TENDER DOCUMENT

TENDER No: SRO/CON/ETS/022 dated 06.08.2019

FOR

"Construction of Super Structure Works of Main Plant Area and related Infrastructure Works of Package 1 (Unit 1 & 3) -Package-1B" at 5 x 800 MW Yadadri TPS-Veerlapalem Village, Dameracherla Mandal, Nalgonda District, TELANGANA STATE- PACKAGE -1B"

VOLUME - II

Additional Conditions of Contract General,

Technical Specifications (TSPGENCO),

BHEL Tender Documents

&

Drawings

Criteria
1.0 The following Additional Conditions of Contract shall be read in conjunction with General Conditions of Contract. If there are any provisions in these Additional Conditions of Contract, which are at variance with the provisions of General Conditions of Contract, the provisions in these Additional Conditions of Contract shall take precedence.

These Additional Conditions of Contract (ACC) shall be read in conjunction with General Conditions of Contract (GCC), Instructions to Tenderers (ITT), Notice Inviting Tenders (NIT), Bill of Quantities (BOQ), Tender Drawings, and Technical Specifications & Other Tender Documents.

2.0 INTRODUCTION

5 x 800 MW Yadadri Thermal power stations is being set up by TELANGANA STATE POWER GENERATION CORPORATION (hereinafter called “Owner”) at a site in Veerlapalem village, Dameracherla Mandal, NALGONDA DISTRICT, TELANGANA STATE, India. The said project was operated as an EPC contract by BHEL (hereinafter called BHEL) as EPC contractor. Further, the EPC project has divided in to multiple package and civil and structural works of unit 1 & 3 as package -1 was awarded to EPI as a “MAIN CONTRACTOR”.

EPI invites offer from the eligible BIDDERS/CONTRACTORS to execute the Construction of Super Structure Works of Main Plant Area and related Infrastructure Works of Package 1 (Unit 1 & 3) –Package-1B” for 5 x 800 MW Yadadri Thermal power stations (hereinafter referred to as “Works”) and detailed scope of work is mentioned in subsequent para.

The Bidder shall acquaint himself by a visit to the site, with the conditions prevailing at site before submission of the bid. The information given here in under is for general guidance and shall not be contractually binding on EPI / BHEL/ Owner. All relevant site data /information as may be necessary shall have to be obtained /collected by the Bidder.

3.0 SCOPE OF WORK:

The project site for the work is clear and readily available.

The brief scope of work included in this tender shall include (but not limited to) Construction of “Construction of Super Structure Works of Main Plant Area and related Infrastructure Works of Package 1 (Unit 1 & 3) –Package-1B” for 5 x 800 MW Yadadri Thermal power stations – Package 1B as mentioned below, including supply of all materials (excluding cement & Reinforcement Steel and MS Rounds for below ground earthling), labour, tools and plants. The scope of work is indicative but not limited to the given below." (herein after referred to as “Works”) as per Technical specifications, Drawings, BOQ, Instructions and Terms and conditions given in Tender Documents.

Package 1 consists of civil and architectural works of superstructure of power house, bunker and civil and architectural works in other areas of main plant of Units 1 & 3. Each Unit of this package-1 consisting of the following structures,
i) Superstructure civil works of Power house building including CCR  
ii) Coal bunker floors  
iii) Auxiliary boiler foundations (1 no.)  
iv) ID system duct supporting foundations  
v) ESP control room building  
vi) Transformer yard including GT/ST foundations  
vii) Cable trenches  
ixii) Paving, roads & drains  
xix) Pipe rack foundations  
x) Interconnecting walkway  
xii) Boiler lift machine room  
xiiii) Underground utilities  
xiii) Pavement including miscellaneous buildings (including foundations)  
xiv) Filling (Part of levelling and grading works in plant area as per site condition)  
xv) Superstructure civil works of Power house building including CCR  
xvi) Apart from above, any other services(Building/Foundation/Structure) not covered above but required as per direction of EPI / BHEL/Owner are deemed to be included in the scope of work.

The work is to be carried out on Item rate basis as per bill of quantities and tender conditions.

4.0 ORDER OF PRECEDENCE

Clause 42.1 of GCC stands amended as under:

In case of difference, contradiction, discrepancy, dispute with regard to Conditions of Contract, Specifications, Drawings, Bill of Quantities and Rates quoted by the Contractor and other documents forming part of the contract, the following shall prevail in order of precedence:

4.1 Contract Agreement which includes NIT, Special Instructions to Tenderer, Memorandum  
4.2 Letter of Intent, detailed letter of Work Order  
4.3 Bill of Quantity / Schedule of Quantities  
4.4 Additional Conditions of Contract.  
4.5 General Technical Specification (Telangana State Power Generation Corporation Ltd)  
4.6 General Conditions of Contract (EPI).  
4.7 Drawings  
4.8 BHEL Technical Condition of Contract, SCC and GCC  
4.9 CPWD technical specifications & DSR latest edition  
4.11 BIS specifications

5.0 TIME SCHEDULE & PROGRESS

The clause No. ‘43.2’ of General Conditions of Contract (GCC) of this Tender document shall be read as under:

The contract period for completion of entire work of each package under scope shall be 28 (Twenty Eight) months from the “COMMENCEMENT OF CONTRACT PERIOD” as specified elsewhere for completion of the entire work. Tentative completion program as required by BHEL is enclosed as Annexure-1. However, the contractor shall also furnish within 10 days of date of letter of Intent a Time and Progress Chart (Bar Chart) for completion of work within stipulated time by the consultation with EPI / BHEL Site in Charge. The contractor shall also ensure achievement of the intermediate milestones M1 and M2 for
PACKAGE 1B (Unit 1 & 3) are mentioned below.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Description</th>
<th>Time allowed for Achievement of financial Targets (since inception of project)</th>
<th>Intermediate Milestone Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit-1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>ESP Control Room Building foundations for Unit#1</td>
<td>5 Months</td>
<td>M1</td>
</tr>
<tr>
<td>2</td>
<td>TD BFP deck for Unit#1</td>
<td>18 Months</td>
<td>M2</td>
</tr>
<tr>
<td>Unit-3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>ESP Control Room Building foundations for Unit # 3</td>
<td>5 Months (from unit 3 start)</td>
<td>M1</td>
</tr>
<tr>
<td>4</td>
<td>TD BFP deck for Unit # 3</td>
<td>18 Months (from unit 3 start)</td>
<td>M2</td>
</tr>
</tbody>
</table>

The approved Bar Chart shall form a part of the agreement. Achievement of milestones as well as total completion has to be within the time period allowed. The said milestones in terms of financial targets, failing which intermediate liquidity damages shall be liable to be effected as per terms agreed in contract by EPI/BHEL.

5.1 COMMENCEMENT OF CONTRACT PERIOD

The overall responsibility of the project by the contractor commence from the date of issue of Letter of Intent (LoI). The date of commencement of work under the LoI shall be mutually agreed date between contractor and EPI/BHEL site in charge.

