testing equipment in the presence of employer.</li> <li>The details of the checks to be carried out for various components (MQP) are to be submitted on priority from the date of Purchase order by bidder for customer approval. Bidder shall refer QA part of NTPC NIT specification while preparing MQP of various AHP equipment.</li> <li>Bidder's representative has to be present during joint inspection by BHEL/BHEL's TPI/Customer/Customer's consultant of their Bought-out items at their sub-vendor's works irrespective of approved QAP</li> <li>Bidder to ensure correctness of all the bidder's supplied items (Cat-III items as per approved inspection category document) in every aspect meeting approved drawings/ datasheets/ specification. Based on COC provided by bidder in BHEL format, BHEL will arrange MDCC from NTPC.</li> </ol> |
| <b>14.02.00</b> | <b>INSPECTION AGENCY</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|                 | <p>Shall be read in conjunction with tender Technical Conditions of Contract.</p> <p>Inspection shall be carried out by end customer/ end customer's consultant/ BHEL/ Third Party Inspection Agency based on the inspection schedule/ category as per approved QAP/ categorization plan/ document.</p> <p>Seller / contractor shall give inspection call in line with approved QAP/Customer/Owner Hold Points to BHEL/ Third Party Inspection Agency (as informed by BHEL) for arranging Customer / Owner / Consultant /Third Party participation (wherever applicable), with an advance notice of 15 working days (for indigenous items) and 30 working days (for imported items) for participation in inspection/ Joint inspection on the proposed date.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

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|          | <p>During the inspection, if the equipment's are found to be not ready for inspection, all expenses incurred by BHEL /End customer /Consultant / Inspection Agency, on such planned visit will be recovered from seller / contractor. Therefore, seller to ensure readiness of equipment in all respect before the inspection.</p> <p>No item / equipment's shall be dispatched without obtaining Material Dispatch clearance certificate from BHEL irrespective of inspection categories.</p> <p>Inspection calls are to be raised by the seller / contractor through BHEL Inspection portal <a href="https://cqir.bhel.in/">https://cqir.bhel.in/</a> or any other portal / method as instructed by BHEL from time to time.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 14.03.00 | <b>INSPECTION AND TESTING AT CONTRACTOR'S PREMISES</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 14.03.01 | <p>Inspection Agency shall have at all reasonable times access to Seller/Contractor's premises or works and shall have the power at all reasonable times to inspect drawings of any portion of the work or examine the materials and workmanship of the plant/ equipment/ stores during their manufacture, and if part of the plant/ equipment/ stores is manufactured at other premises, the Seller/ Contractor shall arrange for inspection, examination and testing by the Inspection Agency as if the plant/ equipment/ stores is manufactured on the Seller/ Contractor's premises.</p> <p>Inspection calls should be raised by the Seller/ Contractor on BHEL CQS Website/CQIR website link.</p> <p>Such inspection, examination and testing by itself shall not relieve the Seller/ Contractor from any obligation under the Order/ Contract.</p> <p>Non-conformance from the contract specifications shall be reported by the Seller/ Contractor .</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 14.03.02 | <p>Contractor shall give Inspection Agency reasonable notice of any material being ready for testing and the Inspection Agency shall (unless the inspection of tests is voluntarily waived) attend at the Seller/ Contractor's premises within seven (7) days of the date on which the material is notified as being ready. All standard shop tests, physical and chemical tests required by the standards or as may be prescribed or approved as per Order/ Contract shall be conducted by the Seller/ Contractor. Purchaser/ Inspection Agency reserves the right to waive any of the above tests requirements and to prescribe new tests, if found necessary, to complete the work so as to conform to the best practices. Seller/Contractor shall forthwith forward to the Inspection Agency, duly certified copies of the test certificates in quadruplicate, for approval. Further copies of the shop test certificates shall be bound with the instruction manuals referred to in "Seller/ Contractor's documents, drawings and instruction manuals". In case of delay in witnessing of inspection beyond stipulated time (i.e. 7 days from the date on which the material is notified as being ready), by BHEL arising due to reasons not attributable to vendor, BHEL will extend the delivery period for such delay in carrying out inspection. If BHEL is not able to witness inspection up to 15 days then in addition to delay beyond stipulated period, extension in delivery time of 7 days' for arranging fresh inspection will be given.</p> |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter-XIV: Inspection & Testing and Dispatch