6.0 DEFECT LIABILITY PERIOD:

Defect Liability Period as per GCC Clause No: 74.0 stands amended as "Guarantee period" and total time period of Guarantee Period is twelve months (12 months). The said Guarantee period of 12 months for the package shall commence from the date of completion of the whole of the work in the package, as certified by EPI site in charge/BHEL Engineer.

7.0 SECURITY DEPOSIT CUM PERFORMANCE BANK GUARANTEE

Clause 9.0 of GCC shall be read as “Security Deposit” and stands amended as below:

7.1 In the event of award of “Works”, Contractor shall submit to EPI, Bank Guarantees OR Demand draft (in the name of Engineering Projects (India) Ltd., payable at Chennai) from a Nationalized Bank / Scheduled Bank towards security deposit @ 5.0% (Five Point Zero Percentage) of the contract value of the accepted tender within 10 days from the date of LOI as per the EPI format enclosed and BG shall be initially up to the completion period as stipulated in the Letter of Intent + 3 months, and the same shall be kept valid by proper renewal till the acceptance of Final Bills of the Contractor, by EPI/BHEL failing which EPI at his discretion may revoke the LOI & forfeit the EMD furnished along with tender

7.2 At least 50% of the Security Deposit including the EMD (if deposited in DD/ Cash) should be deposited in any form as prescribed above and the balance 50% of the Security Deposit will be recovered by deducting 10% of the gross amount progressively from each running bills of the contractor till the total amount of the required Security Deposit is collected.

7.3 The recoveries made from running bills (cash deduction towards balance SD amount) will be
released against submission of equivalent Bank Guarantee in the prescribed formats, but only once, before completion of work. The Security Deposit shall not carry any interest.

7.4 Security Deposit shall be refunded/Bank Guarantee(s) released to the Contractor along with the ‘Final Bill’ after deducting all expenses/other amounts due to EPI/BHEL under the contract/other contracts entered into with them by EPI/BHEL.

8.0 RETENTION MONEY
Clause no. 10.0 of GCC shall be read as “PERFORMANCE SECURITY DEPOSIT” and stands amended as under:

8.1 After award of work, before commencement of work at site Contractor shall submit 5% of the contract value towards Performance Security Deposit, in the form of (8.1.1) or (8.1.2) below.

8.1.1 CASH 5% of the contract Value towards Performance Security Deposit, before commencing the contract

(Or)

8.1.2 Recovery 5% from Each Running Bill towards Performance security deposit.

8.2 Refund of Retention Amount shall be as follows:

8.2.1 50% of retention amount along with ‘Final Bill’

8.2.2 Balance 50% will be released after completion of Performance Guarantee Period (i.e., after expiry of Guarantee period), provided all the defects noticed during the guarantee period have been rectified to the satisfaction of EPIL site in charge/BHEL Construction Manager, and after deducting all expenses/other amounts due to EPI/BHEL under the contract/other contracts entered into by EPI/BHEL with them. This portion of Performance Security Deposit, amount can be released on commencement of the Guarantee Period, on submission of equivalent Bank Guarantee.

8.3 The performance security deposit mentioned herein above is in addition to Security Deposit Cum Performance Bank Guarantee as stated in clause no. 7.0.

9.0 MOBILIZATION
Clause no. 8.0 stands amended as under:

Mobilization advance shall be paid limited to 5% of the contract value and Clause no. 8.0 of General Conditions of Contract (GCC) stands modified as here under

9.1 Interest bearing advance for Mobilization, limited to 5% of the contract value will be paid against submission of bank guarantee of at least 110% of the advance, valid for the contract period, which will be recovered as stated in recovery plan. The advance for mobilization shall be paid as under:

9.2 Stage-1: Two Percentage (2%) of contract value after receipt of initial Security Deposit and additional security deposit as applicable if any, as per relevant clauses in the ACC/GCC/TCC after with signing of contract agreement.

9.3 Stage-2: One Point Five Percentage (1.5%)of contract value on completion of site Mobilization of Phase-1 Machinery & T&P as required by EPI/BHEL and on certification by EPI site in-charge for compliance.

9.3.1 Back hoe loader like JCB - 1 No.

9.3.2 Excavator equivalent to capacity of Poclain CK90 or higher to suit the requirement of work at
9.3.3 Automatic concrete batching plant with printing facility (minimum capacity of 30 CUM/Hr each) with DG backup with minimum 2 Nos. of silo per batching plant (100MT each) - 1 No.
9.3.4 Transit mixer (5/6 M3 capacity) - 4 Nos.
9.3.5 Truck mounted concrete mixer cum pump along with placing boom minimum 36 m high i.e. Concrete boom placer (36m) - 1 No.
9.3.6 Concrete pump (60 CUM/hr min capacity & lift 90M) - 1 No.

Note: Concrete pump can be replaced by concrete boom placer in addition to those mentioned above with due approval of Engineer In-Charge. The number of tools & plant shall be as per mutually agreed depending upon front available.

9.4 Stage-3: One Point Five Percentage (1.5%) of contract value on completion of site Mobilization of phase-2 Machinery & T&P as required by EPI/BHEL in addition to the above, and on certification by site in charge for compliance.

9.4.1 Back hoe loader like JCB - 1 No.
9.4.2 Excavator equivalent to capacity of Poclain CK90 or higher to suit the requirement of work at site - 1 No
9.4.3 Self-priming dewatering pump 5 HP (diesel/electric) - 2 nos.
9.4.4 Dumper (Min 15 CUM each) - 4 nos.
9.4.5 Transit mixer (5/6 M3 capacity) - 2 Nos
9.4.6 Truck mounted concrete mixer cum pump along with placing boom minimum 36 m high i.e. Concrete boom placer (36m) - 1 No.
9.4.7 Civil Laboratory - 1 No

Note: Concrete pump can be replaced by concrete boom placer in addition to those mentioned above with due approval of Engineer In-Charge. The number of tools & plant shall be as per mutually agreed depending upon front available.

9.5 The rate of interest applicable for the above advances shall be the Base rate of State Bank of India prevailing at the time of disbursement of the advance + 6% (Plus Six Percentage) and such rate will remain fixed till the total advance amount is recovered.

9.6 Recovery of mobilization advance
Unadjusted amount of advances paid shall not exceed 5% of the total contract value at any point of time. Recovery of advances shall be made progressively from each Running Bill such that the advance amounts paid along with the interest is fully recovered by the time the contractor’s billing reaches 90% of contract value

10.0 SECURED ADVANCE: Clause no. 35 of GCC stands deleted:

11.0 PAYMENT CONDITIONS:

Clause no 37.0 of GCC stands amended as under.
11.1 Interim bills in the form of monthly running bills prepared by the contractor in soft as well as Hard copies shall be based on the quantities executed and measured.
11.2 60% of the item rate shall be released after completion of works and certification by Engineer in charge.
11.3 40% of the item rate shall be released after submission of the quality check formats as per the quality plan for the quantum of work billed and duly certified by Engineer in charge.
11.4 The Contractor shall become entitled for payment of RA bills/Final bill etc., after receipt of corresponding payment(s) from the BHEL/Owner. The Contractor shall have no claim on EPI in case the payments are delayed due to any reason whatsoever.
12.0 **METHOD OF MEASUREMENT**

Following clauses shall be read in conjunction with Clause no 36.0 of GCC

Mode of measurement shall be as per relevant clauses of technical specification of this tender. In case the same is not available the relevant IS 1200 in conjunction with IS 3385 shall be adopted. In case the same is also not available, the standard procedure adopted in CPWD shall be adopted. In case the same is not available in CPWD also, the measurement of the work done will be based on the mutual agreement between **EPI**/BHEL and contractor. In all the above cases, the interpretation of **EPI**/BHEL will be final and binding to the contractor.

13.0 **TAXES AND DUTIES :**

The following shall be also read in conjunction with clause no 13 of GCC:

13.1 The bidder/Contractor must be registered with GST and should have valid GSTIN number of the respective state of the project.

13.2 The bidder/contractor must submit as an compliances of GST Act, the invoices in GST compliant format.

13.3 **Contractor's price/rates shall be exclusive of GST & Labour Cess**. Contractor shall submit to EPI / BHEL the GST compliant tax invoice/debit note/revised tax invoice on the basis of which EPI/BHEL will claim the input tax credit in its return. Since this is a works contract, **the GST rate shall be @ 18%**, as applicable presently.

13.4 GST charged in the tax invoice/debit note/revised tax invoice by the contractor shall be released separately to the contractor only after contractor files the outward supply details in GSTR-1 on GSTN portal and input tax credit of such invoice is matched with time of filing the monthly return. TDS under GST shall be deducted at prevailing rates on gross invoice value from the running bills.

13.5 Labour cess shall be deposited @ 1% of value of work done or as applicable from time to time as per the directions of Government of Telangana by EPI. However, all the documentations and labour records shall be maintained properly by the contractor. It shall be produced to EPI / BHEL / Govt Authorities as and when is required.

13.6 Seigniorage Charges : The rate quoted by bidder inclusive of all royalty / signorages. The Seigniorage charges will be recovered as per rules from the work bills of the contract or based on the theoretical requirement of material as per GO Ms. No 198 of Industries and commerce (MI) Dept. dated 13-08-2009 at the rates decided by Govt. from time to time

13.7 The contractor shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary and shall allow inspection of the same by a duly authorized representative of EPI and shall also furnish such other information/document as EPI may require from time to time.

14.0 All men, materials, machinery, tools and plants, infra-structure, resources etc., as required for execution of “Works” shall be provided and arranged by CONTRACTOR for their portion of work. The amount/rate quoted in their offer by CONTRACTOR to EPI includes all charges, all direct and indirect cost of works, materials, labour, plant & equipment, all taxes(Except GST) , duties, levies, royalties, and labour welfare cess etc., all transportation charges including for cartage of issue material, electricity and water charges, site offices expenses, labour camp, bank guarantee charges, insurance charges, EPF/CPF/ Statutory contributions, preparation of all required design & detailed engineering and all required drawings etc., other expenses whatsoever, incurred on execution, completion and maintenance of the “Works” as per ‘Tender Documents’ and their own overheads and profit etc. CONTRACTOR shall comply with all the requirements laid down as per ‘Tender Documents’ as per terms, conditions, specifications, drawings, documents etc. given in the ‘Tender Documents’ for the completion, handing over, maintenance period etc. for the project. The contractor will not be allowed to take out equipment’s from the site without the written permission of Owner /BHEL/EPI.
15.0 The rate quoted by the contractor is inclusive of constructing temporary approach road to site, fencing, HSE/ safety gadgets, firefighting equipment’s, etc.as required for completion of work. Non conformation of safety rules and safety appliances will be viewed seriously and the BHEL has rights to impose fines on the contractor as per HSE manuals of BHEL.

16.0 PRICE VARIATION:
Clause 16.0 of GCC of EPI stands good.

No escalation/price variation clause shall be applicable on this contract. All rates as per Bill of Quantities (BOQ)/Price-Bid quoted by Contractor shall be firm and fixed for entire contract period as well as extended period for completion of the works. No claim on account of any Price Variation / Escalation on whatsoever ground shall be entertained at any stage of works.

17.0 QUANTITY VARIATION:
Following clauses shall be read in conjunction with Clause no 69.1 of GCC

17.1 The individual item quantities given in the contract Bill of Quantities are tentative and may change to any extent (both in plus side and minus side). The quoted rates for individual items shall remain firm irrespective of any variations in the individual quantities.

17.2 No compensation becomes payable in case the variation of the final executed contract value is within the limit of Plus / Minus (+/-) 50% (Fifty Percentage) of awarded contract value.

17.3 In case the finally executed contract value increases above the awarded Contract Value due to quantity variation, there will be no upward revision in the rates for the individual items and also contractor is not eligible for any compensation.

18.0 PAYMENT AGAINST EXTRA / SUPPLEMENTARY ITEMS:
Following clauses (i.e 2.15& 2.16 of BHEL GCC) shall be read in conjunction with Clause no 69.0 of GCC

18.1 EXTRA ITEMS: Rates for extra works arising due to (1) non availability of boq (rate schedule), or (2) change in specifications of materials / works (3) rectification / modification / dismantling & re erecting etc due to no fault of contractor, shall be in the order of the following:

18.1.1 Item rates are to be derived from similar nature of items in the BOQ (Rate Schedule) with applicable escalation derived from All India Consumer Price Index for Whole Sale Commodities.

18.1.2 As per CPWD-DSR-2018 (or latest edition) with applicable escalation derived from All India Consumer price Index for Whole Sale Commodities, OR, Notification issued by the office of CPWD for ‘Cost Index’ in that Region where the project is being executed, whichever is less.

18.1.3 As per CPWD-DSR-2018 (or latest edition) with applicable escalation derived from All India Consumer price Index for Whole Sale Commodities, OR, Notification issued by the office of CPWD for ‘Cost Index’ in that Region where the project is being executed, whichever is less

18.2 SUPPLEMENTARY ITEMS: Rates for Supplementary works/Additional works arising out due to additions/alterations in the original scope of works as per contract subject to certification of EPI/ BHEL engineer shall be worked out as under:

18.2.1 Item rates which are available in existing BOQ (Rate Schedule) shall be operated with applicable escalation derived from All India Consumer Price Index for Whole Sale Commodities.

18.2.2 Items of works which are not available in existing BOQ shall be operated as an ‘Extra Works’ and rate shall be derived as per clause no 18.1 of this ACC
18.3 General:
18.3.1 Execution of Supplementary Works/Additional Works through the Contractor shall be at the sole discretion of EPI/ BHEL, and shall be considered as part of executed contract value for the purpose of Quantity Variation as per clause 17.0 of this ACC
18.3.2 EPI/ BHEL Engineer’s decision regarding fixing the rate as above is final and binding on the contractor.
18.3.3 Extra/ Deviation items shall be carried out with prior approval of BHEL/EPI.
18.3.4 However, payment shall be released after receipt of corresponding payment(s) from the Owner/ Owner.
18.3.5 EPI overheads expenditure of 10% will be deducted from each corresponding payment.