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| 14.03.03 | Where the Order/ Contract provides for tests/ inspections at the premises or works of the Contractor or any sub-contractor, the Seller/ Contractor, except specified otherwise, shall provide free of charge such assistance, labour, materials, electricity, fuel, water, stores, apparatus, measuring instruments and test equipment including any other facilities as may be reasonably required to carry out such tests efficiently.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 14.04.00 | <b>INSPECTION MEASURING AND TEST EQUIPMENT'S</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 14.04.01 | Inspection Measuring and Test Equipment (IMTE) whether used by the Seller/ Contractor or subcontractor shall be calibrated, maintained and controlled. Calibration shall be valid and IMTE maintained in sound condition during usage. Bidder shall calibrate measuring / testing equipment in the presence of Owner/BHEL/Inspection agency if required.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 14.04.02 | <p>In addition to above, Contractor shall ensure the following:</p> <ul style="list-style-type: none"> <li>i. Measurement uncertainty is known and consistent with required measurement capability of the IMTE.</li> <li>ii. Selection of IMTEs is compatible with the necessary accuracy and precision of required measurement.</li> <li>iii. IMTEs are calibrated at the required intervals against certified equipment having known valid relationship to nationally recognized standards, at recognized calibration labs.</li> <li>iv. Calibration records are available and traceable to the particular IMTE.</li> <li>v. In case, during recalibration, the IMTE is found out of calibration, report on action taken to validate the previous results along with both calibration records of the IMTE to be furnished to Inspection Agency.</li> <li>vi. IMTEs are stored, handled and preserved such that accuracy and fitness are maintained and safeguarded from adjustments.</li> </ul> <p><b>Note</b> -Owners's/BHEL decision on acceptability of the product in such cases shall be binding.</p> |
| 14.04.03 | Responsibility of usage of valid and calibrated IMTEs by his sub-contractor(s) shall be of the Seller/Contractor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 14.04.04 | In case, calibration records are required by purchaser, copies of the same shall be furnished.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 14.04.05 | Seller/ Contractor shall be fully responsible for the Quality of products supplied by sub-contractors.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 14.05.00 | <b>MATERIAL DISPATCH CLEARANCE CERTIFICATE (MDCC)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

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| 14.05.01 | When the tests have been satisfactorily completed at Seller/ Contractor's works, the Inspection Agency shall issue an inspection report that effect within seven (15) days after completion of the tests, but if the tests were not witnessed by the Inspection Agency or his representative, the material acceptance report would be issued within seven (15) days after receipt of the test certificates by the Purchaser.                                                                                                                                                                                                                                                             |
| 14.05.02 | Owner/BHEL will issue MDCC to the Seller/ Contractor within 7 days based on inspection report/ test certificates/Certificate of Conformance as applicable. In case of delay in issuance of MDCC beyond 7 days stipulated time (i.e. from the date of successful inspection report), by BHEL arising due to reasons not attributable to vendor, BHEL will extend the delivery period for such delay in issuing MDCC. If BHEL is not able to issue MDCC up to 15 days then in addition to delay beyond stipulated period, 7 days9 additional time shall be given to the vendor to facilitate the vendor for arranging logistics arrangements.                                              |
| 14.05.03 | Seller/ Contractor shall not dispatch any material before issue of MDCC by Purchaser.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 14.05.04 | Satisfactory completion of tests or issue of MDCC shall not relieve the seller / contractor from its obligations in terms of the contract provisions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 14.05.05 | Seller / contractor to intimate BHEL (by email, in case of supply of goods) immediately on removal of goods, along with legible scanned copy of all relevant details & documents like tax invoice, packing list, delivery challan, Lorry/ Courier Receipt, e-way bill etc.                                                                                                                                                                                                                                                                                                                                                                                                               |
| 14.05.06 | BHEL may require certain original (physical) dispatch documents for billing to BHEL's customer. Such original documents, as insisted by BHEL, shall be submitted to BHEL in original within 7 days from the date of removal of goods/ generation of the document, whichever is earlier.                                                                                                                                                                                                                                                                                                                                                                                                  |
| 14.05.07 | BHEL may insist on using online dispatch intimation/ document submission/ data entry system during execution of the order/ contract. BHEL may also insist on preparation of certain documents/ details in specific formats. The seller/ contractor shall comply with the same.                                                                                                                                                                                                                                                                                                                                                                                                           |
| 14.06.00 | <p><b>QUALITY ASSURANCE DOCUMENTS (AS APPLICABLE)</b></p> <p>The vendor shall be required to submit the following Quality Assurance Documents (in original + one copy) within 2 weeks after dispatch of the equipment (as applicable).</p> <ul style="list-style-type: none"> <li>i) Test report of components.</li> <li>ii) Non-destructive examination results/ reports including radiography interpretation reports.</li> <li>iii) Welder identification list listing welders and welding operator's qualification procedures and welding identification symbols.</li> <li>iv) Sketches and drawings used for indicating methods of traceability of the radiographs to the</li> </ul> |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter-XIV: Inspection & Testing and Dispatch

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|  | <p>location of the equipment.</p> <p>v) Stress relief time temperature charts.</p> <p>vi) Factory test results for testing required as per applicable codes and standards referred to in the specification.</p> <p>vii) Inspection Report duly signed by QA Personnel of BHEL/ Third Party/and customer and vendor</p> <p>for the agreed inspection hold points. During course of inspection the following will also be recorded:</p> <p>i. When some important work repair work is involved to make the job acceptable.</p> <p>ii. The repair works remain part of the accepted product quality.</p> <p>iii. Letter of conformity certifying</p> |
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