19.0 FREE ISSUE OF MATERIAL
Clause no 45.0 of GCC shall be read in Conjunction with Clause no -1.13.1, 1.13.2 in VOLUME-IA PART-I of TCC CHAPTER – XIII ACCOUNTING OF MATERIAL ISSUE of BHEL
19.1 The Contractor shall, at his own expense, provide all materials, required except Cement & Steel for the works.
19.2 Cement & Reinforcement steel for civil works & MS round for below ground earthing shall be provided by BHEL free of cost. Embedment /inserts required for the works in general shall be supplied by the bidder and payment shall be made as per corresponding item in BOQ.
19.3 Wastages: For steel works Wastage beyond FOUR percent (+4%) of the aforesaid theoretical consumption shall be Penal rate. And for cement Actual consumption beyond one and half percent (+1.5%) of above shall be Penal rate.
19.4 Contractor is responsible for carrying out design mix as per IS 456/10262 (Latest revision), sampling and testing of cement as per Indian Standard / Specification / approved quality plan in the testing laboratory established by the bidder.
19.5 Cement storage: The cement shall be provided normally in bulkers and shall be unloaded in the silos (2 Nos cement silo of 100MT each per 30CUM/hr batching plant) to be installed by the bidder nearer to their batching plants. Also contractor should require making an arrangement for cements issued in bag forms.
19.6 Steel storage: Also contractor should require making an arrangement for steel issued by BHEL / EPI.

19.7 PENAL RATE OF MATERIALS are as follows

<table>
<thead>
<tr>
<th>Material</th>
<th>Basic cost excluding taxes and duties</th>
</tr>
</thead>
<tbody>
<tr>
<td>REINFORCEMENT STEEL (Cold rolled steel, high strength, deformed bar or mild steel round bars including earthing rod MS round)</td>
<td>Rs. 50,778/- per MT</td>
</tr>
<tr>
<td>STRUCTURAL STEEL MS plates, MS flats, rolled steel joists, channels, and angles, MS pipes, Chequered Plates, etc in sizes and lengths as available (Note: Structural steel will be issued only for embedment/ inserts from scrap)</td>
<td>Rs. 59,693/- per MT</td>
</tr>
<tr>
<td>CEMENT (OPC/ PPC/PSC)</td>
<td>Rs. 4,358/- per MT</td>
</tr>
</tbody>
</table>

20.0 COMPENSATION FOR DELAY:
Clause no. 72.1 of GCC for compensation for delay shall be read as Penalty Intermediate Milestones and Liquidity Damages and stands modified as under:

20.1 Penalty for Intermediate Milestones
20.1.1 Incase 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.

20.1.2 Incase 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.

20.1.3 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.

20.1.4 Amount required to be withheld on account of slippage of identified intermediate milestone(s) shall be withheld out of respective milestone payment and balance amount (if any) shall be withheld @10% of RA Bill amount from subsequent RA bills.

20.1.5 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 intermediate milestones shall be adjusted against LD or released as the case may be.

20.2 Penalty for overall scope delay- (Project LD)

If the contractor fails to maintain the required progress of work which results in delay in the completion of the work as per the contractual completion period, EPIL shall have the right to impose Liquidated Damage/Penalty at the rate of 0.5% of the contract value, per week of delay or part thereof subject to a maximum of 10% of the contract value.

21.0 CANCELLATION / DETERMINATION OF CONTRACT IN FULL OR PART
Clause no 72.2 of GCC stands good

22.0 CONTRACTOR LIABLE TO PAY COMPENSATION EVEN IF ACTION NOT TAKEN
Clause no 72.3 of GCC stands good

23.0 TIME ESSENCE OF CONTRACT & EXTENSION FOR DELAY
Clause no 72.4 of GCC stands good

24.0 Contractor has to submit the schedules of deliverables including material procurement plan for EPI/BHEL approval. In the event of failure of contractor to adhere to approved procurement schedule, EPI shall purchase the required material on behalf of contractor with its own cost and the cost of procurement including freight, loading, unloading plus EPI overhead charges @10% of the landed cost of material at site shall be debited from contractor with any payable amount or from subsequent RA bill.

25.0 The CONTRACTOR shall be fully responsible to complete the “Works” in workmen like manner to the satisfaction of BHEL and EPI by maintaining high standard of quality and precision as per ‘Tender documents’, Agreements, Terms & Conditions, Specifications, Drawings etc., within the contractual completion period and within their contract value. In case Owner reduces or increases scope of work related to CONTRACTOR’s portion of work, the same shall be binding on CONTRACTOR and the CONTRACTOR has to execute the same at rates paid by the Owner less EPI’s margin.

26.0 Issues related to interpretation and claims, if any, related to CONTRACTOR’s scope of work, arising out of contract between EPI and BHEL shall be referred with full justification by CONTRACTOR to EPI for settlement with Owner including arbitration with Owner, if inescapable, and outcome of such a settlement shall be binding on CONTRACTOR. EPI at its option may associate the CONTRACTOR in the above process of settlement for CONTRACTOR’s portion of work. The cost & expenses on arbitration with BHEL/Owner shall be shared by EPI and CONTRACTOR in proportion of CONTRACTOR’s contract price and EPI’s margin towards its overheads & profits. In case the award/settlement with the
Owner is in favour of EPI, ninety percent of the award/settlement amount shall be shared between EPI and CONTRACTOR in proportion of CONTRACTOR's contract price with EPI and EPI's MARGIN towards its overheads & profits. The balance ten percent of the award/settlement amount shall be retained by EPI towards its administrative charges. In case the award/settlement is against EPI, the entire damages/counterclaims imposed, if any, shall be borne by CONTRACTOR alone and the CONTRACTOR shall have no claim whatsoever against, EPI in such a settlement. Further, EPI shall have no liability towards any claim of the CONTRACTOR, which is not paid by the BHEL/Owner.

27.0 COMPLETION AND TAKING OVER
As soon as the project is finally completed, the Contractor shall inform EPI and EPI shall in turn inform to BHEL/Owner. BHEL shall nominate a Board of Officers for checking/verification of completed work as per the scope of work for final taking over the project.

28.0 A final certificate of rectification of all defects pointed out by the handing over taking over board detailed by BHEL/Owner/EPI and/or during Guarantee Period shall be obtained from the nominated officer of BHEL/Owner/EPI prior to releasing of the Security deposit by EPI.

29.0 FINAL BILL: The final bill will be submitted by the contractor within 90 days from the date of acceptance of completion of work accompanied by the following documents:

29.1 Completion certificate issued by the BHEL/Owner/EPI specifying the handing over of the work including list of inventories (fittings & fixtures).
29.2 Computerized stage wise payments.
29.3 No claim certificate by the contractor.
29.4 No claim certificate from the sub-agencies/Vendors engaged by the contractor.
29.5 Duly approved by the BHEL ‘As built’ drawings in required sets.
29.6 Certified measurements.
29.7 All operation and maintenance manuals.
29.8 All statutory approvals from various state/central govt. local bodies, if required for completion & handing over of the work as included in scope of Contractor.
29.9 Manufacture's guarantee of various machines/equipment's installed as part of works.

DRAWINGS

30.0 The detailed drawings, specifications available with EPI/BHEL engineers will be made available to the contractor during execution of work at site. The contractor will also ensure availability of all drawings/documents at work place.

30.1 The contractor shall maintain a record of all drawings and documents available with him in a register as per format given by EPI/BHEL Engineer. Contractor shall ensure use of pertinent drawings/data/documents and removal of obsolete ones from work place and returning to EPI/BHEL.

30.3 Should any error or ambiguity be discovered in the specification or information the contractor shall forthwith bring the same to the notice of BHEL before commencement of work. BHEL's interpretation in such cases shall be final and binding on the contractor.

31.0 WATER & ELECTRICITY –
Clause no 44.0 of GCC stands amended as follows,

Water (Raw water) and Electricity required for construction purposes will be provided at one single point source within the plant area free of cost as provided by Owner/BHEL.

31.1 For water:- The required pumps & accessories, pipes for drawing water from the given point and further distribution will be arranged by the contractor at their cost to go on without
interruptions.

31.2 For Electricity: contractor to provide necessary meter for measuring the power consumption.

31.3 The contractor shall make his own arrangement for further distribution with necessary cables, isolator/LCB etc.

31.4 However, sufficient back up / alternate arrangement for water and electricity shall be arranged by the contractor to get urgent and important work to go on without interruptions.

31.5 Contractor has to make their own arrangements for water & electricity requirement for labour colony and other than project related usages at his own cost.

32.0 TECHNICAL STAFF FOR WORK:-
Following technical staff is required to be deployed in conjunction with technical staff requirement as per clause 27.0 of GCC in failing which EPI shall deploying the same and

<table>
<thead>
<tr>
<th>Requirement of Technical Staff</th>
<th>Minimum experience (Years)</th>
<th>Rate of recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) Project Manager with degree</td>
<td>10</td>
<td>Rs. 60,000/- p.m</td>
</tr>
<tr>
<td>ii) Quality Control Engineer</td>
<td>5</td>
<td>Rs. 30,000/- p.m</td>
</tr>
<tr>
<td>iii) Safety Officer</td>
<td>3</td>
<td>Rs 30,000/- p.m</td>
</tr>
</tbody>
</table>

Rate of recovery in case of non-compliance of above will be stipulated as above.

33.0 FURNISHED OFFICE ACCOMMODATION & MOBILITY AND COMMUNICATION TO BE PROVIDED BY CONTRACTOR TO EPI
Clause no 28.3 of GCC stands good and in conjunction to that the following provision shall be applicable.

Immediately on placement of LOI/Work order (whichever is earlier) by EPI on the Contractor, the Contractor at its own cost shall provide furnished office, facilities etc. exclusively for the use of personnel of EPI as per details given below. The Contractor shall make his rates/prices in his offer sufficiently comprehensive to cover the cost of the facilities as per details shown below and the Contractor shall not be entitled for any extra payment for the same.

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>QUANTITY/ AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>A) OFFICE ACCOMMODATION</td>
<td>Rs 4,00,000/-</td>
</tr>
<tr>
<td>Fully furnished site office having Field laboratory, stores, a sample room, AC meeting room/ staff room along with toilet, pantry with file storage facility with basic amenities like drinking water arrangement, lights fans etc. for exclusive use of EPI's/clients' Engineers &amp; Staff and maintenance of the same till Guarantee Period. The Specifications and Design of accommodation shall be as approved by EPI.</td>
<td></td>
</tr>
<tr>
<td>B) FURNITURE OF TOTAL VALUE</td>
<td>Rs. 50,000/-</td>
</tr>
<tr>
<td>C) OFFICE EQUIPMENT</td>
<td>NIL</td>
</tr>
<tr>
<td>i) Fax Machine</td>
<td></td>
</tr>
<tr>
<td>ii) Computer (Windows i5, Office Edition) with minimum 1 TB HDD along with UPS and Latest version of Software like MS Project, 1 Nos.</td>
<td></td>
</tr>
</tbody>
</table>
AutoCAD, Windows, MS Office etc.  

| iii) Laser or any other Printer of equiv. Amount of A4 & A3 size (one no each) | 1 Nos. |
| iv) Internet Facilities(broad band) (If available in location of site) | 1 Nos. |
| v) Air Conditioner with cooling & heating (1.5 Ton Capacity) | 1 Nos. |

### D) CONSUMABLES

- **i)** All consumables like Stationary, ink etc. shall be provided by PARTY till end of defect liability period. (Stationary items are inclusive of photocopies, photocopy papers & other items of daily office use). Amount shall be restricted to: Rs.3000/ per month
- **ii)** Running & maintenance of the equipment mentioned above are to be done by the PARTY at his cost. As per Actual

### E) TELEPHONE WITH STD FACILITY AND INSTRUMENT

- **Office Telephone (Fixed Line):** NIL

### F) OFFICE BOY CUM COOK on Full time basis for EPI ( Rs 20,000 per month)

- 1 No

### H) Computer Operator on Full time basis for EPI ( Rs 30,000 per month)

- 1 No

### I) Site vehicle – Four wheel drive Scorpio DX vehicle or equivalent with Driver and accessories

- Rs20000/- per month

The Contractor shall provide ‘Sign Board(s)’ (value not exceeding Rs. 20,000/-) as per enclosed design approved by EPI and/or Client.

In case the above facilities are not provided by the Contractor within 10 (ten) days of award of work or replacement is not provided within the specified period, EPI shall arrange the same at the risk and cost of the Contractor and make the recoveries from the bills of the Contractor for the same. The decision of EPI shall be final binding on the Contractor in this regard.

#### 34.0 LABOUR CAMP

The labour camp shall be constructed at a space and in accordance with as per the standards of BHEL, same shall be maintained hygienically. Necessary transport facility for shifting of labour from camp to work place and back shall be arranged by the contractor.

#### 35.0 LABOUR SAFETY PROVISION

Clause no 22.0 of GCC stands good and in addition to that the following shall be applicable

All the staff and labour at site shall be supplied with all the safety equipment’s by the contractor and shall be adhered to necessary safety norms as per the HSE manual provided in the BHEL document.

#### 36.0 TESTS AND INSPECTION

Clause no 53.1 of GCC stands good and in addition to that the following shall be applicable

Lab equipment have to be procured and installed by contractor first deployed. Later on expenditure can be shared after other contractor deployed.

#### 37.0 BLASTING:
All Blasting shall be carried out by a licensed blaster having valid Blasting licence for Telangana State. Obtain all statutory approvals as per prevailing norms for blasting required for excavation shall be contractor responsibility. Obtaining blasting NOC in the name of EPI and the liaisoning for the same shall be the responsibility of the Contractor. All expenditure incurred on above head shall be borne by the contractor.

38.0 GATE PASS AND PERMITS:
It is the responsibility of the contractor to arrange gate pass for all his employees, T&P etc for entering the project premises. Necessary coordination with customer officials is the responsibility of the contractor. Contractor to follow all the procedures laid down by the customer for making gate passes. Where permitted, by Owner/ BHEL/ EPI, to work beyond normal working hours, the contractor shall arrange necessary work permits for working beyond normal working hours. It is the responsibility of the contractor to obtain the necessary permits like safety, quality etc., through EPI. Contractor shall not deploy women labour at night. The contractor shall arrange, coordinate his work in such a manner as to cause no hindrance to other agencies working in the same premises.

39.0 TOOLS AND PLANTS / MONITORING AND MEASURING EQUIPMENT (MMEs)
T&P shown in the ANNEXURE-III is tentative requirement considering parallel working in all areas mentioned in scope of work. However, mobilization schedule and quantity/ numbers as mutually agreed at site for major T&Ps, have to be adhered to. Numbers/ time of requirement of T&Ps will be reviewed time to time by EPI/ BHEL site and contractor will provide required T&P/ equipment’s to ensure completion of entire work within schedule/target date of completion without any additional financial implication to BHEL.

40.0 CONCILIATION AND ARBITRATION

General Conditions of Contract (GCC) Sub Clause no.76.1 and 76.3 of Arbitration Clause no.76.0 are amended as given below. Sub Clause no.76.2 will remain unchanged.

76.0. ARBITRATION
76.1 Before resorting to arbitration as per the clause given below, the parties if they so agree may explore the possibility of conciliation as per the provisions of Part III of the Arbitration and Conciliation Act, 1996 as amended by Arbitration and Conciliation (Amendment) Act, 2015. When such conciliation has failed, the parties shall adopt the following procedure for arbitration:

i) Except where otherwise provided for in the contract, any disputes and differences relating to the meaning of the Specifications, Design, Drawing and Instructions herein before mentioned and as to the quality of workmanship or materials used in the work or as to any other questions, claim, right, matter or things whatsoever in any way arising out of or relating to the Contract, Designs, Drawings, Specifications, Estimates, Instructions, or these conditions or otherwise concerning the works of the execution or failure to execute the same whether arising during the progress of the work or after the completion or abandonment thereof shall be referred to the Sole Arbitrator appointed by the Chairman & Managing Director (CMD) of Engineering Projects (India) Limited (EPI) or any other person discharging the functions of CMD of EPI. The person approached for appointment as Arbitrator shall disclose in writing circumstances, in terms of Sub-Section (1) of Section (12) of the Arbitration and Conciliation Act, 1996 as amended by Arbitration and Conciliation (Amendment) Act, 2015 as follows:
a) Such as the existence either direct or indirect, of any past or present relationship with or interest in any of the parties or in relation to the subject-matter in dispute, whether financial, business, professional or other kind, which is likely to give rise to justifiable doubts as to his independence or impartiality; and

b) which are likely to affect his ability to devote sufficient time to the arbitration and in particular his ability to complete the entire arbitration within a period of twelve months.

The Arbitrator shall be appointed within 30 days of the receipt of letter of invocation of arbitration duly satisfying the requirements of this clause.

ii) If the arbitrator so appointed resigns or is unable or unwilling to act due to any reason whatsoever, or dies, the Chairman & Managing Director aforesaid or in his absence the person discharging the duties of the CMD of EPI may appoint a new arbitrator in accordance with these terms and conditions of the contract, to act in his place and the new arbitrator so appointed may proceed from the stage at which it was left by his predecessor.

iii) It is a term of the contract that the contractor invoking the arbitration shall specify the dispute/differences or questions to be referred to the Arbitrator under this clause together with the amounts claimed in respect of each dispute.

iv) The Arbitrator may proceed with the arbitration ex-parte, if either contractor, in spite of a notice from the arbitrator, fails to take part in the proceedings.

v) The work under the contract shall continue as directed by the Engineer-In-Charge, during the arbitration proceedings.

vi) Unless otherwise agreed, the venue of arbitration proceedings shall be at the venue given in the „Memorandum“ to the „Form of Tender“.

vii) The award of the Arbitrator shall be final, conclusive and binding on both the parties.

viii) Subject to the aforesaid, the provisions of the Arbitration and Conciliation Act, 1996 as amended by Arbitration and Conciliation (Amendment) Act, 2015 or any statutory modifications or re-enactment thereof and the Rules made there under and for the time being in force shall apply to the arbitration proceedings and Arbitrator shall publish his Award accordingly.

41.0 JURISDICTION:

Clause no.76.3 are amended as under,

The courts in HYDERABAD alone will have jurisdiction to deal with matters arising from the contract.

42.0 MAKE IN INDIA

Contractors to use as much as possible, the material/service from MSEs & Local
suppliers/Manufacturers for promotion of Make in India

For Promotion of Public Procurement (Preference to Make In India) order 2017 (amended on 28.05.2018) GOI Guideline for procurement, the equivalent Indian makes of materials conforming to requisite quality in addition to List of Makes/Brands may be considered subject to approval of BHEL/EPI Engineer In charge. Also “local supplier/bidder at the time of tendering, bidding or solicitation shall be required to provide self-certification in his letter head that the item offered meets the minimum local content and shall give the details of the location(s) at which the local value addition is made”.

SIGNATURE OF THE CONTRACTOR WITH SEAL
ANNEXURE – I

Construction Program
<table>
<thead>
<tr>
<th>ID</th>
<th>Task Mode</th>
<th>Task Name</th>
<th>Duration</th>
<th>Start</th>
<th>Finish</th>
<th>Predecessors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>Pakage-1</td>
<td>0.04 mons</td>
<td>Fri</td>
<td>02/08/19</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>unit-1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>ESP Control room</td>
<td>5 mons</td>
<td>Thu 01/08</td>
<td>19</td>
<td>Tue 31-12-19</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>ESP Control Room Building foundations - Unit-1</td>
<td>7 mons</td>
<td>Tue 31-12-19</td>
<td>Fri 30-07-20</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>Auxiliary boiler foundations - unit-1</td>
<td>6 mons</td>
<td>Thu 01-08</td>
<td>19</td>
<td>Tue 30-07-20</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>Pipe Rack foundations - Unit-1</td>
<td>0 mons</td>
<td>Thu 01-08</td>
<td>19</td>
<td>Sat 30-07-20</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>POWERHOUSE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>Power house - AC plant</td>
<td>12 mons</td>
<td>Thu 01-08</td>
<td>19</td>
<td>Tue 30-07-20</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>Power house - Switch gear</td>
<td>10 mons</td>
<td>Thu 01-08</td>
<td>19</td>
<td>Tue 30-07-20</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Power House - Boiler MCC Room</td>
<td>12 mons</td>
<td>Thu 01-08</td>
<td>19</td>
<td>Tue 30-07-20</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>Power house - Common control room (CCR)</td>
<td>12 mons</td>
<td>Thu 01-08</td>
<td>19</td>
<td>Tue 30-07-20</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>Power house-MD BFP deck</td>
<td>10 mons</td>
<td>Thu 01-08</td>
<td>19</td>
<td>Tue 30-07-20</td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>Power house - TD BFP deck</td>
<td>18 mons</td>
<td>Thu 01-08</td>
<td>19</td>
<td>Wed 27-01-21</td>
</tr>
<tr>
<td>14</td>
<td></td>
<td>Duct Support Foundations</td>
<td>10 mons</td>
<td>Thu 01-08</td>
<td>19</td>
<td>Sat 30-05-20</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>Power House - 0.0m equipment foundations including cable trench &amp; grade slab</td>
<td>11 mons</td>
<td>Thu 01-08</td>
<td>19</td>
<td>Tue 30-06-20</td>
</tr>
<tr>
<td>16</td>
<td></td>
<td>Mill bunker floors</td>
<td>12 mons</td>
<td>Thu 30-01</td>
<td>20</td>
<td>Wed 27-01-21</td>
</tr>
<tr>
<td>17</td>
<td></td>
<td>Transformer Yard including transformer foundations, cable trenches, bus duct foundations and fencing</td>
<td>18 mons</td>
<td>Thu 01-08</td>
<td>19</td>
<td>Thu 28-01-21</td>
</tr>
<tr>
<td>18</td>
<td></td>
<td>Underground utilities</td>
<td>24 mons</td>
<td>Thu 01-08</td>
<td>19</td>
<td>Thu 29-07-21</td>
</tr>
<tr>
<td>19</td>
<td></td>
<td>Milestone 2-MS-2</td>
<td>0 mons</td>
<td>Sun 31-01</td>
<td>21</td>
<td>Sun 31-01-21</td>
</tr>
<tr>
<td>20</td>
<td></td>
<td>Unit-3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td></td>
<td>ESP Control Room Building foundations - Unit-3</td>
<td>5 mons</td>
<td>Mon 02-12</td>
<td>19</td>
<td>Thu 30-04-20</td>
</tr>
<tr>
<td>22</td>
<td></td>
<td>ESP Control Room Building</td>
<td>7 mons</td>
<td>Fri 01-05</td>
<td>20</td>
<td>Sat 28-11-20</td>
</tr>
<tr>
<td>23</td>
<td></td>
<td>Auxiliary boiler foundations - unit-3</td>
<td>6 mons</td>
<td>Thu 01-08</td>
<td>19</td>
<td>Thu 30-07-20</td>
</tr>
<tr>
<td>24</td>
<td></td>
<td>Pipe Rack foundations - Unit-3</td>
<td>10 mons</td>
<td>Thu 01-08</td>
<td>19</td>
<td>Tue 30-07-20</td>
</tr>
<tr>
<td>25</td>
<td></td>
<td>POWER HOUSE (UNIT 3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td></td>
<td>Power house - AC plant</td>
<td>10 mons</td>
<td>Thu 01-08</td>
<td>19</td>
<td>Tue 30-07-20</td>
</tr>
<tr>
<td>27</td>
<td></td>
<td>Power house - Switch gear</td>
<td>10 mons</td>
<td>Thu 01-08</td>
<td>19</td>
<td>Tue 30-07-20</td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>Power House - Boiler MCC Room</td>
<td>10 mons</td>
<td>Thu 01-08</td>
<td>19</td>
<td>Tue 30-07-20</td>
</tr>
<tr>
<td>29</td>
<td></td>
<td>Power house - Common control room (CCR)</td>
<td>12 mons</td>
<td>Thu 01-08</td>
<td>19</td>
<td>Tue 30-07-20</td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>Power house-MD BFP deck</td>
<td>12 mons</td>
<td>Thu 01-08</td>
<td>19</td>
<td>Tue 30-07-20</td>
</tr>
<tr>
<td>31</td>
<td></td>
<td>Power house - TD BFP deck</td>
<td>18 mons</td>
<td>Thu 01-08</td>
<td>19</td>
<td>Tue 27-01-21</td>
</tr>
<tr>
<td>32</td>
<td></td>
<td>Duct Support Foundations</td>
<td>10 mons</td>
<td>Thu 01-08</td>
<td>19</td>
<td>Wed 27-01-21</td>
</tr>
<tr>
<td>33</td>
<td></td>
<td>Power House - 0.0m equipment foundations including cable trench &amp; grade slab</td>
<td>11 mons</td>
<td>Thu 01-08</td>
<td>19</td>
<td>Tue 30-06-20</td>
</tr>
<tr>
<td>34</td>
<td></td>
<td>Mill bunker floors</td>
<td>12 mons</td>
<td>Thu 30-01</td>
<td>20</td>
<td>Wed 27-01-21</td>
</tr>
<tr>
<td>35</td>
<td></td>
<td>Transformer Yard including transformer foundations, cable trenches, bus duct foundations and fencing</td>
<td>18 mons</td>
<td>Thu 01-08</td>
<td>19</td>
<td>Thu 28-01-21</td>
</tr>
<tr>
<td>36</td>
<td></td>
<td>Underground utilities</td>
<td>24 mons</td>
<td>Thu 01-08</td>
<td>19</td>
<td>Thu 29-07-21</td>
</tr>
<tr>
<td>37</td>
<td></td>
<td>Common area</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38</td>
<td></td>
<td>Miscellaneous building</td>
<td>8 mons</td>
<td>Thu 30-03</td>
<td>21</td>
<td>Thu 27-11-21</td>
</tr>
<tr>
<td>39</td>
<td></td>
<td>Pavement, roads &amp; drains</td>
<td>10 mons</td>
<td>Thu 30-03</td>
<td>21</td>
<td>Thu 27-11-21</td>
</tr>
<tr>
<td>ID</td>
<td>Task Mode</td>
<td>Task Name</td>
<td>Duration</td>
<td>Start</td>
<td>Finish</td>
<td>Predecessors</td>
</tr>
<tr>
<td>----</td>
<td>-----------</td>
<td>-----------</td>
<td>----------</td>
<td>-------------</td>
<td>-------------</td>
<td>--------------</td>
</tr>
<tr>
<td>43</td>
<td></td>
<td>Filling (Part of levelling and grading works as per direction of Engineer In-Charge)</td>
<td>10 mons</td>
<td>Sat 27-02-21</td>
<td>Tue 28-12-21</td>
<td>39FF+1 mon</td>
</tr>
<tr>
<td>44</td>
<td></td>
<td>Handing over and documentation</td>
<td>1 mon</td>
<td>Sat 27-11-21</td>
<td>Tue 28-12-21</td>
<td>3,40,21,37,38,39</td>
</tr>
<tr>
<td>45</td>
<td></td>
<td>Documentation, reconciliation</td>
<td>2 mons</td>
<td>Sat 27-11-21</td>
<td>Thu 27-01-22</td>
<td>45SS</td>
</tr>
<tr>
<td>46</td>
<td></td>
<td>Final Bill submission for contract closing</td>
<td>2 mons</td>
<td>Sat 27-11-21</td>
<td>Thu 27-01-22</td>
<td>45SS</td>
</tr>
</tbody>
</table>

**Project Summary**

NAME OF WDRK : BHEL :PSSR:SCT:1791 for Civil works-Super structure & architecture works of 5 X 800 MW Yadadri TPS Project at Veerlapalem

**Project: Project1-test2**

Date: Mon 15-07-19

**BHEL**
ANNEXURE – II

EPI WORKS MANUAL–FORMATS

[Diagram with measurements and labels]
### ANNEXURE-III

**T&Ps and MMEs TO BE DEPLOYED BY CONTRACTOR**

All the tools and plants required for satisfactory completion of the work have to be arranged by the contractor.

<table>
<thead>
<tr>
<th>Sl.no</th>
<th>Tool &amp; plant items</th>
<th>Numbers &amp; mobilization time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Excavator Equivalent To Capacity Of Poclain CK90 Or Higher To Suit The Requirement Of Work At Site</td>
<td>1 nos</td>
</tr>
<tr>
<td>2</td>
<td>Automatic Concrete Batching Plant With Printing Facility (Minimum Capacity Of 30 CUM/Hr Each) With DG Backup.</td>
<td>1 Nos</td>
</tr>
<tr>
<td>3</td>
<td>Silo Per Batching Plant (100MT Each)</td>
<td>2 Nos</td>
</tr>
<tr>
<td>4</td>
<td>Truck Mounted Concrete Mixer Cum Pump Along With Placing Boom Minimum 36 M High I.E. Concrete Boom Placer (36m)</td>
<td>1 Nos</td>
</tr>
<tr>
<td>5</td>
<td>Concrete Pump (60 CUM/ Hr Min Capacity &amp; Lift 90M) N.B.</td>
<td>1 Nos</td>
</tr>
<tr>
<td>6</td>
<td>Transit Mixer (5/6 CUM Capacity) Including Standby 1 Nos.</td>
<td>6 Nos</td>
</tr>
<tr>
<td>7</td>
<td>Back Hoe Loader Like JCB</td>
<td>2 nos</td>
</tr>
<tr>
<td>8</td>
<td>Dumper (Min 15CUM Each)</td>
<td>4 Nos</td>
</tr>
<tr>
<td>9</td>
<td>Diesel Mixer Machine Of 0.5CUM Capacity</td>
<td>As per BHEL requirement at site.</td>
</tr>
<tr>
<td>10</td>
<td>Self-Priming Dewatering Pump 5 HP (Diesel)</td>
<td>1 nos</td>
</tr>
<tr>
<td>11</td>
<td>Self-Priming Dewatering Pump 5 HP (Electric)</td>
<td>1 nos</td>
</tr>
<tr>
<td>12</td>
<td>Curing Pump – 1.5 /2 HP (Pump For Curing At Heights)</td>
<td>6 nos</td>
</tr>
<tr>
<td>13</td>
<td>Reinforcement Bending Machine</td>
<td>5 nos</td>
</tr>
<tr>
<td>14</td>
<td>Reinforcement Cutting Machine</td>
<td>5 nos</td>
</tr>
<tr>
<td>15</td>
<td>Vibromax (Earth Compactor)</td>
<td>1 nos</td>
</tr>
<tr>
<td>16</td>
<td>PICK &amp; CARRY Cranes Minimum 9MT Capacity</td>
<td>As per BHEL requirement at site.</td>
</tr>
<tr>
<td>17</td>
<td>MS Scaffolding Pipe / ACROW PIPE</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Building Hoist</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Power Driven Earth Rammer (Roller Type 1/2 T)</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Civil Laboratory Equipment’s</td>
<td>1 nos</td>
</tr>
<tr>
<td>21</td>
<td>Total Station With Adequate Arrangement For Surveyors</td>
<td>2 nos</td>
</tr>
<tr>
<td>22</td>
<td>Theodolite 1 Second Accuracy</td>
<td>2 nos</td>
</tr>
<tr>
<td>23</td>
<td>Auto Level &amp; Staff</td>
<td>5 nos</td>
</tr>
<tr>
<td>24</td>
<td>Concrete Cube Moulds</td>
<td>150 nos</td>
</tr>
<tr>
<td>25</td>
<td>Small Trucks 2T/5T For Shifting Of Reinforcement/ Cement / Shuttering Etc. Within Site</td>
<td>As per BHEL requirement at site.</td>
</tr>
<tr>
<td>26</td>
<td>Construction Power Cable</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>Construction Water Pipeline</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>Trailor For Shifting Of Crawler Mounted Equipment’s Like Poclain, Dozer</td>
<td>1 nos / additional as per BHEL requirement at site.</td>
</tr>
<tr>
<td>29</td>
<td>Concrete Vibrator With Adequate Needle (Minimum 20 Nos. Diesel/Electric)</td>
<td>17 Nos</td>
</tr>
<tr>
<td>30</td>
<td>Portable Fire Extinguishers As Below:</td>
<td>Deployed progressively within 60 days.</td>
</tr>
<tr>
<td></td>
<td>Soda Acid - 10 Sets., Dry Chemical Powder - 10 Sets, CO2 - 10 Sets, Water &amp; Sand Bucket (4 Buckets In One Stand) - 10 Sets.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fire Hose With Nozzle (50 M Length) - 5 Sets.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>Quantity</td>
</tr>
<tr>
<td>---</td>
<td>----------------------------------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>31</td>
<td>Truck Mounted 125 KVA DG Set</td>
<td>2 nos</td>
</tr>
<tr>
<td>32</td>
<td>compression testing machine (200 T capacity)</td>
<td>1 nos / additional as per BHEL requirement at site.</td>
</tr>
<tr>
<td>33</td>
<td>Drinking water tank-5000 lit.</td>
<td>2 Nos</td>
</tr>
<tr>
<td>34</td>
<td>Mobile toilet blocks for labour use.</td>
<td>4 nos</td>
</tr>
</tbody>
</table>

Note:

1. Mobilization of concrete boom placer in place of concrete pump will be allowed based on site requirement of BHEL.
2. In addition to the above, any other tools and plants required for execution of the above work are in contractor’s scope.
3. The Contractor shall establish and maintain a field laboratory on the site and this laboratory shall be available at all time for testing.
4. The age of the contractor deployed cranes up to 150 T should be within 15 years as on date of deployment. Contractor has to provide documentary proof for the age of the crane at the time of deployment to the EPI/BHEL Engineer.
5. In the event of need of change of type of any of major T&Ps, approval shall be taken from EPI/BHEL Engineer in-charge prior to mobilization. The decision of Number of T&P required due to replacing the enlisted T&P as per above table, shall be taken after analyzing the production capacity and suitability of both the T&Ps.
6. All T&P and all IMTEs, which are required for successful and timely execution of the work covered within the scope of this tender, shall be arranged and provided by the contractor at his own cost in working condition.
7. In the event of non-mobilization of any T&P by the successful bidder and as a result progress of work suffered, EPI reserves the right to engage required T&P and expenditure incurred will debited from contractors liability.